Military Stressors and the Well-Being of Adolescents in Canadian Armed Forces Families: The Roles of Relationships with Parents and Peers

by

Amanda Bullock

A thesis submitted to the Faculty of Graduate and Postdoctoral Affairs in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
in
Psychology

Carleton University
Ottawa, Ontario

Abstract

Adolescents in military families may be at increased risk for psychopathologies because they are simultaneously exposed to both normative developmental stressors and the challenges of the military lifestyle. Currently, there is a paucity of research on the specific risks and protective factors related to the well-being of adolescents in families of the Canadian Armed Forces (CAF). Accordingly, there were three primary objectives in this doctoral research: (1) to examine the perceptions of adolescents in CAF families about the challenges they experience as compared to adolescents in non-military families; (2) to investigate the associations among exposure to frequent relocation and deployment, affective reactivity to relocation and deployment, adolescent-parent relationships and peer relationships, and well-being; and (3) to explore the potential moderating roles of adolescents' parent and peer relationships in the relations between exposure/affective reactivity to military stressors and well-being.

Participants were $N = 201$ adolescents (117 females, 81 males, 3 did not indicate), aged 14 – 19 years ($M_{age} = 16.44$, $SD = 1.59$) from Regular Force CAF families. Participants responded to an open-ended question about the challenges they believed they experienced in comparison to adolescents in non-military families. In addition, participants completed assessments of their affective reactivity to relocation and deployment, the quality of their relationships with parents and peers, and their well-being.

Results from thematic analysis revealed that frequent relocation as well as frequent and lengthy deployment were perceived as the main challenges that adolescents believed their counterparts in non-military families did not experience. Results from correlational analyses and hierarchical linear regressions revealed that exposure to frequent relocation

and deployment were not significantly associated with adolescents' well-being. However, heightened affective reactivity to relocation and deployment were both negatively associated with well-being. Further, at higher levels of positive adolescent-parent relationships, the negative relation between reactivity to deployment and well-being was attenuated (i.e., buffering effect). Results are discussed in terms of the similarities and differences to adolescents in US military families and adolescents' in non-military families. Recommendations are offered on strategies to reduce the risks associated with the military lifestyle and enhance adolescents' well-being.

Acknowledgements

First, I would like to extend my gratitude to the Department of National Defence and Dr. Alla Skomorovsky for providing me with the opportunity to collect this data. In addition, I would like to thank my committee members for their valuable contributions throughout the research process. I am also extremely grateful for the opportunity since my Masters to be mentored by Dr. Robert Coplan. He has provided immense patience, always timely and constructive feedback, and lots of encouragement over the years. Lastly, I would like to acknowledge my parents, whom although no longer here, for teaching me how to be resilient.

Table of Contents

List of Tables

List of Figures

List of Appendices

Military Stressors and the Well-being of Adolescents in Canadian Armed Forces Families: The Roles of Relationships with Parents and Peers

Adolescence is a transitional period characterized by an array of biological, cognitive, behavioural, social, and emotional changes (Evans & Seligman, 2005), which can be sources of significant stress (Jackson & Goossens, 2006). Although these normative stressors are inherent during this stage of development, the exposure to stressors can increase one's risk for psychopathologies (e.g., anxiety, depression) (Hankin, Mermelstein, & Roesch, 2007; Herres, Ewing, & Kobak, 2016; Shih, Eberhart Hammen, & Brennan, 2006; Sim, 2000). Moreover, adolescents' vulnerability to maladjustments is greater when they respond to these stressors with heightened affective reactivity (Herres et al., 2016; Schneiders et al., 2006; Sheeber et al., 2012).

As compared to their civilian counterparts, adolescents from *military families* are exposed to several additional stressors. Many of these stressors are unique to the demands of the military lifestyle, including separations from the military parent due to deployments and other military-related duties (e.g., training exercises) over a protracted period of time; risk that the military parent will be injured or killed as a result of training and combat; residential relocation that separates adolescents from support networks; behavioural expectations; and transitioning from military to civilian life (Booth & Lederer, 2012; Burrell, Adams, Durand, & Castro, 2006; Coulthard, 2011; Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014). Among these stressors, parental *deployment* and family *relocation* have been identified as the most significant stressors affecting the functioning and well-being of adolescents (Compton & Hosier, 2011; Wiens & Boss,

2006; Westhius, 1999).

Indeed, past studies have shown that deployment and relocation are risk factors for adolescents' behavioural and psychological adjustment, and overall quality of life (Chandra, Lara-Cinisomo, et al., 2010; Crow & Seybold, 2013; Huebner & Mancini, 2005). These problems are typically exacerbated when adolescents are exposed to more frequent deployments and relocations (Crow & Seybold, 2013; Mmari, Bradshaw, Sudhinaraset, & Blum, 2010). Notwithstanding, much less is known about how adolescents' affective *reactivity* to deployment and relocation may further impact upon their well-being and mental health.

Moreover, most of the extant research has taken a deficit approach by examining the risk factors related to adolescents' well-being in military families, with less consideration of potential protective factors that may buffer adolescents' well-being from stressors (Cozza & Lerner, 2013; Cozza, Lerner, & Haskins, 2014). Civilian-related research has long recognized that relationships with both parents and peers are important and unique predictors of adolescents' well-being, including their self-esteem (Anthony & Stone, 2010; Zeigler-Hill, 2011). Adolescents' self-esteem is especially important during this period because it reflects how well adolescents are managing the developmental changes that are occurring (Rutter, 1987; Steinberg & Morris, 2001) as well as achieving autonomy and a sense of identity to take on adult roles and responsibilities (Chen & Faruggia, 2002; Petersen & Leffert, 1995).

As well, positive adolescent-parent relationships and peer relationships can serve to buffer adolescents' well-being against the impact of negative events (Birkeland, Brevik, & Wold, 2013; Grant et al., 2006; Papini & Roggman, 1992; Way & Pahl, 2001;

Wentzel & McNamara, 1999). Concomitantly, negative adolescent-parent relationships and peer relationships can exacerbate the negative impact of stressors on adolescents' well-being.

For adolescents in military families, deployment separates adolescents from the military parent, which may negatively affect adolescents' opportunities to appropriately bond with their parent and maintain positive quality child-parent relationships (Paley, Lester, & Mogil, 2013; Palmer, 2008). Furthermore, relocation uproots adolescents from their peer relationships, which may impede adolescents' ability to maintain positive quality peer relationships (Brown & Orthner, 1990; Drummet, Coleman, & Cable, 2003). Despite these assertions, it has not been previously empirically tested whether adolescent-parent relationships and peer relationships might *moderate* links among deployment/relocation frequency and reactivity and aspects of adolescent well-being.

Furthermore, the vast majority of the previous research has been qualitative in nature, whereby adolescents are asked about the impact of deployment and relocation on their functioning and adjustment (e.g., Aronson & Perkins, 2013; Bradshaw, Sudhinaraset, Mmrai, & Blum, 2010; Chandra, Martin, Hawkins, & Richardson, 2010; Huebner & Mancini, 2005; Huebner et al., 2010; Huebner, Mancini, Wilcox, Grass, & Grass, 2007; Knobloch, Pusateri, Ebata, McGlaughlin, 2012; Mmari, Roche, Sudhinaraset, & Blum, 2009). Although this methodological approach allows for an in-depth understanding of the research topic, it is difficult to generalize the findings to other people and context, assess the extent to which specific factors influence participants' outcomes, and the researchers' bias may influence the interpretation of the findings (Creswell, 2002; Johnson & Onwuegbuzie, 2004). Accordingly, in an attempt to benefit

from the relative strengths of both qualitative and quantitative methodological approaches, the present study used surveys (i.e., quantitative) along with an open-ended question that was coded using a more qualitative approach (Driscoll, Appiah-Yeboah, Salib, & Rupert, 2007).

Finally, the majority of research on adolescents' well-being in military families is based on the experiences of military families from the United States (US) (Cramm, Norris, Tam-Seto, Eichler, & Smith-Evans, 2015). Although some of the findings may be generalizable to Canada, each military organization has distinct characteristics, patterns of deployment, policies, and resources for military families. The Canadian Armed Forces (CAF) is responsible for protecting Canada and defending its sovereignty, helping defend North America, and contributing to international peace and security through military operations around the world (National Defence and the Canadian Armed Forces, 2013). It is comprised of the Royal Canadian Navy, the Canadian Army, and the Royal Canadian Air Force who serve on the sea, land, and in the air, respectively. Since 1990, the nature of military members' missions overseas has changed from largely peacekeeping to combative, in which the risk of injury or death to military members increases substantially (Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014). Currently, Canada's military personnel are deployed in over 20 operations, both nationally and internationally (National Defence and the Canadian Armed Forces, 2016). Moreover, CAF families relocate frequently, as much as three times more than civilian families, with little input over where they move, when they move, and the duration (Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014). Furthermore, given that there are dual service couples in

the CAF, there may be instances where both military members are deployed at the same time or one military member is asked to relocate because of operational requirements and the other military member follows (National Defence and the Canadian Armed Forces, 2016).

Given that relocation and deployment represent substantive stressors of the CAF lifestyle, it is important to understand naturally occurring risk and protective factors for adolescents growing up in CAF families. Therefore, the central goals of this doctoral dissertation research were to: (1) examine adolescents' perceptions of the challenges of military life; (2) explore a complex conceptual model of the links between the military stressors of relocation and deployment (frequency, affective reactivity), adolescent-parent relationships, peer relationships, and adolescents' well-being in families of the CAF; and (3) explore whether adolescents' parent and peer relationships moderate the associations between relocation and deployment (frequency, affective reactivity) and adolescents' well-being. The findings from this dissertation research could have implications for identifying how to best support adolescents in CAF families who are faced with deployment and relocation. As well, because the family's functioning can have profound impacts on the military member's well-being and morale and ultimately, the operational success of the CAF, it is imperative to investigate the risks and protective factors related to adolescents' well-being in military families (e.g., Booth & Lederer, 2012; Ender, 2006).

The review of the extant psychological literature begins with an overview of two relevant prominent theoretical frameworks that have informed the study of military stressors and military families' well-being: (1) the Double ABC-X Model of Adjustment

and Adaptation (McCubbin & Patterson, 1983); and (2) Attachment Theory (Ainsworth, 1982; Bowlby, 1969/1982) as well as a general review of the effects of stress exposure and reactivity on adolescents' well-being. Next, the definition of parental deployment is provided along with an overview of child-parent relationships in adolescence and its impact on adolescents' well-being. Subsequently, to conceptualize the impact of deployment-induced parental separation on adolescents' well-being, the effect of other types of parental separation on adolescents' well-being is presented. Following this, the empirical research on the impact of deployment on adolescents' well-being is reviewed. Next, a discussion of residential relocation and an overview of peer relationships in adolescence and its influence on adolescents' well-being are provided. This is followed by a review of the research findings on the influence of relocation on adolescents' peer relationship quality and adolescents' well-being. Finally, the potential moderating effects of adolescent-parent relationships and peer relationships on adolescents' well-being are reviewed.

Theoretical Underpinnings of the Impact of Military Stressors on Adolescent Well-Being

To conceptualize the influence of deployment and relocation on adolescents' well-being, the Double ABC-X Model of Adjustment and Adaptation (McCubbin & Patterson, 1983); attachment theory (Ainsworth, 1989; Bowlby, 1969/1982), and stress exposure and reactivity are reviewed in the following sections.

Double ABC-X model. The *Double ABC-X Model of Adjustment and Adaptation* (McCubbin & Patterson, 1983) was developed to explain longitudinal observations of military families' adjustment and adaptation to the stress associated with prolonged

separation of husbands and/or fathers who were held captive or unaccounted for in the Vietnam War. In this model: "A" refers to the stressor and associated hardships; "B" refers to the resources for preventing an event of change in the family's social system from becoming a crisis; "C" refers to the perception of "A", in other words, the family's subjective definition of the stressor, which is based on the family's values and past experiences in coping with change and meeting crises; and "X" refers to the crisis. "Double" refers to the pile-up of stressors, which can include: (1) the initial stressor and associated hardships; (2) normative transitions (e.g., birth of a child); (3) prior strains (e.g., child-parent conflict that is exacerbated for the at-home parent when the military parent is absent); (4) consequences of a family's coping strategies (e.g., family members challenging military spouses who become more independent and assertive during their husbands' absences in the war); and (5) intra-family ambiguity (i.e., uncertainty about whether the missing or captured military husband is considered psychologically and physically part of the family) and social ambiguity (e.g., some military spouses experienced uncertainty about whether they could become remarried in their community although they did not receive official declaration of their husbands' deaths in the war).

Although the Double ABC-X Model outlined the factors thought to be related to military families' adjustment and adaptation, Huebner (2009) pointed out that it does not explain the *process* of change, that is, how the different factors operate to influence change. Huebner proposed that the process of change could be accounted for by the interplay between the "B" (resources) and "C" (perception of the stressor) factors. Furthermore, Huebner suggested that a specific type of resource that should be considered is attachment security (i.e., the bond one has with significant others).

Therefore, individuals may have contrasting reactions to deployment-related separation (e.g., "This deployment separation is scary and I can't cope" versus "This deployment separation is a challenge to be dealt with") depending upon their level of attachment security.

A review of the extant literature did not reveal any previously published studies that have empirically tested Huebner's (2009) postulations. In the present study, Huebner's adaptation of the Double ABC-X Model was applied to elucidate *how* deployment and relocation might influence adolescents' well-being. Therefore, in the present model, the process of adolescents' well-being may be accounted for by adolescents' attachment security to parents and peers ("B" factor) as well as their affective reactivity to deployment and relocation ("C" factor). Given the proposed importance of attachment security as the resource for adolescents' adjustment and adaptation, a general overview of attachment theory is presented next. Attachment theory also provides the context for understanding the impacts of parental deployment and residential relocation on adolescents' well-being.

Attachment theory. Attachment refers to an emotional long-lasting bond of considerable intensity (Ainsworth, 1989; Armsden & Greenberg, 1987; Paterson, Field, & Pryor, 1994). It is based on a history of interactions, memories, and feelings shared between two (or more) individuals (Ainsworth, 1989; Bowlby, 1969/1982). This relationship is bidirectional in nature, which represents mutual influence between persons (Paschall & Mastergeorge, 2016). Attachment theory was initially conceived of as a relationship between the infant and his or her primary caregiver (usually the mother, Bowlby, 1969/1982), however, attachment relationships can exist throughout the life-

span (see Cassidy & Shaver, 2008 for a review).

Moreover, individuals can have multiple attachment figures, whereby an attachment hierarchy is formed (Ainsworth, 1982; Bowlby, 1969/1982). The attachment hierarchy is an organized set of preferences for attachment figures whom the individual seeks out when the attachment system is activated under conditions involving danger (e.g., a threatening stimuli in the environment) or stress (e.g., hunger, pain) (Colin, 1996). Further, relationship specificity exists within the hierarchy in that, each attachment figure is a specific person who is not interchangeable with anyone else and individuals interact with each attachment figure differently. During infancy, the primary caregiver is at the pinnacle of the attachment hierarchy (Cassidy, 2001). However, by adolescence, the attachment hierarchy is reorganized and the primary positions are occupied by friends, siblings, and romantic partners rather than by parents or adult caregivers who take a more secondary position (Kobak, Rosenthal, Zajac, & Madsen, 2007). The following sections focus on attachment theory as it relates to child-parent relationships and peer relationships.

Attachment and child-parent relationships. According to Bowlby (1969/1982, 1973, 1980), individuals are motivated to explore their environment to learn, but also to seek close proximity or contact with an attachment figure to obtain security and comfort. Attachment figures therefore serve as a secure base for which the individual can venture out to safely explore and master his or her environment. As well, attachment figures provide a safe haven for children to return to when they are feeling threatened or distressed.

A child's sense of security is based on the maintenance of a bond with an

attachment figure who is accessible (Bowlby, 1969/1982, 1973, 1980). However, it is worth noting that a readily accessible attachment figure may be emotionally absent. As such, a responsive attachment figure is also needed for the individual to form a sense of security. Moreover, the continuity of the attachment figure, the quality of care that she or he provides, quality of communication between the attachment figure and child, and the broader home environment, influence the quality of the attachment relationship. Therefore, a secure attachment is formed when the individual experiences a warm, sensitive, and continuous relationship with an attachment figure that is available and responsive to his or her needs and maintains an open line of communication (Ainsworth, 1989; Bowlby, 1951).

Conversely, the ability to form a secure attachment is disrupted when the attachment figure is not consistently present, accessible, or responsive (Bowlby, 1973). In this regard, an insecure attachment is said to develop when the attachment figure inconsistently and inappropriately responds to the individual's needs. Research has generally shown that insecure child-parent attachments in infancy, childhood, and adolescence put children at risk for maladjustments, including lower self-esteem, greater peer difficulties, and internalizing and externalizing problems (see Rubin et al., 2004; Thompson, 1999) (to be discussed in more detail in a later section).

The quality of the child's relationship to the attachment figure in infancy has implications for the child's *internal working model* (Ainsworth, 1989; Bowlby, 1980). The internal working model is a mental representation of oneself and others that is developed in early attachment relationships and provides an internal template for regulating emotions, coping with stress, understanding one's social world, and interacting

in close relationships. Children with a secure parent attachment have an internal working model that help is available when needed and she or he is worthy of love and care. In addition, children's assurance of a supportive caregiver enhances their desire to further explore the environment, master more challenges, and form social ties with others (Ahnert, Gunnar, Lamb, & Barthel, 2004; Belsky & Fearon, 2002; O'Connor & McCartney, 2007; Sroufe, 2005). On the other hand, children with an insecure parent attachment develop an internal working model of others that care is not always available when needed and a view of the self as unworthy, unlovable, and not valued (Holmes, 1993; Sroufe, 1988). Negative working models developed in early child-attachment figure relationships are associated with later social skills deficits, less close interpersonal relationships, higher levels of depressive symptoms, and more negative affect in adult romantic relationships (Cooley, Van Buren, & Cole, 2010; Simpson, Collins, Tran, & Haydon, 2007).

Attachment and peer relationships. During adolescence, the attachment needs and behaviours of youth are gradually *transferred* from parents to peers (Allen, 2008; Cassidy & Shaver, 2008; Kerns, Tomich, & Kim, 2006). The attachment relationship changes from being hierarchical in nature in which there is caregiving of one person to another, to peer relationships that involve mutual caregiving and support (Allen & Land, 1999; Cassidy, 2001; Waters & Cummings, 2000). Adolescents' perceptions of their parents as their primary source of support also tends to decrease during this period while peers take more precedence in providing emotional and social support (Helsen, Vollebergh, & Meeus, 2000; Laible, 2007; Laible et al., 2000; Scholte, Van Lieshout, & van Aken, 2001; Stanton-Salazar & Spina, 2005; Wilkinson, 2004). Notwithstanding,

peer relationships in adolescence carry the same attachment characteristics as child-parent relationships (Burhmester, 1992). Peers provide a secure base and safe haven for adolescents to explore and master the environment, are sources of emotional support and comfort during stressful situations, and adolescents display signs of distress when they are separated from their peers (Hazan & Zeifman, 1999). As well, peer relationships help adolescents develop their sense of identity (Blos, 1979) and build their self-esteem (Harter, 2006).

Together, both Huebner's (2009) adaptation of the Double ABC-X Model of Adjustment and Adaptation (McCubbin & Patterson, 1983) and Attachment Theory (Ainsworth, 1982; Bowlby, 1969/1982) emphasize the importance of relationships to individuals' well-being. However, other factors influence the well-being of adolescents; specifically, one's exposure and emotional reactivity to stressors.

Stress exposure and reactivity. Stress models of development have focused on the effects of exposure and reactivity to stressors on individuals' functioning and well-being (McLaughlin et al., 2010; Obradović, Bush, Stamperdahl, Adler, & Boyce, 2010; Rudolph, 2002; Scholtz, 2013). Adolescents who are more frequently exposed to stressors are at increased risk for lower well-being (Grant et al., 2006; Shapero & Steinberg, 2013; Sim, 2000). For example, Herres and Kobak (2015) found that interpersonal stressors were related to the prediction and maintenance of adolescents' depression over a two-year period.

Stress reactivity refers to the disposition that underlies individual differences in the patterns of responses to stressors (Scholtz, 2013). It may explain why some individuals are more vulnerable than others to develop psychopathology in response to

the same stressor. Stress reactivity is assumed to be a stable over time (Scholtz, 2013) and can involve reactivity in a specific response system (e.g., physiology, behavior, cognitive, affective) or reactivity across multiple stress response domains (Scholtz, 2013). The present study focused specifically on the affective stress reactivity system.

Affective reactivity is defined by four main characteristics: (1) the extent to which an individual experiences emotion; (2) the range of stimuli that a person responds to; (3) the intensity of the emotional response; and (4) the duration of arousal before returning to baseline (Nock, Wedig, Holmberg, & Hooley, 2008). Affective reactivity to stressors has been found to increase during adolescence due to the neurobiological changes of the stress response systems (see Spear, 2009, for a review). This in turn, increases some adolescents' risk for internalizing and externalizing issues (Carthy, Horesh, Apter, & Gross, 2010; Charbonneau, Mezulis, & Hyde, 2009; McLaughlin & Hatzenbuehler, 2009; Schneiders et al., 2006; Shapero, Abramson, & Alloy, 2016; Shapero & Steinberg, 2013; Sheeber et al., 2012; Silk, Steinberg, & Morris, 2003). For example, Herres et al. (2016) found that affective reactivity to parent, teacher, and peer stressors were positively related to adolescents' depression. In sum, adolescents are exposed to more stressors and their affective reactivity to stressors increase during this developmental period. The next section focuses on the effects of a unique stressor faced by adolescents from military families – parental deployment.

Military Stressors Part I: Parental Deployment

The term *deployment* refers to discrete events in which military members are sent either alone or with their unit to a particular location to perform a specific military operation (Booth, Segal, & Bell, 2007). Deployments include planned peacekeeping

rotations, overseas tours of duty, and combat and other military-related duties such as training exercises. Notwithstanding, most of the extant research that has examined the influence of temporary military parent separation among adolescents has focused specifically on combat-related deployments (see Alfano et al., 2016; Esposito-Smythers et al., 2011, for reviews). The majority of these studies have focused on traditional families, where the father is the sole military member. In the present research, it was also expected that fathers would represent the primary military parent, although recent statistics indicate that 14.8% of women are members of the CAF (National Defence and Canadian Armed Forces, 2013).

Although deployments result in the military member's physical separation from his or her family, each deployment is not alike. Previous research has suggested that deployment varies on several important factors (Booth & Lederer, 2012; Sheppard, Malatras, & Isreal, 2010; Wiens & Boss, 2006). For instance, each deployment is unique with respect to the theatre of operations, that is, the location of the active military operations that can be either domestic (e.g., flood-control assistance in Manitoba) or international (e.g., Afghanistan). Deployments also differ in their purpose with some deployments involving non-combat operations such as peacekeeping and humanitarian efforts while others are combat-related (e.g., *Operation ATHENA* Phase II in Afghanistan; National Defence and the Canadian Armed Forces, 2013) as well as in the level of danger.

In addition, deployments vary in terms of the amount of notice that is given about the upcoming deployment. Further, depending upon the military mission, deployments can differ in length from a few weeks to more than one year. Within the CAF, most

deployments typically last between six to twelve months (National Defence and the Canadian Armed Forces, 2013). Finally, deployments vary in the level of public support for the mission (Booth & Lederer, 2012). Taken together, the specific characteristics of the deployment may influence how well military families respond and cope with their military members' absence (Wiens & Boss, 2006).

Deployment separation is considered to be a "normative" life stressor for military families, when the military member is sent on a routine, non-combat mission for a clearly defined period of time, and families have enough time to prepare (McCubbin & Figley, 1983). Conversely, deployment separation is considered to be a "catastrophic" life stressor for military families when the military member is deployed under times of crises (such as war), where there is a higher risk of danger, for an undetermined period of time, and the family has less time to prepare. Indeed, military separations that are longer, more frequent, or under combat conditions tend to more challenging for military families (Booth et al., 2007; Kelley, 2002; Rohall et al., 1999; Watanabe & Jensen, 2000; Wiens & Boss, 2006). The present research focused on the *frequency* of deployments on adolescents' well-being; however, it was not possible to obtain information on the type of mission (e.g., combat vs. non-combat).

In order to understand the implications of parental deployment on adolescents' well-being, a discussion of the nature of adolescent-parent relationships is next presented. This is followed by a review of the importance of adolescent-parent relationships to adolescence psychosocial functioning and well-being. Next, the limited research on parental deployment and its effects on adolescent-parent relationships and adolescents' well-being are reviewed.

Adolescent-parent relationships. In adolescence, the child-parent relationship provides a secure base for adolescents to explore and master their environment as well as a safe haven for which they can return to when they are experiencing distress (Steinberg & Morris, 2001). Notwithstanding, child-parent relationships in adolescence undergo transformations that make them distinct from earlier child-parent relationships. For example, adolescents' demonstrations of their strong emotional ties to parents may be in overt forms of interdependence such as self-disclosure with mothers and shared activities with fathers, as well as in more subtle, covert ways including friendly teasing (Collins & Laursen, 2004).

Relevant theories. Conceptual models of child-parent relationships in adolescence to account for these changes differ in their focus on the adolescent or on the relationship (Laursen & Collins, 2009). Those that are focused on the individual suggest that adolescents' biological and cognitive maturation accounts for changes in the child-parent relationship in adolescence. For example, psychoanalytic theory proposed that hormonal changes in puberty produced Oedipal urges that facilitated impulse control problems, anxiety, rebelliousness, and distancing of oneself from the family (A. Freud, 1958; S. Freud, 1921/1949). Later psychoanalytic formulations suggested that adolescents' attempt to individuate from their parents as well as their de-idealization of their parents (i.e., perceptions of parents in negative ways) resulted in a strained child-parent relationship in adolescence (Blos, 1979; Erikson, 1969). Moreover, difficulties between children and parents were exacerbated by adolescents' hormonal fluctuations. Further, it was believed that once pubertal maturation and individuation ceased; typically by late adolescence, conflict (i.e., disagreement and overt behavioural opposition; Shantz, 1987)

between adolescents and parents should subside and a close relationship could be re-established.

Similarly, evolutionary perspectives of the transformations of child-parent relationships in adolescence focused on the role of adolescents' puberty (Hill, 1988; Steinberg, 1989). However, these models suggested that the physical maturation that occurs during adolescence provides the evolutionary pressures for adolescents to move away from their family and look elsewhere for mates. This in turn, is thought to result in increased conflict and reduced closeness between adolescents and parents. Although conflict is expected to decrease over time, the closeness between adolescents and parents may not be re-established.

Finally, maturational models based on adolescents' increased cognitive developments point to increases in abstract and complex reasoning (Piaget, 1932/1965), which fosters adolescents' view of a more reciprocal child-parent relationship (Kohlberg, 1969; Selman, 1980). Increased levels of conflict and lesser emotional closeness between adolescents and parents are thought to occur when parents are unwilling to modify the hierarchical relationship that was developed in childhood into a more egalitarian bond (Selman, 1980; Youniss, 1980). Additionally, these same cognitive advances may increase adolescents' tendencies to view certain issues that were once under parents' prerogative as personal decisions. As such, increased adolescent-parent conflict is expected to occur if parents are unwilling to relinquish some control and encourage adolescents' autonomy (Smetana, 1988).

Identity and self-concept. Parents' unwillingness to encourage their children to strive for greater autonomy and individuate from their parents during adolescence is a

major issue, given that identity formation is one of the hallmarks of this developmental period (Erikson, 1968; Kroger, 2000). Although the identity formation process begins during childhood and continues throughout the life span, it is at the core of adolescence (Erikson, 1968). Identity formation in adolescence entails changes in adolescents' exploration and extent of commitment to new things in the environment in order to achieve their own sense of identity and fit in with the social world. Through a phase of *identity versus role confusion*, adolescents grapple with specific demands placed upon them by society on how they should approach their adult roles, the emergence of new sexual desires, and advancement in cognitive functioning. Adolescents who do not explore alternative identities and make any identity-defining commitments are thought to experience identity diffusion, whereas those who achieve identity status have made a strong commitment to specific identity-defining values based on the exploration of alternative identities (Marcia, 1988).

Secure adolescent-parent relationships have been proposed to foster identity development because adolescents are able to explore their surroundings and return to a secure base to discuss their explorations and experiences (Allen & Land, 1999; Marcia, 1988). Evidence indicates that positive quality adolescent-parent relationships are associated with adolescents' identity status achievement whereas low quality adolescent-parent relationships are associated with adolescents' identity diffusion (Berzonsky & Adams, 1999; Meeus, Oosterwegel, & Villeberg, 2002; Noom, Deković, & Meeus, 1999; Samuolis, Layburn & Schiaffino, 2001; Waterman, 1993; Zimmerman, 2002; Zimmerman & Becker-Stoll, 2002).

Another aspect of adolescents' identity is their self-worth, which undergoes changes during this developmental period (Harter, 2012). Self-worth is a multidimensional construct that becomes more differentiated and organized in adolescence. Adolescents also make both global and domain-specific evaluations of themselves (e.g., athletic competence) (Masten et al., 1995). Adolescents' global self-worth or self-esteem (Harter, 2012) is a person's positive or negative judgements of his or her own worth (Rosenberg, 1985). High self-esteem is characterized by feelings of self-acceptance, self-liking, and self-respect. Conversely, a person with low self-esteem is dissatisfied and rejecting of his/herself. Research has shown that self-esteem is stable and increases slightly during adolescence (Baldwin & Hoffman, 2002; Birkeland, Melkevik, Holsen, & Wold, 2012; Donnellan, Trzesniewski, Conger, & Conger, 2007). There is also some evidence to suggest that adolescent boys experience higher levels of self-esteem than adolescent girls (Derdikman-Eiron et al., 2011; Khanlou, 2004; Kling, Hyde, Showers, & Buswell, 1999; Moksnes & Espnes 2012; Moksnes, Moljord, Espnes, & Byrne, 2010), although some studies have found no gender differences (Erol & Orth, 2011; Laible et al., 2004).

Adolescence is considered to be a particularly important period for the development of self-esteem (DuBois & Tevendale, 1999; McGuire, Neiderhiser, Reiss, Hetherington, & Plomin, 1994), possibly because it reflects how well adolescents are coping and adapting to the physical, socio-emotional, and cognitive changes inherent during this time (Rutter, 1987; Steinberg & Morris, 2001) and managing their new adult roles and responsibilities (Chen & Faruggia, 2002; Petersen & Leffert, 1995). Indeed, self-esteem is considered to be a crucial indicator of general well-being (Shek, 1998).

Adolescents with high self-esteem experience greater life satisfaction, positive mood and happiness, emotional well-being, academic functioning, and engage in healthy behaviours (Gilman & Huebner, 2006; Harter, 1993; Hattie, 1992; Huebner & Gilman, 2006; Neto, 2001; Rosenberg, 1985; Zhang & Leung, 2002). In contrast, low self-esteem among adolescents is concurrently and prospectively linked to increased levels of internalizing (e.g., depression, anxiety) and externalizing problems (e.g., aggression, delinquency), interpersonal difficulties (e.g., loneliness, lower perceived intimate relationship quality), and a range of health-related issues (e.g., substance use, eating disorder) (Boden et al., 2008; Bos, Huijding, Muris, Vogel, & Biesheuvel, 2010; Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; McWhirter, Besett-Alesch, Horibata, & Gat, 2002; Moksnes & Espnes, 2012; Orth, Robins, & Roberts, 2008, Wild, Flisher, Bhana, & Lombard, 2004).

Further, self-esteem in adolescence is the result of the internalization of opinions and expectations about oneself that are made by individuals who are highly regarded (Cooley, 1902; Harter, 2006). Accordingly, parents' opinions and expectations play an important role in predicting adolescents' self-esteem (Harter, 2006). Secure child-parent relationships have been implicated in adolescents' increased level of self-esteem (e.g., Allen & Land, 1999; Boden et al., 2008; Buchanan & Bowen, 2008) (to be discussed in more detail later on).

Stability/changes in relationship qualities. Other conceptual models of child-parent relationships in adolescence that emphasize changes within the dyad, suggest that the quality of child-parent relationships is inherently stable over time (Ainsworth, 1989; Bowlby, 1969; Bretherton, 1985; Weiss, 1982). This is because the child-parent

relationship is based on cognitive representations of a history of interactions between the child and parent. Although the individuation process may elicit increased levels of conflict and lesser feelings of closeness between adolescents and parents, the influence of these changes on the adolescent-parent relationship is presumed to be minimal (Allen & Land, 1999; Smetana, 1996). As such, children and parents with a history of responsive interactions and close emotional ties will maintain a similar relationship in adolescence, whereas those with a history of conflictual child-parent relationships will continue to experience interpersonal difficulties (Allen & Land, 1999; Collins & Laursen, 2004). Indeed, McCormick and Kennedy (1994) found that the quality of relationships with mothers and fathers in childhood displayed stability and continuity with current relationships with each parent in emerging adulthood. More recently, Loeber et al. (2000) reported that positive and negative quality child-parent relationships at age 6 years showed moderate to high levels of stability at age 18 years.

Although there are continuities in the child-parent relationship from early childhood into adolescence (Allen & Land, 1999), there are concurrent changes in terms of the frequency and content of child-parent interactions, displays of both positive and negative emotions during these interactions, and the perceptions and interpretations of both child and parent involved in the interaction (Collins & Russell, 1991). Past studies have demonstrated that the quality of child-parent relationships in adolescence deteriorates (Buist, Deković, Meeus, & van Aken, 2002; Holmbeck, 1996; Papini, Roggman, & Anderson, 1991; Patterson et al., 1994). Larson et al. (1996) conducted a longitudinal study of the frequency of adolescents' interactions with their parents. Adolescents were asked to report the amount of time they spent with their parents for one

week at Time 1 (preadolescence; 10 to 14 years) and at Time 2 (late adolescence; 13 to 18 years). Results indicated that the amount of time adolescents spent with their parents decreased from 35% to 14% from Time 1 to Time 2. Moreover, compared to younger children, adolescents have been found to report less trust, communication (Nickerson & Nagle, 2005), companionship, and intimacy with parents (Buhrmester & Furman, 1987). As well, both adolescents and parents reported more instances of negative emotions and lesser frequency of positive emotions compared to preadolescent children and parents (Steinberg & Silk, 2002).

Mothers vs. fathers and child gender. There is inconsistent evidence on whether the quality of adolescent-parent relationships is influenced by both the gender of adolescents and their parents. Some studies have found no systematic differences between the quality of adolescent-mother and adolescent-father relationships (based on adolescent reports) (Arbona & Power, 2003; Lapsley, Rice, & FitzGerald, 1990; McCormick & Kennedy, 1994). Conversely, other results have indicated that adolescents share higher quality relationships with their mothers as compared to their fathers (Buist et al., 2002; Paterson et al., 1994; Steinberg & Silk, 2002).

In terms of the influence of adolescents' gender, some studies have found no difference between adolescent girls' and boys' relationships to their parents (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990; Lapsley et al., 1990; Raja et al., 1992). However, there is also evidence to suggest that adolescent girls tend to spend more time with their parents (Larson et al., 1996), disclose more information about themselves to their parents (Stattin & Kerr, 2000), and report higher quality relationships (Buist et al., 2002; Paterson et al., 1994) compared to boys.

Interestingly, when taking into account both the gender of the adolescent and parent, research has shown that although sons and daughters report similarly warm relationships with mothers, sons report closer relationships with fathers compared to daughters (Stattin & Kerr, 2000). Wilkinson (2006) reported that maternal attachment was more strongly associated with indices of well-being among adolescent girls, whereas paternal attachment was more strongly associated with adolescent boys' outcomes. Rates of conflict also tend to increase in same-sex adolescent-parent relationships (Buist et al., 2002; Laursen & Collins, 1994). Taken together, since there appears to be gender effects in the literature on quality of child-parent relationships in adolescence, both the gender of the adolescent and parent will be considered in the analyses. However, it is worth noting that gender effects in the child-parent relationship in adolescence were not a central focus of the present study.

Adolescent-parent relationships and well-being. According to attachment theory (Bowlby, 1973, 1980), adolescents' relationships to parents are an important contributor to adolescents' psychological well-being (Laible, 2007). As discussed earlier, adolescents who experience a sensitive, accepting, and supportive caregiver in infancy are more likely to develop an internal working model that they are worthy of being cared for and that others are supportive. This in turn, provides adolescents with a positive self-regard (Bowlby, 1973).

On the other hand, adolescents who experience an insensitive and unsupportive caregiver in infancy are more likely to perceive others as unreliable and untrustworthy. As a result, they tend to feel rejected and are more likely to have lower self-esteem (Cummings & Cicchetti, 1990). Low self-esteem in adolescence is particularly

worrisome given that it reflects that adolescents are not adapting to the changes that occur during this period (Petersen & Leffert, 1995; Rutter, 1987) and is concurrently and prospectively linked to greater internalizing and externalizing problems, interpersonal difficulties, and health-related issues (e.g., Boden et al., 2008; Donnellan et al., 2005; Orth et al., 2008).

Indeed, it is well established in the extant literature that adolescent-parent relationships that are characterized as close, supportive, involving mutual trust, and positive quality communication are associated with adolescents' increased self-esteem (Armsden & Greenberg, 1987; Buchanan & Bowen, 2008; Hay & Ashman, 2003; Holahan et al., 1995; Laible et al., 2000; Laursen & Collins, 2009; McCormick & Kennedy, 1994; Raja et al., 1992; Rosenberg, 1965; Ryan, Stiller, & Lynch, 1994). For example, Parker and Benson (2004) reported that adolescents' perception of closeness with parents is associated with adolescents' increased self-esteem. As well, adolescents who perceived their parents as supportive reported higher levels of self-esteem as compared to adolescents who perceived no parent support (Khanlou, 2004).

Previous research has also shown that adolescents with a secure child-parent relationship tend to have fewer internalizing difficulties (e.g., anxiety, depression, somatic complaints) as compared to their counterparts with insecure child-parent relationships (Aquilino & Supple, 2001; Aseltine et al., 1998; Muris & Meesters, 2002; Muris, Meesters, & van den Berg, 2003; Muris, Meester, van Melick, & Zwambag, 2001; Rönnlund & Karlsson, 2006). Adolescents with secure parent relationships are also more prosocial and express more positive affect as compared to adolescents with less secure relationships (Laible, 2007). They tend to display higher levels of self-efficacy (Arbona

& Power, 2003; Thompson, 1999), life satisfaction (Armsden & Greenberg, 1987; Ma & Huebner, 2008; Nickerson & Nagle, 2004), and academic performance (Bell, Allen, Hauser, & O'Connor, 1996; Cutrona, Cole, Colangelo, & Assouline, 1994). As well, positive quality child-parent relationships in adolescence characterized by parental support predict lower levels of depression, psychological disorders, and externalizing behaviour problems among adolescents (Aseltine et al., 1998; McLoyd, 1990).

Additionally, there is some evidence to suggest that insecure child-parent relationships in adolescence are risk factors for drug and alcohol use (Allen, Moore, Kuperminc, & Bell, 1998; Howard & Medway, 2004) and externalizing behaviour problems such as aggression and delinquency (Laible, 2007; Laible et al., 2000; Muris et al., 2003; Rönnlund & Karlsson, 2006; Simons, Paternite, & Shore, 2001). Adolescents with insecure parent attachments reported more interpersonal difficulties compared to adolescents with secure parent attachments (Scott Brown & Wright, 2003). High levels of alienation (i.e., adolescents' feelings of isolation, anger, and detachment in child-parent relationships; Armsden & Greenberg, 1987) in the child-parent relationship in adolescence increased adolescents' risk for depressive symptoms (Milne & Lancaster, 2001; Muris et al., 2001). High levels of child-parent conflict in adolescence are also associated with poorer adolescent well-being (Cole & McPherson, 1993; Crouter, Bumpus, Maguire, & McHale, 1999). For example, Caughlin and Malis (2004) found that high levels of demand/withdraw conflict between adolescents and parents were related to adolescents' lower self-esteem and increased drug and alcohol use.

There is some research that has examined the separate influence of child-mother and child-father relationships on adolescents' well-being. For example, high levels of

support in both adolescent-mother and adolescent-father relationships are related to adolescents' better well-being and fewer rates of delinquency (Hair, Moore, Garrett, Ling, & Cleveland, 2008). Similarly, positive relationship quality with mothers and fathers are each independently associated with adolescents' increased self-esteem (Caldwell, Beutler, Rose, & Silver, 2005; