Pathways to Positive Mental Health: A Comparison of Previously Deployed Canadian Armed Forces Regular and Reserve Force Members

by

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Abstract

Better understanding processes that may allow Reservists to maintain or improve positive mental health (PMH) despite exposure to deployment-related adversities is of value. The purpose of this study is to, first, examine differences in PMH between Regular Force members and Reservists and, second, to assess the role of organizational support mechanisms (i.e., mental health training), social support, and community belonging as pathways to PMH that may account for differences between Reservists and Regular Force members. A path analysis revealed that social support and local community belonging predicted better emotional, psychological, and social well-being. In addition, local community belonging acted as a protective factor in maintaining the social well-being of Reservists. Results may serve to inform programs and policies within the Canadian Armed Forces that aim to enhance social ties.

Keywords: Social Support, Mental Health Training, Coping, Positive Mental Health, Canadian Armed Forces, Primary Reservist, Regular Force Member

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Pathways to Positive Mental Health: A Comparison of Previously Deployed Canadian Armed Forces Regular and Reserve Force Members

The Canadian Armed Forces (CAF) is comprised of about 68, 000 Regular Force members and 27,000 Primary Reservists (National Defence and Canadian Armed Forces, 2015a), making about one third of the total number of CAF personnel Reservists. According to the *Total Force* concept, the role of the Canadian Reserve Force is to augment and sustain the Regular units (Government of Canada, 1987). In general, Reservists serve part-time whereas Regular Force members are full-time members of the CAF. Twenty-percent of CAF personnel on overseas operations were Reservists (Standing Committee on National Security and Defence, 2011). Reservists performed the same duties as Regular Force members and these operations exposed them to the same operational adversities.

In recent ombudsman reports, there were concerns for the health of Reservists for reasons stemming from the lack of periodic health assessments and lack of awareness of services available to ill and injured Reservists (National Defence and Canadian Forces Ombudsman, 2012; 2016). There has been research on health differences between Regular Force members and Reservists; however, this evidence has mainly focused on mental disorders. Mental health includes not only mental disorders, but also positive aspects where individuals are thriving, living a good life, and functioning well. Better understanding the differences between groups on the positive side of mental health may allow us to have a more comprehensive view of what constitutes good emotional, psychological, and social functioning. It also may prevent issues that can arise when determining what is considered dysfunction based on diagnostic thresholds. The purpose of this thesis is to help address the research gap on health differences between Regular

Force members and Reservists by examining differences in positive mental health and by identifying possible mechanisms that may explain these relationships. Before describing the conceptual model, it is helpful to provide a review on the broader literature on mental health and its determinants.

Broader Conceptualization of Mental Health

The World Health Organization defines health "as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 1948, p. 100). Health depends on a complex web of behaviours, thoughts, emotions, and social connections. Mental illness is understood as a state of distress and impaired functioning. Conversely, mental health is understood as "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (World Health Organization, 2014). Past research has identified PMH and mental illness as separate, but correlated constructs, and individuals can have varying levels of both PMH and mental illness (Keyes, 2005b). PMH is a comprehensive measure of well-being through its inclusion of attributes of positive emotions, psychological functioning, and societal functioning of an individual.

Positive mental health. PMH encapsulates many higher-level constructs such as emotional, hedonic, psychological, subjective, eudaimonic, and social well-being. Some studies attempt to measure PMH through only one factor such as life satisfaction, whereas other studies measure multiple factors, such as happiness, purpose in life, life satisfaction, and social integration. Corey Keyes (1998) presents a model of PMH that captures 14 factors that make up

three dimensions of PMH (i.e., emotional, psychological, and social well-being). According to Keyes (1998), PMH comprises many different positive qualities that are required to live a good life. In general, PMH is about feeling good and functioning well. Within each dimension, there are distinct qualities that will be explained in turn.

Emotional well-being. Emotional well-being is how good a person feels about his or her life and reflects happiness, satisfaction, and interest in life. Historically, life satisfaction and happiness have been considered components of life quality (Keyes, Riff, & Shmotkin, 2002). Life satisfaction refers to an individual's perceived distance from his or her aspirations and is a judgement and long-term assessment of one's life (Campbell, Converse, & Rodgers, 1976). Happiness results from a balance of positive and negative affect and is a reflection of an immediate experience (Bradburn, 1969). Some researchers posit that they are not on two distinct ends of one spectrum, but are separate constructs (Cacioppo, Gardner, & Berntson, 1999: Diener, Smith, & Fujita, 1995; Keyes, 2000). PMH encapsulates positive affect, but not negative affect.

Psychological well-being. Ryff (1989) derived the concept of psychological-well-being from past formulations of positive functioning. She drew common themes from theories of positive psychological functioning and then operationalized these themes. These theories included Maslow's (1968) conception of self-actualization[1], Rogers's (1961) view of the fully

[1] Self-actualization is the final level of psychological development that can be achieved once all other needs are satisfied in the Abraham Maslow's Hierarchy of needs (Maslow, 1968).

functioning person[2], and Allport's (1961) conception of maturity[3]. Ryff (1989) also included life span developmental perspectives that emphasized the challenges at each phase of the life cycle. These perspectives included Erikson's (1959) stages of psychosocial development[4], Buhler's (1935) basic life tendencies that work towards life fulfillment[5], and Neugarten's (1968, 1973) description of personality change in adulthood and in old age [6]. Ryff identified six themes through these past works (i.e., self-acceptance, environmental mastery, positive relations with others, personal growth, autonomy, and purpose in life; Ryff & Keyes, 1995).

Self-acceptance is the concept of someone liking most parts of his or her personality. This is a central feature of mental health and a characteristic of self-actualization, optimal functioning, maturity, and life span theories. Life span theories also included the acceptance of one's past life as well as the self (Ryff, 1989). A positive relation with others requires the ability to love and is a main characteristic of mental health. Self-actualization, maturity, and adult developmental stage theories all emphasize intimacy with others and trusting others (Ryff, 1989). Autonomy is a

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[2] Rogers' view of the fully functioning person is a person who has a need to achieve their full potential and is considered someone who is continually working to achieve their full potential (Rogers, 1961).
[3] Gordon Allport presented six criteria as the basis for maturity (positive psychological adjustment). These included: extension of the sense of self, warm relating of self to others, emotional security, realistic perception of skills, self-insight, and a unifying philosophy of life (Allport, 1961).
[4] The theory of psychosocial development has eight stages which involve a crisis at each stage that the individual may resolve and go onto the next stage. These stages include trust vs. mistrust, autonomy vs. shame and doubt, initiative vs. guilt, industry (competence) vs. inferiority, identity vs. role confusion, intimacy vs. isolation, generativity vs. stagnation, and ego integrity vs. despair (Erikson, 1959).
[5] According to Buhler, personal fulfillment is achieved through valid life goals that are organized according to individuals' gifts. According to Buhler, the healthy person's core-self orchestrates the four basic tendencies into a unique pattern to achieve coordinated action and to fulfil personal potential (Buhler, 1935).
[6] Neugarten examined how the aging process interacts with a person's personality and ultimately leads to successful or disorganized aging. Neugarten presented personality styles that react differently to the aging process. These include disintegrated/disorganized, defended, passive-dependent, and integrated personality types (Neugarten, 1968, 1973).

concept where the fully functioning individual has an internal locus of evaluation, which means the individual does not look to others for approval, but evaluates himself/herself by personal standards (Ryff, 1989). The life span developmental theories suggest turning inwards in the later years gives the person a sense of freedom from norms governing everyday life. Environmental mastery is the ability to manipulate and control complex environments (e.g., good at managing the responsibilities of daily life; Ryff, 1989). Purpose in life is the feeling that one has purpose and meaning in life. People who function positively have goals, intentions, and a sense of direction, which contribute to a feeling that life has meaning (Ryff, 1989). Personal growth is to develop one's potential and to grow as a person. It involves confronting new challenges at different points in life that allow an individual to grow and evolve (Ryff, 1989).

Social well-being. Psychological and emotional well-being emphasize the personal aspects of well-being. Nevertheless, individuals operate within a social environment (structures and communities) and they face multiple social tasks and challenges, which, in turn, influence their well-being (Keyes, 1998). For instance, some social and environmental factors that influence mental health include income, social status, education, employment, housing and working conditions, access to appropriate health services, and good physical health (World Health Organization, 2002). Therefore, measuring well-being ought to include one's judgements of his or her social environment. The social environment can influence individuals by constraining or facilitating their ability to respond successfully to the social challenges of life (Keyes, 1998). There are five themes that make up social well-being (i.e., social contribution, social integration, social actualization, social acceptance, and social coherence; Keyes, 1998).

Social contribution resembles the concept of efficacy and responsibility and is the belief that one is an important member of society with something to give to the world (Keyes, 1998). Social integration is the extent to which people feel they have things in common with others in their social reality (e.g., their neighbourhood; Keyes, 1989). Social-actualization is the focus on the realization of social potential. It is the sense that society can control its destiny and captures ideas of growth and development. Social acceptance is when individuals' views of human nature are good. For instance, they trust others, feel comfortable with others, and think others are capable of kindness and can be industrious (Keyes, 1998). Social coherence entails one's understanding of what is happening around him or her. It involves the appraisals that society is discernible, sensible, and predictable (Keyes, 1998).

Prevention and recovery using PMH. There are many advantages to examining PMH as opposed to mental disorders in research on mental health. Specifically, improving individuals' PMH may help prevent and mitigate symptoms of mental illness, while monitoring PMH may identify those at risk of mental illness or other negative outcomes. Below are explanations of how this may be possible.

Prevention. Positive emotions can help build resources and enhance coping in the face of adversity. The Broaden and Build theory of positive emotions proposes that positive emotions broaden people's attention, cognition (e.g., curiosity, creativity), and behaviours (e.g., exploration, play), which cultivate physical, intellectual, and social resources (e.g., intelligence, mastery, social competence). Positive emotions may be adaptive in the longer term by building personal resources that function as psychological reserves (Fredrickson, 1998; 2001; 2005). Past research has linked better PMH to reduced prevalence of mental illness, reduced risk of

suicidality, reduced premature mortality, and better overall psychosocial functioning (Keyes, 2002, 2004, 2005a, 2005b, Keyes et al., 2012). In this sense, you may see how fostering PMH may help prevent mental illness.

Identifying those at risk. Mental illness usually occurs because of the interaction between the environment and genetic predispositions at specific points in time and it is difficult to determine when the onset of a mental illness is because the transition from asymptomatic to symptomatic may be unnoticeable (World Health Organization, 2002). Identifying a point of onset may not be possible. However, determining those at risk of developing a mental illness or experiencing other negative outcomes could be facilitated by measuring or observing PMH. Lack of PMH and other negative health outcomes tend to coexist. For instance, those who experienced lower PMH were more likely to report lower perceived mental and emotional health in addition to limitations in instrumental activities of daily living (Keyes, 2002). Those who do not meet the criteria for a mental illness in a diagnostic system, but are not doing well (e.g., report suicidal behaviour) could be identified by measuring PMH. In some cases, no mental health issues are present except symptoms of low PMH. For instance, a survey of college students found that, out of the participants who did not screen positive for a mental illness, 16% who had low PMH reported suicidal behaviour versus 4.1% with moderate PMH and 1% with high PMH (Keyes et al., 2012).

Mitigate symptoms of mental illness. The role of PMH in personal recovery is to mitigate mental illness symptoms through a process labeled as thriving, where individuals living with a mental illness rebuild their lives with qualities that are better than before the onset of their mental illness (Cook & Jonikas, 2002). Personal recovery narratives outline these qualities and resemble

the qualities within the PMH categories (e.g., interest in life, life satisfaction, positive relations with others, personal growth, purpose in life, and social contribution). Personal recovery narratives involve a description of the life of individuals who feel they have recovered and are living a good life, while still managing symptoms of a mental illness. Empirical evidence has demonstrated that an individual can have high PMH while living with symptoms of a mental illness (Keyes, 2005b). Keyes (2005b) used confirmatory factor analysis to support the hypothesis that PMH (i.e., emotional, psychological, and social well-being) and mental illness (i.e., major depressive episode, generalized anxiety, panic disorder, and alcohol dependence) are separate, but correlated unipolar dimensions. These findings suggested that individuals could experience varying levels of both PMH and mental illnesses (Keyes, 2005b).

Resilience, Protective Factors, and Positive Outcomes

Many processes can improve or maintain an individual's PMH. Researchers could assess levels of PMH to identify dysfunction, which would be indicated by low PMH. Findings emerging from the literature on resilience can help situate the processes under investigation within a larger framework. Below is a general overview of the literature on resilience.

The investigation of factors that can prevent psychological harm and/or facilitate well-being, even in the face of adversity, has been central in the vast body of work on psychological resilience. There are many definitions of resilience and one that can describe it, given the context at hand, is of resilience as a *dynamic process encompassing positive adaptation within the context of significant adversity* (Luthar, Cicchetti, & Becker, 2000). Resilience usually implies two aspects: (1) an experience of severe threat or adversity, and (2) positive adaptation in

response (Garmezy, 1990; Luthar & Zigler, 1990; Masten, Best, & Garmezy, 1990; Rutter, 1987; Werner & Smith, 1982; 1992).

Child developmental research has formed the foundation of research on resilience. This literature was mainly concerned about the factors that helped children who developed in difficult circumstances to positively adapt and have good outcomes despite their negative experiences. At first, researchers aimed to identify types of adversities and factors that would be protective and lead to positive outcomes (Garmezy, Masten & Tellegen, 1984; Masten, Hubbard, Gest, Tellegen & Garmezy, 1999; Rutter, 1985, 1987, 2000; Werner, 1994, 2000; Werner & Smith, 1977). Research on resilience then expanded towards examining underlying protective mechanisms or processes and their influence on positive outcomes (Luthar, et al., 2000).

Werner and Smith (1977) identified risk factors for negative outcomes for some children and identified protective factors that reduced this risk. Some risk factors included low birth weight, poverty, and parental education level. These factors increased the risk of criminal behaviours, difficulty finding employment, and stress-related health issues. In contrast, extraversion was identified as a protective factor. Extraverted children were less likely to engage in criminal behaviours in part because they were more likely to establish and maintain warm and positive relationships and could get support if needed (Werner, 1994; Werner & Smith, 1977). Masten et al. (1999) hypothesized that intelligence and parenting quality related to academic achievement, social, and behavioural competencies in individuals between the age of 17 and 23 who were experiencing high levels of adversity. A significant conclusion of these findings was that, in an environment with no adversity, low resource individuals develop competence like

high resource individuals. However, in an environment with high adversity, high resource individuals develop competence much like low adversity individuals (Masten, et al., 1999).

