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Children in Canadian Military-Connected Families: Developmental Assets, Parent Mental Health, and Social-Behavioural Outcomes

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Children in Canadian Military-Connected Families:
Developmental Assets, Parent Mental Health, and Social-Behavioural Outcomes

by

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A THESIS

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Abstract

Much of the extant literature on military families is American-based and problem-focused. Very little research has examined the strengths of military families, with emphasis on children from military families. Protective factors, or factors known to prevent the development of behavioural problems, have recently started to gain more attention from researchers. Using a developmental systems lens, this study profiled the developmental assets of children from Canadian military families, examined the relation between developmental assets and youth self-reported problematic behaviour, and determined whether this relation is moderated by the presence of parental mental health symptomology. Thirty-one military families (with at least one child and one parent responding) participated in the study. Slightly more external assets than internal assets were reported for the sample, although each of these fell within the “fair” range, suggesting considerable room for enhancement. Family was the greatest contextual asset reported. Multiple regression analysis revealed that children reporting stronger assets reported less problematic behaviour. Parents’ self-reported PTSD symptoms were used as a moderator to examine whether this relationship remained significant. Although the developmental assets failed to remain a significant predictor of problematic behaviour, inspection of the semi-partial correlations suggests that the numbers of assets account for a large percentage of the variance in problematic behaviour. The current study provides preliminary findings to fill a gap in the knowledge of the personal and contextual assets of military-connected children and the protective role they play in the development of problem behaviour. Implications for clinicians, researchers, and policy makers are discussed.

Keywords: developmental assets, military-connected children, military families, parental mental health, social-behavioural outcomes, developmental systems theory

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Dedication

I dedicate this dissertation to Canadian military families – thank you for sharing your stories and serving our country.

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List of Symbols, Abbreviations and Nomenclature

Abbreviation	Definition
APA	American Psychiatric Association
ASR	Adult Self-Report
CAF	Canadian Armed Forces
CBCL	Child Behavior Checklist
DAP	Developmental Assets Profile
DAP-P	Developmental Assets Profile-Preteen
DSM-5	Diagnostic and Statistical Manual of Mental Disorder, Fifth Edition
DST	Developmental Systems Theory
GAD	Generalized Anxiety Disorder
GHQ	General Health Questionnaire
IPV	Interpersonal Violence
MFRC	Military Family Resource Centre
OSI	Operational stress injury
OSISS	Operational Stress Injury Social Support
PCL-5	Posttraumatic Stress Disorder Checklist for DSM-5
PTSD	Posttraumatic Stress Disorder
PYD	Positive youth development
SCL-90-R	Symptom Checklist-90-Revised
TBI	Traumatic brain injury
YSR	Youth Self-Report
VAC	Veterans Affairs Canada

Epigraph

It is easier to build strong children than to repair broken men.

-Frederick Douglass, 1817-1895

Chapter 1: Introduction

Canada has been proudly served by over 600,000 Canadian Armed Forces (CAF) veterans (Veterans Affairs Canada [VAC], 2018) and over 108,000 Regular Force and Reserve Force personnel (National Defence and the Canadian Armed Forces [CAF], 2018a). Within the Regular and Reserve Forces, 75% of military couples have children, amounting to over 54,000 military families in Canada (Battams, 2016). Further, nearly half of all Regular Force members and nearly four in ten veterans in Canada have children under 18 years old (Battams, 2016).

Many individuals choose to join the CAF because of the challenging and rewarding nature of a service career. A CAF career offers advantages such as traveling and meeting new people, security and stability in your profession, and access to top quality education and development of leadership skills (National Defence & CAF, 2018b). However, families face a number of challenges that are unique only to those who experience military life. For example, CAF families are required to regularly relocate at the discretion of CAF and CAF members are required to be away from their families from one day to 15 months at a time (National Defence and Canadian Forces Ombudsman, 2013). The nature and scope of the serving parent's military service can put him or her at risk for physical (e.g., illness due to unique environmental conditions) or mental (e.g., posttraumatic stress or operational stress injuries [OSI]) challenges that affect their social contexts (e.g., readjusting to civilian life after deployment; National Defence and Canadian Forces Ombudsman, 2013; Sherman & Glenn, 2011). Although these challenges in isolation are not unique only to military families, the cumulative effect over the course of a military career is a significant stressor (National Defence and Canadian Forces Ombudsman, 2013), suggesting that the effects of military service are both personal and familial. For instance, extended absences by the serving member may be related to an increase in stress

for the at-home parent, which impacts the quality of relationship with their child (Lowe, Adams, Browne, & Hinkle, 2012). Similarly, frequent relocations increase familial stress (Bradshaw, Sudhinaraset, Mmari & Blum, 2010; Marchant & Medway, 1987) and impact children's academic achievement negatively (Lyle, 2006), but may contribute to higher social competence in children (Marchant & Medway, 1987).

Despite these challenges, many military families may adjust to their changing circumstances with relative ease. However, very little research has examined the strengths and well-adjustment of military families, and children of military families in particular. This study will begin to uncover those strengths.

Effects of Military Life on Children

Research on military families has been largely focused in the United States, while comparatively little work has been conducted with Canadian military families (e.g., Harrison, Albanese, & Berman, 2014; Kwan-Lafond, Harrison, & Albanese, 2011). While children's mental health and problem behaviours have been well-studied, findings on the overall status of military children remain inconclusive. For example, deployment has been found to be a significant stressor for military children (Skomorovsky & Bullock, 2017); generally, an increase in psychosocial and academic difficulties has been reported for children with a deployed parent (Aranda, Middleton, & Flake, 2011), and these difficulties are compounded when a parent is deployed two or more times (McGuire et al., 2016). The impact of deployment appears to be dependent on the age of the child, with some research suggesting negative impacts more likely in early childhood (Card et al., 2011); however, interesting links between deployment at the time of the child's birth and emotional, behavioural, and peer problems observed between 6- to 10-years of age have also been made (Mustillo, MacDermid Wadsworth, & Lester, 2016). Psychosocial

health (i.e., the absence of dysfunction) may be predicted by the at-home parent's level of parenting stress (e.g., level of distress associated with parenting, parent-child dysfunction, and perception of global stress; Flake, Davis, Johnson, & Middleton, 2009). This speaks to the importance of examining the family system during and after deployment.

Other research has examined the impact that parental mental health, traditionally posttraumatic stress disorder (PTSD), has on children and the family during the reintegration time period and beyond post-deployment. PTSD in veterans has been associated with psychological maltreatment towards their partners (Glenn et al., 2002), severe problems in marital and family adjustment and parenting skills (Jordan et al., 1992), secondary symptoms in their spouses (Herzog, Everson, & Whitworth, 2011), and internalizing and externalizing problems in their children (Caselli & Motta, 1995; Rosenheck & Fontana, 1998; Selimbasic, Sinanovic, & Avdibegovic, 2012). Children of Canadian military members with PTSD describe their parent as emotionally unavailable (Harrison et al., 2014). Although other mental health problems have not been explored from a familial perspective in Canada, Canadian Regular Forces members report depression and Generalized Anxiety Disorder (GAD) at double the rate of the general Canadian population (Pearson, Zamorski, & Janz, 2014). Non-military studies have shown that parents with depression are less available for their children, with more irritability and less consistent parenting interactions with their children (Cicchetti & Toth, 1998). Similarly, parental anxiety has been correlated with child anxiety and depression (Burstein, Ginsburg & Tein, 2010).

With the end of Canada's significant military presence in Afghanistan and personnel having returned home, attention has shifted to highlight the negative effects of military service. A study following forces throughout and post-deployment found 8% of soldiers were diagnosed

with Afghanistan-related PTSD and an additional 5.2% were diagnosed with other Afghanistan-related mental health disorders (e.g., depression, adjustment disorders, anxiety disorders; National Defence and the CAF, 2017). What has been a minimal focus of researchers, however, is the impact of these negative effects on the family. Moreover, many of these families do not experience negative impacts of military service or are able to adapt and cope with the challenges they face. Research to date has virtually neglected to report on adaptive or more positive experiences of families that are doing well. The positive assets that these families use to cope warrants critical examination. This study will bring to light some of those positive assets.

Protective Factors and Strengths-Based Approaches

Protective factors, or characteristics that are hypothesized to prevent the development of behavioural problems (Masten, 2013a), have only recently started to gain more attention within the military family literature. For example, qualitatively positive communication with the deployed parent during deployment acts as a buffer for the development of problems in adolescents (Freidman, Sigelman, Rohrbeck, & del Rio-Gonzalez, 2017). Level of parenting stress (Flake et al., 2009), mental health (McGuire et al., 2012), and modelling of adaptive coping strategies (Thompson, Baptist, Miller, & Henry, 2017) protect against the development of problems in children. Further, fewer behavioural problems are reported in parents that have more social support (e.g., help from family and friends) at home while their partner is deployed (McGuire et al., 2012).

A strengths-based framework, identifying strengths and protective factors that promote positive outcomes, is essential to shift from the traditional deficit-based research surrounding military families. Developmental systems theory (DST), where the individual's development is conceptualized as a product of their dynamic interaction within the systems they exist (Lerner,

Wertlieb, & Jacobs, 2005), is one such strategy that could be used. Children in military-connected families interact in relationships with the parents, the child's peers, and the military parent's colleagues, among others. These relationships are further embedded within systems, such as the family, social groups, schools, and military communities (Masten, 2013b). These systems can be disrupted during military-specific experiences, like relocation and deployment, when responsibilities and roles of family members are forced to adapt.

One iteration of DST is positive youth development (PYD), an approach that focuses on the strengths, skills, and possibilities of youth. PYD includes examination of how youth influence and are influenced by their surrounding contexts across time (Damon, 2004; Gestsdottir, Urban, Bowers, Lerner & Lerner, 2011). One way to promote PYD is to identify the youth's developmental assets. Described as the building blocks to healthy, caring, and productive youth, the Search Institute has identified 40 assets that are associated with indicators of positive development, including school success, altruism, leadership, and physical healthiness (Scales & Leffert, 2004). The predictability of these assets has remained consistent across hundreds of thousands of surveys completed by youth from diverse cultures and contexts across the world (Search Institute, 2018a). No study has identified the developmental assets of Canadian military children. Identifying assets within this population presents a starting point to understanding the strengths amidst this seemingly challenged population.

Present Study

The current study focused on uncovering and profiling the developmental assets of children from Canadian military families. These developmental assets were then investigated for their relation to the youth's self-report of problematic behaviour. As demonstrated through decades of research by the Search Institute, a strong presence of developmental assets reduces

the likelihood of engaging in risky behaviour and the onset of youth mental disorders across diverse cultures and contexts (Search Institute, 2018a). However, this link has not been explored specifically with children of military families. Although researchers have started to explore the impact of parental mental health on the functioning of children from military families, research has not yet investigated whether these assets hold their predictive power when the child has a parent with significant mental health symptomology. Thus, the specific research questions addressed in this study are:

- 1) What developmental assets are most dominant in Canadian military-connected youth?*
- 2) How are developmental assets correlated with and predictive of self-reported behaviours of military-connected youth?*
- 3) Does the presence of parental mental health symptoms moderate the relation between developmental assets and problem behaviour?*

Consequently, it is hoped that the results of this study will inform both clinicians and researchers in program and policy development and implementation, so as to serve military families as they have served our country.

The following chapter provides an overview of the existing literature specific to the potential challenges of military life (e.g., deployment, parental mental health disorders) and the resulting impact on children's wellbeing. Additionally, an overview of developmental systems theories and a PYD approach to understanding children of military families is presented to underscore the importance of shifting from a deficit-focused approach to a strengths-based understanding of this group. Chapter 3 restates the research questions to be investigated and provides the study methodology, including processes for recruitment, and data collection. Chapter 4 will offer the participant characteristics and the results of the analyses to address the

research questions. Finally, Chapter 5 reviews the main findings of the study and situates the results within the existing literature. That chapter will end with a discussion of the limitations, implications, and directions for future work following the study.

Chapter 2: Literature Review

Although the impact of military life on family functioning has created a substantial database of literature, much of this research concerns the spousal relationship; less has focused on the impact of the parent-child relationship and the subsequent effects on the child's functioning. The purpose of this chapter is to present an overview of the existing research with respect to the effects of military life on the family, with specific emphasis on what exists concerning the functioning of children (i.e., mental health and problem behaviour). Military families will first be defined and empirical findings of the impact of military life on children's functioning are presented. Next, operational stress injury (OSI) is reviewed in relation to how it might complicate family functioning within the military family. Then, key foundational theories (i.e., developmental systems, PYD, and family systems) applicable to strengths-based military family research will be discussed. This chapter concludes by stressing the importance of continuing to explore children's experiences and the uniqueness of having a parent in the military from a strengths-based lens.

Military Families

The composition of military families in Canada has shifted from traditional structures to more complex and transitional family arrangements (National Defence and Canadian Forces Ombudsman, 2013). Depending on the policies, program, or office, the Department of Defence and the CAF uses multiple definitions of families (National Defence and Canadian Forces Ombudsman, 2013). For example, Military Family Services includes (1) all CAF personnel and their spouses, children, parents, relatives of significance, or people who self-identify as the family of a military member; (2) Department of National Defence civilian employees who are deployed with CAF to a mission area outside of Canada, and their spouses, parents, children, and

dependent relatives; and (3) family members and persons of significance to CAF personnel who die while serving (National Morale and Welfare Services, 2018). Therefore, while military families has been the traditional term used in the literature, *military-connected* families may be a more inclusive term.

For purposes of this study a *military family* or is defined as a family (two-parent, single-parent, step-parent, heterosexual or same-sex parent) with at least one parent who has been a member (active duty or reservist) of the Canadian Armed Forces within the past five years and with at least one school-age (6-18 years old) child. It is recognized that military service can affect parents, siblings, and other relatives of service members. Although there continues to be a paucity of research with these individuals (Cozza & Lerner, 2013), they are not a focus of this study. Further, this study will use the terms *military families/military-connected families* and *military children/military-connected children* interchangeably.

Developmental Outcomes of Military-Connected Children

Although calls for strengths-based perspectives have been made with the military family literature (e.g., Easterbrooks, Ginsburg, & Lerner, 2013; Masten, 2013b), the majority of research examining the functioning of children of military families has focused on the negative impacts. Children's functioning, as explored in the literature, has primarily examined academic outcomes and mental health. The research base focusing on academic outcomes of children from military families is omitted from this review. Although social, emotional, and behavioural problems are sure to impact academic functioning, academic outcomes were beyond the scope of this study. Interested individuals are directed to De Pedro and colleagues (2011) for a review of the literature concerning stressors experienced by children of military families and related outcomes impacting school experiences. Thus, this section will focus on common behavioural

outcomes and the mental health of children from military families. Those findings are summarized below.

Children's mental health and problem behaviours. The military lifestyle and the resulting impact on children's functioning has been explored in American families for two decades. Much of the extant research focuses on the deployment stage. Deployment is one of the most consistent and well-studied predictors of mental health issues in the service member's family. In Canada, this area of research is only beginning to flourish. Qualitative work (i.e., focus groups) by Skomorovsky and Bullock (2017) reveals that Canadian military children report deployment to be a significant stressor that interferes negatively with their well-being, routines, and family dynamics.

Military families with a deployed parent reported an increase in psychosocial difficulties in their children and youth compared to families without a deployed parent (Aranda et al., 2011). The risk of developing behavioural problems significantly increases when children experience two or more parental deployments (McGuire et al., 2016). A meta-analysis of US studies by Card and colleagues (2011) reporting on associations between military deployment and internalizing, externalizing, and academic adjustment among children revealed mixed findings on the impact of deployment on these outcomes. Overall, negative impacts were more common in early (ages 0-6) and middle (ages 6-12) childhood (Card et al., 2011). Mustillo and colleagues (2016) differed slightly in their findings; their study failed to show a significant association between deployment and problematic social and emotional development for children aged 0-5. However, recent deployment for children aged 3-5 was associated with higher levels of generalized and social anxiety (Mustillo et al., 2016). Interestingly, for the 6- to 10-year-old group, having a parent deployed at the time of birth was found to be associated with more total and peer

problems (Mustillo et al., 2016). These findings may suggest that the effects of military life may not be immediate but may manifest across development.

Parents with a deployed spouse reported significantly higher instances of internalizing (e.g., depression and anxiety symptoms) and externalizing (e.g., behavioural problems) symptoms, attention issues, and school issues (e.g., grades dropping, trouble with teacher) in their children than parents without a deployed spouse (Aranda et al., 2011). Additionally, adolescents of veterans have higher rates of tobacco use and nonmedical use of psychotherapeutic drugs than adolescents of nonveterans (Lipari et al., 2017). Nonetheless, these effects can be buffered by positive communication (rather than quantity of communication) with the deployed parent for adolescents (Friedman et al., 2017).

Of note, the child's psychosocial health, marked by absence of physical, emotional, or cognitive dysfunction, may be predicted by the at-home parent's level of parenting stress (Flake et al., 2009) and mental health (McGuire et al., 2012) while the other parent is deployed. During deployments, children are at an increased risk of neglect by their at-home parent (McCarthy et al., 2015). When youth perceive their at-home parent's ability to cope and manage the changes brought about during deployment, they tend to be able to cope themselves (Thompson et al., 2017). At-home partners who have more social support have been found to report lower psychological distress and fewer problem behaviours in their children (McGuire et al., 2012). Additionally, warmth showed by the at-home caregiver towards their adolescents and towards their active-duty spouse, has been shown to decrease adolescent depressive symptoms (Howard, 2016).

In one study, interviews with children aged six through 17 revealed their greatest difficulties during deployment were their parent's absence, feelings of loneliness, worrying about

their parent being hurt, and increased household responsibility (e.g., chores, caring for siblings; Houston et al., 2009). Children as young as six recognize the impact that deployment has on their own well-being (Houston et al., 2009). Military children of deployed parents also report physical symptoms (i.e., recurrent headaches), particularly younger children and females (Swedean et al., 2013). Chandra et al. (2010) found that children of deployed parents reported more difficulties compared to national samples and older youth (i.e., aged 11-14) and females of all ages reported more school-, family-, and peer-related difficulties during deployment. Bradshaw and colleagues (2010) interviewed adolescents of military families and found the most prevalent stressors to be related to tension at home, strains on their relationships with peers, adapting to new schools, becoming involved in extracurricular activities, and developing student-teacher relationships.

Despite this base of research regarding the effect of deployment on the family, little work has been done on the post-deployment and reintegration phase of military life, particularly when the returning parent is experiencing an OSI (Cramm, Tam-Seto, Norris, Eichler & Smith-Evans, 2016). By understanding how families function post-deployment, program and policy-makers may be in a position to better support military families. This necessitates a stronger focus on families living with post-deployment mental health problems and to examine both negative and positive outcomes.

Operational Stress Injuries and the Family

OSI is a relatively new term to the field of military health and psychology research. OSI refers to “any persistent psychological difficulty resulting from operational duties performed while serving in the Canadian Armed Forces” (VAC, 2015, para. 3). It encompasses anxiety, depression, PTSD, and substance abuse, and may develop after a traumatic event, combat, grief or loss, high stress situations, or from operational fatigue (Operational Stress Injury Social

Support [OSISS], 2012). OSI also encompasses traumatic brain injury (TBI) and co-occurring physical injuries; however, for the purposes of this review and study, TBI and physical injuries will not be discussed as they are outside the scope of this investigation.

The psychological impact of serving during war has a direct effect on family satisfaction and functioning for US Vietnam veterans (Hendrix & Anelli, 1993). That is, symptoms of PTSD (e.g., intrusion, avoidance, and global perception of distress) were directly related to decreased marital satisfaction, self-satisfaction at parenting, communication skills with their partner, and family cohesion and flexibility (Hendrix & Anelli, 1993). Gibbs, Clinton-Sherrod, and Johnson's (2012) survey of 20,166 married soldiers who recently returned from deployment found that 18% reported having experienced serious interpersonal conflict with their spouse, family members, close friends, or coworkers since returning home. Interpersonal conflict issues were more likely when the soldier also reported health problems, depression, PTSD, or alcohol abuse (Gibbs et al., 2012). Canadian military personnel have reported poorer life satisfaction, negative self-perceived mental health, and higher rates of alcohol dependence and depression than the general population (Hoge, Auchterlonie, & Milliken, 2006; Park, 2008). Deployed CAF members were twice as likely to develop PTSD or Panic Disorder than non-deployed members (Pearson et al., 2014). Lifetime prevalence rates for CAF members developing depression, GAD, PTSD, Panic Disorder, or alcohol abuse or dependence is 48.4% (Pearson et al., 2014). This rate is similar to the Canadian Mental Health Association's estimate that 50% of the general population will have or have had a mental illness by age 40. However, Regular Forces members report double the rates of depression and GAD than the general population (Pearson et al., 2014). This certainly has the potential to complicate the readjustment and restabilization of the family roles.

OSI and the effects on the family. The effects of OSI on the family system by and large

focus on PTSD more than any other mental health or psychological effect. A notable symptom of PTSD includes “irritable behavior and angry outbursts (with little or no provocation) typically expressed as verbal or physical aggression toward people or objects” (American Psychiatric Association [APA], 2013, p. 272). As a result, veteran PTSD has been associated with psychological maltreatment towards partners (Glenn et al., 2002). Alarming, a survey of current CAF members showed a 9% perpetration rate of physical and sexual intimate partner violence (IPV) and a 19% perpetration rate of emotional/financial abuse (Zamorski & Wiens-Kinkaid, 2013). Physical or sexual IPV and emotional/financial abuse were also experienced by these members at rates of 15% and 22%, respectively (Zamorski & Wiens-Kinkaid, 2013). Extending further, PTSD symptoms in veterans were positively associated with hostility and general distress among their partners (Glenn et al., 2002). The spouses’ perceptions of symptom severity appear to be positively correlated with the spouses’ psychological and relationship stress (Renshaw, Rodebaugh, & Rodrigues, 2010). Families of male veterans with PTSD have been found to have more severe problems in marital and family adjustment, parenting skills, and violent behaviour compared to families of male veterans without PTSD (Jordan et al., 1992; MacDonald, Chamberlain, Long, & Flett, 1999).

Families of service members reporting higher numbers of symptoms of PTSD may be at risk for developing secondary traumatic stress (Herzog et al., 2011). Secondary traumatization refers to the impact that traumatic events has on others close to the individual directly experiencing the events when they have had no direct experience of the traumatic event themselves (Figley, 1983; Rosenheck, 1986) and is sometimes referred to as transgenerational effects (Rosenheck, 1986) or secondary stress (Herzog et al., 2011) in the literature. This has been most exemplified by examining the impact of the parents’ war experiences and subsequent

stress disorder (e.g., PTSD symptoms) on their child's development (Rosenheck & Nathan, 1985). This "intergenerational transmission" of symptoms (Dekel & Goldblatt, 2008, p. 281), such as headaches, difficulties breathing, intrusive thoughts, and emotional numbing, is not limited to children and may affect spouses or other caregivers of the person who experienced the trauma (Dekel & Goldblatt, 2008; Herzog et al., 2011).

Rosenheck and Fontana (1998) proposed three possible methods of secondary traumatization: 1) The child may be directly traumatized by the parent's behaviour (e.g., through violence); 2) the child is impacted by way of identification with the parent; or 3) the impact on the child may occur as a result of dysfunction (e.g., marital discord, stress) within the family. It was also theorized by Ancharoff, Munroe, and Fisher (1998) that transmission can occur through the child feeling unable to seek help from the parent, the parent over-disclosing to the child, modelling and identification with the parent, and re-enactment of the trauma by the parent. Regardless of the process, it is clear that a parent's exposure to trauma and subsequent stress (or distress) are impactful on the family as a whole (Gavlovski & Lyons, 2004). Interestingly, Herzog et al. (2011) found that spouse's secondary trauma symptoms (e.g., anxiety, depression, problematic intrusion, avoidance) mediated the relation between PTSD symptoms in the veteran and spouse-rated internalizing problems of the child, providing further evidence of the relation between OSI and the impact on the family. The findings of this study may have been strengthened by asking the child to complete their own self-report measures of functioning, given that the children were all of school age (i.e., between ages six and 18).

How a family copes with the return of the serving parent and their post-deployment stress symptoms appears to be related to family functioning. In particular, avoidant coping such as active attempts to *avoid* a stressful situation (e.g., through distraction) is strongly and positively

related to PTSD, which is further associated with negative reports of family functioning (Creech, Benzer, Liebsack, Proctor, & Taft, 2013). Alternatively, approach coping, or active attempts to *change* a stressful situation (e.g., through problem solving or support seeking), is related to fewer PTSD symptoms and reported family functioning challenges, and therefore directly related to improved family outcomes (Creech et al., 2013). Active coping among adolescents in military families is also associated with decreased development of depressive symptoms and enhanced resilience (Okafor, Lucier-Greer, & Mancini, 2016). Correspondingly, a survey of US Veterans showed that lower social support and hiding emotional feelings from family was associated with higher odds of screening for PTSD (Duax, Bohnert, Rauch, & Defever, 2014). Similarly, the association between PTSD and poor social functioning is mediated by less social support, excessive worry, and lower availability of secure relationships (Tsai, Harpaz-Rotem, Pietrzak, & Southwick, 2012).

Family cohesion, parenting satisfaction, marital adjustment, and family adaptability are also influenced by PTSD symptoms in female veterans (Gold et al., 2007). On a promising note, married or partnered recently returned soldiers still express concern about getting along with their partners and members who are parents express concern regarding their child-rearing practices (Khaylis, Polusny, Erbes, Gewirtz, & Rath, 2011). Positive attitudes about reintegration, as opposed to feeling ambivalent about the situation, have been related to stronger family functioning after reintegration (Hollingsworth, Dolbin-MacNab, & Marek, 2016). Further, veterans show a preference for family-based interventions over individual therapy (Khaylis et al., 2011), suggesting the importance of maintaining their family stability.

OSI and the effects on children. Although the impact of military life on family functioning has created a substantial database of literature, the impact of operational stress post-

deployment has not been studied to the same extent with children in these families. As with spouses, much of the work in this area has focused on PTSD as the impact of depression and anxiety is just beginning to emerge. However, parental anxiety (e.g., Bogels & Brechman-Toussaint, 2006) and depression (e.g., Jacob & Johnson, 1997) are associated with child maladjustment in non-military family samples. Parents with PTSD experience irritability, emotional unavailability, hostility, and hypervigilance (APA, 2013) that undoubtedly impact their parenting capacities negatively. Interestingly, a recent Canadian study by Duranceau, Fetzner, and Carleton (2015) found that veterans with PTSD have greater concerns over the affect and behaviour of their child than veterans without PTSD. Despite this concern, PTSD symptoms may alter the veteran's ability to identify concerning behaviour and emotion in their children.

Posttraumatic stress disorder. PTSD is diagnosed when an individual: (a) is exposed to trauma directly or indirectly (e.g., learning that someone close to the individual experienced a trauma, or through learning the details of a trauma); (b) persistently re-experiences memories, nightmares, flashbacks, emotional distress, or physical reactivity after the trauma; (c) avoids trauma-related stimuli after the trauma; (d) experiences negative thoughts or feelings that began or became worse after the trauma; and (e) experiences trauma-related arousal and reactivity after the trauma (APA, 2013). These symptoms must last more than one month, create functional impairment or distress, and not occur due to the use of medication, substances, or other illnesses (APA, 2013). PTSD in veterans has been shown to strongly mediate the impact of reintegration on the veteran's family (Gavlovski & Lyons, 2004). Studies have shown that PTSD explains a significant proportion of the variance in internalizing (e.g., depression, anxiety) and externalizing (e.g., attention and behavioural problems) problems in children (Caselli & Motta, 1995;

Rosenheck & Fontana, 1998; Selimbasic et al., 2012), with females more likely to experience internalizing problems and males more likely to experience externalizing problems (Parsons, Kehle, & Owen, 1990). Other studies indicated that female children may experience more overall problems than male children after reintegration (Chandra et al., 2010). Thus, evidence is strong for the relation between PTSD and problems in children's functioning; however, specific problems appear to vary.

Ahmadzadeh and Malekian's (2004) study of adolescent children of Iranian veterans with PTSD showed significantly higher scores on measures of aggression and anxiety compared to adolescent children of parents without PTSD. Glenn et al. (2002) found that veterans' PTSD symptoms were positively associated with reports of children's violence and hostility. Croatian adolescents of veterans with PTSD report more externalizing problems and more impaired mother-child and father-child bonding than adolescents of veterans without PTSD (Boričević Maršanić, Aukst Margetić, Jukić, Matko, & Grgić, 2014). Externalizing problems have been found to be associated with paternal overcontrol and overprotection, and low maternal and paternal care (Boričević Maršanić et al., 2014). Child behaviour problems have also been positively linked to veteran mothers' PTSD symptom severity (Gold et al., 2007).

Herzog et al.'s (2011) investigation of parental PTSD symptoms revealed significant positive correlations with child internalizing problems, but not externalizing problems. Similarly, Taheri and colleagues found that levels of depression and anxiety in adolescents of Iranian veterans with PTSD were higher than adolescents of non-veterans (i.e., "healthy" controls; Taheri et al., 2012). They also found that depression remained significantly elevated in adolescents when this group was compared to a group of adolescents of non-PTSD veterans (Taheri et al., 2012). These findings provide some evidence that symptoms of anxiety may be

related to being part of a military family, rather than from having a parent with PTSD. A sample of Croatian adolescents of veterans with PTSD also reported higher levels of internalizing problems and family dysfunction than those of veterans without PTSD (Boričević Maršanić et al., 2014). However, as these latter two studies were conducted with Iranian and Croatian populations, cultural and geographical variables should be considered.

In a rare Canadian study, Kwan-Lafond and colleagues (2011) interviewed 61 Canadian adolescent children of military families. Although it is unclear how many, some adolescents disclosed that their parent experienced PTSD and were asked, “*how has your dad’s/mom’s PTSD been hard for you?*” as part of a larger semi-structured interview about the military lifestyle. Female adolescents described doing extra emotional work at home, keeping their problems to themselves, assuming caring and parenting roles with their siblings, doing additional domestic work, and thinking about their parents’ needs, rather than their own, compared to their male counterparts (Kwan-Lafond et al., 2011). Conversely, males discussed their parents’ injuries having little impact on them. Harrison et al. (2014) reported further on the experiences of adolescents from this sample and, based on eight interviews of adolescents who disclosed their parent had PTSD, found that adolescents who report having a parent with PTSD find their parents to be emotionally unavailable due to the PTSD symptoms of anger, depression, and emotional withdrawal. These adolescents responded with parentification (i.e., taking on the caregiver role) and acting out in an attempt to stabilize the family dynamic (Harrison et al., 2014). However, many of these youth reported they were able to find and benefit from peer support through their school (Harrison et al., 2014). Again, this study strengthens the argument to study the contexts of children of military families to identify potential avenues for prevention and intervention.

Depression. Parental depression has been strongly linked with depressive symptoms in their children (Beardslee, Versage, & Gladstone, 1998). Although a genetic link has been hypothesized (Beardslee et al., 1998), at the psychosocial level, parents with depression are less available for their children and may be more irritable, less caring, and less consistent in their interactions (Cicchetti & Toth, 1998). Specific to military personnel, 15.7% of regular CAF members (Pearson et al., 2014) and 4.2% of reserve members (Park, 2008) will experience a lifetime prevalence of major depression. For regular CAF members, this rate is almost double the 8% lifetime prevalence rate in the general Canadian population (Canadian Mental Health Association, 2018). MacDermid Wadsworth and colleagues found that military children of a parent with depressive symptomology were at a 3-11-fold increased risk of developing negative outcomes (e.g., emotional and behavioural problems; MacDermid Wadsworth et al., 2016). Additionally, uninvolved parenting by military fathers is associated with greater depressive symptoms in their female spouses and subsequently impacts the child's attachment behaviour (Posada et al., 2015). Parental depressive symptomology can also interfere with reintegration adjustment for children (Knobloch, Knobloch-Fedders, Yorgason, Ebata, & McGlaughlin, 2017). Although less work has been done specifically with military children, parental depression has been studied more thoroughly within a general population.

Maternal depression can impact children from infancy to adolescence and the effects have remained stable across a number of countries and cultures (Smith, 2004); however, the child outcomes appear to be variable. Sharp et al. (1995) suggest that effects on boys are greater than girls. Children of depressed parents are between two and five times more likely to develop behaviour problems compared to their peers without depressed parents (Beardslee, Bemporad, Keller, & Klerman, 1983). Connell and Goodman's (2002) meta-analysis indicated that both

paternal and maternal depression were closely related to emotional and behavioural problems in children, although paternal depression was more impactful on older children whereas maternal depression was more impactful on younger children. Further, maternal depression was found to have more of an effect on children's internalizing, but not externalizing, problems than paternal depression (Connell & Goodman, 2002).

Anxiety. Recent estimates suggest a 12.1% lifetime prevalence for developing GAD and 5.8% lifetime prevalence for developing Panic Disorder in Regular Forces CAF members (Pearson et al., 2014). The percentage of Regular Forces members who report a GAD diagnosis is almost double that of the general Canadian population (Pearson et al., 2014). The impact of parental anxiety on children has been explored extensively in the general and clinical populations compared to military family samples. Parent anxiety has been correlated with child anxiety and depression, but not externalizing symptoms (Burstein et al., 2010). Anxiety disorders are the most common disorder reported among school-age children and are associated with academic difficulties, peer relations, and adult psychopathology (Costello, Egger, & Angold, 2005; Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). A meta-analysis for parental and child anxiety found a significant association between parental control (a symptom of anxiety in parents) and child anxiety, particularly for girls and school-aged children (Van der Bruggen, Stams, & Bögels, 2008).

Substance misuse. CAF regular and reserve members report alcohol dependence at rates significantly higher than CAF civilian workers (Park, 2008), with a 31.9% lifetime prevalence rate of alcohol abuse or dependence (Pearson et al., 2014). Substance abuse is commonly used to avoid the distressing symptoms of OSI. Parental alcohol abuse is associated with drug use (e.g., cocaine, prescription medication) and child abuse and/or maltreatment (Smith, 2004), although

information regarding use of substances other than alcohol is not available for CAF members. The effects of having a parent with substance misuse problems are evident throughout development and appear to be social, physical, and psychological (Smith, 2004). The most commonly occurring problems in children are high rates of depression and anxiety, attention problems, and alcoholism in and post-adolescence (West & Printz, 1987; Earls, Reich, Jung, & Cloninger, 1988). Paternal alcoholism is related to emotional and behavioural problems in older children (Connell & Goodman, 2002). Maternal alcoholism is related to children's externalizing problems and less so to children's internalizing problems (Connell & Goodman, 2002).

Summary. It is apparent that parental OSI has the potential to impair parenting ability, through being withdrawn and unavailable, unorganized and unpredictable, and disruptions in the parent-child relationship and family system. Duncan and Reder (2000) present a brief review of the potential child outcomes that may manifest in response to particular parental behaviours. Children may become anxious, self-blaming, confused, depressed, or may develop low self-esteem when their parent exhibits emotional unavailability, frequent separations, threats of abandonment, unpredictable planning, distorted expectations, or pessimism. Self-preoccupation, physical unavailability, unsuccessful limit-setting, marital discord and hostility, and social deterioration in parents may lead to neglect, self-reliance, and behaviour problems in children. Further, dependency and self-blame in parents experiencing mental health concerns could result in children taking on the caretaking role (Duncan & Reder, 2000). It is also important to consider that this association is bi-directional; emotional and behavioural problems in children are likely stressors that can further affect parents' mental health (Connell & Goodman, 2002).

Considering Developmental Assets and A Strengths-Based Approach

As underscored by the previous sections, very little research has examined the strengths

(i.e., developmentally promotive) of military families, and military children in particular. Despite the challenges reviewed above, it is likely that many military families adjust to their changing circumstances well, allowing for secure environments for children to develop appropriately or be successful in the developmental tasks expected for their age. In fact, a large-scale study of Australian military personnel ($n = 2854$) and their partners ($n = 1332$) found that 92% of couples were satisfied with their relationship, 89% of partners were in good overall health, and 80% of their children were rated to be within the normal range for emotional and behavioural health (McGuire et al., 2012). Some children may even thrive, demonstrating characteristics beyond that of just adequacy for their age, such as character, confidence, connection, caring, self-control, and regulation (Benson & Scales, 2009). However, the majority of research designed to understand military families continues to be deficit- and problem-focused (e.g., Acion, Ramirez, Jorge, & Arndt, 2013; Richardson et al., 2011; Rossen & Carter, 2012). Thus, the clarion call is for research to address this gap and explore the presence and power of personal and social strengths in Canadian military families. It is the purpose of this study to contribute an alternative perspective to the literature.

Theoretical Foundations

To make the transition from traditional deficit-based work, researchers much adopt a strength-based perspective to explore the personal and contextual assets in Canadian military families. Developmental strengths are embedded within the theory and research of positive psychology that emerged as an alternative to the illness or deficit model to promote life satisfaction and fulfillment in all individuals (Seligman, 1998; Shatté, Seligman, Gillham, & Reivich, 2005). The aims of positive psychology are to increase the understanding of individual strengths and use this information to design effective programs and interventions to enhance

strengths, rather than remediate weaknesses, that have been the focus of much of the discipline of psychology since the end of World War II (Shatté et al., 2005). However, to understand strengths and design appropriate programming, these individuals (or families) must be understood within the systems within which they function. A developmental systems theoretical orientation promotes this positive human development (Lerner et al., 2005).

Developmental Systems Theories. From a developmental systems theory (DST) perspective, the developing individual functions within a system consisting of multiple levels of organization (Lerner et al., 2005). Iterations of DST non-exclusively include Bronfenbrenner's (2001) bioecological theory, developmental contextualism (Lerner, 2002), and holistic person-context interaction theory (Magnusson & Stattin, 2006). *Development* is conceptualized as a product of the dynamic and bidirectional relations, or change, within these systemic organizations over time (Lerner et al., 2005; Zelazo, 2013). The individual is said to be “systemized,” rather than biologized, psychologized, or sociologized (Lerner et al., 2005, p. 9). The person develops both as a result of and within their biological and environmental contexts. Gestsdottir and colleagues describe the active role of the individual as their “intentional efforts to regulate [their] own behaviour, and, more specifically, to formulate, pursue, and attain goals that are *functional* in their contexts (that is, that are beneficial to both self and context)” (Gestsdottir et al., 2011, p. 62). Thus, individuals produce their own developmental trajectories by influencing the contexts that in turn influence them (Gestsdottir et al., 2011).

Within military life, multidirectional relationships exist between the child and parent, the child's peers, and the serving parent's colleagues and commanding officers that are embedded within a number of systems, including family, peer groups, schools, and military community/bases (Masten, 2013b). Disruptions that are unique and frequently encountered by

military families, such as relocation and deployment, can disrupt and change these systems, but also provide the opportunity for the children to develop. At the core of these transitions, the family system is the most proximal to the developing child.

The family system. As the literature presented above shows, it is not difficult to comprehend how military life affects more than just the active-duty member; all members are affected in some way when one piece of the family system is disrupted. For example, when a member is deployed, the stress experienced by the at-home parent may affect parenting quality; conversely, this stress may impact the deployed parent in their daily occupational functioning. Moreover, the spill over of family stress to other systems (e.g., military units) can be problematic (Masten, 2013b). Family-systems theory posits that traumatic and stressful experiences affect not only the individual who directly experiences the stressor, but the family as a whole (Walsh, 2006; Goldenberg & Goldenberg, 2013). Specifically, the impact on each member is mediated by key family processes (Walsh, 2006), including the strength of relationships, mutual support, and communication processes. Readjustment of family roles must occur to restore balance in the system.

A survey of US National Guard members who had recently returned from deployment and their spouses found that 40% of the National Guard members and 34% of their partners met screening criteria for one or more mental health problems, including PTSD, depression, suicidal ideation, hazardous alcohol use, or a combination of these problems (Gorman, Blow, Ames, & Reed, 2011). Pearson and colleagues (2014) found that almost half of CAF Regular Force members (48.4%) met criteria for at least one mental disorder (i.e., depression, GAD, PTSD, Panic Disorder, or alcohol abuse or dependence) at some point in their lifetime. Although comparative statistics have not been reported for CAF spouses, these two studies highlight the

impact on the family, in addition to the high prevalence of mental health concerns among active duty members or recent veterans.

Within military families, parents with PTSD are likely unable to provide a secure environment that facilitates the healthy development of their children (Caselli & Motta, 1995). Parents who have experienced trauma may be less responsive to their children (Selimbasic et al., 2012), impacting the child-parent attachment (Cohen, Zerach, & Solomon, 2011) and subsequent child development. Additionally, the occupational responsibilities of the serving parent (i.e., deployment, parental separation that results in physical absence) undoubtedly influence serving parent-child relationships. Close, affectionate attachments with caregivers are important for normal social and emotional development (Bowlby, 1980), and contribute to processes underlying risk and resilience as a child develops throughout the life span (Riggs & Riggs, 2011). Individuals with secure attachments to their caregivers are able to adaptively cope, develop and maintain high self-esteem, and experience psychological well-being (Mikulincer & Florian, 1998). In contrast, when children do not experience a secure attachment with their caregiver, they may develop exaggerated emotional reactions, overdependency, and ambivalence towards their caregiver (Mikulincer & Shaver, 2007). Thus, children who have an absent serving parent (i.e., through military duties) or an at-home caregiver who is unable to appropriately care for their children are at-risk of developing poor long-term outcomes. An attachment perspective may explain Mustillo et al.'s (2016) findings of an increase in total and peer problems for 6-10 year old children when they had a parent deployed at the time of their birth in comparison to children that did not have a parent deployed at the time of their birth. Although the attachment with caregivers is an important variable to consider within military families, parent-child attachment was not a specific focus of this study as the researcher intended to highlight broader

systems within which the military-connected child develops.

Further investigation is warranted to understand the factors that may mitigate or reduce the familial effects of parental stress symptomology (e.g., PTSD, depression, anxiety). These factors might include specific individual and social factors, such as strong relationships, and access to and willingness to use resources within and outside of the family. It is promising that a growing number of researchers have recognized the importance of using a systems perspective to understand military families (e.g., Paley, Lester, & Mogil, 2013). Research on child and youth development from this perspective is still in its infancy, and one way to examine these factors is through the lens of positive youth development.

Positive youth development. With foundations in DST, positive youth development (PYD) is an approach to youth research that focuses on the strengths, skills, and possibilities of young people (Benson, Scales, Hamilton, & Sesma Jr., 2006; Damon, 2004). PYD is a practical application of the tenets of DST. Rather than examining the child or adolescent solely as a determinate individual, PYD underscores the strengths of an individual by examining how the child influences and is influenced by their surrounding contexts over time (Damon, 2004; Gestsdottir et al., 2011). Further, PYD is not problem-centred (e.g., drug use, drinking, and affective disorders; Damon, 2004), sharing this characteristic with the field of positive psychology. PYD represents an alternative way to frame research approaches, particularly within developmental psychology.

Despite little consensus on the terms used to describe the components of PYD (e.g. strengths, protective factors, developmental assets), Benson et al. (2006) highlight that each definition focuses on a combination of five constructs: (1) developmental contexts; (2) the child's inherent capacity to grow, thrive, and actively engage with these contexts; (3) the child's

developmental strengths; (4) reducing high-risk behaviours; and (5) promotion of thriving. The first of these three constructs involve the interaction of the youth within their contexts. An individual's contexts can include physical places and settings, and relationships in the community that potentially supply support, opportunities, and resources within which they interact. For example, contexts include peers, neighbourhoods, school, workplace (if applicable), and family. The youth's developmental strengths, such as family support, participation in youth programs, positive values, and sense of purpose are made up of assets that are important for successful engagement within these contexts. A PYD approach attempts to align the individual's strengths with contextual developmental assets to promote thriving (Gestsdottir et al., 2011).

Developmental assets. Identifying developmental assets is one approach to promoting PYD. Developmental assets have been described as “the building blocks that all youth need to be healthy, caring, principled, and productive” (Scales & Leffert, 2004, p. 5). Adopting a developmental asset framework refers to identifying core elements of healthy development along with contexts (or communities) within which the individual interacts (e.g., family, neighbourhood, school, organizations, etc.; Benson, 1997). Through surveys of over 217,000 students in the United States, the Search Institute has identified 40 assets that suggest positive development (Scales & Leffert, 2004). Now, over six million surveys have been completed by young people around the world to better understand how young people experience and vary in their developmental assets and how assets are related to high-risk and thriving behaviour (Search Institute, 2018a) These assets are divided into external and internal categories. External assets, or relationships and opportunities provided by adults, are subdivided into four categories: Support, Empowerment, Boundaries and Expectations, and Constructive Use of Time. Similarly, internal assets, or internal competencies and values that youth develop to become self-regulating adults,

can be categorized into Commitment to Learning, Positive Values, Social Competencies, and Positive Identity.

Previous research has associated a higher number of identified assets with a decrease in an individual's risky behaviour, including substance use, unprotected sex, and violence, and an increase in positive behaviours, such as school success, helping others, leadership, and good health (Scales & Leffert, 2004). These findings have remained constant across diverse samples of youth in 31 countries across Africa, Asia, Central and South America, Europe, and North America, suggesting that these factors are important for *all* youth regardless of background, culture, socioeconomic status, or gender (Scales, Roehlkepartain, & Fraher, 2012; Scales, Roehlkepartain, & Shramko, 2017). However, to date, only one published study has examined the developmental assets of military children (Carpenter-Aeby, Aeby, & Raynor, 2012) despite numerous appeals to take a strengths-based approach to working with these children (e.g., Cramm, Norris, Tam-Seto, Eichler, & Smith-Evans, 2015; Easterbrooks et al., 2013; Porter, 2010). Similarly, no study has attempted to identify the strengths and developmental assets of Canadian military children, regardless of the assumption that they possess them. By identifying developmental assets within this population, further work dedicated to PYD programming can be completed.

In a rare published study of military children's achievement with reference to developmental assets, Carpenter-Aeby et al. (2012) examined five cases that were referred for school-based mental health services. The authors reviewed the presenting problems at time of referral and the psychosocial symptoms with respect to the child's classroom performance. They determined that the Catholic School community satisfied the Search Institute's definition of a protective factor to minimize at-risk school behaviours because it "shared many of the

characteristics outlined by the Search Institute” (Carpenter-Aeby et al., 2012, p. 211). Specifically, they described the Catholic School community as being comprised of three interconnected entities (church, school, and family) which work together to provide resources that improve spirituality and character development, facilitate productive, responsible citizens, and encourage people to advocate for social and economic justice. They concluded that during parental deployment, students may experience psychosocial problems (e.g., anxiety, sadness, angry) and impairment in classroom performance, suggesting that intervention within schools is necessary to protect against the development of problems during deployment (Carpenter-Aeby et al., 2012). Although this study is the one of the few to examine developmental assets in military children, albeit without using a structured questionnaire of assets (e.g., Developmental Assets Profile; Search Institute, 2004), it is unclear what other assets may have been present (or not present) and what role these protective factors played in the psychosocial health of the children in the study. Further, results are not generalizable given the small sample size and varied ages of the participants. However, it serves as a starting point to investigate developmental assets of military children.

Chapter Summary

This chapter provided an overview of the literature that exists with respect to the problems experienced by military families and children related to deployment, reintegration, and parental mental health. Much of the extant research on the impact on children of military families’ development has been conducted on American veterans, while comparatively little work has been conducted with Canadian military families, particularly those with recent service veterans who have also experienced deployment, mental health issues, and difficulties with reintegration to their family life (e.g., Harrison et al., 2014; Kwan-Lafond et al., 2011). OSI,

specifically posttraumatic stress symptoms and their impact on Canadian children, have been explored only minimally (Harrison et al., 2014; Kwan-Lafond et al., 2011; Skomorovsky & Bullock, 2017) and these studies provided a good qualitative basis to continue the important work in this area. Notably, strengths-based research with military families is scarce, and it is unclear what protective factors, besides social support and strong family relationships, might aid in buffering the well-documented negative impacts of having a parent with OSI or mental health disorder.

With the end of Canada's military involvement in Afghanistan and personnel having returned home, attention needs to shift to the families and children of returning veterans and the effects of their service (e.g., posttraumatic stress, suicide) experienced by their families. Notably, the impact of reintegration for these veterans and their families warrants critical examination. More importantly, this research should identify strengths of military children, rather than focusing on their deficits, that help them in coping with the challenges of having a parent in the military and allow them to thrive and develop into well-adjusted individuals. This could be accomplished by using a PYD approach, as presented in this chapter, and recognizing that development occurs within systems and cannot be studied in isolation. Identification of these strengths, along with their function within changing systems, will be important to inform appropriate and targeted intervention and prevention efforts for Canadian military families faced with future challenges.

Research Questions

The objective of this study was to explore the developmental assets of children from military families and the relation between these assets and the child's self- and other-rated behaviour. The study also sought to understand if parents' mental health symptoms (e.g.,

posttraumatic stress, depression, anxiety, and substance use) impact any protective effect created by developmental assets on the development of problem behaviour. In addition, the study aimed to identify strengths within these children that may lead to adaptive coping or positive development, despite the family challenges that they face. Specifically, the study addressed the following research questions:

1) What developmental assets are most dominant in Canadian military-connected youth?

2) How are developmental assets correlated with and predictive of self-reported behaviours of military-connected youth?

3) Does the presence of parental mental health symptoms moderate the relation between developmental assets and problem behaviour?

Given the exploratory nature of the study, no predictions were made regarding relation direction or analysis outcomes.

Chapter 3: Methodology

This chapter will provide a thorough description of the recruitment procedure and data collection methods used in the study

Procedure

Participants. Data were collected as part of a larger study examining various social, psychological, and developmental factors of children from military families. Military families were invited to participate through military support organizations, including Military Family Resource Centres across Canada, schools located near and on military bases, and mental health clinics and private practices serving military families. Some families were made aware of the study while attending conferences at which the researcher was presenting preliminary findings and reviews of the current state of the literature (e.g., Canadian Institute for Military and Veteran Health Research, National Council on Family Relations) between 2014 and 2017. Information regarding the study was also posted on social media (i.e., Facebook, Twitter) and promoted online by military spouse bloggers (e.g., She is Fierce), Military Family Services, and Canadian Military Family Magazine. The recruitment poster and letter of information is provided in Appendix A.

Interested families were asked to contact the researcher directly to screen for eligibility in the study. Participating families were deemed eligible to participate in the larger project if they had at least one parent member who served in the Canadian Armed Forces (CAF) within the past 5 years, and they had at least one child between the ages of 6 and 18 living in the home (the screening tool is provided in Appendix B). For purposes of the current study, only families who had children over the age of 8 were included as this was the minimum age required to ensure reliability of the scales used. Single-parent families, same-sex parent families, and blended

families were included; however, the majority of the participants were intact or blended, heterosexual-parent families (see Chapter 4, Table 1). Eligible families were emailed a unique family identification code and instructions to access and complete an online survey; both parents and children over the age of 8 were invited to complete the online survey independently. Families were instructed to have all family members use the same code so their responses could be linked. An online survey format was chosen as they have been found to be more effective in reaching mobile military families than traditional paper surveys (McMaster, Leard Mann, Speigle, & Dillman, 2017).

For purposes of this study, it was important to distinguish between “member” and “spouse” parents. The “member” is the parent who is currently serving or has actively served in the CAF within the past 5 years. The “spouse” is the parent who has not actively served in the CAF and may have assumed primary caregiver responsibilities while the member is away from the home for occupational purposes. For a few participating families (see Chapter 4), both parents reported active CAF status within the past five years. These families were omitted from the analysis as having two serving parents may constitute additional stressors and risks for the child’s functioning (Drummet, Coleman, & Cable, 2004; Lucier-Greer, Arnold, Mancini, Ford, & Bryant, 2015).

Consent was passively obtained by parents at the beginning of the online survey for children under 18 (Appendix C; 18-year-old children provided their own consent). Parents were asked to complete measures about their own functioning and the functioning of their oldest child. The oldest child was chosen for consistency and because previous research has shown they may face additional stressors during times of parental absence than younger children (e.g., older sibling assuming caregiving role while parent is absent; Houston et al., 2009). If available and

willing, this child was also asked to complete the child survey. Assent for the child's participation was obtained at the beginning the survey (Appendix D). The assent form was written at an elementary-grade level to promote understanding before beginning the study. Only children over the age of 8 were invited to complete the survey due to the reading level and comprehension required to answer the measures used.

At the end of the study, parents were redirected to a page thanking them for participating. They were provided with resources specifically for military-connected families should they have felt discomfort or distress while completing the survey. Parent participants were also asked if they would be interested in participating in future research studies. Two different incentives were provided to participants depending when they completed the survey. Participants who completed the survey between March, 2014, and December, 2017, were given the option to enter to win one of five \$100 gift cards. As a grant for the study was obtained by the researcher in October, 2017, participants completing the survey from January, 2018, onwards were provided with a \$10 gift card of their choice. If they chose to be contacted for future studies or wanted to receive an incentive, they were asked to enter their name and contact information. This information was not tied to their survey responses and was only used to contact them for the purposes above.

Measures.

Family demographics questionnaire. A family demographics questionnaire was used to obtain information on all members of the family (including children not participating in the study; e.g., age, gender, highest level of education obtained, ethnicity), family structure (e.g., single-family, blended family, etc.), and military variables, including current status (i.e., active duty, reserve, veteran), rank, branch, and deployment history (see Appendix E). Further, parents were asked to report whether they have ever been diagnosed with an OSI (for members) or other

psychological condition by a psychologist or medical doctor, and whether they have ever sought treatment for that disorder. Selected demographics were chosen as control variables in the regression analyses.

Predictive and moderating variables.

Adult Self-Report (ASR). The Adult Self-Report (ASR; Achenbach & Rescorla, 2003) was completed by both parents to examine their own mental health symptomology (i.e., depression, anxiety, and substance use). The ASR is a short (i.e., 15-20 minutes) self-report measure completed by adults to describe their current functioning across several areas (Achenbach & Rescorla, 2003). The measure includes adaptive functioning scales, *Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition* (DSM-5; APA, 2013) oriented scales, substance use scales, empirically based syndrome scales, and critical items scales that provide a profile of the respondent in relation to a national (United States) normative group (Achenbach & Rescorla, 2003). Participants were asked to read the 123 statements and respond with the appropriate rating that described themselves over the past six months (0 = “not true”, 1 = “somewhat or sometimes true”, or 2 = “very true or often true”), except for the substance use items (as described below).

For purposes of this study, only the Depressive Problems, Anxiety Problems, and Mean Substance Use scales were used. These scales were chosen to represent mental health symptomology of the parent participants and used as the moderating variables in answering the third research question. The Depressive Problems scale (e.g., questions about sleep, feeling worthless) has been shown to have strong internal consistency ($\alpha = .82$) and test-retest stability ($r = 0.86$; Achenbach & Rescorla, 2003). The Anxiety Problems scale (e.g., worrying about the future, being nervous) has shown strong test-retest stability ($r = .86$), but poorer internal

consistency ($\alpha = .68$; Achenbach & Rescorla, 2003). Finally, Achenbach and Rescorla (2003) note that the Mean Substance Use scale shows very strong test-retest stability ($r = .96$); internal consistency is not reported because this scale represents a mean score of single item scales (i.e., Tobacco, Alcohol, and Drugs). Individuals are asked to report on the number of times per day they used tobacco (including smokeless tobacco), the number of days they were drunk, and the number of days they used drugs for nonmedical purposes (including marijuana, cocaine, and other drugs except alcohol and nicotine) within the past six months. For the ASR problem items, adults who are referred for mental health services score significantly higher than adults who have not been referred; factor analysis shows items load significantly on empirically-based syndromes and have been identified by an expert panel as being consistent with *DSM* diagnostic categories (Achenbach & Rescorla, 2003). The ASR Depressive Problems and Anxiety Problems scales are correlated ($r_s > .65$) with similar scales on the Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1994), suggesting good construct validity (Achenbach & Rescorla, 2003). Further the ASR has been found to discriminate between adults who are referred for mental health services versus non-referred adults better than the SCL-90-R and the General Health Questionnaire (GHQ; Goldberg, 1992; Wiznitzer et al., 1992), suggesting it is a good indicator of adult psychopathology.

Developmental Assets. The Developmental Assets Profile was the primary measure used in this study for descriptive purposes and as a predictor in the regression analyses. Children between the ages of 8-10 completed the Developmental Assets Profile-Preteen version (DAP-P; Search Institute, 2012) and children 11-18 completed the Developmental Assets Profile (DAP; Search Institute, 2004) to explore their internal strengths and external supports. The DAP-P is a developmentally-appropriate adaptation for youth ages 8-11 that retains the same content and

items as the DAP with easier to understand language for young people (Scales et al., 2017). The DAP and DAP-P provide a number of scales, including a Total Score, Internal and External Assets Scale scores, and five Context Scale scores (Personal, Social, Family, School, and Community). The External Assets Scale includes the Support (e.g., seeking advice from parents), Empowerment (e.g., feeling valued by others), Boundaries and Expectations (e.g., clear rules provided by family), and Constructive Use of Time (e.g., involvement in sports or groups) subscales. The Internal Assets Scales includes the Commitment to Learning (e.g., caring about school), Positive Values (e.g., standing up for beliefs), Social Competencies (e.g., building friendships with others), and Positive Identity (e.g., feeling in control of my future) subscales. Children and adolescents responded to the 58-item DAP-P or DAP on a four-point Likert scale ranging from “Not at All or Rarely” to “Extremely or Almost Always.”

The DAP has been found to be a reliable and stable measure of youth strengths and supports in a variety of youth populations (Search Institute, 2013). Internal consistency is very strong for the Total DAP ($\alpha = .97$), Internal Assets ($\alpha = .95$), and External Assets ($\alpha = .93$) scores. Test-retest stability analysis demonstrated acceptable consistency over a two-week period for the Total ($r = .87$), Internal Assets ($r = .86$) and External Assets ($r = .84$) scores (Search Institute, 2013). The DAP has strong convergent validity with the Attitudes and Behaviors Survey (Search Institute, 2016a). According to Search Institute (2005), it is difficult to evaluate the validity of the DAP, as there are few other measures of developmental assets that it can be compared to. However, early work show that the DAP scales are able to discriminate between criterion groups which represent more and less-asset rich groups (Search Institute, 2005).

A separate technical manual has not yet been created for the DAP-P (Justin Roskopf, personal communication, July 20, 2015). Given that the DAP-P is derived from the same items,

with slightly different wording, as the DAP, it is reasonable to conclude that the psychometric properties of the DAP-P are similar to those of the DAP. One study of youth ages 9-10 in El Salvador found high internal consistency ($\alpha = .91$) for the Total DAP-P score (Scales et al., 2017), suggesting that the measure is a promising tool to use with young people, but requires further investigation of its psychometric properties.

Posttraumatic Stress Disorder Checklist (PCL-5). The Posttraumatic Stress Disorder (PTSD) Checklist for DSM-5 (PCL-5; Weathers et al., 2013) was completed by both parents to evaluate the presence, frequency, and severity of stress symptoms related to traumatic experiences. The DSM-5 (APA, 2013) was updated to include “learning that the traumatic event(s) occurred to a close family member or close friend,” under Criterion A (APA, 2013, p. 271). Although PTSD symptomology is theoretically more likely to occur in the member given their occupational exposure, the spouse also completed this measure in the event that traumatic events have been discussed between the parents and the spouse has experienced secondary traumatic symptoms. The PCL-5 is a 20-item self-report measure that assesses 20 symptoms of PTSD based on DSM-5 diagnostic criteria. A total symptom severity score, ranging from 0-80, can be obtained by summing the scores for each cluster. Weathers et al. (2013) suggest a cut-point of 38 to indicate a sufficient number of symptoms suggestive of PTSD. Other studies have shown that scores of 31 to 33 are optimally efficient for diagnosing PTSD (Bovin et al., 2015). The PCL-5 has demonstrated good internal consistency and test-retest stability with use in veterans ($\alpha = .96$; $r = .84$; Bovin et al., 2016) and trauma-exposed college students ($\alpha = .96$; $r = .82$; Blevins, Weathers, Davis, Witte, & Domino, 2015). The PCL-5 has been found to have strong convergent validity with clinician-administered measure of PTSD (PTSD Symptom Scale-Interview version; Foa, Riggs, Dancu, & Rothbaum, 1993), divergent validity with other

constructs (e.g., Beck Anxiety Inventory, Beck, Epstein, Brown & Steer, 1988; Beck Depression Inventory, Beck, Steer, & Brown, 1996), and sensitivity to change (Wortmann et al., 2016). The PCL-5 is extensively used with military personnel in clinical and research settings and is recommended by the National Center for PTSD as a brief symptom checklist to screen for PTSD (United States Department of Veterans Affairs, 2015).

Outcome Variable.

Youth Self-Report (YSR). The Youth Self-Report (YSR; Achenbach & Rescorla, 2001) is a self-report tool that allows children to provide information about various areas of functioning and problem behaviour. Although the YSR is designed for youth ages 11 through 18, there is evidence to support reliable utility with children as young as seven years old (Ebestuani, Bernstein, Martinex, Chorpita, & Weisz, 2011). The Internalizing ($\alpha = .90$), Externalizing ($\alpha = .90$), and Total Problems ($\alpha = .95$) scales have great internal consistency and good test-retest stability ($r = .80-.94$; Achenbach & Rescorla, 2001). The content validity of the YSR is strongly supported (Achenbach & Rescorla, 2001). Additionally, the YSR problem items discriminate children who are referred for mental health services from non-referred children (Achenbach & Rescorla, 2001).

The primary scales of interest from the YSR for purposes of this study are the Internalizing, Externalizing, and Total Problems scales. The Internalizing Problems scale includes items related to anxiety and depressive symptoms (e.g., feeling nervous, feeling worthless, lacking energy) and somatic complaints (e.g., having headaches or stomachaches for no known medical reason), whereas the Externalizing Problems scale includes items related to rule-breaking (e.g., running away, starting fires) and aggressive behaviour (e.g., getting in fights, destroying belongings; Achenbach & Rescorla, 2001). In addition to these areas, the Total

Problems scale also includes items such as social problems (e.g., preferring to play with younger peers, not getting along with others) and attention problems (e.g., difficulties concentrating, daydreaming, poor school performance). As with the ASR, the youth responds with the appropriate rating for each of the 112 items that described themselves over the past six months (0 = “not true”, 1 = “somewhat or sometimes true”, or 2 = “very true or often true”).

Chapter 4: Results

Participant Characteristics

Eighty families participated in the study, with different combinations of family members completing all or some of the online questionnaires. Two families reported having two CAF member parents; their scores were omitted from any further analysis (as described in Chapter 3), leaving 34 CAF members and 56 CAF spouses. The sample was then limited to only include families who had a child respond to the YSR and DAP to address the research questions. Thus, the final sample size was $n = 31$. Information about responding family members and household demographics are presented in Table 1. Slightly more male ($n = 17$; 54.8%) than female ($n = 14$; 45.2%) children completed their self-report portion of the survey. Their ages ranged from 8 to 18 years old, with a mean age of 12.74 years ($SD = 2.80$). For these children, 13 had both parents complete their respective portions of the survey; 14 had only their spouse parent complete the parent survey; three had only their member parent complete the parent survey; and one responded without any parent data.

Table 1

Family Household Demographic Variables of Participants

	<i>n</i>	%
Combination of Family Members Participating		
Member, Spouse, & Child	13	41.9
Member & Child	3	9.7
Spouse & Child	14	45.2
Child only	1	3.2
Annual Household Income		
\$40,000-59,999	1	3.2
\$60,000-79,999	0	0
\$80,000-99,999	5	16.1
\$100,000-119,999	11	35.5
\$120,000-139,999	6	19.4
\$140,000-159,999	1	3.2
\$160,000-179,999	1	3.2
\$180,000-199,999	0	0
\$200,000+	1	3.2
No response/Prefer not to disclose	5	16.1
Family Structure in Home		
Two-parent household (all members biologically related)	23	74.2
Two-parent household (step family, with children from one or both parents)	1	3.2
No response/Prefer not to disclose	7	22.6
Residence		
Large city	11	35.5
Small to medium city	15	48.4
Rural area	1	3.2
On base	2	6.5
No response/Prefer not to disclose	2	6.5

Age, gender, ethnicity, and education level of parent participants are presented in Table 2. Members and spouses were similar in age, with members slightly older ($M = 44.06$ years, $SD = 5.05$) than spouses ($M = 43.33$ years; $SD = 5.67$). Most members were male (75.0%) and most spouses were female (96.3%). Parent participants were predominantly White/Caucasian (100% of members; 96.3% of spouses), with most members having either a high school diploma (37.5%) or graduate degree (37.5%), and most spouses having a technical diploma (40.7%) or university (33.3%) education. One-quarter of the spouses reported that they were not employed

($n = 8$; 25.8%), 10 (32.3%) reported part-time employment, and eight (25.8%) reported full-time employment (one participant did not respond to this question). Families lived primarily in small to medium cities (48.4%) or large cities (35.5%), with less living on base (6.5%) or in rural areas (3.2%). Although not an inclusion criterion for this study, all responding families indicated they were from two-parent, heterosexual households, although seven families did not provide this information. Therefore, the sample may not be fully reflective of the diversity present in military families across Canada.

Table 2

Parent Participant Demographic Variables

	Member Parent <i>n</i> = 16		Spouse Parent <i>n</i> = 27	
	Mean (<i>M</i>)	Standard Deviation (<i>SD</i>)	Mean (<i>M</i>)	Standard Deviation (<i>SD</i>)
Age	44.06	5.05	43.33	5.67
	<i>n</i>	%	<i>n</i>	%
Gender				
Male	12	75.0	1	3.7
Female	4	25.0	26	96.3
Ethnicity				
Hispanic/Latino	0	0	1	3.7
White/Caucasian	16	100.0	26	96.3
Highest Education Level				
High School	6	37.5	4	14.8
Technical Diploma	1	6.3	11	40.7
University Degree	3	18.8	9	33.3
Graduate Degree	6	37.5	3	11.1

Military demographic variables for members are presented in Table 3. Although rank was collected as a demographic variable for the member parent, this data is not reported due to the small sample size and to protect participant confidentiality. Most members were active regular forces members (81.3%), with 6.3% reservists and 12.5% of members indicating they were retired within the past five years. Most participants were from the Army (50.0%) and Air Force

(31.3%), with 18.8% of member participants reporting Navy affiliation. Just over half of member participants reported they had not been deployed within the past five years (56.3%), while almost all of them had been away from home for an extended period of time for temporary duty, assignment, or professional development or training within the past five years (87.5%). For those that had been deployed, the mean cumulative time deployed was 9.43 months ($SD = 2.76$). For those that had been away from home for an extended period of time for temporary duty, assignment, professional development, or training time, the mean cumulative time away was 5.07 months ($SD = 3.10$).

Table 3

Military Parent (N = 16) Demographic Characteristics

	<i>n</i>	%
CAF Status		
Regular Forces/Active	13	81.3
Reserve Force	1	6.3
Veteran/Retired (within past 5 years)	2	12.5
CAF Branch		
Navy	3	18.8
Army	8	50.0
Air Force	5	31.3
Deployed in Past 5 years		
Yes	7	43.8
No	9	56.3
Temporary Duty, Assignment, Professional Development or Training Time Away from Home in Past 5 Years		
Yes	14	87.5
No	2	12.5
	Mean	SD
Cumulative Deployed Months in Past 5 years	9.43	2.76
Cumulative Months Away For Temporary Duty, Assignment, Professional Development or Training Time in Past 5 Years	5.07	3.10

Normality and Reliability

Given the nature of the study and sample of participants recruited, the assumption of random selection was understandably violated. Raw scores on the PCL-5 were significantly non-normal ($D(22) = .287, p < 0.001$), with the positive skewness suggesting a preponderance of participants reported few symptoms of posttraumatic stress. However, given the format of this scale (i.e., checklist of symptoms), it would not be expected that scores would follow a normal distribution. The PCL-5 had strong internal consistency for this sample ($\alpha = .95$) and means for members, spouses, and the total group are provided in Table 4. This data was analyzed despite non-normality given the robustness of the analysis below and because the distribution of scores followed the expected distribution (i.e., most responses at the lower end of the scale).

Table 4

Internal Consistency Reliabilities (Cronbach's Alpha), Means, Standard Deviations (SD), and Sample Size for Completed Parent Scales.

Scale	Internal Consistency (α)	<i>n</i>	Mean (<i>M</i>)	Standard Deviation (<i>SD</i>)
Posttraumatic Stress Checklist-5	.95			
Member		12	11.75	18.89
Spouse		27	8.14	8.05
Total		33	9.45	12.90
ASR Depressive Problems	.83			
Member		12	54.50	7.99
Spouse		21	53.33	5.23
Total		33	53.76	6.28
ASR Anxiety Problems	.83			
Member		12	53.67	8.63
Spouse		21	53.19	4.88
Total		33	53.36	6.37
ASR Substance Use Total	--			
Member		12	53.00	3.59
Spouse		21	53.38	4.18
Total		33	53.24	3.92

Note. Reliability for ASR Substance Use Total is not reported as this scale is computed by averaging the *t*-scores for three subscales (Tobacco, Alcohol, and Drugs). ASR and CBCL means are reported in *t*-scores.

Raw scores for the ASR were converted to *t*-scores to allow for standardized comparisons to the measures' normative groups. All means for ASR-Depressive Problems, ASR-Anxiety Problems, and ASR-Substance Use Total fell within the Average (or non-clinical) range (Achenbach & Rescorla, 2001). For the ASR scales, Kolomogorov-Smirnov tests of normality indicated that all three *t*-score distributions were significantly positively skewed; however, these standardized scales are calculated in a way that no scores fall below 50. Inspection of the histograms and stem-and-leaf plots showed these scales to be distributed as expected, with most scores falling near $t = 50$. Within this sample, the ASR-Depressive Problems had strong internal consistency ($\alpha = .95$) and ASR-Anxiety Problems had good internal consistency ($\alpha = .82$). Reliability for ASR-Substance Use Total is not reported as this scale is computed by averaging the *t*-scores for three subscales (Tobacco, Alcohol, and Drugs).

Means and standard deviations for the DAP and YSR are provided in Table 5. The DAP Internal Assets scale ($D(28) = .088, p > .05$), External Assets scale ($D(28) = .104, p > .05$), and the Total Assets scale ($D(28) = .079, p > .05$) were normally distributed. Each of these scales had very strong internal consistency ($\alpha = .96, .96$, and $.98$, respectively). The YSR Total Problems scale ($D(32) = .111, p > .05$) was normally distributed with excellent internal consistency ($\alpha = .95$). Additionally, as a group, the children reported an average number of problems that did not reach clinical significance (i.e., *t*-scores between 40 and 60).

Table 5

Internal Consistency Reliabilities (Cronbach's Alpha), Means, Standard Deviations (SD), and Sample Size for Completed Child Scales

Scale	Internal Consistency (α)	<i>n</i>	Mean (<i>M</i>)	Standard Deviation (<i>SD</i>)
DAP Total Assets	.98	31	35.66	16.23
DAP Internal Assets	.96	31	17.29	7.95
DAP External Assets	.96	31	18.37	8.48
YSR Total Problems	.95	31	54.82	11.75

As all scales showed good reliability and data was distributed as expected for the study sample, parametric tests were used in the following analyses.

Research Question 1: What developmental assets are most dominant in Canadian military children?

Given the scarcity of published research on the developmental assets of children from military-connected families, the analysis to address this research question was exploratory in nature. Five youth completed the DAP-P and 22 youth completed the DAP; four youth omitted too many items to score the measure. Given that the items between the DAP-P and DAP vary only by ease of reading level the DAP-P and DAP scores were analyzed as a group and reported only as DAP scores.

The Search Institute (2005) provides a classification system to describe the number of assets reported by children as Low, Fair, Good, and Excellent (see Appendix F). Asset scores within the “Excellent” range (52-60 for Total scale; 26-30 for all other scales) suggest that the individual possesses an abundance of developmental assets and those assets are experienced strongly and/or frequently. An individual with asset scores within the “Good” range (42-51 for Total scale; 21-25 for all other scales) have a moderate number of assets that are experienced often, but the individual is able to improve in some areas. For asset scores within the “Fair”

range (30-41 for Total scale; 15-20 for all other scales), some assets are experienced but many are weak and/or experienced infrequently. Individuals falling within this borderline range have considerable room to strengthen assets in many areas. Finally, individuals who report a “Low” level of assets (0-29 for Total scale; 15-20 for all other scales) likely have few, if any, assets that are experienced strongly or frequently. For these individuals, there is room to improve and strengthen assets in most areas.

Means of the Total Assets, External Assets, Internal Assets and Developmental Contexts for the sample are provided in Table 6. As a group, children from military families report a Fair number of Internal, External, and Total Assets, suggesting considerable room to strengthen assets. Overall, External Assets ($M = 20.07$, $SD = 6.12$; Range: 5-29) were rated slightly higher than Internal Assets ($M = 19.07$, $SD = 5.92$; Range: 8-28), although each of the scales within these areas had means that fell within the Fair range.

Table 6

Developmental Assets Profile Scale Mean Scores and Reliabilities (N = 27)

Scale	Internal Consistency (α)	Mean (M)	Standard Deviation (SD)	Range
Total Assets (Range: 0-60)	.98	38.56	12.04	13-57
Internal Assets (Range: 0-30)	.96	19.07	5.92	8-28
Commitment to Learning	.88	19.85	7.30	6-30
Positive Values	.84	18.93	5.70	7-28
Social Competencies	.83	20.70	5.94	10-30
Positive Identity	.88	17.19	6.32	5-28
External Assets (Range: 0-30)	.96	20.07	6.12	5-29
Support	.88	21.52	6.96	6-30
Empowerment	.82	21.26	6.04	8-30
Boundaries & Expectations	.92	21.44	7.18	6-30
Constructive Use of Time	.71	16.89	7.22	0-28
Developmental Contexts (Range: 0-30)				
Personal	.94	19.04	4.98	11-28
Social	.96	20.19	6.43	5-30
Family	.97	22.70	7.32	3-30
School	.96	20.56	7.16	6-30
Community	.93	17.56	5.97	3-29

Figures 1, 2, and 3 show the percentages of male and female children reporting Low, Fair, Good, and Excellent assets for the Internal, External, and Total Assets scales, based on the categories outlined by Search Institute (2005). Given the small sample size and exploratory nature of this research question, differences between groups (i.e., gender, age groups) were not statistically analyzed. Rather, descriptive observations are made. These figures show that most female children report a Fair to Good number of assets on the Internal (66.67% of participants), External (75.00%), and Total (58.34%) Assets Scales, whereas most male children report a Low to Fair number of assets on the Internal (73.33%), External (66.67%), and Total (66.66%) Assets Scales; thus, female children of military families may have more developmental strengths to draw upon when faced with the unique stressors of military life.

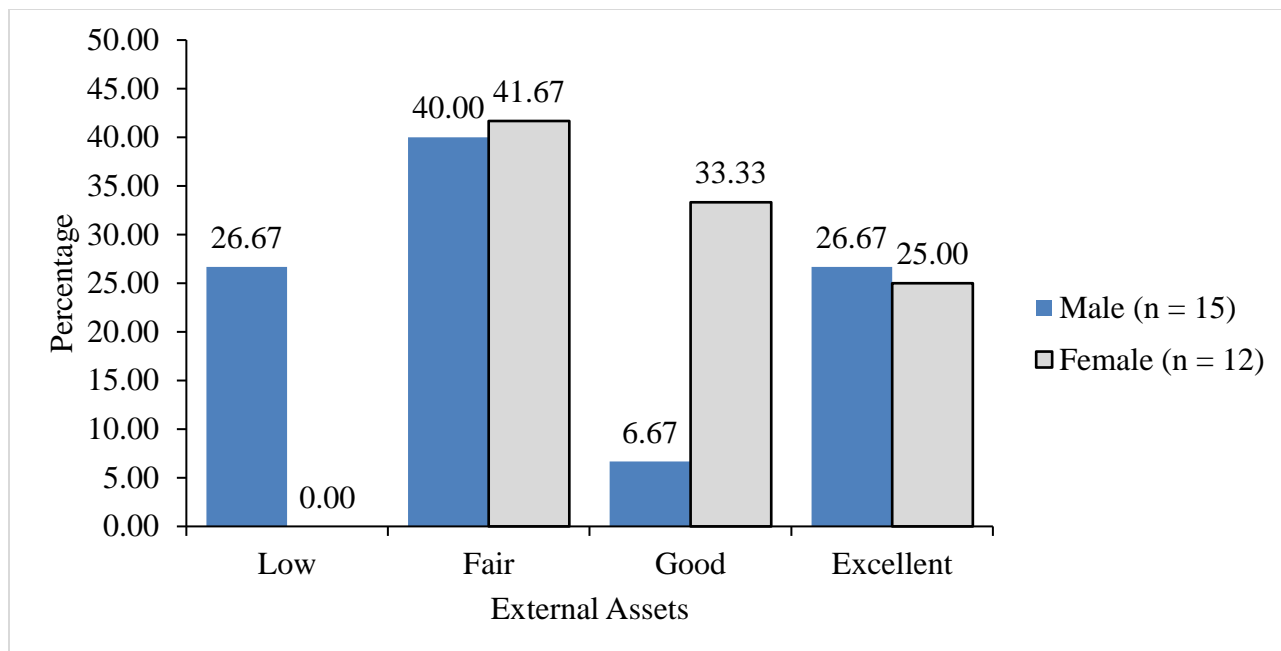


Figure 1. Percentage of children reporting Low, Fair, Good, and Excellent ranges of External Assets by gender.

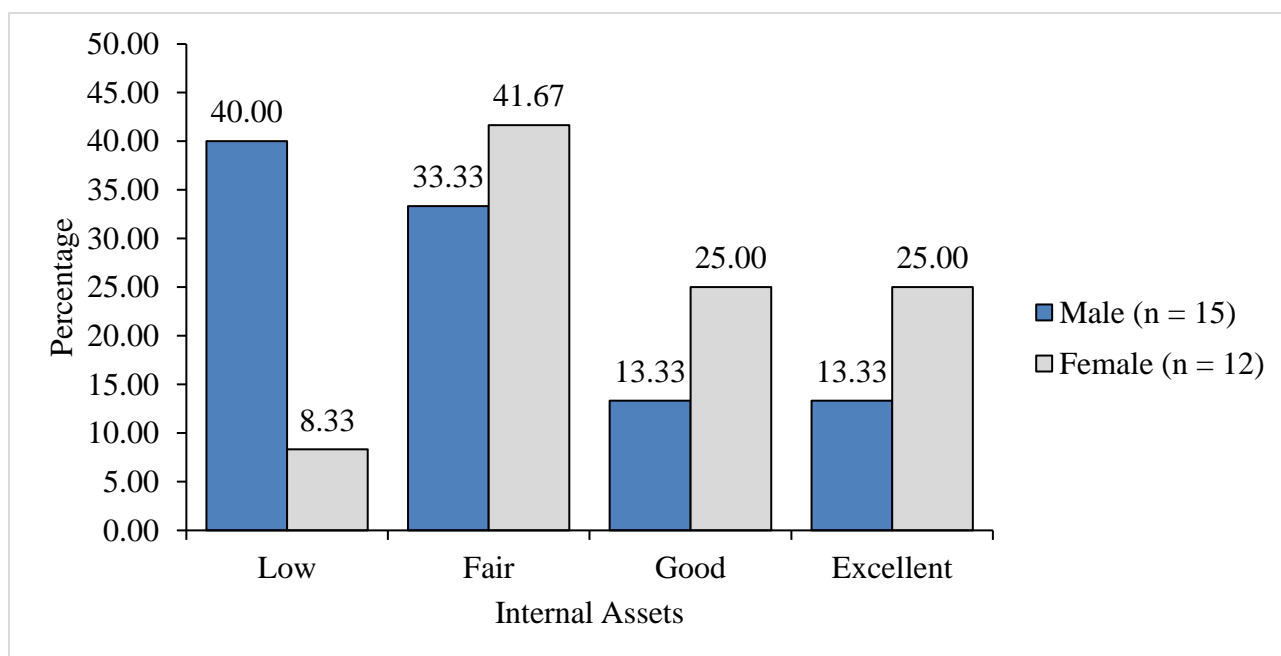


Figure 2. Percentage of children reporting Low, Fair, Good, and Excellent ranges of Internal Assets by gender.

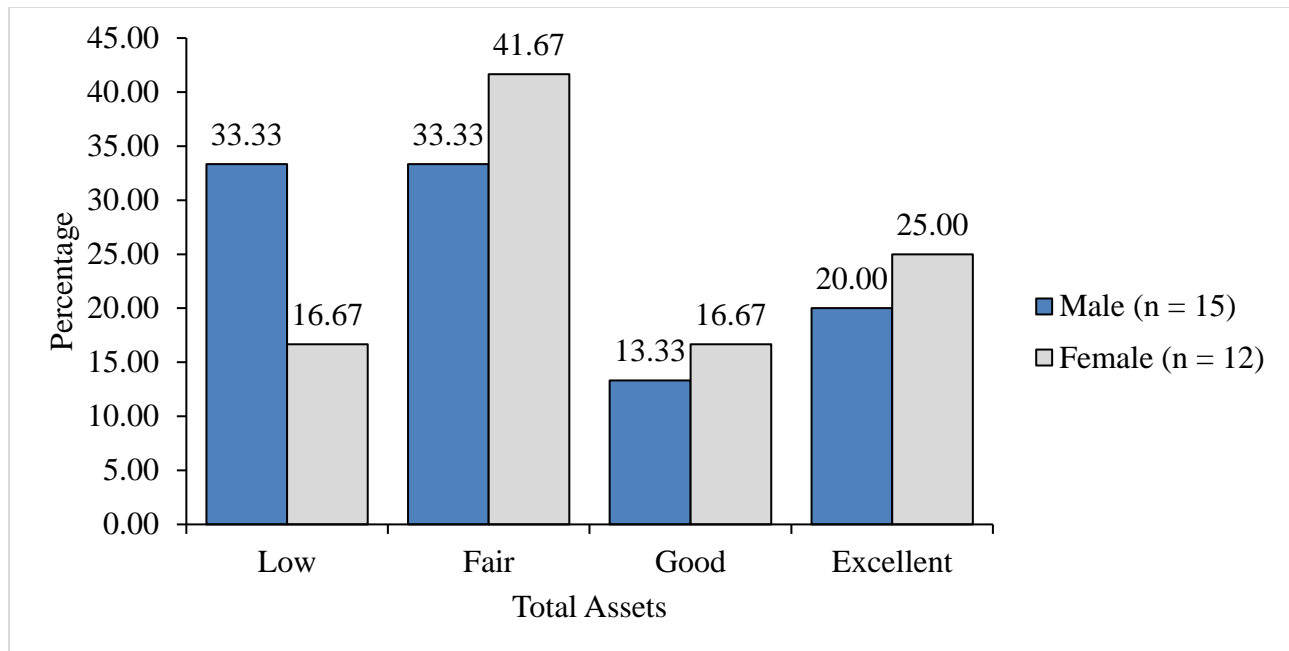


Figure 3. Percentage of children reporting Low, Fair, Good, and Excellent ranges of Total Assets by gender.

Within the Internal Assets, Social Competencies was rated to have the highest mean for children in this sample ($M = 20.70$, $SD = 5.94$), followed by Commitment to Learning (e.g., encouraged to try new things, caring about learning; $M = 19.85$, $SD = 7.30$), Positive Values (e.g., standing up for own beliefs, helping and respecting others; $M = 18.93$, $SD = 5.70$), and Positive Identity (e.g., optimism and self-esteem; $M = 17.19$, $SD = 6.32$, Range: 5-28). This suggests that children of military families are rich in assets such as building friendships, resolving conflicts peacefully, and being sensitive to and accepting others. For External Assets, Support ($M = 21.52$, $SD = 6.96$), Empowerment ($M = 21.26$, $SD = 6.04$) and Boundaries and Expectations ($M = 21.59$, $SD = 7.18$) were endorsed similarly by the participants, suggesting children of military families feel supported by parents, family, and other adults; feel safe at home, school, and in their neighbourhood; and believe they have good role models with clear expectations at home and school. In contrast, Constructive Use of Time (e.g., participation in a

religious or spiritual activity or involvement in sports and clubs) was rated to be an asset-poor area.

The child participants were separated into age groups based on a median split (median = 12.00 years) to look at trends between age groups. As above, these differences were not compared statistically due to small sample size. Figures 4, 5, and 6 show that most children younger than 12 years report Good or Excellent External (72.73%), Internal (81.81%), and Total (63.63%) Assets. In contrast, assets reported by children 12 years and older clustered in the Low to Fair range for External (75%), Internal (87.50%), and Total (81.25%) Assets.

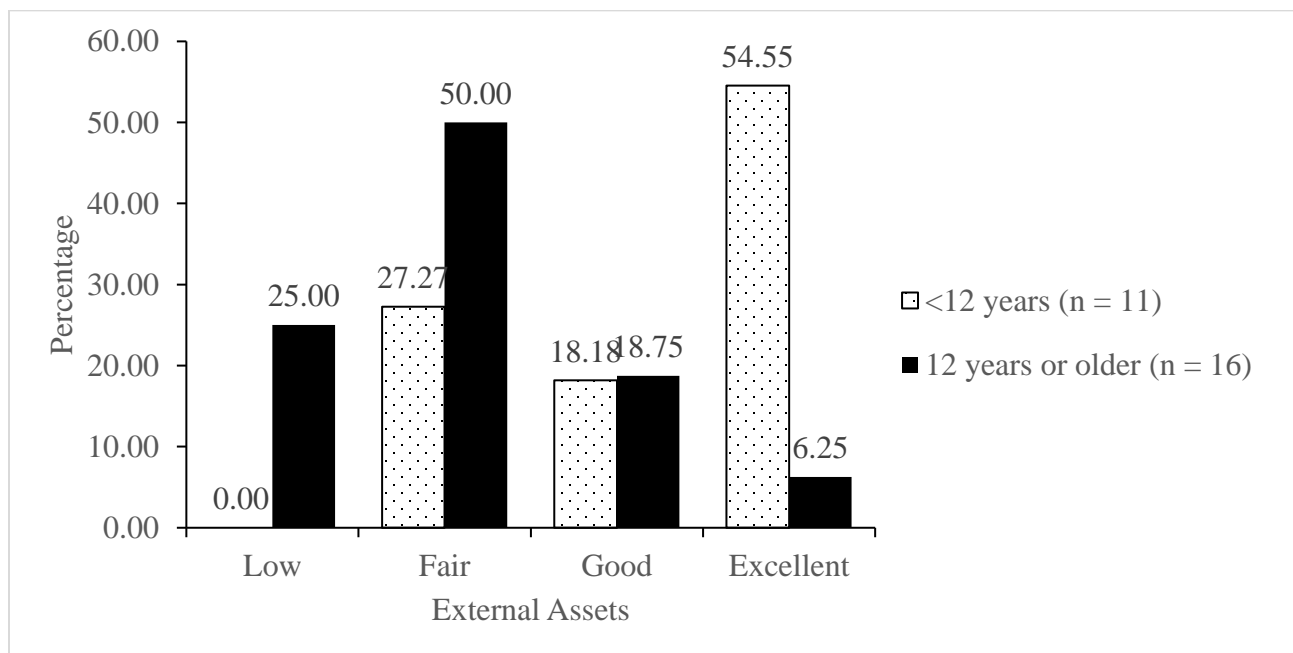


Figure 4. Percentage of children reporting Low, Fair, Good, and Excellent ranges of External Assets split by age.

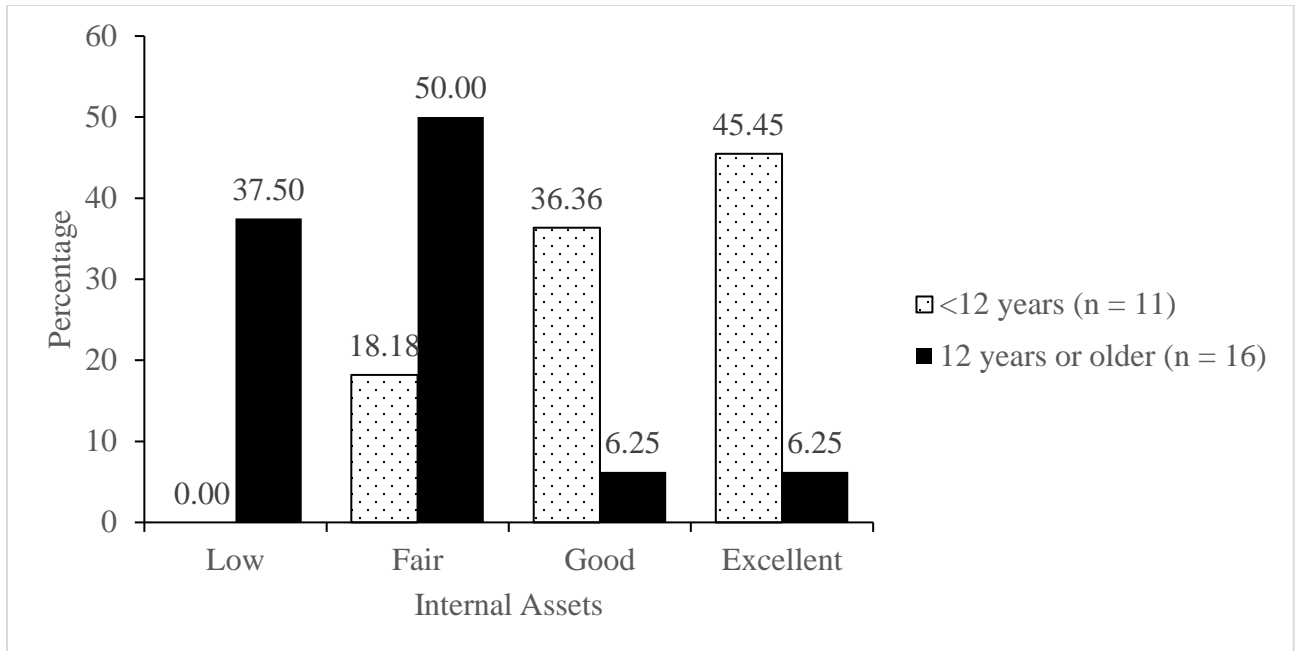


Figure 5. Percentage of children reporting Low, Fair, Good, and Excellent ranges of Internal Assets split by age.

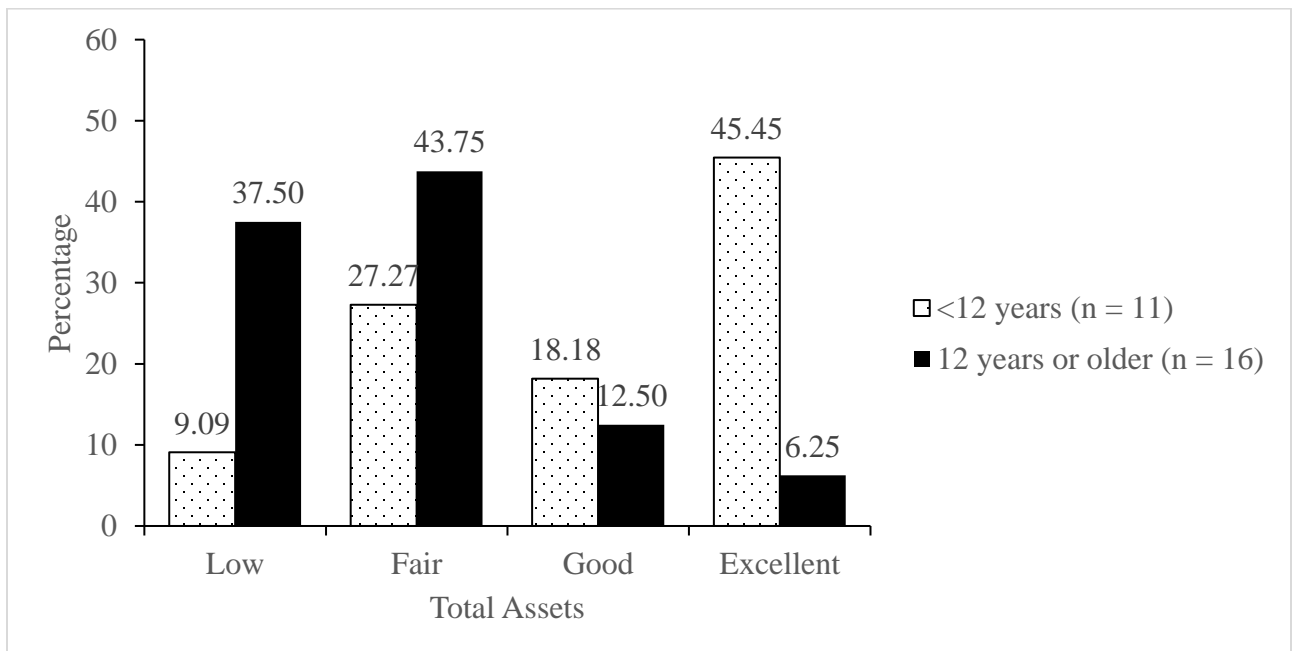


Figure 6. Percentage of children reporting Low, Fair, Good, and Excellent ranges of Total Assets split by age.

In terms of the Developmental Contexts, Family ($M = 22.70$, $SD = 7.30$) was rated to be the most asset-rich contextual area. The other context areas fell within the Fair range, suggesting there is some room to strengthen these areas. When participants were split by gender, this pattern remained strong for females; however, mean asset scores for these areas did not show as large of differences for males (see Figure 7). Statistical comparisons across gender and context areas were not made due to the small sample size.

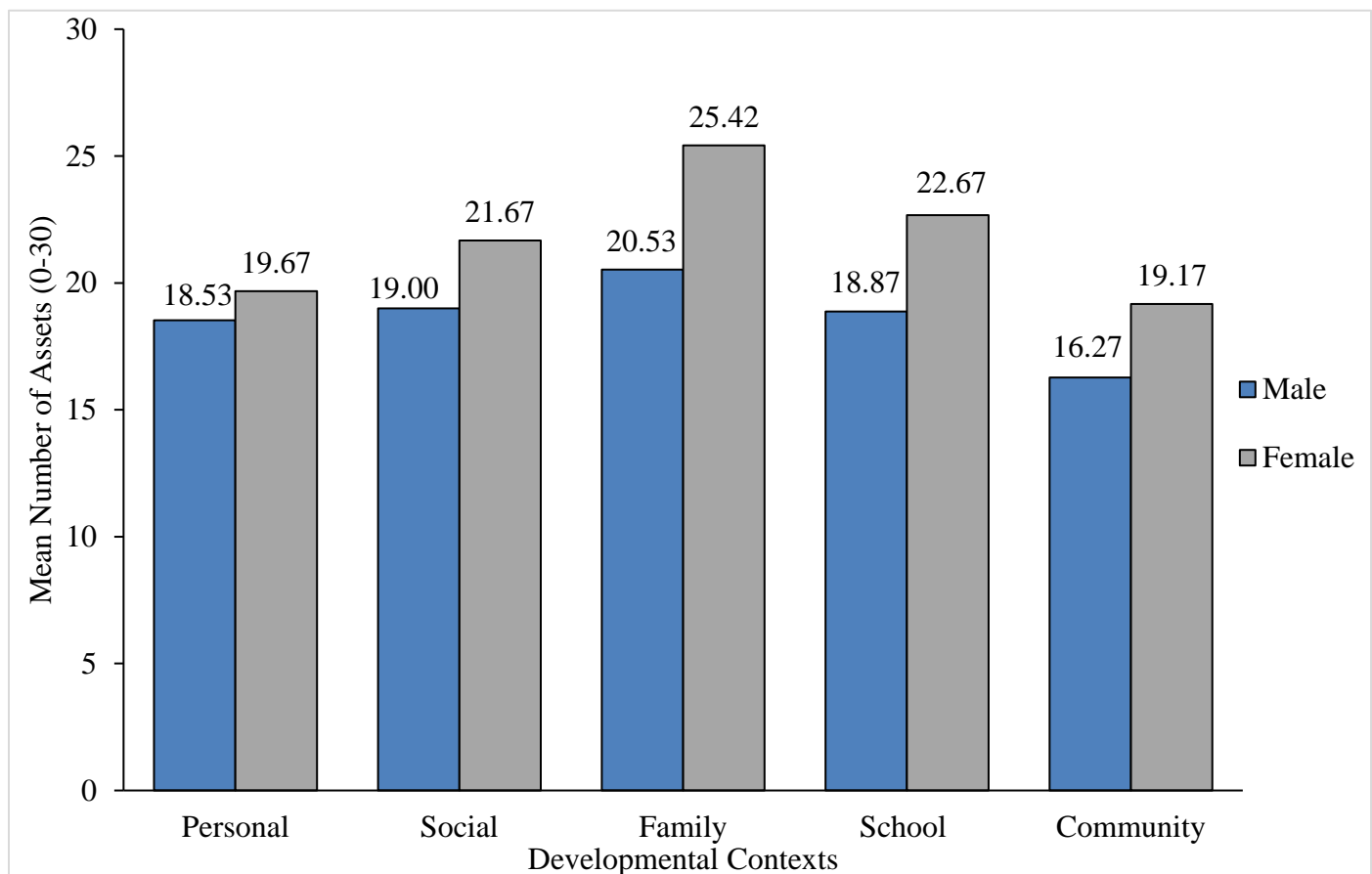


Figure 7. Mean number of assets reported by males and females in the DAP Developmental Context areas.

Research Question 2: Do developmental assets predict fewer problem behaviours in military-connected youth?

Correlations between DAP Total Assets and YSR Total Problems are shown in Table 7. The DAP Total Assets score was negatively correlated with the YSR Total Problems scale ($r = -.647, p < .01$). This suggests that children with higher levels of assets reported less problematic behaviour.

Table 7

Correlations Table

<i>Measures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
1. YSR Total Problems		-.65**	.22	.16	.03	.03
2. DAP Total Assets	-.65**		-.29	-.20	.07	-.22
3. PCL-5	.60**	-.50*		.75***	.53**	.35
4. ASR – Depressive Problems	.27	-.05	.82***		.69***	.42*
5. ASR – Anxiety Problems	.53*	-.18	.71**	.75***		.38*
6. ASR – Substance Use Total	-.03	.25	.13	.07	-.03	

Note. Correlations for Spouse variables below diagonal line and correlations for Member variables above diagonal line.

A multiple linear regression was completed to explore if the variance in children's self-reported problem behaviours could be significantly predicted by their DAP scores. Prior to analysis, control variables (i.e., household income, residence, previous deployment, and CAF branch), YSR Total Problems, and DAP Total Assets were examined for missing values.

Because military parent information was missing for more than 50% of cases, deployment and CAF branch were deleted as control variables. The percentage of missing values ranged from 6.5 for the YSR Total Problems score to 51.6% for the military parent's mental health variables; only 45% of the 31 children in the sample would have been available for analysis under the traditional listwise deletion method. After inspecting the missing data, it was determined that data was missing due to item non-response, likely because of lack of time or interest by participants. The problem of missing data was addressed using the multiple imputation technique including all analysis variables, as Little's MCAR test showed data from these variables were missing completely at random ($\chi^2(20) = 23.89, p = .25$). Multiple imputation is the preferred method to impute missing data, over maximization-estimation and insertion of means (Rubin, 1987; Tabachnick & Fidell, 2013). Pooled estimates from five imputations (Taylor, 2011) and a total of 31 cases were used in the following two analyses.

Additionally, the relevant assumptions of this statistical analysis were tested prior to analysis. Collinearity statistics (i.e., Tolerance and VIF) were all within acceptable limits (Bowerman & O'Connell, 1990; Hair, Anderson, Tatham, & Black, 1995). Residual and scatter plots showed the assumptions of normality (i.e., normally distributed residuals), linearity (i.e., mean values for YSR-Total Problems for each increment of the predictor [DAP Total Assets] lies within a straight line), and homoscedasticity (i.e., DAP Total Assets residuals had constant variance at each level) were met. However, sample size for this analysis is low, despite using multiple imputation method to account for missing data. Therefore, generalizability of the model may be compromised.

Hierarchical multiple regression was completed to estimate the amount of variance in the YSR Total Problems score accounted for by the DAP Total Assets score (see Table 8). Family

income and residence (i.e., in a large city, in a small to medium city, in a rural area or on base) were entered as control variables in the first block. These variables did not account for any significant amount of variance, $F(2, 28) = .47, p = .65$. DAP Total Assets was entered in the second block and accounted for 36.5% of the variance in YSR Total Problems, and contributed significantly to the regression model, $F(3, 27) = 5.98, p < .01$. DAP Total Asset scores significantly predicted YSR Total Problems ($\beta = -.61, p < .001$) in that the DAP Total Asset score explained a significant proportion (36.5%) of the YSR Total Problem score; specifically, higher DAP scores accounted for significant variance in *less* problem behaviours.

Table 8

Summary of Multiple Regression for DAP Total Assets Predicting Children's Self-Reported Problem Behaviours (N = 31)

Variable	B	SE B	β	t	sr ²	R	R ²	ΔR^2
Step 1						.17	.03	.03
Family Income	-0.29	1.71	-.05	-0.17	.00			
Residence	1.01	2.79	.08	0.36	.01			
Step 2						.63	.40	.37**
Family Income	-0.60	1.54	-.08	-0.39	.01			
Residence	1.16	2.19	.09	0.53	.01			
DAP Total Assets	-0.58	0.16	-.61	-3.72***	.36			

* $p < .05$; ** $p < .01$; *** $p < .001$

Research Question 3: Does the presence of parental mental health symptoms moderate the relation between developmental assets and problem behaviour?

As shown in Table 7, no significant correlations between YSR Total Problems and member's PCL-5 ($r = .218, p > .05$), ASR-Depressive Problems ($r = .163, p > .05$), ASR-Anxiety Problems ($r = .026, p > .05$), or ASR-Substance Use Total ($r = .034, p > .05$) were observed for member parents. Member's PCL-5 scores were significantly correlated with ASR-Depressive Problems ($r = .745, p < .001$) and ASR-Anxiety Problems ($r = .534, p < .01$). As

members rated themselves higher in PTSD symptoms, they also rated themselves higher in depressive and anxiety symptoms. Additionally, ASR-Anxiety Problems and ASR-Depressive Problems were significantly correlated ($r = .69, p < .001$). That is, as anxiety increased for members, so did their depressive symptomology. Members' ASR-Substance Use was significantly correlated with ASR-Depressive Problems ($r = .42, p < .05$) and ASR-Anxiety Problems ($r = .38, p < .05$). This suggests that as substance use means increased, members reported higher depressive and anxiety symptoms.

Spouses' YSR Total Problems scores were correlated with PCL-5 ($r = .60, p < .01$) and ASR-Anxiety Problems ($r = .53, p < .05$) scores. As spouses reported higher PTSD and anxiety symptoms, their children also reported a higher number of problem behaviours. PCL-5 was correlated with ASR-Depressive Problems ($r = .82, p < .001$) and ASR-Anxiety Problems ($r = .71, p < .01$). This means that as spouses rated higher PTSD symptoms, they also rated higher depressive and anxiety problems. ASR-Depressive Problems was significantly correlated with ASR-Anxiety Problems ($r = .75, p < .001$), suggesting as depressive symptoms increased, so did anxiety symptoms for spouses. ASR-Substance Use was not significantly correlated with any of the spouse's variables or with the children's self-reported variables.

To reduce the number of analyses needed and to preserve power, PCL-5 scores were chosen as the moderator variable to analyze this research question. For spouses, the PCL-5 had the strongest significant positive correlation with both YSR Total Problems and DAP Total Assets. Although the correlation was not significant for members, the correlation between PCL-5 and YSR Total Problems had the highest magnitude correlation. Additionally, PCL-5 is significantly and positively correlated with ASR-Anxiety Problems and ASR-Depressive Problems for both parents. Given that ASR-Substance Use Total was not significantly correlated

with any of the child variables or the spouse variables, it was omitted from further analysis.

Two moderation models were tested: one for the impact of spouse's PCL-5 symptoms on the relation between DAP Total Assets and YSR Total Problems, and one for the impact of the member's PCL-5 symptoms. Additional control variables were added in this analysis. Each analysis included the respective parent's age and level of education. As described above, relevant assumptions for these analyses were tested and deemed to be met. Variables were centered before being entered into the regression models to reduce the correlation between the variables in the interaction term (Tabachnick & Fidell, 2013).

Spouse. For the spouse model, control variables (age, level of education, family income, and residence) were entered in the first step of the hierarchical multiple regression analysis. The control variables accounted for 17.7% of the variance in children's self-reported problem behaviours, $R^2 = .18$, $F(4, 26) = 1.41$, although this was not significant ($p = .27$; see Table 9). DAP Total Assets and spouse's PCL-5 were added in the second step, accounting for an additional 18.2% variance in YSR Total Problems; however, this model was not significant, $R^2 = .36$, $F(6, 24) = 2.52$, $p = .15$. The interaction effect (DAP Total Assets*Spouse PCL-5) was entered in the final step. The interaction accounted for an additional 3.0% variance; this final model was not significant, $F(7, 23) = 2.43$, $p = .18$. In the final model, none of DAP Total Assets, spouse's PCL-5, or the interaction effect remained significant predictors of YSR Total Problems. Thus, spouses' PTSD symptomology does not moderate the relation between DAP Total Assets and YSR Total Problems for children of military families.

Table 9

Summary of Multiple Regression for DAP Total Assets Predicting Children's Self-Reported Problem Behaviours, Moderated by Spouse Parent PTSD Symptoms (N = 31)

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>sr</i> ²	<i>R</i>	<i>R</i> ²	ΔR^2
Step 1						.42	.18	.18
Family Income	-1.37	2.76	-.13	-0.50	.02			
Residence	1.63	3.39	.11	0.48	.01			
Spouse Education Level	-3.54	3.68	-.27	-0.96	.04			
Spouse Age	0.53	0.81	.22	0.65	.07			
Step 2						.59	.36	.18
Family Income	-1.75	1.97	-.22	-0.89	.04			
Residence	1.49	2.92	.10	0.51	.01			
Spouse Age	0.44	0.59	.19	0.74	.02			
Spouse Education Level	-1.65	3.82	-.14	-0.43	.01			
DAP Total Assets	-0.39	0.39	-.42	-1.02	.14			
Spouse PCL-5	0.02	0.26	-.03	0.07	.00			
Step 3						.61	.39	.03
Family Income	-1.65	1.80	-.22	-0.92	.03			
Residence	1.77	2.99	.12	0.59	.01			
Spouse Age	0.44	0.53	.21	0.83	.02			
Spouse Education Level	-1.71	3.29	-.13	-0.52	.01			
DAP Total Assets	-0.45	0.42	-.49	-1.08	.15			
Spouse PCL-5	0.07	0.32	-.01	0.22	.00			
DAP Total Assets*Spouse PCL-5	0.01	.024	0.14	.49	.01			

* $p < .05$; ** $p < .01$; *** $p < .001$

Member. For the member parent model, a hierarchical multiple regression was conducted in the same manner as the spouse analysis. The first step (control variables) accounted for 7% of the variance within children's self-reported problem behaviours (YSR Total Problems), $R^2 = .07$, $F(4, 26) = .54$, although this was not significant ($p = .72$; see Table 10). DAP Total Assets and member's PCL-5 were added in the second step, accounting for 25.0% of the YSR Total Problems scores; however, this model was not significant, $R^2 = .32$, $F(6, 24) = 2.08$, $p = .20$. The interaction effect between DAP Total Assets and member's PCL-5 was entered in the final step and accounted for an additional 3.0% variance. Again, this model was not significant, $R^2 = 0.35$, $F(7, 23) = 1.89$, $p = 0.19$. The data suggest member's level of PTSD symptomology does not

moderate the relation between DAP Total Assets and YSR Total Problems. Therefore, it appears that parental mental health (i.e., symptoms of PTSD) does not alter the relation between the child's self-reported developmental assets and problem behaviours.

Table 10

Summary of Moderated Multiple Regression for DAP Total Assets Predicting Children's Self-Reported Problem Behaviours, Moderated by Member Parent PTSD Symptoms (N = 31)

Variable	B	SE B	β	t	sr ²	R	R ²	ΔR^2
Step 1						.26	.07	.07
Family Income	-1.27	2.04	-.16	-0.62	.02			
Residence	1.10	3.24	.08	0.34	.01			
Member Age	0.53	0.86	.15	0.62	.02			
Member Education Level	-0.81	3.65	-.07	-0.22	.00			
Step 2						.56	.32	.25
Family Income	-1.88	1.80	-.27	-1.05	.05			
Residence	1.70	2.91	.12	0.59	.01			
Member Age	0.47	0.73	.14	0.64	.01			
Member Education Level	-0.50	3.34	-.04	-0.15	.00			
DAP Total Assets	-.43	0.42	-.46	-1.04	.21			
Member PCL-5	0.14	0.30	.15	0.48	.01			
Step 3						.58	.35	.03
Family Income	-1.93	1.83	-.28	-1.06	.05			
Residence	2.21	3.35	.16	0.66	.02			
Member Age	0.41	0.74	.12	0.55	.01			
Member Education Level	-0.06	3.20	-.00	-0.02	.00			
DAP Total Assets	-0.44	0.41	-.48	-1.08	.18			
Member PCL-5	0.18	0.30	.18	0.60	.02			
DAP Total Assets*Member PCL-5	0.02	0.04	.13	0.43	.01			

* $p < .05$; ** $p < .01$; *** $p < .001$

Chapter 5: Discussion

The overall purpose of this study was to explore which developmental assets are present within children of military families and the role these assets play in the development of problem behaviours. Additionally, this study was interested in determining if parental mental health moderates the relations between developmental assets and problem behaviour. The conception of this study arose from the paucity of literature understanding the experience of military-connected children in Canada. Further, even less is known regarding the strengths of this population. A strength-based approach to studying this population will allow researchers and clinicians to better understand and support military families and children, by developing preventive programs and building personal and contextual assets. This is in contrast to the current problem-focused and problem-driven orientation of current programs and policies developed for military families.

This chapter will summarize the main findings of this study and situate the findings within the existing literature. Limitations of this study and clinical implications are presented, followed by a discussion of potential future directions for this area of research.

Study Findings

Developmental Assets Profile (Research Question 1). Although calls for a PYD approach to understanding children from military families have existed for the past decade (Easterbrooks et al., 2013; Porter, 2010), no published data have used the DAP-P or the DAP with this specific population. Therefore, comparisons cannot be made to other military-connected children and generalizations of the results beyond this small sample of Canadian military youth are unwarranted. However, the profile of developmental assets of this sample can be compared more generally among youth from Western countries (i.e., Canada and the United States).

As a group, military children included in this sample reported a Fair number of assets, indicating that most children and youth only moderately self-reported the presence of these assets. Overall, external assets were reported to be slightly higher than internal assets, but each of these fell within the Fair range. Females reported having more assets than males, although the statistical significance of this difference was not tested due to the small sample size. Females also reported more assets within the Fair to Good range, whereas males reported assets that clustered in the Low to Fair range. It appears that females may have more strengths to draw upon when faced with the unique stressors of military life. This is seemingly in contrast with Chandra et al.'s (2010) finding that female children report more school-, family-, and peer-related difficulties than male children while their parent is deployed. The results were not analyzed to compare asset levels across males and females and with parents that had or had not been deployed. Nonetheless, the female and male asset incongruence fits with US population-based data from the Search Institute that shows that females report higher average levels of assets than males (Search Institute, 2018a). Similarly, most youth across the world experience the minimum number of assets that have repeatedly been linked to well-being, despite diversity across cultures and samples (Search Institute, 2018a). Therefore, the overall distribution of asset areas for the Canadian military children sample appears to fit with the majority of assets measured across different groups of youth.

When internal assets were examined further, social competency was found to be the strongest internal asset for the sample. Participants reported they were rich in assets such as building friendships, resolving conflicts peacefully, and being sensitive to and accepting others. These would undoubtedly be important skills to maintain if one moved frequently and was required to make new friends and maintain social connections from afar. Marchant and Medway

(1987) suggested that frequent relocations contribute to higher social competence in children. Landers-Potts, O’Neal, and Mancini (2017) found using e-communication (e.g., texting, email, online chat, social media, etc.) to establish new relationships while a military parent was deployed enhanced socio-emotional wellbeing; however, too much time spent using e-communication may be linked to social isolation as it interrupts the protective aspects of nurturing relationships already existent in their lives. Additionally, it could be advantageous for military-connected families to develop social connectedness through empathy and sensitivity towards others in the event their friends experience significant stressors (e.g., death of a parent, extended deployment) that are not unrealistic, given the occupational risks associated with their parent’s employment.

Positive identity, in contrast, was the lowest internal asset-area reported by the participants. Positive identity involves optimism, feeling in control of the future, and self-esteem (Search Institute, 2005). Forming an identity involves understanding others and the self in relation to those others (Enright and Deist, 1979). Adolescents are also striving for a sense of autonomy from their parents (Shaffer, 2009). The unpredictability of military life in combination with typical developmental changes occurring during the age range of the participants may partially explain the low score; for example, children of military families may not feel in control of their parental absences or relocations. This lack of control may conflict with the young person’s priorities of autonomy from their parents and the development of their own values, which may have lowered this score. Additionally, as there were youth as young as eight years old included in the study, it could be that many young people in this sample have not yet entered this stage of developing their own identity, rather than having developed a negative or poor identity. Stable identities (positive or not) are not typically formed until well into adulthood (Kroger,

2005; Yip, Seaton, & Sellers 2006). Nonetheless, positive identity is typically the internal asset area that shows the greatest gaps for American youth (Search Institute, 2018b).

Positive values (e.g., standing up for beliefs, taking on responsibility, and engaging in health behaviours while avoiding unhealthy activities) and commitment to learning (e.g., encouraged to try new things, valuing school, and enjoyment in learning) fell in between the self-reported ratings of positive identity and social competencies. Some research suggests that while a parent is deployed, military-connected children (particularly adolescents) take on additional responsibilities at home such as caring for younger children and household duties (Houston et al., 2009). Having supportive parent-child relationships is crucial to developing positive values (Barry, Padilla-Walker, Madsen & Nelson, 2007; Knafo & Schwartz, 2003). This relationship has been found to be moderated by positive communication and maintaining high expectations for youth (Hillaker, Brophy-Herb, Villarruel, & Haas, 2008). Family, support, and expectations were rated as rich asset areas in this study, suggesting foundations for positive value development are strong. Although the commitment to learning area was not the lowest score, a decreased connection to school may be a function of military life (i.e., frequent relocations). Move-related stressors (e.g., unpredictability, tension in the family, making new and sustaining old friends) may affect adjustment to the new school environment (Bradshaw et al., 2010), which undoubtedly influences desire and motivation to learn.

The results of this study suggest that children showed the greatest strengths in the external asset categories of support, empowerment, and boundaries and expectations. For support, children report feeling supported by their parents, families, and other adults. Their scores suggest they feel safe at home, school, and in their neighbourhood. Results further suggest they believe they have good role models, along with clear expectations at home and at school.

Having a non-parent role model contributes to identity development (Blechman, 1992), fosters resilience (Hamilton & Darling, 1996), and decreases the risk of negative outcomes during adolescence (Rhodes, 1994). Although information about a specific role model was not a focus of this study, it would be important to explore this in the future; for example a non-parental role model in the community (e.g., Big Brother/Big Sister or sports team coach) might enhance adjustment when relocating to new communities and assist in facilitating strong peer-connections.

In contrast, constructive use of time (e.g., participation in a religious or spiritual activity or involvement in sports and clubs) was rated the lowest by this sample. This distribution of external asset categories follows the same distribution as that reported by the 38,545 youth in the United States that completed the DAP between July, 2016, and September, 2017 (Search Institute, 2018a). Additionally, constructive use of time is consistently rated as an asset-poor area for children responding to the DAP (Search Institute, 2018b). It should be kept in mind that the scale's psychometric properties may account for some of the null findings, as it had the lowest internal consistency of the DAP scales measured in this study.

In terms of the developmental context areas, the Search Institute (2018a) reports family as the source of greatest asset strength for the US youth surveyed between July, 2016, and September, 2017. This same area was found to be the highest self-reported context asset for the study sample as well. Children of military families reported strong positive family communication and support, clear rules to follow within the family, encouragement and support from parents, and feeling safe in their home. As parental mental health increases the risk of a discordant home life, it is comforting that children from this sample report feeling safe and secure with their family. Strong parent-child relationships can protect against the development of

internalizing and externalizing symptoms for youth (Cotter, Wu, & Smokowski, 2016; Lucier-Greer et al., 2015). The Search Institute (2018a) has found that community is the greatest gap in assets across their large sample; this was found to be true for the current sample as well. Given the high mobility rates of children in military families, it may be that they are unable to form a bond or develop relationships within their community before they are forced to move again. As with the internal and external category assets, males reported lower strengths across all areas of developmental context assets.

Interestingly, younger children in the study sample had higher mean scores for the self-reported assets than older children when they were split into two groups at the median (i.e., 12 years old). For younger children (i.e., 8-11 years), internal, external, and total assets clustered in the good to Excellent ranges; older children's scores in these asset areas fell within the Low to Fair ranges. The Search Institute (2018b) reports that youth in high school experience fewer developmental assets than younger youth. However, few studies using the DAP for children as young as eight have been published, so it is difficult to determine if this pattern remains for children below sixth grade. The Search Institute reports that the biggest drop in assets occurs around seventh or eighth grade and persists into the first year of high school; however, 35% of students remain stable in their asset totals and 24% report increases in their asset totals (Search Institute, 2018b). Previous findings suggest that deployment can lead to problematic social and emotional development for children under 12 that may not be initially apparent but manifests as the child gets older (Card et al., 2011; Mustillo et al., 2016). Older youth (i.e., aged 11-14) report more difficulties with school, family, and peers compared to younger children during deployment (Chandra et al., 2010).

It is difficult to discern whether or not Canadian children of military families reported

more, less, or equal strengths in comparison to other Canadian youth, as large-scale projects from a PYD lens using the DAP or other measures of developmental assets (i.e., The Attitudes and Behaviour Survey; Search Institute, 2016a) have not been conducted in Canada. One published Canadian study assessing the developmental assets of student athletes reported higher DAP scores than those found in the current study (i.e., all within the “good” range; Strachan, Côté & Deakin, 2009). Additionally, Forneris, Camiré, and Williamson (2015) found that Canadian youth involved in extracurricular activities have more opportunities to acquire internal and external assets, but the DAP scores were not reported in a way that could be compared to the present sample. A study of developmental assets in relation to school attendance for students from a First Nations community in Alberta found a significantly strong correlation ($r = .95$) between attendance and DAP scores, but they did not report average asset scores for the entire sample (Sanderson, Hutchinson, & Grekul, 2013). As such, it appears that the assets reported in this study are consistent with American population-based samples, and the first reported DAP scores for children of military families.

Developmental assets predict fewer problem behaviours in military-connected children (Research Question 2). Significant negative correlations between DAP Total Asset scores and YSR Total Problems were observed in the data. After controlling for family income and residence, the DAP Total Assets score was a significant and negative predictor of YSR Total Problems, accounting for approximately 37% of the variance in problem behaviour scores. Considering the Search Institute’s data that consistently show the protective power of assets in reducing risk (i.e., substance use, school problems, and mental health problems) across cultures, (Scales & Leffert, 2004; Search Institute, 2018a), this finding is not surprising.

Although ASEBA scales (i.e., Child Behaviour Checklist [CBCL] or YSR) have been

used extensively to measure problem behaviours in children of military families, no published studies have examined the relation between the child's strengths and the ratings of child problem behaviour. Some studies have examined protective factors in other ways. Family support, social networks for the child (Hunt, 2017; Lucier-Greer et al., 2015), and social support for the at-home caregiver (Hiew, 1992) have each been shown to buffer the negative impact of military life on academic performance and learning problems of their children. Regarding children's mental health, positive communication with caregivers can buffer the negative impacts of deployment for adolescents (Friedman et al., 2017) and supported at-home parents have children with fewer problems (McGuire et al., 2012). Having caregiver role models who demonstrate adaptive coping methods for handling stress has also been found to play an important role in the young person's ability to manage the military lifestyle (Thompson et al., 2017). These findings speak to the importance of the family system, the highest contextual asset area reported in this sample, and its relation to the development of problems. Additionally, these results suggest enhancing a military child's overall asset profile can reduce the likelihood of developing behavioural problems.

Factoring in parent mental health (Research Question 3). A moderation analysis was conducted to determine if parent mental health buffers the relationship between the developmental assets (i.e., DAP Total Assets) and the youth's self-reported behaviour (i.e., YSR Total Problems). PCL-5 scores were chosen as the indicator of parental mental health due to the low sample size, strong correlations with both DAP Total Assets and YSR Total Problems for spouses, and with other indicators of spouse's mental health (i.e., anxiety and depressive symptoms). Although this correlation was not consistent for members, the member's PCL-5 scores were significantly related to the member's anxiety and depressive symptoms.

Additionally, military family literature examining parental mental health has largely focused on symptoms of PTSD and their impact on the family.

Parental mental health was not found to have a significant moderation effect on the relation between DAP Total Assets and YSR Total Problems. Further, DAP Total Assets failed to remain a significant predictor of the outcome measure after the interaction effect (i.e., DAP Total Assets*PCL-5 score). This finding may have been due to additional control variables being entered (i.e., parent's age and education level), although the control variables did not account for a significant proportion of the variance in problem behaviours. Despite using the multiple imputation method (a preferred method in social science; Tabachnick & Fidell, 2013; Allison, 2000) to estimate missing data, the analysis may have been impacted by the low power. Schafer (1997) suggests that pooling procedures work best with a large sample size and may overstate the p -values. Given that pooled statistics were used with a small sample size, with four control variables, two independent variables, and an interaction effect, the analysis had low power. Therefore, interpretation of these results should be made with caution. Interestingly, despite having adequate power, the original data set without imputations did find a significant moderation effect. Additional participant responses may influence the significance of the direct effects, the interaction effect (i.e., the moderator), or reveal a mediating effect of DAP Total Assets on YSR Total Problems *through* parental PCL-5 scores.

It should be noted that despite failing to reach significance, inspection of the semi-partial correlations (i.e., the unique contribution of an independent variable) suggest that DAP Total Assets still account for a large percentage of the unique variance in YSR Total Problems in the final model ($sr^2 = .18$ for members; $sr^2 = .15$ for spouses). Previous research shows that having a parent with PTSD can explain a significant proportion of the variance in internalizing problems

and externalizing problems in children (Caselli & Motta, 1995; Rosenheck & Fontana, 1998; Selimbasic et al., 2012). However, Harrison et al.'s (2014) qualitative study demonstrated children of parents with PTSD reported turning to peer support in their school as a way to mitigate the impacts of their parent's PTSD symptoms on their functioning. This points to the existence of preliminary evidence within the literature that may support the tenet that certain developmental assets (e.g., school context, social relationships) provide protective support against the development of problems when a parent is experiencing PTSD.

The likelihood of a child from a military family developing emotional and behavioural problems is substantially increased when one of their parents experiences depressive symptomology (MacDermid Wadsworth et al., 2016). Parental anxiety has been correlated with the development of internalizing problems in their children (Burstein et al., 2010). Although anxiety and depression were not used as moderator variables in the current analysis to preserve power, the spouse parent's anxiety symptoms were significantly and positively correlated with YSR Total Behaviours. It is unclear how anxiety and depression might impact a child's developmental assets or vice versa. Enhancing the youth's developmental asset profile may remain a robust predictor of lower problem behaviours even when a parent experiences anxiety or depression, although no conclusive statements can be made based on the results of this study.

Further, parent substance use was eliminated as a variable in this analysis as it failed to correlate with either the predictor or outcome variables. Correlations were only significant between the member's substance use and the member's depressive and anxiety symptomology, consistent with longitudinal studies showing the high comorbidity rates between substance use and depression and anxiety (Worley et al., 2012). Although CAF members report alcohol dependence rates higher than their civilian counterparts, it could be that substance abuse within

this sample was used to treat the distressing symptoms of anxiety and depression (Holahan, Moos, Holahan, Cronkite, & Randall, 2003; McDevitt-Murphy, Luciano, Tripp, & Eddinger, 2017). Thus, substance use may be a by-product of mental health problems and not a mental health problem itself.

Although results are preliminary, results suggest that developmental assets may provide a protective shield from the development of problem behaviours for this sample of military children, even when their parent experiences mental health problems. These findings provide evidence for the utility of the developmental assets framework and approaching children of military families from a PYD lens.

Limitations

A number of limitations are evident in this study. The most obvious limitation to this study is the small sample size. Despite recruitment occurring over 15 months, response to the call for participants was low and limited the number of statistical comparisons that could be made across groups (e.g., gender, age groups, deployed/non-deployed families). Although there are more than 57,000 military families in Canada (Vanier Institute of the Family, 2012), access to this population for research purposes was challenging. First, many families, particularly those with Regular Forces parents, likely live closer to or on active bases. Although the researcher is not located near an active base, this was attempted to be remediated by using online and networking recruitment strategies. The researcher networked with Military Family Resource Centres (MFRCs) across Canada that are located on or near every major base in Canada and are accessed in different ways (e.g., child care, social events, or information) by many military families. Many MFRCs were receptive to allowing information about the study to be dispersed to their families, but some were not. The researcher used social media to recruit participants,

including posting to a number of military spouse support blogs with large audiences. A large proportion of the sample came from this effort, as well as a featured interview in Canadian Military Family Magazine. As such, self-selecting into the study may have influenced the type of participants that were recruited. For example, participating families may have already been well-connected with formal (e.g., MFRCs) and informal (e.g., military spouse communities) supports, suggesting they are well-adjusted, have overcome any of the unique challenges associated with military life, or have set themselves up with supports to provide a buffer effect against negative outcomes.

Second, the samples of members and children completing the study were smaller than the spouse group. Members may have been unable to complete the study due to occupational demands (e.g., deployment, away for training/on course), stigma associated with participating in research, or privacy concerns, particularly as it relates to mental health and family members' well-being. As such, both parents may have not have responded honestly regarding any previous diagnoses of mental disorders that they have experienced. Additional data from parents that report on a previous diagnosis may change the results of the third research question. For majority of the families who expressed interest, the spouse made initial contact with the researcher. After the spouse completed their portion of the study, they may have felt protective over their children providing their opinions and information. This could have been a factor in the number of children participating.

Additionally, children provided self-reports of developmental assets and problem behaviours. Although the YSR is considered a reliable measure (Achenbach & Rescorla, 2001), research has shown that adolescents and their parents show poor-to-low agreement on internalizing problems and total problems measured by the YSR and CBCL (Salbach-Andrae,

Klinkowski, Lenz, & Lehmkuhl, 2009); concordance rates for externalizing problems has been found to be higher (Salbach-Andrae et al., 2009). The magnitude of this discordance can have significant clinical implications and lead to poorer outcomes for the youth, such as expulsion from school, mental health problems, and police/judicial contact (Ferdinand, van der Ende, & Verhulst, 2004).

Further, children between the ages of eight and ten completed measures typically reserved for children above this age range. For respondents under 11, the DAP-P version was used. For the YSR, the normative group is based on individuals 11-18 years old. However, research has validated the usage of this scale for as young as seven years old (Ebestuani et al., 2011). Ebestuani and colleagues (2011) determined that younger children are able to provide reliable reports on the YSR composite scales (Internalizing, Externalizing, and Total Problems). As only seven participants were aged of eight through 10, psychometric data for the DAP-P and the YSR was not calculated specifically for this group. Therefore, it cannot be ascertained that the data provided by the younger participants has strong internal consistency. Nevertheless, children's voices have been substantially neglected from the military family literature and this study is among the first to collect quantitative data from military children as young as eight years old; this should be understood as a considerable strength of the current study.

Implications

Although preliminary in nature, the results of this study provide a solid basis for clinical implications and future research directions.

Clinical implications. It is important for clinicians working with military families to fully understand the unique challenges faced by this at-risk group. It is equally important to gain an appreciation of the personal resources and assets existing within these families. With a tool

such as the DAP, clinicians can focus their efforts on building specific assets that have been shown to reduce the chance of engaging in high-risk behaviours or the development of psychopathology. This data can offer insights for “focusing strategies, monitoring progress, and identifying ongoing needs for action” (Search Institute, 2016b, p. 40). Additionally, when a child is in a home with a parent that has a mental health diagnosis, it can be helpful to explore the child’s levels and categories of assets to determine whether they would benefit from asset-building therapeutic approaches.

A PYD approach also fits well with popular philosophical views and associated therapeutic approaches like positive psychology and solution-focused brief therapy (SFBT). Developed by de Shazer and Berg, a SFBT approach assumes that individuals who enter into therapy possess at least the minimal skills necessary create solutions to the problems they are seeking help for (Institute for Solution-Focused Therapy, 2017). The clinician guides them through questions that help clarify those solutions and ways to achieve them. Exploring an individual’s developmental assets can be one of the steps in helping the person explore current ways of coping and continue doing things that are working. The brevity of these types of interventions are perfectly suited for children from military families who either are limited in the services they are able to access or if they will be preparing for a parental deployment or relocation.

Finally, exploring the asset profiles of military children is an important first step in program design and implementation for this specialized population. It is advantageous for clinicians who are working with large groups of military children, in schools, for example, to gather this data and make programming decisions based on depleted assets. As this study showed, strong assets predict less problem behaviour. Further, this is an excellent starting point

for prevention strategies for this at-risk population. It would also be important for school clinicians to also explore the link between assets and school performance indicators; although not a focus in this study, previous research has supported stronger assets are linked to better school grades (Scales & Benson, 2007; Scales, Benson, Roehlkepartain, Sesma, & van Dulmen, 2006; Starkman, Scales, & Roberts, 2006).

Research implications and future directions. As indicated above, this study could have been strengthened with the inclusion of more participants. It is the intention of this researcher to continue data collection efforts and incorporate additional children into the sample for future analysis. Additionally, more data will be collected from parents of these children to incorporate more demographic variables and separate participants by group (e.g., deployed/never deployed parent; number of relocations; rank and CAF branch; diagnosis of OSI/no diagnosis; etc.). Collection outcome data from parents would also allow researchers to compare across informants; combined with confirmation of diagnoses (e.g., a diagnostic interview), data may reveal from whom the most accurate responses should be sought.

Positive development in this study was conceptualized as the absence of negative behaviours rather than specific attention to positive behaviours; this has been the traditional conceptualization for many strengths-based researchers (Benson, 2003; Lerner, 2007). Although the DAP measures the presence of positive social and personal strengths, the outcome in this study was a measure of problem behaviour. However, a PYD approach should operationalize outcomes by measuring five latent constructs associated with prosocial behaviour: competence, confidence, connection, character, and caring (Eccles & Gootman, 2002). Future research should examine “longitudinal, bidirectional relationships among individual strengths and contextual assets” (Gestsdottir et al., 2011, p. 69) and their impact on aspects of thriving, in addition to risk

or problem behaviours. This is a significant limitation of many studies using a developmental asset approach that only focus on the absence of problem behaviours, including the study presented here. This will help clinicians, researchers, and policy makers appreciate how youth play a positive and productive role in their own development (Gestsdottir et al., 2011).

From a theoretical standpoint, it would also be useful to examine the differences between developmental assets and resilience measures. Ungar (2012) suggests that resilience is not synonymous with developmental assets and is instead a protective process that allows people to function well under adversity. However, one could argue that poor parental mental health is indeed an adversity faced by many children of military parents. If a surplus of developmental assets truly acts as a buffer against the development of problem behaviour despite the presence of parental mental health problems, then developmental assets are surely acting as an ideographic protective process. Since the current sample size did not allow for groups to be split by adversity experienced (e.g., number of deployments or school transitions), it is difficult to fully understand the interplay of developmental assets and adversity experienced by military children. The cross-sectional nature of the study design did not allow for conclusions regarding the bi- or multi-directional relations between and among personal and contextual assets. Thus, it would be interesting to explore both resilience and developmental assets as functions of protective factors and processes within this population, potentially by following a sample of families longitudinally.

Finally, this study sets the stage for researchers working with at-risk groups to adopt a strengths-based perspective through the examination of developmental assets. More research is necessary, including population-based data, to fully understand the protective ability of developmental assets on the military child as well as Canadian children as a whole. The DAP, a

relatively short survey, could easily be incorporated into existing large-scale data collection efforts, such as the (now inactive) National Longitudinal Survey of Children and Youth, Ontario Child Health Study, or Canadian Health Survey on Children and Youth (Statistics Canada, 2018).

Conclusion

The findings of this study fill a large gap in our knowledge of both the developmental assets and problems experienced by Canadian military children. The current study provided preliminary findings to support future work examining the individual strength and contextual resources, and the protective role they play in the development of problem behaviour of children from military families. Ultimately, as has been demonstrated in population-based work, problematic behaviour decreases as a youth's assets increase. Although this study sets the stage for substantial follow-up work, it would seem that these assets predict decreased problem behaviour despite the presence of mental health symptomology in their parents. That is, children of military families have robust developmental assets that can help mitigate the impact of parental health on their development. This is an interesting finding, as limited research has investigated the impact of parental OSI or mental health on Canadian children; the family dynamic and children's development in Canadian military families has been largely ignored. Additionally, this study gathered data directly from the military-connected child. Hearing directly from the individuals for whom programs and policies are developed is incredibly important; future researchers and program facilitators should strive to include the voices of military children in all facets of their work with military families.

This study has important clinical implications and has set the stage for future research with Canadian military families. Cozza and Lerner (2013) emphasize that “without a precise

knowledge of military children's strengths and their opportunities for positive development, ... we cannot have confidence that we are using practices, forming policies, and developing or sustaining programs based on the best information we can obtain" (p. 5). By utilizing a PYD approach and investigating assets, the interaction of youth within their contexts, and the reduction of risk or problem behaviour, clinicians, researchers, policy makers, and program implementers can better focus their efforts in building specific asset areas that will result in children and adolescents who thrive.

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Appendix A: Recruitment Poster and Letter of Information

MILITARY FAMILIES WANTED!

Are you interested in participating in a study about your child's development?

We are looking for military families with school-aged children (ages 6-18) to participate in ground-breaking research.

The purpose of this study is to better understand the strengths of children of military families.



What you will be asked to do:

You and your spouse will each be asked to complete a series of brief questionnaires about your family, your well-being and your children's behaviour. If your child is over 8, they will also be asked to complete a survey. We anticipate that it will take less than 45 minutes to complete and it can be completed entirely online.

As a thank you for your time and effort, each family member who completes the survey will receive a \$10 gift card.

If you are interested in participating:

If this sounds like something you are interested in, or if you have any questions or concerns, please email us at

parents@ucalgary.ca

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study.

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SDRT
SOCIAL DEVELOPMENT
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Strengths in Military Families

Study Information

What is the Purpose of the Study?

The purpose of this study is to explore the developmental assets, or personal and social strengths, of children from military families. The study will also seek to understand how those developmental assets are related to educational functioning, including academic confidence, school engagement, and social-emotional functioning.

What Will My Family Be Asked to Do?

You and your partner will be asked to independently complete a questionnaire regarding your and your child's behaviour and emotional state. If your child is over 8 years old, they will also be asked to complete an independent questionnaire. This study will be completed entirely online and should take no longer than 45 minutes per person.

At the end of the study, you will be asked if you would be interested in participating in additional or follow-up studies. If you are willing to participate, you will be asked to provide your name, phone number, and email address. Your contact information will not be connected to your original survey responses and will only be used by the researchers to contact you for further studies. Participation in additional studies is completely voluntary and will not interfere with you receiving your \$10 gift card for participating in this study. Your participation in this study is completely voluntary and you may refuse to participate at any time if you feel uncomfortable continuing with the study. You may withdraw at any time without penalty or explanation.

What Type of Personal Information Will Be Collected?

No personal identifying information will be collected in this study, and all participants shall remain anonymous. Should you agree to participate, you will be asked to provide your gender, age, birthdate, ethnicity, military status (if applicable), and family characteristics (e.g., number of children, ages).

Are there Risks or Benefits if I Participate?

Your answers will be important in identifying strengths within military families. Your responses will be invaluable for program design and implementation in the future. As some questions will ask personal questions about levels of stress, there is a possibility that you may feel uncomfortable or distressed during the study. You will be free to withdraw at any time should you feel distressed. At the end of the survey, contact information is provided for free distress and crisis hotlines.

As a thank you for participating in the study, you will receive a \$10 gift card. In order to receive your gift card, you will need to provide your email address the researcher can contact you to obtain your address. Each family member that completes the survey will receive a gift card. Parents of children who complete the survey will be contacted for their address, and children are not required to enter an email address at the end of their survey.

What Happens to the Information I Provide?

To protect your privacy, no names or identifying data will be attached to the questionnaires. Only the investigators will have access to the data collected for this study. The online data will be downloaded and stored in a locked filing cabinet and will be retained indefinitely for possible future use. Data will be put into a database and only group information will be summarized for presentation or publication of results. You are free to discontinue participation at any time during the study. If you choose to withdraw from the study, all data collected up to the point will not be included in data analysis.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study.

Kelly D. Schwartz, PhD, RPsych
University of Calgary
Primary Investigator
kdschwar@ucalgary.ca

SDRT
SOCIAL DEVELOPMENT
RESEARCH TEAM



Andrea M. Stelnicki, MSc
University of Calgary
Primary Investigator
amstelni@ucalgary.ca

Appendix B: Screening Tool and Survey Instructions to Participants

Thank you for your interest in our study about military families and child development. I have a few questions to determine if your family would be a good fit for this particular part of the study.

1. Do you have a child between the ages of 6 and 18? ____ Yes ____ No
2. Does your family (you and at least one child between the ages of 6 and 18) live in the same household? ____ Yes ____ No
3. Have you (or your spouse) served in the Canadian Forces within the past 5 years, as either a Regular Forces member or a Reservist? ____ Yes ____ No

Please respond back to this email with your answers to the questions above. You will then be sent the link to the survey and given your unique family identifier code.

If the participant meets criteria: (Yes to all above questions)

Great! You will be given a code to enter at the beginning of the study. This code will be used to identify your family members who participate in the study, but will not be tied to your name or identifying information in any way.

Your family identifier code is: _____

This study may ask you questions that are personal in nature and may make you feel uncomfortable. For example, some possible questions will be, “In the past month, how much were you distressed by... feeling very upset, having strong physical reactions, repeated disturbing dreams,” and other questions like those. After you begin the survey, it is nearly impossible to monitor your responses in real time and it is difficult to connect your survey answers back to your name. If these questions make you feel uncomfortable in any way or distressed, you should stop the survey immediately and contact a crisis hotline (e.g., *Canadian Forces Member Assistance Program (CFMAP)* - 1-800-268-7708), your family physician or psychologist, or, if necessary, 911. You will not be penalized in any way for discontinuing the survey.

Ideally, we would like all members of your family (both parents and child [if over 8]) to complete a survey. However, if only one or a part of the family participates, the data will still be included in the study. Family members do not need to and should not complete the survey together. There is no time restriction between when one family member begins a survey and when another should start the survey, although you must complete your own survey in one sitting.

The survey will ask both parents to respond about one particular child. To make things easy, we would like you and your spouse to respond about your **oldest child under 18**. However, if you have other children between the ages of 8 and 18, they are all welcome to participate in the child portion!

As a thank you for completing the study, you will receive a \$10 gift card. In order to receive your gift card, you will need to provide your email address so the researcher can contact you to obtain your mailing address. Each family member that completes the survey will receive a gift card. Parents of children who complete the survey will be contacted for their address, and children are not required to enter an email address at the end of their survey. Please email me if you have any other questions.

Here is the link to the study: https://www.surveymonkey.com/r/CAF_Families

Keep in mind that all family members will use the same link and provide the same family identifier code.

Thank you again for your interest in the study! If you enjoyed participating, please tell your friends!

If the participant does not meet criteria: (No to any of the above questions)

At this time, your family does not meet the criteria to participate in this portion of the study. However, we are very excited that you are interested in our research. Would we be able to contact you at a later time if you meet criteria for another part of the study?

____ Yes ____ No

Appendix C: Consent Form



Name of Researcher, Faculty, Department, Telephone & Email:

Kelly D. Schwartz, PhD
Associate Professor
Werklund School of Education, School & Applied Child Psychology
(403) 220-3669
kdschwar@ucalgary.ca

Andrea M. Stelnicki, MSc
Doctoral Student
Werklund School of Education, School & Applied Child Psychology
(403) 801-1934
amstelni@ucalgary.ca

Title of Project:

Military Families and the Developing Child

This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study.

Purpose of the Study

The purpose of this study is to explore the developmental assets, or personal and social strengths, of children from military families. The study will also seek to understand how those developmental assets are related to educational functioning, including academic confidence, school engagement, and social-emotional functioning.

What Will I Be Asked To Do?

You and your partner will be asked to independently complete a questionnaire regarding your and your child's behaviour and emotional state. If your child is over 8 years old, they will also be asked to complete an independent questionnaire. This study will be completed entirely online and should take no longer than 30-45 minutes.

At the end of the study, you will be asked if you would be interested in participating in additional or follow-up studies. If you are willing to participate, you will be asked to provide your name, phone number, and email address. Your contact information will not be connected to your original survey responses and will only be used by the researchers to contact you for further studies. Participation in additional studies is completely voluntary and will not impact your eligibility for the incentive.

Your participation in this study is completely voluntary and you may refuse to participate at any time if you feel uncomfortable continuing with the study. You may withdraw at any time without penalty or explanation.

What Type of Personal Information Will Be Collected?

No personal identifying information will be collected in this study, and all participants shall remain anonymous. Should you agree to participate, you will be asked to provide your gender, age, ethnicity, military status (if applicable), and family characteristics (e.g., number of children, ages).

Are there Risks or Benefits if I Participate?

As some questions will ask personal questions about levels of stress, there is a possibility that you may feel uncomfortable or distressed during the study. You will be free to withdraw at any time should you feel distressed. At the end of the survey, contact information is provided for free distress and crisis hotlines.

As a thank you for participating in the study, you will receive a \$10 gift card of your choice. In order to receive the gift card, you will need to provide your email address so you can be contacted to make arrangements to receive the gift card.

What Happens to the Information I Provide?

To protect your privacy, no names or identifying data will be attached to the questionnaires. Only the investigators will have access to the data collected for this study. The online data will be downloaded and stored in a locked filing cabinet and will be retained indefinitely for possible future use. Data will be put into a database and only group information will be summarized for presentation or publication of results. You are free to discontinue participation at any time during the study. If you choose to withdraw from the study, all data collected up to the point will not be included in data analysis.

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

Dr. Kelly Schwartz
Werklund School of Education, School & Applied Child Psychology
(403) 220-3669, kdschwar@ucalgary.ca

or

Andrea Stelnicki
Werklund School of Education, School & Applied Child Psychology
(403) 801-1934, amstelni@ucalgary.ca

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at (403) 210-9863; email cfreb@ucalgary.ca.

A copy of this consent form has been given to you to keep for your records and reference. The investigator has kept a copy of the consent form.

Consent

By continuing to the survey, you indicate that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project. In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

Do you consent to participating in this study?

- ☐ Yes
- ☐ No

Please click to begin the survey.

Appendix D: Assent Form



TITLE: Military Families and the Developing Child

INVESTIGATORS: Kelly D. Schwartz, PhD, & Andrea M. Stelnicki, MSc

We want to tell you about a research study we are doing. A research study is a way to learn more about something. We would like to find out more about what it is like to live in a military family. You are being asked to join the study because you are part of a military family and we want to hear what you think, directly from you.

If you agree to join this study, you will be asked to fill out a questionnaire on the computer about your thoughts, feelings, family, friends, and school. This questionnaire should take you about half an hour (30 minutes) to complete. This will be all that you have to do.

We do not know if being in this study will help you. But your answers will help us learn more about children who live in military families, and how they think about their feelings, family, school, and friends. This study might help us learn more about how to support military families.

You do not have to join this study. It is up to you. You can say okay now and change your mind later. All you have to do is tell us you want to stop. No one will be mad at you if you don't want to be in the study or if you join the study and change your mind later and stop.

Before you say **yes or no** to being in this study, we will answer any questions you have. If you join the study, you can ask questions at any time. Just tell your parent that you have a question. If they are not able to answer your question, they will ask the researcher for you.

If you have any questions about this study please feel free to contact Kelly Schwartz (403-220-3669) or Andrea Stelnicki (403-801-1934).

Would you like to be in this research study?

- ☐ ____ Yes, I will be in this research study.
- ☐ ____ No, I don't want to do this.

Please click to begin the survey.

Appendix E: Family Demographic Questionnaire

Answered by All Parents:

1. What is your gender?
 - ☐ Male
 - ☐ Female
2. What is your ethnicity? (Please select all that apply.)
 - ☐ Aboriginal / First Nations
 - ☐ Asian or Pacific Islander
 - ☐ Black or African American
 - ☐ Hispanic or Latino
 - ☐ White / Caucasian
 - ☐ Prefer not to answer
3. What is your highest level of education?
 - ☐ High School
 - ☐ Technical diploma
 - ☐ University degree (e.g., Bachelor's)
 - ☐ Graduate degree (e.g., Master's, PhD)
 - ☐ Professional degree (e.g., MD, JD)
4. Which choice best described your family structure with respect to parent(s) living in the home?
 - ☐ Two-parent household (all family members biologically related)
 - ☐ Two-parent household (step-family, with children from one or both parents)
 - ☐ Two-parent household (blended family, with children from one or both parents and new children)
 - ☐ Two-parent household (with adopted children, or some combination of adopted children and/or biological children)
 - ☐ Two-parent household (same-gendered parents, with any combination of adopted children and/or biological children)
 - ☐ Single-mother household
 - ☐ Single-father household
 - ☐ Other (please specify)

Specific to Members:

1. What is your current status:
 - ☐ Regular/Active
 - ☐ Reserve
 - ☐ Veteran/Retired

2. Please choose your CAF branch:
- ☐ Royal Canadian Navy
 - ☐ Canadian Army
 - ☐ Royal Canadian Air Force

3. Please choose your rank.

Royal Canadian Navy	Canadian Army/ Royal Canadian Air Force
Admiral	General
Vice-Admiral	Lieutenant-General
Rear-Admiral	Major-General
Commodore	Brigadier-General
Captain	Colonel
Commander	Lieutenant-Colonel
Lieutenant-Commander	Major
Lieutenant	Captain
Sub-Lieutenant	Lieutenant
Acting Sub-Lieutenant	Second Lieutenant
Naval Cadet	Officer Cadet
Chief Petty Officer 1 st Class	Chief Warrant Officer
Chief Petty Officer 2 nd Class	Master Warrant Officer
Petty Officer 1 st Class	Warrant Officer
Petty Officer 2 nd Class	Sergeant
Master Seaman	Master Corporal
Leading Seaman	Corporal
Able Seaman	Private
Ordinary Seaman	Private Recruit

4. How long have you been a CAF member? If you are retired, please indicate how long you were an active and/or reserve member of the CAF.
- ☐ _____ years (round to nearest year)
5. Have you been deployed in the past 5 years?
- ☐ Yes -- Length of deployment: _____ months
 - ☐ No
6. Have you been away from home for temporary duty assignment or training time in the past 5 years?
- ☐ Yes -- Length of time away: _____ months
 - ☐ No

Specific to Spouses:

1. Are you currently employed?
 - ☐ Part-time
 - ☐ Full-time
 - ☐ No

2. What is your annual household income?
 - ☐ Under \$20,000
 - ☐ \$20,000-\$39,999
 - ☐ \$40,000-\$59,999
 - ☐ \$60,000-\$79,999
 - ☐ \$80,000-\$99,999
 - ☐ \$100,000-\$119,999
 - ☐ \$120,000-\$139,999
 - ☐ \$140,000-\$159,999
 - ☐ \$160,000-\$179,999
 - ☐ \$180,000-\$199,999
 - ☐ \$200,000+

3. What are the gender and ages of children living in your home? (If you have more than four children living in your home, please report only the oldest four. Please include only those children that are biologically your and your spouse's.)

Child 1: Age ____; Gender: a) Male b) Female; School Grade (if applicable): ____

Child 2: Age ____; Gender: a) Male b) Female; School Grade (if applicable): ____

Child 3: Age ____; Gender: a) Male b) Female; School Grade (if applicable): ____

Child 4: Age ____; Gender: a) Male b) Female; School Grade (if applicable): ____

4. My family lives:
 - ☐ in a large city
 - ☐ in a small to medium city
 - ☐ in a rural area
 - ☐ on base

Appendix F: DAP Interpretive Ranges

Interpretive Ranges for DAP Asset Category, Developmental, External, Internal and Total Asset Scales

Label	Range of Scores	Interpretive Guidelines
Excellent	26-30 (Total Scale: 52-60)	Abundant assets, most assets are experienced strongly and/or frequently.
Good	21-25 (Total Scale: 42-51)	Moderate assets. Most assets are experienced often, but there is room for improvement.
Fair	15-20 (Total Scale: 30-41)	Borderline assets. Some assets are experienced, but many are weak and/or infrequent. There is considerable room for strengthening assets in many areas.
Low	0-14 (Total Scale: 0-29)	Depleted levels of assets. Few if any assets are strong or frequent. Most assets are experienced infrequently. Tremendous opportunities for strengthening assets in most areas.

Note: Adapted from Search Institute, 2005