Rutter (1979) presented different types of dynamic processes instead of a set of protective factors. There was evidence that successful coping to adversity can lead to improved functioning and an increased resistance to adversity (Rutter, 2000). Specifically, he argued that children need exposure to stressors in childhood in order to learn how to adapt positively to later stressors in adulthood, much like the mechanism of immunization (Rutter, 1987). In this sense, individuals derive protection to adversities from how they respond, and the adversity acts like a catalyst that may increase self-efficacy and self-esteem (Rutter, 1985; 1987). Rutter identified three factors that can enhance an individual's resilience: personality coherence, family cohesion, and social support. The mechanisms through which these factors lead to positive outcomes are by altering the appraisal of a stressful experience, by changing the amount of exposure to stressful events, and by helping promote self-esteem and self-efficacy to cope with the stressful event.

An intrapersonal protective factor that has been used in research other than with children is the concept of hardiness. Kobasa (1979) compared two groups of individuals who were highly stressed - one group of individual who developed stress-related illnesses and another group of individuals who did not. Findings indicated that individuals who did not develop illnesses were higher on sense of meaningfulness and sense of commitment, and had a stronger internal locus of control compared to individuals with poorer health (Kobasa, 1979). These three elements became the defining features of the personality construct of hardiness. Indeed, hardy individuals are known to perceive that they can influence events, that they have the ability to be deeply involved and committed to activities in their lives, and that change can be seen as a challenge to further develop as an individual (Kobasa, 1979). Hardy individuals tend to be less affected by stressful

events than those who are not hardy (Kobasa & Puccetti, 1983). Past findings based on military members have supported this assertion (Adler, 2006; Bartone, 2005; Bartone & Adler, 2000; Castro, Hoge, & Cox, 2006). Another researcher who has contributed greatly to the field of adult resilience is Bonanno through his longitudinal research on bereavement (2004).

According to Bonanno (2004), adult resilience is the ability to maintain stable and healthy levels of psychological and physical functioning after exposure to an isolated and potentially highly disruptive event (e.g., death of a close person or a life-threatening event). A resilient outcome could only be defined in terms of an individual's level of adjustment after a stressful event (Bonanno, 2004). In addition, resilience is a completely distinctive process from recovery. Over the course of recovery, normal functioning would succumb to threshold or sub-threshold symptoms of posttraumatic stress disorder following trauma, generally for a period of several months, and then gradually return to normal levels of functioning. Resilience, on the other hand, would involve normal functioning throughout this process (Bonanno, 2004). Resilience, rather than being uncommon, is very common and most individuals do not report high levels of distress after experiencing a life-threatening event (Bonanno, 2004). A study of individuals who experienced the September 11, 2001 attack in New York City, found a significant relationship between resilience and life stress variables. Resilience was more likely to occur in individuals who had no prior traumatic experiences, no recent life stressors, and no experience of additional traumatic events after September 11. Individuals with the greatest amount of life stress (i.e., many recent life stressors) were only about one third as likely to be resilient (Bonanno, Galea, Bucciarelli, & Vlahov, 2007). These finding suggest that adult resilience may not operate the same as childhood resilience: While Rutter argued that exposure

to adversities may provide a steeling effect and bolster resilient outcomes, Bonanno argued that, the more adversities one faces, the worse off he or she would be.

Some resilience researchers have studied positive outcomes separately, whereas others have integrated multiple outcomes into a composite, such as the Social Competence Index (Zigler & Glick, 1986), which includes several areas of adult functioning (i.e., occupational, educational, and marital histories). Like the Social Competence Index, the measure of PMH captures a large breadth of positive outcomes. These include happiness, life satisfaction, positive individual functioning, and societal functioning. The long history of research on resilience can allow new research to be situated within a larger framework, which can serve as a guide for measuring and understanding the dynamics of resilience specific to the military context. It may allow certain expectations based on the nature of the adversity (e.g., available resources, acute or chronic stressors) and the processes (e.g., dynamic processes, interpersonal protective factors, and intrapersonal protective factors) that influence positive adaptation among military personnel.

Military resilience. Research on resilience in the military context has mainly focused on the identification of personality traits associated with military resilience and the role of coping strategies and positive emotions in increasing resilience (Britt, Sinclair, & McFadden, 2013). For instance, personality traits such as hardiness have been studied in the context of military resilience (Bartone, 1999), while the Big Five personality traits, dispositional positive affect, and mastery have been considered to be lower-order factors of dispositional resilience among CAF recruits (Lee, Sudom, & McCreary, 2011).

When an individual positively adapts to adversity, people tend to attribute the cause to dispositional determinants (e.g., hardiness) rather than situational determinants (e.g., availability

of social support; Jex, Kain, & Park, 2013). However, these situational determinants play an important role. In the military context, situational determinants are defined as any condition, or resource that can be provided, modified, or controlled by a military organization to facilitate positive adaptation to adversities. Adversities in a deployment setting can include the exposure to multiple discrete traumatic events (e.g., combat exposure) and continuous low-level stressors (e.g., length of deployment and living in harsh environments). Some situational factors over which military organizations may be able to exert some control are social support, community belonging, and training. The following explains these determinants and their associations with factors within PMH.

Situational determinants of resilience.

Social Support. Social support is generally understood as a coping resource that people may draw on when experiencing stressors. It refers to a function performed for an individual by others (Thoits, 1995). Weiss's theoretical model (Weiss, 1974) captures all of the components of social support proposed by other theorists in this area (i.e., Caplan, 1974; Cobb, 1976; Cohen & Willis, 1985; Hirsch, 1980; House, 1981; Kahn, 1979; Schaefer, Coyne, & Lazarus, 1981) in addition to a component for interpersonal relationships (Rose, 1986). According to this perspective, social support encompasses a broad range of interpersonal functions, some relevant to stressful events and some related to sustaining life satisfaction.

Weiss describes six different social functions that can be divided conceptually into two broad categories—*assistance-related* and *non-assistance related functions*. Assistance-related social support is relevant to problem solving and has two components: (a) guidance—the provision of advice and information, typically from a teacher, mentor, or parent figure; and (b)

reliable alliance—the provision of assurance that others can be called on for tangible assistance, usually provided by family members. Non-assistance social support does not contribute directly to problem solving, but can provide beneficial effects under stress. It consists of the *reassurance of worth,* which occurs when others recognize one's competencies, skills, and value. Reassurance of self-worth may influence cognitive processes like self-efficacy, which has been predictive of coping behaviours. If an individual's self-efficacy were bolstered from support from others, it would be expected that this individual would cope more effectively and suffer fewer adverse effects of stress. Non-assistance social support also includes nurturance, which has implications for self-esteem and is a component that is unique to Weiss' conceptualization of social support. It refers to the sense that others rely on the individual for their well-being, and is usually provided by one's offspring and sometimes partner. The last two forms of non-assistance social support include attachment, which refers to emotional closeness that provides a sense of security (usually provided by a partner, but could also be provided by a close friend or family member), and social integration, which is a sense of belonging to a group that shares similar interests, concerns, and recreational activities (usually provided by friends). This can offer comfort, security, pleasure, and a sense of identity. The relationship between PMH and social support has been explored in many studies, revealing how these mechanisms operate.

Emotional well-being and social support. Social support networks play an important role in individuals' well-being. Maintaining close contact with family and friends has contributed to life satisfaction (Silverman et al., 2000), whereas happiness has been found to be positively related to the availability of support from close friends and family (Baldassare et al., 1984). In addition, there have been consistent reports that perceived social support is powerfully related to health and well-being compared to more objective measures (Bowling & Browne, 1991; Chi & Chou,

2001; Seeman and Berkman, 1988; Turner and Marino, 1994; Vaux, 1988; Wethington & Kessler, 1986). Last, individuals who have a large social network are more likely to perceive that they have social support in times of need or crisis, and they tend to feel happier (Chan & Lee, 2006).

Psychological well-being and social support. One function of social support may be to facilitate pleasant experiences, which may provide a sort of antidote to or balance against negative emotions and depression (Bradburn and Caplovitz, 1965). For instance, all indicators of social support have been found to be positively correlated with positive morale in past work (i.e., psychological well-being; Schaefer, Coyne, and Lazarus, 1981).

Perceived social support was associated with positively adjusting (i.e., psychological well-being) to having breast cancer. The positive relationship of social support and psychological well-being after this diagnosis may have occurred partly through feeling close to family and friends, and feeling a sense of belonging that lessened feelings of isolation.

In the context of bereavement, social support is an integral component in the facilitation of personal growth following initial distress (Schaefer & Moos, 1998; Tedeschi & Calhoun, 2004). Support from others is provided through reinforcing feelings of acceptance and promoting constructive discussions of the loss, thereby facilitating a type of cognitive processing that allows the bereaved to ascribe meaning and make sense of a major life event.

Social well-being and social support. Researchers have explored the role of social well-being and the provision of social support as protective factors in relation to emotional and psychological well-being (Smillie, Wilt, Kabbani, & Revelle, 2015). In particular, social contribution, which is a sense of making an impact on one's social world, was found to be a significant mediator of the relationship between trait extraversion and trait positive affect

(Smillie et al., 2015). In addition, social integration and social support were found to mediate the relationship of internet use with life satisfaction, personal growth, and purpose in life (Berkowsky, 2012). It may be of value to further explore how these two constructs relate to one another.

Social support and resilience in military personnel. The mechanisms of social support have supported positive adaptation in the process of resilience in a military population. For instance, a resilient group of older aged veterans (i.e., high number of lifetime traumas and low current psychological distress) scored higher on emotional stability, secure attachment style, social support, community integration, and purpose in life than a non-resilient group (i.e., high number of lifetime traumas and high current psychological distress; Pietrzak & Cook, 2013).

The relationship between social support and emotional, psychological, and social well-being has been studied in military populations. For instance, a cross-sectional study found that post-deployment social support predicted positive adjustment (i.e., functioning in intimate relationships and social readjustment) in healthy Navy personnel (Cunningham et al., 2014). Another study found significant direct effects for emotional stability and positive social interactions. These variables positively predicted post-deployment mental health measured using the 36-item Short Form Health Survey (SF-36; Ware & Sherborne, 1992). This measure of mental health captures some components that are similar to those found in PMH. For instance, vitality (e.g., feeling energetic and peppy) is similar to the dimension of emotional well-being, and health-related social functioning impairment (e.g., extent and frequency of feeling like emotional problems have interfered with normal social activities) may fall under the dimension of social well-being of PMH. In addition, positive affect and affectionate social support had negative direct effects with post-deployment mental health (Lee, Sudom, & Zamorski, 2013).

Social support had a positive influence on life satisfaction among military members. For instance, support from unit leaders moderated the impact of deployment difficulties on satisfaction with military life (Welsh, Olsen, Perkins, Travis, & Ormsky, 2015). In addition, social support and mastery were unique and significant predictors of life satisfaction beyond the effects of combat exposure, other life stressors, and demographic variables among veterans (Seligowski et al., 2012). Social support has a positive influence on factors surrounding PMH, and community belonging may have a similar influence.

Sense of community. Sense of community has been studied since 1974, when it was presented as the overarching concept that gave parameters to its understanding (Chavis, Hoge, McMillan and Wanderman, 1986). Since then, there have been efforts from a variety of different disciplines to define and quantify the concept. A widely accepted model of sense of community comprises four main elements: membership, influence, integration and fulfillment of needs, and shared emotional connection (McMillan & Chavis, 1986). Sense of community was defined as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (McMillan & Chavis, 1986, pp. 9). Some researchers have offered alternative perspectives to understanding sense of community. For instance, it has been described as a sense of belongingness, fellowship, "we-ness", and identity experienced as a member of a group or as a member defined through a geographical area (Buckner, 1988). Some argue that elements that are essential to a sense of community include homogeneity, interdependence, shared responsibility, face-to-face relationships, and common goals (Glynn, 1981). Joranko (1998) highlighted the importance of connection, belonging, support, safety, empowerment, and participation as

elements of a sense of community. Although there are many models that attempt to define a sense of community, there have been efforts to integrate these frameworks. In a succession of studies including both geographic and interest-based communities, there was a fifth element identified that has been suggested to be included to McMillan and Chavis' more popular model. This was coined as conscious identification, which is defined as the existence of a strong relationship between an individual's self-image and the membership in a community. Research continues to explore individual and group-level effects of sense of community, including a sense of community in non-traditional communities (Hill, 1996; Chavis and Pretty, 1999).

Traditionally, researchers have examined sense of community at the geographical/neighbourhood level and, more recently, interest-based and relational groups have satisfied the need for community (e.g., work, school, and politically constructed groups). In one study, participants felt a stronger sense towards their relational community (i.e., internet fan club; Obst et al., 2002) than their geographical community. These findings suggest that these communities provide equal or more benefit to some depending on their situation.

At the geographical and relational levels, a strong sense of community seems to be beneficial for the health and well-being of individuals and communities. At the individual level, having a strong sense of community can improve happiness and self-efficacy (Davidson & Cotter, 1996). At the community level, a strong sense of community can contribute to the resilience of that community in facing adversities, such as natural disasters or a threat to the communities' safety (Bachrach & Zautra, 1985). Some have mentioned that community resiliency depends on neighbour networks and active local associations (Breton, 2001). Some of the mechanisms by which communities can enhance positive outcomes are by holding events

such as fairs, festivals, and feasts that, in turn, enhance a sense of self, place, and community (Porter, 2000). For example, rural and small-town communities in Canada were able to overcome the challenges related to a health deficit by creating conditions conducive to a positive sense of belonging (Kitchen, Williams, & Chowhan, 2012).

Emotional well-being and sense of community. A large portion of the literature on sense of community and well-being defined well-being as perceived life satisfaction. In one study, satisfaction with life was significantly higher in a group of individuals who reported high sense of community compared to those who reported low or moderate sense of community (Muilenburg-Trevino, Pittman, & Guilfoyle Holmes, 2012). Findings of another study suggested that sense of community was a mechanism that facilitated positive adaptation for immigrants living in new areas. Satisfaction with life was greater in individuals that were native to the area compared to immigrants when sense of community was low or medium. However, when sense of community was high, there were no differences in life satisfaction between immigrants and the native population (Hombrados-Mendieta, Gomez-Jacinto, Dominquez-Fuentes, & Garcia-Leiva, 2013). This echoes similar conclusions from the study of Masten (1999), in which individuals with low resources were similar to those with high resources in the absence of adjustment challenges. Last, 26% of the variance in satisfaction with life was found to be accounted for by sense of community belonging in another study (Kutek, Turnbell, & Fairweather-Schmidt, 2011).

Psychological well-being and sense of community. Sense of community has been linked to components of psychological well-being. For instance, a study found that a relational sense of belonging to a transgender community predicted well-being, measured by self-esteem, life

satisfaction, and psychological well-being (Barr, Budge, & Adelson, 2016). Another study looked at a military sense of community to narrow in on the challenges of military life. This study found that the relationship of the predictors (i.e., social support and positive affect) with the outcome (i.e., environmental mastery - an indicator within the dimension of psychological well-being) was significantly mediated by a sense of military community among female spouses of serving members (Wang, Nyutu, Tran, & Spears, 2015).

Social well-being and sense of community. Individuals with higher sense of social well-being tend to engage in good citizenship (Keyes & Ryff, 1998), report being more involved with the community, perceive higher quality of their neighbourhoods (Keyes, 1998), and report positive relationships that satisfy the basic need of belongingness (Keyes, 2005).

A longitudinal study explored the relationship between sense of community and social well-being over a period of two months. This study found that both sense of community and social well-being could be predictor and criterion variables in their relationship with one another. However, some dimensions of social well-being did not predict some dimensions of sense of community and vice versa. The dimension of social well-being that had the strongest relationship with sense of community was social integration, and sense of community was positively related to social contributions. This suggests that sense of community increases the feeling that someone has something valuable to give to their society. Social acceptance, which is a positive view of human nature, was not related to sense of community. This may be seen as counterintuitive; however, in some cases, sense of community has been viewed as emphasizing similarities among individuals, resulting in a sense of exclusion among those who do not belong. Finally, social

actualization, which is the belief that society is realizing its full potential, was not impacted by reports of sense of community (Prati & Albanesi, 2015).

Another study examined relational sense of community by measuring identification to a local sports team versus to a distant team. It was posited that being a fan of a local sports team would allow one to gain enduring connections, while being a fan of a distant sports team would not allow as many opportunities to gain enduring connections (Wann, 2006). Identification with a local team was positively related to social well-being, while identification with a distant team was not. Identification with a local team was a significant predictor of social coherence and integration, but not of social acceptance, contribution, or actualization (Wann & Weaver, 2009). A sense of community belonging can be generally seen as a mechanism that could enhance emotional, psychological, and social well-being. Another process may be through organizational support mechanisms.

Institutionalized resilience. Organizational support mechanisms refer to any intervention and effort by an organization to enhance the well-being of its employees. These initiatives or interventions are aimed at facilitating the health and well-being of employees and their families through lifestyle and behaviour changes, and include activities, such as health education, screening and intervention, exercise, and stress management (Conrad, 1988).

Health and well-being in the workplace can be affected by multiple factors. These factors can be grouped into three general categories. First, the work setting itself can be hazardous to one's health and safety, which, in turn, may negatively influence the well-being of workers. Second, personality traits may influence the well-being of workers by determining the way an employee appraises and interacts with challenges in his or her work environment. For instance,

having an internal locus of control or a sense of self-efficacy may influence well-being by enabling individuals to actively work and interact with the environment to attain their desired outcome. Third, occupational stress may have an impact on the well-being of an employee.

Members of militarily organizations experience similar issues as do employees from civilian organizations. However, they also experience unique issues, such as those surrounding deployment. One of the roles and responsibilities of a military organization is to prepare military members to perform and be resilient to the stressors and hazards surrounding deployment. To counteract the risks inherent to this occupation, military organizations have implemented programs to build resilience to these risks. Resilience training is embedded throughout the course of the career of a military member. Members receive this training during courses, and before and after deployment. The goal of this training is to enhance short-term performance and long-term mental health outcomes. This training includes enhancing positive relationships among members and their peers and leaders, learning stress management techniques, and using performance strategies stemming from sports performance psychology. In addition to different types of programs, training in itself may have indirect positive effects on the individual and group.

Enhancing positive relationships. Building social skills and looking out for your peers is a part of resilience building interventions in the military. Support is typically more effective if the source of the support matches the stressor one is experiencing (deJonge & Dormann, 2006). For instance, if a soldier is experiencing a stressor during combat, support from a leader or peer may be more helpful than from a spouse. In addition, support from leaders or supervisors has a strong impact on how subordinates cope with stressful work conditions (Bartone, 2006; Britt, Davison, Bliese, & Castro, 2004). Leaders are trained to increase the resilience of their

subordinates by mentoring and coaching resilience skills and by being trained to apply mental health concepts to caring for subordinates (e.g., identifying warning signs in subordinates).

Stress management techniques. A stress management intervention is any activity or program initiated by an organization that focuses on reducing the presence of work-related stressors or assisting employees to minimize negative outcomes from experiencing these stressors (Ivancevich, Matterson, Freedman, & Philips, 1990). Some examples of these types of interventions include cognitive-behavioural skills training, meditation, relaxation, deep breathing, exercise, journaling, time management, and goal setting. One study found that cognitive-behavioural interventions were more effective than other intervention types (i.e., relaxation techniques, multimodal program, and organization-focused interventions). Specifically, a moderate effect was found for cognitive-behavioural interventions, a small effect was found for relaxation interventions, and no effect was found for organisation-focused interventions[7] (van der Klink et al., 2001). In a military context, a positive cognitive-oriented approach in training (i.e., Battlefield debriefing and training) led to reduced mental health problems and reduced stigma months after deployment (Adler, Bliese, McGurk, Hoge, & Castro, 2009). Another study reported that military personnel who received stress management training and rated this training as adequate reported fewer negative outcomes (i.e., PTSD) and more positive outcomes (i.e., morale and marital functioning), while controlling for combat exposure (McKibben, Britt, Hoge, & Castro, 2009).

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[7] Organization-focused interventions aim to change the occupational context rather than aiming to increase psychological resources and responses of an individual (van der Klink et al., 2001).

Sports performance strategies. Other interventions or techniques are unique to the military occupation and aim to counteract and overcome performance issues when experiencing extreme stress or fear inherent to the occupational climate. These techniques are drawn from the literature on sports performance psychology. Some techniques include goal setting, visualization, self-talk, and arousal control to regulate the body's natural reaction to extreme stress and fear (National Defence and Canadian Armed Forces, 2015b). These techniques require practice and internalization in order for them to be used properly in high stress situations (National Defence and Canadian Armed Forces, 2015b). These techniques are generally taught in a classroom setting. Proper internalization of these techniques requires behaviour change, which requires active participation and effort beyond classroom learning. The effectiveness of these techniques on well-being is contingent on internalization and practice similar to stress management techniques. There has been some debate on the effectiveness of interventions like stress-management (Briner & Reynolds, 1999; Bunce & Stephenson, 2000; Caulfield et al., 2004; DeFrank & Cooper, 1987; Giga et al., 2003; Ivancevich et al., 1990; Mimura & Griffiths, 2002; Murphy, 1984; Newman & Beehr, 1979; Nicholson, Duncan, Hawkins, Belcastro, & Gold, 1988; Van Der Hek & Plomp, 1997). Perhaps sports and performance techniques may be privy to the same issues.

Indirect effects of training. Personality traits can play a role in the well-being of soldiers in military organizations. Training in general can influence resilience in a more indirect way by enhancing self-efficacy and collective-efficacy. A consequence of training that has been reported in the literature is the enhancement of self-efficacy to perform a task (Goldstein & Ford, 2002). Self-efficacy represents a person's beliefs that he or she can successfully complete a given task

(Bandura, 1977). Studies have demonstrated that self-efficacy can buffer the effects of stress and health outcomes among soldiers (e.g., Jex & Bliese, 1999; Jex, Bliese, Buzzell, & Primeau, 2001). Another consequence of training may be an enhanced sense of collective-efficacy. Collective-efficacy is the collective perception that the group can perform successfully and accomplish its goals (Guzzo & Shea, 1992). Military tasks are often carried out as a group and require team efforts, and having a strong sense of collective-efficacy may allow members to feel confident that the group can handle any difficulties or stressful situation it may encounter. Feeling confident and able may allow members to be more resilient and consequently maintain or improve well-being. Maintaining military personnel's well-being has been an important focus for military organizations. Some studies have further explored this topic by looking at the mental health differences of two groups within one military organization—Regular Force members and Reservists.

Comparison of resilience in two components. Within the resilience literature, there have been comparisons between groups with a low amount of resources and groups with a high amount of resources. Many studies report that Reservists may be less resilient to stressors surrounding deployment compared to Regular Force members. Several studies have reported on differences in the mental health outcomes of Regular Force members and Reservists after deployment and on the additional stressors that Reservists experience that are inherent to their unique role. Below is a summary of findings to provide a better indication of the mental health profiles of Regular Force members and Reservists after deployment. This review of studies reports mental health findings of Reservists and Regular Force members during and after deployment since the start of the Afghanistan mission for the Canadian Military Organization

and since the year 2000 for the British, Australian, and American Military Organizations.

Canadian Primary Reserve mental health. The first study that examined mental health among Canadian Reservists made use of Enhanced Post-Deployment Screening (EPDS) data. The EPDS questionnaire was completed by 2350 Reservists from 2009-2012. The questionnaire was administered 3-6 months after deployment. It was found that Canadian Reservist status was not associated with mental health outcomes (i.e., major depressive disorder, mild depression, panic disorder, and posttraumatic stress disorder [PTSD]; Zamorski, Rusu, & Garber, 2014). In 2010, subsequent analyses were conducted using EPDS data from approximately 2109 Reservists, 14,893 Regular Force members, and 360 Civilians[8]. The study revealed that 5.3% of Regular Force members, 3.5% of Reservists, and 1.1% of civilians reported PTSD and/or depression, and that 12.5% Regular Force members, 9.0% of Reservists, and 2.8% of civilians reported any mental health problems (Zamorski, 2010). This suggests that Reservists and Regular Force members experienced similar levels of mental health issues when comparing them to deployed civilians. The second survey that included Canadian Reservists was the Operational Mental Health Assessment (OMHA-I), which consisted of 208 Reservists and 1,269 Regular Force members assessed in 2010 during the midpoint of a 7 month deployment. Findings suggested that Reservists were not at increased risk of mental health problems (Garber, Zamorski, & Jetly, 2010). The last study that included Reservists was the 2011 Operational Stress Injury Cumulative Incidence Study (OSICIS), a retrospective cohort study of personnel

[8] Civilians are Canadian Forces Support Personnel Agency (CFPSA) who deployed in support of the Afghanistan mission.

deployed in support of the mission in Afghanistan. Data was collected over a median period of 4 years from medical records of clinical diagnoses made between the years 2001 and 2011. Approximately 224 Reservists were included in this study. It was concluded that being a Reservist was not an independent risk factor for mental health problems (Boulos & Zamorski, 2013). Finally, the Life After Service Survey 2013 (LASS 2013) was the only study comprising veterans who were former Reservists and deployed in support of the mission in Afghanistan. LASS 2013 used computer assisted telephone interviewing and sampled former Reservists Class A/B (non-deployed; $N = 308$) and Reservists Class C (deployed) who were released between 2003 and 2012, as well as former Regular Force members who were released between the years 1998 and 2012. Regular Force veterans had higher rates of mental health conditions (depression and anxiety) when compared to Canadians from the general population. In contrast, Reservist Class A/B veterans had similar rates to Canadians. The rates of mental health conditions for Reservist Class C veterans (17%) were between those of Regular Force veterans (24%) and Reservist Class A/B veterans (9%) (Van Til et al., 2014). Reservist Class A/B veterans were the youngest, on average, and generally had the best health and well-being, while Reservist Class C veterans were similar to Regular Force veterans and experienced problems more often than Reservist Class A/B veterans (Thompson et al., 2014).

Although Reservists were not at an increased risk for developing mental illnesses after deployment, the Canadian studies do suggest that the mental health profiles of Reservists and Regular Force members are similar after having been deployed, compared to Reservists who have never been deployed. These Canadian findings are, in fact, different from those of other

countries, where Reservists have been found to be at higher risk for developing a mental illness after deployment than Regular Force members.

UK Primary Reserves mental health. UK Reservists' data was drawn from one cohort study and subsequent analysis concluded that UK Reservists experienced more mental health problems after deployment than Regular Force members. The study examined the health of military personnel who deployed to Iraq in 2003 and included both samples of Regular Force members and Reservists. In a subset of these two groups, half of each group was deployed (where major combat duties took place) and the other half was not deployed (in military at that time). The Reservist sample comprised of 800 non-deployed and 786 deployed members. The results showed that Reservists who were deployed were more likely to report common mental disorders and fatigue compared to Reservists who were not deployed. There was no significant difference in reported levels of common mental disorders between deployed and non-deployed Regular Force members (Hotopf et al., 2006). The following year, another study was conducted using the same data. Reservists reported lower marital satisfaction, more issues related to homecoming, higher combat-related exposure, and lower unit cohesion than Regular Force members. Most health outcomes measured (GHQ-12, PTSD, fatigue, multiple physical symptoms and health perception) could be accounted for by the experience of traumatic events or unit cohesion while in theatre. Homecoming issues accounted for more PTSD than events in Iraq (Browne et al., 2007). Finally, another study drawing upon this dataset reported that 26.3% of Reservists were suffering from common mental disorders (based on the GHQ-12) compared to 19.4% of Regular Force members (Hunt, Wessely, Jones, Rona, & Greenberg, 2014).

Australian Primary Reserves mental health. In an Australian sample, factors (i.e., reintegration difficulties) relating to Reservist status were a source of stress after deployment when compared to Regular Force status. Troops who were deployed were surveyed once before returning to Australia and again 6 months after their return. Both Regular Force members and Reservists had similar structures in age and relationships. The only significant difference in regards to demographics was previous deployment, with Reservists having less (5%) and Regular Force members having more experience (37%). Reservists rated anticipated reintegration difficulties after deployment significantly higher (16%) than the Regular Force members (9%). The amount of stress experienced by Reservists from deployment-related sources (double standard, behaviour of others, leadership, separation from family and friends, among other stressors) were significantly higher than Regular Force members (Orme & Kehoe, 2011).

US Primary Reserves mental health. The US studies provided evidence of higher rates of mental health issues among Reservists. One study solely focused on Reservists and the unique stressors related to their status. It was found that post-deployment PTSD was predicted by prior stressors, sense of being prepared, feeling supported by the unit, combat exposure, and post-deployment social support. Depression was also predicted by these factors, with the exception of combat exposure and feeling supported by the unit. Depression was uniquely predicted by concerns about the family, job, and life disruption before deployment (Erbes et al., 2008).

In 2003, the U.S. Department of Defence mandated that all service members complete a health and mental health assessment (Postdeployment health assessment and reassessment, [PDHR, PDHRA]) immediately following deployment and 6 months after. It was found that mental health problems significantly increased over the 6 months following deployment. Data

from 88,235 army soldiers showed that rates for any mental health problem increased from 17% to 27.1% in Regular Force members, and from 17.5% to 35.5% among the National Guard and Reservists. Positive PTSD screens increased from 11.8% to 16.7% among Regular Force members, and from 12.4% to 24.5% among Reservists. Depression increased from 4.7% to 10.3% for Regular Force members and from 3.8% to 13.0% for Reservists (Milliken, Auchterlonie, & Hoge, 2007). At the 6 months point, more new PTSD cases were detected for Reservists (52.2%) than Regular Force members (40.8%; Smith, Ryan, Wingard, Sallis, & Kritz-Silverstein, 2008). In sum, mental health issues increased for both Reservists and Regular Force members over a period of 6 months and, at face value, Reservists had higher rates than Regular Force members for all health outcomes.

Another study examined US veterans' health and found that the risk of mental health disorders was higher among National Guard and Reservist veterans compared to Regular Force members and that mental health status correlated with indicators of combat exposure, rank, trade, and number of deployments (Seal et al., 2009). Lane and colleagues conducted a study using the Health-Related Behaviors (HRB) survey. The data was drawn from the 2006 Reserve component and the 2005 Regular Force member surveys. It was found that, after adjustment of sociodemographic and service differences, Reservists and Regular Force members reported similar rates of work and family stress, depression, and anxiety symptoms after deployment. However, Reservists who were deployed reported higher rates of suicidal ideation, suicidal attempts, and PTSD symptoms compared to Regular Force members who were deployed (Lane, Hourani, Bray, & Williams, 2012).

In a final study, pre-deployment data was collected from 2001 to 2003 and post-deployment data was collected from 2004 to 2006 after return from the Iraq and Afghanistan

missions. This study found that new onset PTSD symptoms were higher post-deployment than pre-deployment among both Reservists and Regular Force members. Reservists who reported higher rates of combat exposure were significantly more likely to report higher new onset rates of heavy weekly drinking, binge drinking, and alcohol-related problems compared to non-deployed Reservists (Jacobson et al., 2008). In sum, the majority of these studies have reported higher prevalence's of mental health issues among Reservists relative to Regular Force members, in addition to different types of stressors surrounding deployment that might have influenced mental health.

Study Objectives and Hypotheses

Focusing on PMH may be important for the health of military personnel after deployment. Low PMH is associated with mental disorders, difficulty functioning in daily life, and suicidal ideation. Examining PMH in both groups may be another indicator that can be used to monitor adverse health outcomes surrounding deployment. There is not much literature on PMH differences between Regular Force members and Reservists. The literature comparing both groups has generally focused on mental disorders. Exploring PMH may provide a more complete view of health differences across both groups because it is not limited by a diagnostic threshold.

Findings from the literature on resilience suggest that a group of individuals who have more resources than another group may be more resilient when exposed to adversity. Past research from other military organizations has found that Reservists have had worse mental health outcomes than Regular Force members after deployment. These worse mental health outcomes may be due to Reservists having lower resources. The current research aims to explore this assumption by drawing from resilience literature that points to factors that can maintain or

increase aspects of individuals' PMH, and determining if these factors (resources) are lower in Reservists. These factors include receiving support from others and experiencing a sense of community, which have both been found to promote PMH. In addition, organizational interventions, such as stress management strategies and sports performance strategies, have been found to protect aspects of PMH.

An objective of the current study is to examine the positive aspects of mental health and, by doing so, to help provide a more complete picture of health differences between Regular Force members and Reservists. A second objective is to determine whether organizational support mechanisms (i.e., mental health training [MHT]), social support, and community belonging serve as pathways to PMH that may account for differences between Reservists and Regular Force members. The proposed multiple mediated model for these relationships is presented in Figure 1. The conceptual model displays the direct relationship between military component (that is; Reservist versus Regular Force members) and PMH, as well as the mechanisms of social support, community belonging, and MHT that may explain this relationship. Multiple mediation models help to explain the relationship between two variables (in this case, component and PMH) through various factors of interest (in this case, social support, community belonging, and MHT). In brief, it can help undercover how this relationship may occur.

Based on the literature reviewed above, the following is hypothesized:

1. Deployed Reservists will report lower levels of PMH than deployed Regular Force members.

2. Social support, community belonging, and MHT will each contribute to higher PMH in both groups.
3. Deployed Reservists will report lower levels of social support, community belonging, and MHT compared to deployed Regular Force members.
4. The relationship between component type (i.e., Reservist versus Regular Force members) and PMH will be partially or fully mediated by social support, community belonging, and MHT.

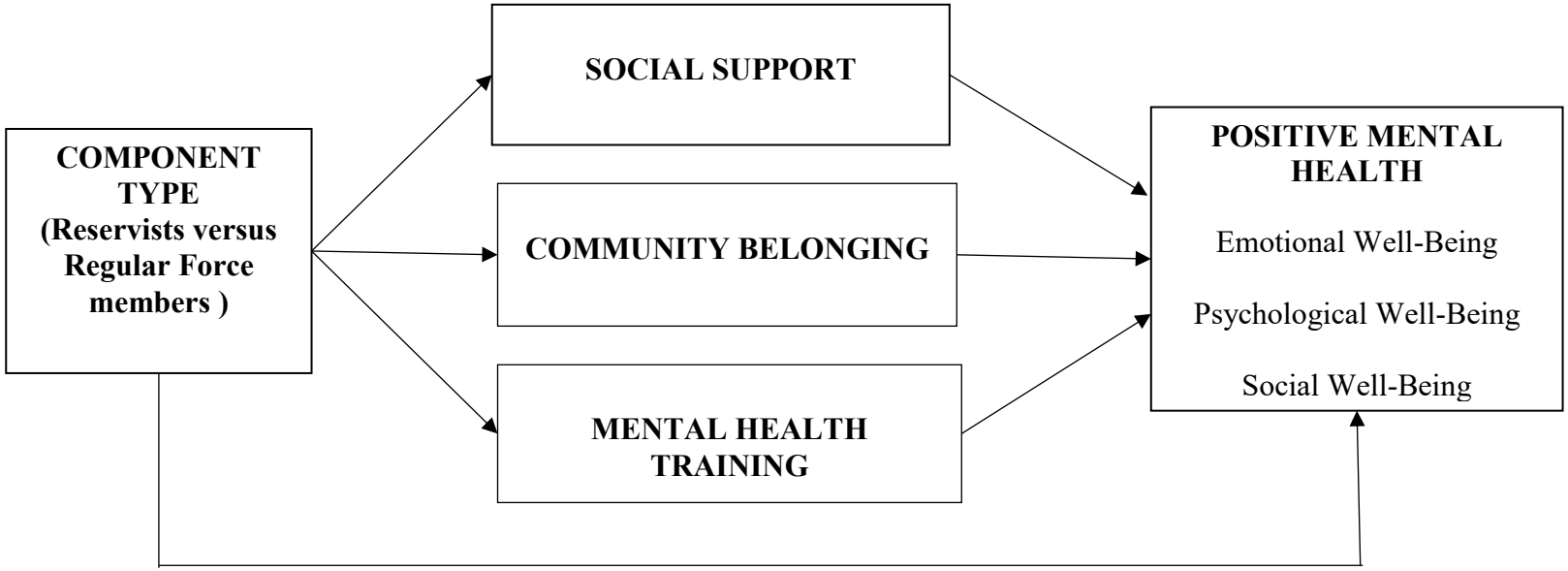

Figure 1 *Displayed is a conceptual model where the relationship between component type and PMH is mediated by social support, community belonging, and MHT.*

Method

Participants

The data was obtained from the 2013 Canadian Forces Mental Health Survey (CFMHS). A stratified, random sample of Primary Reservists and Regular Force members was drawn from a target population of 4,857 Primary Reservists and 67,776 Regular Force members. Stratification was based on deployment, rank, and component type. CAF members were selected based on whether they lived within the ten provinces and were serving members during the interview period. In addition to these criteria, only Reservists who had been deployed in support of the Afghanistan mission since 2001 were selected. The sample is representative of the CAF and stratified based on rank, deployment status, and component type. For more information on sample design, please refer to Statistics Canada (2014a). Interviews took place between April and August 2013 via computer-assisted personal interviewing and were conducted face-to-face during working hours in private on-base rooms. A total of 1,867 Reservists and 8,393 Regular Force members were selected to complete the survey, and a response rate of 1,469 (78.8%) for Reservists, and 6,696 (79.6%) for Regular Force members was obtained. For the examination of the research questions, and since information was not collected from non-deployed Reservists, all 1,469 Reservists and only the 3,384 Regular Force members who were deployed in support of the Afghanistan mission were included in the present study.

Measures

The CFMHS is a cross-sectional survey and consists of 32 modules (Statistics Canada, 2014c). The modules that were used in the present study included the Mental Health Continuum – Short Form (MHC-SF; Keyes, 2009); Statistics Canada, 2004); the 10-item Social Provision

Scale (Caron, 2013; Cutrona & Russel, 1987); community belonging (Statistics Canada, 2002, 2014a; 2014b; 2014c); exposure to mental health training (Statistics Canada, 2014a; 2014b; 2014c); demographic variables (Statistics Canada, 2014a; 2014b; 2014c); and traumatic experiences on deployment (Statistics Canada, 2014a; 2014b; 2014c). Scoring methodologies are outlined below.

Positive mental health. The MHC-SF is a self-report instrument used to measure PMH. The measure consists of 14 items that can be used as a continuous measure to report overall levels of PMH. The current study used total scores of each dimension of PMH as continuous outcome measures to represent a more accurate portrayal of where the values fall on a continuous scale, rather than categorizing a range of values. Possible scores ranged from 0 to 15 for emotional well-being, from 0 to 25 for psychological well-being, and from 0 to 30 for social well-being, with higher scores indicating higher levels of each aspect of PMH. Items 1 to 3 were used to measure emotional well-being, items 9 to 14 were used to measure psychological well-being, and items 4 to 8 were used to measure social well-being. An example of items measuring emotional well-being includes "In the past month, how often did you feel interested in life?" Items measuring psychological well-being include "In the past month, how often did you feel that you had experiences that challenge you to grow and become a better person?" Last, items measuring social well-being include "In the last month, how often did you feel that the way our society works makes sense to you." Participants provided their response on a 6-point rating scale (*0=never, 1=once or twice, 2=about once a week, 3=about 2 or 3 times a week, 4=almost every day, 5=every day*). In addition, participants who did not answer the items were documented (*97=don't know, 98=refusal, 99=not stated*). PMH was replicated in the Canadian population

and the reliability for the overall measure was 0.89, and the subscales were 0.82, 0.83, and 0.77 for emotional well-being, psychological well-being, and social well-being, respectively (Statistics Canada, 2015a).

Social support. Social support was measured using the 10-item Social Provision Scale (Caron, 2013), which was modified from the original 24-item scale (Cutrona & Russel, 1987) validated in French by Caron (1996). This smaller scale measures five out of six provisions of social support. Subscales include attachment, guidance, social integration, reliable alliance, and reassurance of worth. The opportunity for nurturance was excluded from the smaller scale because (1) social provision measures support offered more than support received, (2) previous studies reported this dimension as the least related to mental health, and (3) it reduced module administrative time (Statistics Canada, 2014b). The shorter version maintains the same psychometric properties as the original instrument (Caron, 2013). In a French Canadian population, the internal consistency of the overall measure was 0.88, and the internal consistency of each of the five subscales of attachment, guidance, social integration, reliable alliance, and reassurance of worth ranged from 0.52 to 0.69 (Caron, 2013). Examples of items include "there are people I can depend on to help me if I really need it." and "There are people who admire my talents and abilities." Participants provided their response on a 4-point scale (*4=strongly agree, 3=agree, 2=disagree, 1=strongly disagree*). As well, participants who did not answer the items were documented (*7=don't know, 8=refusal, 9=not stated)*. Only the total scores were examined in the current score, with scores ranging from 10 to 40 and higher scores indicating higher perceived social support.

Community belonging. As an indicator of community belonging, a single item was used, which measured the sense of belonging to a local community. The question asked was "How would you describe your sense of belonging to your local community? Would you say it is…?" and there were 4 possible responses (*4=very weak, 3=somewhat weak, 2=somewhat strong, 1=very strong*). As well, participants who did not answer the items were documented (*7=don't know, 8=refusal, 9=not stated)*. This item was originally derived from a larger scale measuring general health status in the Canadian Community Health Survey Cycle 1.2 (Statistics Canada, 2002). Items were reverse-scored so that higher scores indicated a stronger sense of belonging to a local community.

Mental health training. The MHT measure was developed by Statistics Canada and was designed to assess the number of hours spent receiving mental health and resiliency training in the past 5 years from programs like Road to Mental Readiness (R2MR) and Strengthening the Forces programs. These programs encompass psychologically oriented training in a group setting that is meant to help CAF personnel cope more effectively with stresses and personal problems (Statistics Canada, 2014c). The measure required participants to indicate if they received training in a range of situations. This included any training received in preparation for deployment, at the end of deployment (e.g., during decompression in Cyprus), during different courses (i.e., trades training, unit training, and courses that prepare them for a higher ranks [e.g., PLQ]), and from Personnel Support Program personnel at the base health promotion office. There were 14 items. Seven items determined whether participants received MHT during the range of situations mentioned above, and included a more general scenario that would cover situations that have not been mentioned above. These items had *yes* or *no* responses and

included responses like *don't know, refusal,* and *not stated*. If participants responded *yes* to one or more of the first 7 items, the remaining 7 items corresponded to each possible scenario and assessed the number of hours exposed to MHT. Possible responses for each scenario ranged from 0 hours to 995 hours of training. Non-respondents were also documented (*don't know, refusal, not stated*). The number of hours exposed to MHT was then summed for each participant. An example of the first 7 items includes "Over the past 5 years, have you received any mental health or resilience training at the end of a CF deployment?", and an example of the next 7-items includes "You mentioned that you received mental health or resilience training through PSP personnel at the base health promotion office. Over the past 5 years, about how many hours of this training have you received?"

Demographic and military factors. The CFMHS included demographic questions (sex, age, and rank). Basic information was collected in order to control for any confounding variables, and to compare demographic profiles of respondents versus non-respondents.

Traumatic experiences on deployment (combat exposure). This module examined the number of types of traumatic experiences a participant reported while on deployment with the CAF in support of a mission outside of North America. Participants could select a total of 8 experiences. Examples of experiences include "Known someone seriously injured or killed" and "Ever felt responsible for the death of a Canadian or ally personnel". Possible responses ranged from 1 to 8 and, if the same event occurred twice, participants were instructed to count it as one.

Analyses

All analyses included a sampling weight (i.e., the *final CF Mental Health Survey weight*) provided by Statistics Canada. The weight corrected for three main parts. First, it adjusted for the sizes of the Regular Force members and Reservists populations. Second, the weight adjusted for the removal of persons who were not CAF members, and CAF members who were posted outside of the 10 provinces at the time of the tracing. Third, the weight adjusted for non-responses by redistributing the responding persons within response homogeneity groups (RHG). Note that each RHG was formed within each stratum of each population (Regular Force members and Reservists). For more information on weighing procedures, refer to Statistics Canada (2014a).

Complex sampling surveys involving stratification often yield sampling errors that are too small (too much power), thereby increasing the probability of type I errors. SPSS complex sample procedures were therefore used to appropriately estimate sampling error for the descriptive analyses and data screening procedures; and MPlus Statistical software was used for the preliminary and main analyses. This approach adjusted for stratification at the rank level (rank was the only sampling unit) for both populations.

Descriptive analyses were performed to obtain prevalence estimates of the demographic and military characteristics of the previously deployed Regular Force and Reservist populations. In addition, a summary of point estimates was obtained for Regular Force members and Reservists on social support, community belonging, MHT, emotional well-being, psychological well-being, social well-being, and combat exposure. This was conducted by applying normalized

weights with the SPSS Statistics Base to account for sampling by strata instead of the use of simple random sampling (Statistics Canada, 2015b).

During the preliminary analysis, correlation estimates were obtained for categorical variables (e.g., sex, rank, and component type) and continuous variables (e.g., age, social support, community belonging, MHT, emotional well-being, psychological well-being, social well-being, and combat exposure) using the MPlus basic command. In order to obtain the *p*-value for these estimates, both variables of interest were regressed onto each other and the resulting *p*-value that was highest was used as a more conservative measure (IBM, 2016). Among potential covariates (age, sex, rank, traumatic experiences on deployment), only variables with significant correlations with dimensions of PMH were included in the path model in order to control for any confounding effects. Correlations between dimensions PMH (emotional well-being, psychological well-being, and social well-being) were assessed and placed separately as dependent variables in the path model.

A multiple mediation path analysis was performed to test the hypothesized pathways between component (i.e., Reservists versus Regular Force members) and dimensions of PMH. A mediator accounts for the relationship between the predictor and criterion variables (Baron & Kenny, 1986). Formerly, mediating roles were examined with a series of multiple linear regression analyses. With this approach, a four-step mediation procedure is performed with three regression equations to establish if a factor mediates the relationship between an independent variable (IV) and a dependent variable (DV; Baron & Kenny, 1986). The first step is to show that there is a significant relationship between the IV and DV. The second step is to show that

the IV is related to the mediator. The third step is to show that the mediator is related to the DV. Finally, in the fourth step, it is determined if the strength of the relationship between the IV and DV is reduced partially or fully when the mediator is added to the model (i.e., the direct effect; Baron & Kenny, 1986). While this approach was commonly used, contemporary analysts argue that steps 2 and 3 are the only steps needed to claim mediation (Kenny, 2016). In addition, inconsistent mediation can occur when performing this analysis. This occurs when the direct effect is opposite in sign to the mediated, or, indirect effect (MacKinnon, Fairchild, & Fritz, 2007). In these circumstances, the mediator acts as a suppressor variable and, typically, the direct effect is even larger than the total effect (Kenny, 2016)

In this analysis, component type (i.e., Reservist versus Regular Force members) served as the independent variable; social support, community belonging, and MHT served as the mediator variables; and dimensions of PMH served as the dependent variables. This was a complex analysis using a finite population correction, weight and stratum variables, and the maximum likelihood with robust standard error (MLR) estimation method (Muthén & Muthén, 1998-2014). Several estimates were used to assess model fit. This included the *Comparative Fit Index*, which ranges from 0 to 1, with higher values indicating better model fit. Acceptable model fit is 0.90 or greater (CFI; Bentler, 1990; Hu & Bentler, 1999). This also included the Root Mean Square Error of Approximation, which ranges from 0 to 1, with a smaller value indicating better model fit and an acceptable fit being .06 or less (RMSEA; Browne & Cudeck, 1993). Last, the Standardized Root Mean Square Residual was examined, which ranges from 0 to 1, with smaller values indicating better fit and values less than .08 considered a good fit (SRMSR; Hu & Bentler, 1999). In addition, the *MODEL INDIRECT* command was specified to

examine the direct and indirect (i.e., mediated) effects of component type on dimensions of PMH through social support, community belonging, and MHT. The model was adjusted for covariates (i.e., age, sex, rank, and traumatic experiences while on deployment), as necessary, based on preliminary correlation analyses.

Results

Descriptive Analysis

Table 1 presents separate descriptive summaries for the responses from the Regular Force members and for the responses from Reservists on demographic and military characteristic questions. There were fewer Reservists (13.4%) than Regular Force members (86.6%) were in the current study. The majority of Regular Force members were between the ages of 30 to 39 years (39.9%) and 40 to 49 years (31.8%), whereas the majority of Reservists were younger and between the ages of 19 to 29 years (33.5%) and 30 to 39 years (27.2%). There were more women in the Regular Force (11.0%) compared to the Primary Reserve Force (9.0%). Since the sample was stratified by rank, it was expected that the proportions of each subpopulation would be similar. The proportions of junior non-commissioned members (NCMs) were the same for both components (48.2%). However, there was less of a disparity between the proportion of senior NCMs and officers in the Primary Reserve Force compared to the Regular Force (i.e., 29.0% and 22.8% versus 32.2% and 19.6%) .

Table 1 *Descriptive Characteristics of CAF Reservists and Regular Force Members.*

Demographic and Military Characteristics	Weighted *n*	Percent	Lower 95% CI	Upper 95% CI
Component Type				
Regular Force members	29060	86.6	86.5	86.7
Reservist	4480	13.4	13.3	13.5
Regular Force				
Age				
19-29	5400	18.6	17.4	19.9
30-39	11580	39.9	38.3	41.5
40-49	9220	31.8	30.4	33.2
50-59	2840	9.8	8.8	10.8
Sex				
Men	25840	89.0	87.9	89.9
Women	3200	11.0	10.1	12.1
Military Rank				
Junior NCM	14000	48.2	47.9	48.5
Senior NCM	9340	32.2	31.9	32.4
Officer	5700	19.6	19.4	19.8
Primary Reserve Force				
Age				
19-29	1500	33.5	31.7	35.3
30-39	1220	27.2	25.2	29.2
40-49	1000	22.3	20.7	23.9
50-59	760	17.0	15.4	18.6
Sex				
Men	4060	91.0	89.5	92.0
Women	400	9.0	7.8	10.2
Military Rank				
Junior NCM	2160	48.2	47.9	48.5
Senior NCM	1300	29.0	28.8	29.2
Officer	1020	22.8	22.6	23.0

Note. Frequencies are weighted to be representative of the CAF Regular and Reserve Force population. In order to protect the identity of respondents, Statistics Canada permits only the release of weighted cell counts, which must be rounded to the nearest 20. Degrees of freedom would have to be rounded to the nearest 20 as well and are therefore not reported due to lack of precision and meaningfulness.

Preliminary Analyses

Point estimates are displayed in Table 2. The average responses to social support, community belonging, MHT, emotional well-being, psychological well-being, social well-being, and combat exposure are presented for both groups. Regular Force members had a similar mean score to Reservists for social support, the number of hours spent receiving MHT, emotional well-being, and psychological well-being. Reservists had a higher mean score for a sense community belonging, social well-being, and combat exposure.

Table 2 *Summary of Means, Standard Deviations, and Confidence Intervals for Mediators (Social Support, Community Belonging, and MHT) and Outcome Variables (Emotional Well-Being, Psychological Well-Being, and Social Well-Being).*

	M	*SE*	Lower 95% CI	Upper 95% CI
Regular Force				
Social Support	35.97	0.072	35.83	36.11
Community Belonging	2.49	0.015	2.46	2.51
Hours of MHT	20.59	0.780	19.06	22.12
Emotional Well-Being	4.13	0.013	4.11	4.16
Psychological Well-Being	4.05	0.014	4.02	4.08
Social Well-Being	3.12	0.020	3.08	3.16
Combat Exposure	3.52	0.033	3.45	3.58
Primary Reserve Force				
Social Support	36.28	0.095	36.10	36.47
Community Belonging	2.67	0.018	2.63	2.70
Hours of MHT	20.16	0.758	18.67	21.65
Emotional Well-Being	4.11	0.018	4.07	4.14
Psychological Well-Being	4.02	0.019	3.98	4.05
Social Well-Being	3.24	0.025	3.19	3.29
Combat Exposure	3.69	0.043	3.61	3.77

Table 3 demonstrates the strength and direction of relationships between the variables of interest[9]. Some, but not all significant correlations were congruent with hypothesized relationships in the proposed path model. For instance, component type was negatively

[9] The reference group in these analyses for the variable component type was Regular Force members.

associated with emotional well-being, suggesting that Reservists reported significantly lower amounts of emotional well-being than Regular Force members. In addition, component type was positively associated with social well-being, social support, and local community belonging, suggesting that Reservists reported higher amounts of social well-being, social support, and local community belonging than Regular Force members. It should be noted that the magnitude of associations between component type and these factors was very small. However, local community belonging did have a stronger association with component type than the other factors. There were medium to large positive associations between social support and emotional, psychological, and social well-being, suggesting that the more social support one perceived, the better their well-being in all three areas. In addition, community belonging was positively associated with psychological and social well-being, suggesting that feeling a higher sense of local community belonging was associated with better psychological and social well-being. In terms of demographic variables, rank positively correlated with social well-being, suggesting that higher-ranking members reported more social well-being. Furthermore, combat exposure negatively correlated with psychological and social well-being, suggesting that experiencing different types of combat exposure was associated with less psychological and social well-being. Age, sex, rank, and combat exposure were included in the path model because they significantly correlated (at least statistically) with the outcome variables and were included to control for any confounding effects.

Table 3 *Summary of Correlations between Demographic and Military Characteristics, Component Type, Social Support, Community Belonging, MHT, and PMH.*

Variable *N* = 4860	1	2	3	4	5	6	7	8	9	10	11
1. Age	--										
2. Sex	.03	--									
3. Component Type	-.03**	-.02	--								
4. Rank	.42**	.05*	.01**	--							
5. SS	-.08**	.04*	.03*	.10*	--						
6. CB	.06**	-.02	.07**	.03*	.27**	--					
7. MHT	-.03	.03	-.00	-.05*	.04	.05*	--				
8. CE	-.07**	-.16**	.03**	-.04	-.06	-.04	.08**	--			
9. EWB	-.02	-.00	-.01**	.10	.51**	.32	.04	-.13	--		
10. PWB	-.03*	-.01*	-.01	.08	.44**	.29*	.04	-.15**	.73**	--	
11. SWB	.07*	-.00	.04**	.18**	.39*	.44**	.04	-.14**	.65**	.55**	--

Note. $^{*}p < .05$, $^{**}p < .001$. SS=social support; CB=community belonging; MHT=mental health training; CE=combat exposure; EWB=emotional well-being; PWB=psychological well-being; SWB=social well-being. Reference group for the variable component type was Regular Force members coded as 0 and Reservists coded as 1. Reference group for sex was male coded as 0, and female coded as 1.

Path Analysis

Figures 2 and 3 provide illustrations of the path models for emotional and psychological well-being. The models did not have good fit for emotional and psychological well-being according to the CFI and RMSEA fit criteria (CFI value of .81, RMSEA of .18 and CFI value of .77, RMSEA of .18, respectively). However, there was good fit based on the SRMSR fit criterion (SRMSR of .05 and SRMSR of .05, respectively). After adjusting the emotional and psychological well-being models for age (β = -.04, p = .002; β = -.06, p < .001), sex (β = -.04, p = .01; β = -.05, p = .001), rank (β = .07, p < .001; β = .06, p < .001), and combat exposure (β = -.11, p < .001; β = -.14, p < .001), the path between component type and community belonging was significant. Specifically, Reservists had higher amounts of community belonging than Regular Force members in both models (β = .08, p < .001). Social support (β = .45, p < .001; β = .39, p < .001), community belonging (β = .20, p < .001; β = .19, p < .001), and MHT (β = .03, p = .004; β = .03, p = .005) were significantly associated with higher emotional and psychological well-being.

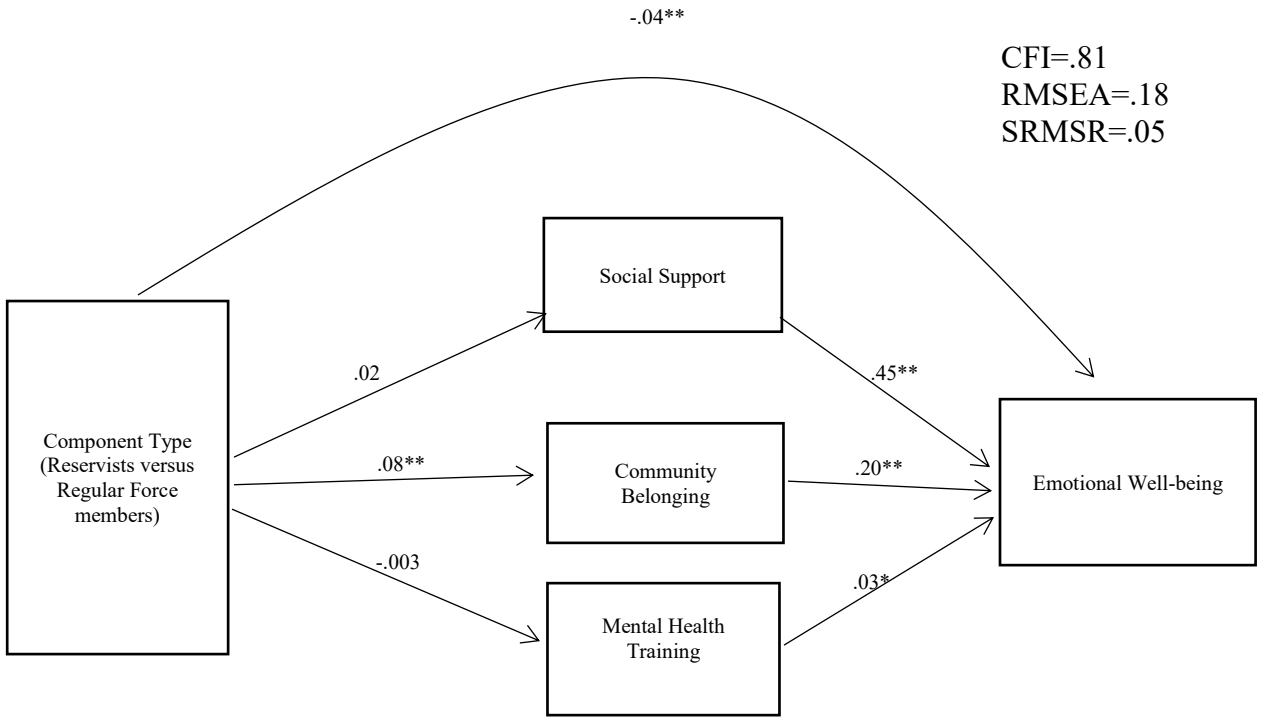

Figure 2 *Standardized coefficients for model of the associations of component type with emotional well-being through social support, community belonging, and mental health training.*

Note. *$p < .05$. ** $p < .001$. CFI=comparative fit index; RMSEA=root mean square error of approximation; SRMSR=standardized root mean square residual. Reference group for the variable component type was Regular Force members coded as 0 and Reservists coded as 1.Model was adjusted for age, sex, and combat exposure. Standard errors for all parameters ranged from .008 to .02.

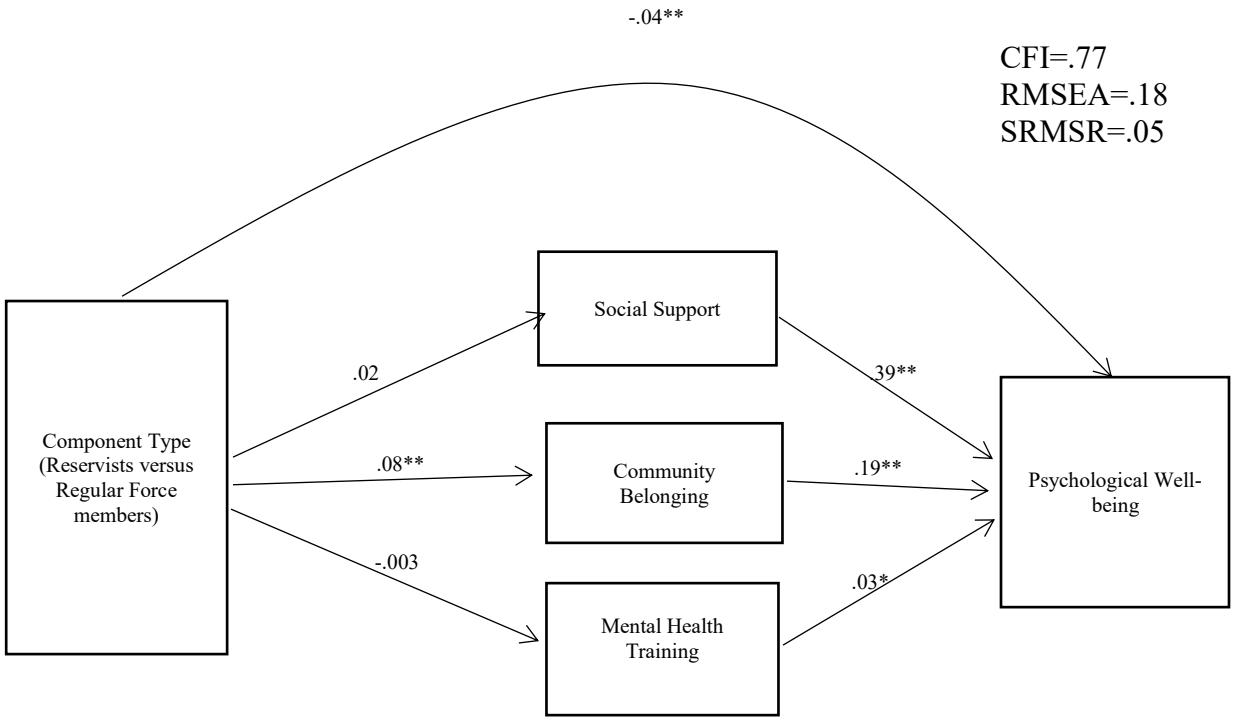

Figure 3 *Standardized coefficients for model of the associations of component type with psychological well-being through social support, community belonging, and mental health training.*

Note. *$p < .05$. ** $p < .001$. CFI=comparative fit index; RMSEA=root mean square error of approximation; SRMSR=standardized root mean square residual. Reference group for the variable component type was Regular Force members coded as 0 and Reservists coded as 1. Model was adjusted for age, sex, and combat exposure. Standard errors for all parameters ranged from .008 to .02.

Table 4 displays the indirect and direct effects of component type on emotional, psychological, and social well-being. Analyses revealed that component type had significant direct and indirect effects on both emotional (estimates of 0.2 and -0.4, respectively) and psychological well-being (estimates of 0.2 and -0.4, respectively) through community belonging. Inconsistent mediation was observed, which is consistent with what was described earlier. The emergence of this significant indirect effect of component type on emotional and psychological well-being suggested community belonging served as a suppressor variable for this association, with the magnitude or significance of the effect of component type on emotional and psychological well-being appearing only after adjusting for community belonging.

Table 4 *Estimates for Total, Indirect, and Direct Effects (Standard Errors) of Component Type on Emotional, Psychological, and Social Well-Being.*

Emotional Well-Being	Estimate (Standard Error)
Component Type to EWB	
Total Effect	-.01 (.009)
Total Indirect Effect	.024 (.005)***
Indirect Effect through SS	.007 (.004)
Indirect Effect through CB	.017 (.002)***
Indirect Effect through MHT	.00 (.00)
Direct Effect	-.037 (.008)***
Psychological Well-Being	**Estimate (Standard Error)**
Component Type to PWB	
Total Effect	-.015 (.009)
Total Indirect Effect	.022 (.005)***
Indirect Effect through SS	.006 (.004)
Indirect Effect through CB	.016 (.002)***
Indirect Effect through MHT	.00 (.00)
Direct Effect	-.036 (.008)***
Social Well-Being	**Estimate (Standard Error)**
Component Type to SWB	
Total Effect	.038 (.009) ***
Total Indirect Effect	.035 (.005)***
Indirect Effect through SS	.005 (.003)
Indirect Effect through CB	.031 (.004)***
Indirect Effect through MHT	.00 (.00)
Direct Effect	.003 (.008)

Note. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$. EWB=emotional well-being; PWB=psychological well-being; SWB=social well-being; SS=social support; CB=community belonging; MHT=mental health training. Reference group for the variable component type was Regular Force members coded as 0 and Reservists coded as 1.

Figure 4 provides an illustration of the model with social well-being as the outcome variable. The fit of the model was not adequate according to the CFI and RMSEA fit criteria (CFI value of .80, RMSEA of .18). Again, the fit was adequate according to the SRMSR fit criterion (SRMSR of .04). Similar to the previous models, the path between component type and community belonging remained significant after adjusting for age (β = -.01, p = .623), sex (β = -.03, p = .048), rank (β = .15, p < .001), and combat exposure (β = -.12, p < .001). Reservists had higher amounts of community belonging than Regular Force members (β = .08, p < .001); and social support, community belonging, and MHT were significantly associated with higher social well-being (β = .28, p < .001; β = .37, p < .001; β = .03, p = .038). The significant total effect in Table 4 indicates that component type significantly predicted social well-being. In particular, Reservists had higher amounts of social well-being than Regular Force members when no other variables were included in the model. When including the mediators in the model and adjusting for the covariates, the direct relationship between component type and social well-being was no longer significant, suggesting that there was no longer a difference between Reservists and Regular Force members on levels of social well-being (β = .003, p = .705). However, component type demonstrated a significant indirect effect on social well-being through community belonging (estimate of .03). Therefore, community belonging fully mediated the relationship between component type and social well-being.

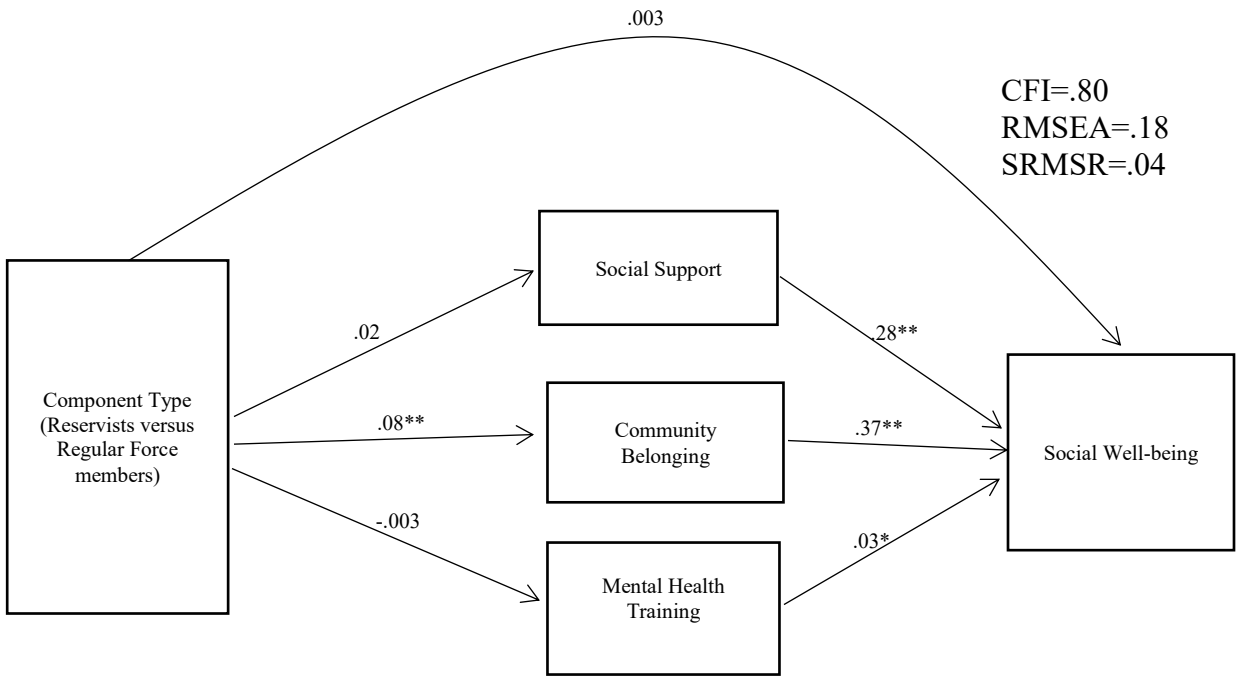

Figure 4 *Standardized coefficients for model of the associations of component type with social well-being through social support, community belonging, and mental health training.*

Note: *$p < .05$. ** $p < .001$. CFI=comparative fit index; RMSEA=root mean square error of approximation; SRMSR=standardized root mean square residual. Reference group for the variable component type was Regular Force members coded as 0 and Reservists coded as 1. Model was adjusted for age, sex, and combat exposure. Standard errors for all parameters ranged from .008 to .02.

Discussion

The primary goal of this study was to explore the nature of the relationship between component type and dimensions of PMH among Reservists and Regular Force members of the CAF. A comprehensive understanding of mental health includes the investigation of not only mental health problems, but also the positive aspects of mental health. Emotional, psychological, and social well-being were therefore examined in the current study in order to provide a more complete view of mental health. Emotional, psychological, and social well-being have been associated with social support, community belonging, and organizational support mechanisms in past research. This could make them possible pathways in the relationship between component type and PMH (Chan & Lee, 2006; McKibben et al., 2009; Muilenburg-Trevino et al., 2012; Prati & Albanesi, 2015; Schaefer & Moos, 1998; Smillie et al., 2015; van der Klink et al., 2001; Wang, Nyutu et al., 2015). The present study replicated past findings by demonstrating that social support, community belonging, and organizational support mechanisms can predict PMH, and by revealing differences in mental health between Reservists and Regular Force members. The current research also extended past findings by examining differences in positive aspects of mental health among Reservists and Regular Force members and by exploring the mediating role of various factors that may serve a protective function in this relationship. Thus far, no study has examined a comprehensive measure of PMH and underlying mechanisms that may explain differences between Reservists and Regular Force members.

Social support, community belonging, and MHT predicted greater PMH in both Reservists and Regular Force members, which was consistent with hypotheses. However, MHT only weakly predicted better PMH in both populations. There has been some debate on the effectiveness of organizational interventions like stress management interventions (Briner & Reynolds, 1999; Bunce & Stephenson, 2000; Caulfield et al., 2004; DeFrank & Cooper, 1987; Giga et al., 2003; Ivancevich et al., 1990; Mimura & Griffiths, 2002; Murphy, 1984; Newman & Beehr, 1979; Nicholson, Duncan, Hawkins, Belcastro, & Gold, 1988; Van Der Hek & Plomp, 1997). These techniques are generally taught in a classroom setting and the individual needs to alter their behaviour, which requires effort, active participation, and effort beyond classroom learning. The effectiveness of these techniques on well-being is contingent on internalization and practice. This may be a reason why MHT was only weakly associated with well-being.

The relationships of social support and community belonging with PMH were consistent with past research (Chan & Lee, 2006; Muilenburg-Trevino et al., 2012; Prati & Albanesi, 2015; Schaefer & Moos, 1998; Smillie et al., 2015; van der Klink et al., 2001; Wang, Nyutu et al., 2015). Researchers have studied the relationship between social support, sense of community, and mental health extensively and the current research contributed additional evidence to this already large body of research.

Deployed Reservists did not report lower amounts of social support, lower sense of local community belonging, and fewer hours of MHT than did Regular Force members. Instead, Reservists and Regular Force members experienced similar amounts of social support. Previous studies have reported that U.S. National Guard soldiers (i.e., comparable to Canadian Reservists) and active duty members (i.e., comparable to Canadian Regular Force members) were similar on

levels of social support (King et al., 2006; Han et al., 2014). Social support can be obtained from a variety of sources, such as family, friends, and co-workers, and can include emotional and instrumental support from both intimate sources (e.g., family) and broader sources (e.g., community). In one study, social support provided by unit members was examined. It was found that lack of unit support during deployment was associated with PTSD symptoms among active duty members, but not among National Guard soldiers. Interestingly, this association existed even though National Guard soldiers reported higher amounts of pre- and post-deployment unit support compared to active duty members (Han et al., 2014). Thus, members of National Guard had more unit member support, but this support did not contribute to lower levels of PTSD. Social support may be similar in both components when the provider is not specified. Future studies could explore potential differences between components when the provider of social support is specified.

Reservists did not report lower amounts of hours spent receiving MHT. Instead, Reservists and Regular Force members spent the same amount of time learning about mental health and resiliency at different points over the course of their careers. In a recent Auditor General report, it was noted that Army Reserves may receive lower levels of physical fitness and occupational skills training than Regular Army personnel. It was also noted that Army Reserve soldiers may lack clear guidance on preparing for deployment in support of major international missions (Office of the Auditor General of Canada, 2016). The skills and training mentioned in this Auditor General report were occupationally-based and did not include MHT and its adopted skills. One could have assumed that this lack of skills training extended to MHT. However, no such differences were found in MHT between Reservists and Regular Force members in the

current study. One reason for this may have been that the sample of CAF personnel included in the present study included not only Army personnel, but also Navy and Air Force personnel. Including personnel falling under different commands could have created proportionally different responses to the number of hours of MHT received, resulting in failure to detect a difference. Although this hypothesis was not supported, findings did suggest that the delivery of MHT is equal across components, which is an important finding in and of itself. Similar results were found in the U.S. military, where U.S. reserve forces were found to receive similar training and equipment as their active component counterparts (Cohen, Fink, Sampson, & Galea, 2014).

Together, these findings suggest that Reservists are similar to Regular Force members, at least in the context of general social support and mental health and resiliency training. However, other factors may differ between components that may explain why one group is more at risk than the other. For instance, Reservists primarily serve part-time at units in their civilian communities and this may increase the number of stressful transition periods from civilian life to an operational tempo (Orme & Kehoe, 2011). Unlike Regular Force members, Reservists are not kept operationally ready. Before deployment, they go through extensive training to become operationally ready. This extra training may mean that they are away from their home life for longer periods than Regular Force members. Longer separation from spouses, family, friends, and civilian employment may also contribute to additional stress, and studies have documented the adverse effects of longer deployments on health and well-being (Buckman et al., 2011). As well, some Reservists reside far from military communities, where care and support structures are unavailable (Standing Committee on National Defence, 2014). Differences in the receipt of primary care after deployment may also be a factor to consider, given that Reservists primarily

access civilian primary care and Regular Force members have access to CAF primary care services. Finally, job stability may be another factor to consider. Many Reservists experience job instability, which may have negative impacts on their mental health. For instance, a study revealed that 70% of returning UK reservists reported adverse post-deployment experiences in terms of civilian employment, perceived support from the military, and/or civilian social engagement (Harvey et al., 2011). In another study, U.S. Reservists attributed civilian job loss or financial difficulties to their deployment, and these difficulties appeared to contribute to mental health problems (Riviere, Kendall-Robbins, McGurk, Castro, & Hoge, 2011). Many of these additional factors could help to contextualize the experiences of Reservists after deployment, and future research could explore these processes in more detail. At this time, the current study provided insight into the broader issue of whether Reservists and Regular Force members differed on positive aspects of mental health.

The first prediction was that Reservists would be lower on emotional, psychological, and social well-being. This was partially supported. There were no associations between component type and emotional and psychological well-being before adjusting for mediators and covariates. These findings were consistent with other Canadian studies that reported no differences on the mental health of Reservists and Regular Force members (Boulos & Zamorski, 2013). These comparisons highlight the importance of conducting mental health research in the Canadian military context because findings from other nations may not always generalize across military organizations. However, Reservists were shown to have lower emotional and psychological well-being than Regular Force members when all mediators and covariates were held constant. Results coincide with findings from the U.S. and U.K. military organizations, where higher

prevalence's of mental health issues were reported among Reservists compared to Regular Force members (Hunt et al., 2014; Lane et al., 2012; Milliken et al., 2007; Smith et al., 2008). Although mental health issues and emotional and psychological well-being are not the same constructs, findings suggest that Reservists, overall, have poorer mental health after deployment when accounting for other factors. One of the mechanisms that may help explain this complex relationship is the sense of community belonging.

It was expected that Regular Force members would have a stronger sense of community belonging than Reservists. One reason for this could have been that Regular Force members more frequently live in rural areas, while Reservists more frequently live in urban areas (Wright, Hlywa, & Gauthier, 2016). Rural areas are known to foster a stronger sense of community than urban areas, with higher levels of belonging evident in the outer regions of Canada (Kitchen et al., 2012). However, this was not found to be the case in the present study. Instead, Reservists demonstrated a higher sense of local community belonging than Regular Force members. Primary reserves may have closer ties to the community on an individual and group level. On an individual level, Reservists may have an enduring individual connection with the community through school, work, and public interactions while in uniform. Reservists may be more integrated into their local communities because of their unique occupational role in the CAF. Some of the many differences between Reservists and Regular Force members are that Reservists tend to move less frequently, they generally work part-time in the CAF, and are often students and/or hold civilian jobs. In addition, the only exposure that civilians may have to military personnel is through their interactions with Reservists. Reservists may, then, receive many of the gestures of gratitude and support that the public expresses towards military

personnel. This positive attention and support may bolster Reservists' well-being. On a group level, Army Reserve units foster a strong connection with the community (Standing Committee on National Security and Defence, 2011). Nationally, regimental depots support regimental bands, sponsor Army Cadet Corps, and participate in ceremonial duties and parades. These types of activities may inadvertently foster a sense of community belonging by enhancing a sense of self, place, and community (Porter, 2000). A reciprocal relationship between the Reservists, the unit, and the public (community members) may contribute to a deeper sense of community belonging among Reservists compared to Regular Force members.

Results pointed to an inconsistent mediation effect for the relationships of component type with emotional and psychological well-being through community belonging. To understand this better, McFlatter (1979) explained a hypothetical situation where inconsistent mediation can occur. Consider a situation where intelligence is the independent variable, boredom is the mediator, and number of errors made on an assembly line task is the dependent variable. Hypothetically, the more intelligent the worker, the fewer errors he or she would make. This relationship is the direct effect and it would be negative. At the same time, the more intelligent the worker, the more bored he or she would be, and boredom would contribute to more errors. This relationship would be the indirect effect, and would be positive. Combined, these two hypothetical relationships (direct and indirect) would cancel each other out, resulting in a total effect of intelligence on number of errors of zero. This same process was found in the current study: The total effect of component type on emotional and psychological well-being was zero because of the two opposing relationships of the direct and indirect effects. Reservists were lower on emotional and psychological well-being when the direct effect was considered.

However, Reservists were higher on community belonging. In turn, this higher community belonging contributed to higher emotional and psychological well-being, resulting in a positive indirect effect.

Although the general prediction was that Reservists would have poorer emotional and psychological well-being after deployment, the mediated path involving community belonging had the opposite effect. Reservists appeared to have a greater sense of local community belonging than Regular Force members, which, in turn, led to increased levels of emotional and psychological wellbeing after deployment. Thus, while Reservists were generally worse off than Regular Force members, their close community ties served as a protective mechanism that helped enhance their emotional and psychological well-being. Undoubtedly, maintaining a sense of community has been linked to better self-esteem, life satisfaction, and environmental mastery (Barr et al., 2016; Muilenberg-Trevino et al., 2012; Wang et al., 2015) and represents as an important resource for Reservists after deployment.

Reservists reported higher social well-being than Regular Force members. On a personal level, Reservists may feel more integrated compared to Regular Force members because they move around less, attend school or hold civilian jobs. Because of these experiences, they may feel that they have more in common with their local community. Reservists may be the only visible military personnel to some civilians. Since more Reservists tend to live in urban areas, they may be exposed to the positive attention, support, and gratitude the community expresses for their service. Conversely, since they are more embedded in the community, theses closer community links may give them a sense that there is “more to fight for”, which could explain

why they report feeling that they are an important member of society with something to contribute (e.g., service to their country).

A sense of local community belonging fully explained how Reservists have higher amounts of social well-being than Regular Force members. The fact that sense of local community belonging predicted better social well-being is understandable. Previous research has reported a significant positive relationship between sense of community and social well-being. Specifically, social contribution and social integration have been found to be strongly related to sense of community (Prati & Albanesi, 2015). This suggests that feeling a sense of community increases one's feeling he or she has things in common with others in the social reality (e.g., neighborhood) and has something valuable to contribute to society.

Limitations of the Study

Several limitations of the current study should be addressed in future research. There are many benefits in conducting cross-sectional research (e.g., cost-efficiency), but there are some drawbacks. The lack of controlled reporting conditions should be taken into consideration, and caution should be exercised when interpreting the results. Another limitation is that causality cannot directly be inferred from the direction of the associations between variables. The self-report nature of this study lends itself to the potential for reporting and social desirability biases. As well, the generalizability of the findings may be limited. This study only included military personnel who are currently serving and excluded those who may have been released because of mental health issues. This may have reduced the variability of responses within the data and excluded part of the population with similar deployment experiences (e.g., recent veterans).

Other limitations relate to the tools that were used to measure certain constructs. The measure for social support did not assess who, specifically, provided social support to the participant. Past research suggests that the effectiveness of social support depends on who is giving it and whether the person receiving social support is receptive to the support (Kendall-Tackett, 2002). Future questionnaires should be designed to tap into these aspects of social support. As well, community belonging was assessed with only one item. This may have created discriminant validity issues with other measures, such as that of social well-being. Furthermore, conducting research in which broader aspects of sense of community are assessed (e.g., relational sense of community) would provide valuable information. Future research could also examine a more diverse range of possible health outcomes, such as mental health problems, with PMH concurrently. Describing the prevalence of mental disorders by component type may be an important contextual finding. Given the correlation between PMH and mental disorders (Keyes, 2005b), it could be of value to adjust for differences in disorder in a future analyses of PMH.

As a final limitation, no information on the time since last deployment was collected and available for analysis in the CFMHS. This can be considered a limitation because time since deployment can serve as a proxy for whether members are in a reintegration phase. This transition may come with additional stressors that may consequently influence levels of well-being (Wolfe, 1991; Figley, 1993). Without having adjusted the analyses for time since deployment, it is not possible to rule out the possibility that the current findings were influenced by the adjustment phase of participants after deployment.

Implications of the Study

The current study may provide a deeper understanding of PMH. Information about the nature and direction of these relations may provide certain clues about the mechanisms that lead to better mental health and resilience in the military. This study goes beyond looking at PMH in Regular Force members, and provides a comparison to and focus on Reservists. This is not only in line with past Canadian military research on differences in mental health between both groups (where Reservists were not found to be at an increased risk for negative mental health outcomes); it also shows how PMH manifests itself in a military population.

The present study sought to understand processes that may help determine how to improve PMH, and identify mechanisms that may prevent or mitigate the adverse effects surrounding deployment among Reservists. Reservists are dispersed in communities, and some are isolated from military structures and services, making access to services more difficult and Reservists harder to reach. Consequently, Reservists may especially benefit from approaches that are more diverse and local community belonging may be a factor to consider. Knowing more about the role of community belonging in Reservists' well-being could provide valuable insight for the development of interventions and programs that aim to improve sense of community. Research in this area may inform policies that strengthen Reservists' contact with their local community, ultimately contributing to improved health among Reservists.

Future studies expanding on these findings could also explore different aspects of community. The current study examined geographical sense of community, representing only one aspect of the broader concept of sense of community, which also includes relational sense of

community. Examining relational sense of community belonging would allow information to be gained on how individuals may benefit from a sense of belonging with groups that are not bound by a geographical location. The current study may have revealed differences in sense of community belonging that reflect varying levels of integration within geographical area across components. Thus, results do not preclude the possibility that Regular Force members exhibit higher levels of other types of community belonging, such as a relational sense of community with the military. The present findings may just be one piece of the puzzle.

Finally, future studies could explore additional factors that may differ between components and thereby impact the mental health of Reservists, such as social support from various providers, civilian and military job instability, civilian social engagement, home coming experiences, and being green to deployment.

Conclusion

In conclusion, this study is the first to document mediating effects of local community belonging in the relationship between component type and mental health. This study also is the first to determine that Reservists are not at an increased risk for lowered emotional, psychological, and social well-being. Assessing both components will allow the CAF to determine the origins of disparities, and may thereby help to inform the development of programs and policies that equally benefit both prominent groups of the CAF.

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Appendix

Positive Mental Health Measure
Positive Mental Health

Core content

PMH_BEG

This module is the Mental Health Continuum Short Form© instrument developed by Dr. Corey Keyes (Emory University in Atlanta, Georgia USA). The author granted permission to Statistics Canada for the use of MHC-SF in this survey.

Content block

External variables required:
SEX_Q01: sex of specific respondent (1 = male, 2 = female) from Sex block.
DOPMH: do block flag, from the sample file.

PE_Q01: first name of specific respondent from USU block
PE_Q02: last name of specific respondent from USU block

Screen display:
Display on header bar PE_Q01 and PE_Q02 separated by a space

PMH_C01

If DOPMH = 1, go to PMH_R01.
Otherwise, go to PMH_END.

PMH_R01

(Please refer to page 1 of the booklet.)

The following questions are about how you have been feeling during the past month.

INTERVIEWER: Press <1> to continue.

PMH_Q01

In the past month, how often did you feel:

...happy?

INTERVIEWER: Read categories to respondent.

1 **Every day**
2 **Almost every day**
3 **About 2 or 3 times a week**
4 **About once a week**
5 **Once or twice**
6 **Never**
DK, RF (Go to PMH_END)

PMH_Q02

(In the past month, how often did you feel:)

...interested in life?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week

5 Once or twice
6 Never
DK, RF

PMH_Q03 **(In the past month, how often did you feel:)**

...satisfied with your life?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q04 **In the past month, how often did you feel:**

...that you had something important to contribute to society?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q05 **(In the past month, how often did you feel:)**

...that you belonged to a community (like a social group, your neighbourhood, your city, your school)?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q06 **(In the past month, how often did you feel:)**

...that our society is becoming a better place for people like you?

INTERVIEWER: If necessary, explain that "people like you" can refer to any groups to which the respondent feels they belong (i.e. religion, income, ethnicity, age, health status, community, etc.).

1 Every day
2 Almost every day

3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q07 **In the past month, how often did you feel:**

...that people are basically good?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q08 **(In the past month, how often did you feel:)**

...that the way our society works makes sense to you?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q09 **(In the past month, how often did you feel:)**

...that you liked most parts of your personality?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q10 **In the past month, how often did you feel:**

...good at managing the responsibilities of your daily life?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

2013 / CAPI

PMH_Q11 **(In the past month, how often did you feel:)**

...that you had warm and trusting relationships with others?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q12 **(In the past month, how often did you feel:)**

...that you had experiences that challenge you to grow and become a better person?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q13 **In the past month, how often did you feel:**

...confident to think or express your own ideas and opinions?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_Q14 **(In the past month, how often did you feel:)**

...that your life has a sense of direction or meaning to it?

1 Every day
2 Almost every day
3 About 2 or 3 times a week
4 About once a week
5 Once or twice
6 Never
DK, RF

PMH_END

2013 / CAPI

Social Support Measure
Social Provisions Scale 10 Items (SPS)

Core content

SPS_BEG

This module is based on the Social Provisions Scale (24 items) developed by Cutrona and Russell (1989), and validated in French by Caron (1996). For this survey, Dr. Caron developed this shorter version with 10 items, which maintains the psychometric properties of the original instrument.

Content block

External variables required:

DOSPS: do block flag, from the sample file.
PE_Q01: first name of specific respondent from USU block
PE_Q02: last name of specific respondent from USU block

Screen display:
Display on header bar PE_Q01 and PE_Q02 separated by a space

SPS_C01

If DOSPS = 1, go to SPS_R01.
Otherwise, go to SPS_END.

SPS_R01

(Please refer to page 25 of the booklet.)

The next questions are about your current relationships with friends, family members, co-workers, community members, and so on. Please indicate to what extent each statement describes your current relationships with other people.

INTERVIEWER: Press <1> to continue.

SPS_Q01

There are people I can depend on to help me if I really need it.

INTERVIEWER: Read categories to respondent.

1 **Strongly agree**
2 **Agree**
3 **Disagree**
4 **Strongly disagree**
DK, RF (Go to SPS_END)

SPS_Q02

There are people who enjoy the same social activities I do.

1 Strongly agree
2 Agree
3 Disagree
4 Strongly disagree
DK, RF

SPS_Q03

I have close relationships that provide me with a sense of emotional security and well-being.

1 Strongly agree
2 Agree
3 Disagree
4 Strongly disagree
DK, RF

SPS_Q04 **There is someone I could talk to about important decisions in my life.**

1 Strongly agree
2 Agree
3 Disagree
4 Strongly disagree
DK, RF

SPS_Q05 **I have relationships where my competence and skill are recognized.**

1 Strongly agree
2 Agree
3 Disagree
4 Strongly disagree
DK, RF

SPS_Q06 **There is a trustworthy person I could turn to for advice if I were having problems.**

1 Strongly agree
2 Agree
3 Disagree
4 Strongly disagree
DK, RF

SPS_Q07 **I feel part of a group of people who share my attitudes and beliefs.**

1 Strongly agree
2 Agree
3 Disagree
4 Strongly disagree
DK, RF

SPS_Q08 **I feel a strong emotional bond with at least one other person.**

1 Strongly agree
2 Agree
3 Disagree
4 Strongly disagree
DK, RF

SPS_Q09 **There are people who admire my talents and abilities.**

1 Strongly agree
2 Agree
3 Disagree
4 Strongly disagree
DK, RF

SPS_Q10 **There are people I can count on in an emergency.**

1 Strongly agree
2 Agree
3 Disagree
4 Strongly disagree
DK, RF

SPS_END

2013 / CAPI

Community Belonging Item

GEN_Q10

How would you describe your sense of belonging to your local community? Would you say it is…?

INTERVIEWER: Read categories to respondent.

1 **Very strong**
2 **Somewhat strong**
3 **Somewhat weak**
4 **Very weak**
DK, RF

GEN_END

2013 / CAPI

Mental Health Training Measure
Exposure to Mental Health Training (MHT)

Core content

MHT_BEG

Content block

External variables required:

DOMHT: do block flag, from sample file
DPL_Q2: has been deployed in support of mission in Afghanistan - from DPL block
DPL_Q3: has been deployed in support of mission outside of North America - from DPL block

PE_Q01: first name of specific respondent taken from USU block
PE_Q02: last name of specific respondent taken from USU block

Screen display:
Display on header bar PE_Q01 and PE_Q02 separated by a space.

MHT_C01

If DOMHT = 1, go to MHT_R01.
Otherwise, go to MHT_END.

MHT_R01

The next few questions are about your experience with mental health or resilience training over the past 5 years.

By "mental health or resilience training", we mean psychologicallyoriented training done in a group setting that is meant to help you cope better with stresses or personal problems.

Do not include one-on-one counselling (for example, with a mental health professional, a peer, or your supervisor).

INTERVIEWER: Press <1> to continue.

MHT_Q01

Please refer to page 28 of the booklet.

Over the past 5 years, have you received any mental health or resilience training...?

INTERVIEWER: Read categories to respondent.
Mark all that apply.
If necessary, explain that "PSP" stands for Personnel Support Program.

Strengthening the Forces programs include "Managing Angry Moments" Workshop, "Basic Relationship Training", "Stress: take Charge!", and "Mental Fitness and Suicide Awareness".

If respondent is unsure whether their training is "a career course" or "trades training", select category 3 for "career course".

For training received as a CF recruit, select category 3 for "career course".

1 **In preparation for a CF deployment (e.g. "Road to Mental Readiness (R2MR)", "First Aid for the Warrior Mind" or "Programme d'entraînement à la résilience militaire (PERM)")**
2 **At the end of a CF deployment (e.g. during decompression in Cyprus)**
3 **During a career course intended to prepare you for a higher rank (e.g. the Primary Leadership Qualification course)**
4 **During trades training (training intended to qualify you for a particular military occupation)**
5 **Through the PSP personnel at the base health promotion office (e.g. as part of the Strengthening the Forces program)**
6 **As part of routine unit training, professional development, or any other work-related activity**

7 **None**
DK, RF (Go to MHT_END)

MHT_E01A Respondent previously reported never having been deployed. Please confirm.

Rule : *Trigger soft edit if (MHT_Q01 = 1 or 2) and (DPL_Q2 = 2 and DPL_Q3 = 2).*

MHT_E01B **You cannot select "None" and another category. Please return and correct.**

Rule : *Trigger hard edit if MHT_Q01 = 7 and any other response selected in MHT_Q01.*

MHT_C02A If MHT_Q01 = 1, go to MHT_Q02A. Otherwise, go to MHT_C02B.

MHT_Q02A **You mentioned that you received mental health or resilience training in <u>preparation</u> for a CF deployment.**

Over the past 5 years, about how many <u>hours</u> of this training have you received?

<u>INTERVIEWER</u>: Only count the hours of this training that focus on mental health or resilience training.
If less than 1 hour, enter "0".

|_|_|_| Number of hours
(MIN: 0)
(MAX: 995)
DK, RF

MHT_E02A An unusual value has been entered. Please confirm.

Rule : *Trigger soft edit if MHT_Q02A > 80.*

MHT_C02B If MHT_Q01 = 2, go to MHT_Q02B.

Otherwise, go to MHT_C02C.

MHT_Q02B

You mentioned that you received mental health or resilience training at the end of a CF deployment.

Over the past 5 years, about how many hours of this training have you received?

INTERVIEWER: Only count the hours of this training that focus on mental health or resilience training.
If less than 1 hour, enter "0".

|_|_|_| Number of hours
(MIN: 0)
(MAX: 995)
DK, RF

MHT_E02B

An unusual value has been entered. Please confirm.

Rule :

Trigger soft edit if MHT_Q02B > 60.

MHT_C02C

If MHT_Q01 = 3, go to MHT_Q02C.
Otherwise, go to MHT_C02D.

MHT_Q02C

You mentioned that you received mental health or resilience training during a career course intended to prepare you for a higher rank.

Over the past 5 years, about how many hours of this training have you received?

INTERVIEWER: Only count the hours of this training that focus on mental health or resilience training.
If less than 1 hour, enter "0".

|_|_|_| Number of hours
(MIN: 0)
(MAX: 995)
DK, RF

MHT_E02C

An unusual value has been entered. Please confirm.

Rule :

Trigger soft edit if MHT_Q02C > 60.

MHT_C02D

If MHT_Q01 = 4, go to MHT_Q02D.
Otherwise, go to MHT_C02E.

MHT_Q02D

You mentioned that you received mental health or resilience training during trades training.

Over the past 5 years, about how many hours of this training have you received?

INTERVIEWER: Only count the hours of this training that focus on mental health or resilience training.

If less than 1 hour, enter "0".

|_|_|_| Number of hours
(MIN: 0)
(MAX: 995)
DK, RF

MHT_E02D An unusual value has been entered. Please confirm.

Rule : *Trigger soft edit if MHT_Q02D > 60.*

MHT_C02E If MHT_Q01 = 5, go to MHT_Q02E.
Otherwise, go to MHT_C02F.

MHT_Q02E **You mentioned that you received mental health or resilience training through the PSP personnel at the base health promotion office.**

Over the past 5 years, about how many hours of this training have you received?

INTERVIEWER: Only count the hours of this training that focus on mental health or resilience training.
If less than 1 hour, enter "0".

If necessary, explain that "PSP" stands for Personnel Support Program.

|_|_|_| Number of hours
(MIN: 0)
(MAX: 995)
DK, RF

MHT_E02E An unusual value has been entered. Please confirm.

Rule : *Trigger soft edit if MHT_Q02E > 60.*

MHT_C02F If MHT_Q01 = 6, go to MHT_Q02F.
Otherwise, go to MHT_C03.

MHT_Q02F **You mentioned that you received mental health or resilience training as part of routine unit training, professional development or any other work-related activity.**

Over the past 5 years, about how many hours of this training have you received?

INTERVIEWER: Only count the hours of this training that focus on mental health or resilience training.
If less than 1 hour, enter "0".

|_|_|_| Number of hours
(MIN: 0)
(MAX: 995)
DK, RF

MHT_E02F — An unusual value has been entered. Please confirm.

Rule : — *Trigger soft edit if MHT_Q02F > 60.*

MHT_C03 — If (MHT_Q02A = 0, DK, RF) and (MHT_Q02B = 0, DK, RF) and (MHT_Q02C = 0, DK, RF) and (MHT_Q02D = 0, DK, RF) and (MHT_Q02E = 0, DK, RF) and (MHT_Q02F = 0, DK, RF), go to MHT_END.
Otherwise, go to MHT_R03.

Traumatic Experience on Deployment Measure

Deployment Experience (DEX)

Core content

DEX_BEG — Content block

External variables required:

DODEX: do block flag, from sample file
DPL_Q2: has been deployed in support of mission in Afghanistan - taken from DPL block
DPL_Q3: has been deployed in support of mission outside of North America- taken from DPL block
PE_Q01: first name of specific respondent taken from USU block
PE_Q02: last name of specific respondent taken from USU block

Screen display:
Display on header bar PE_Q01 and PE_Q02 separated by a space.

DEX_C01 — If DPL_Q2 = 1 or DPL_Q3 = 1, go to DEX_R01.
Otherwise, go to DEX_END.

DEX_R01 — INTERVIEWER: Hand reference card 2 to respondent.

(Please refer to reference card 2.)

The next questions ask about stressful events that might have happened to you while you were on a CF deployment. Please take a few minutes to read the events on the reference card. This card is provided to help you keep track of these events and you may take it with you at the end of the interview.

INTERVIEWER: Press <1> to continue.

DEX_Q01 — **During any CF deployment, have any of these events ever happened to you?**

1 Yes
2 No
DK, RF (Go to DEX_END)

2013 / CAPI

DEX_Q02

Looking at your reference card, how many different events have you experienced during any CF deployment? If the same event happened more than once, only count it once.

|_| Number of events
(MIN: 1)
(MAX: 8)
DK, RF

DEX_Q03

Looking at your reference card, please tell me the Event ID [number that corresponds to this event/numbers that correspond to these events].

INTERVIEWER: **[Mark all that apply.]**

If the respondent wants to keep an event confidential, code "9".

DEX_E03

Rule :

DEX_END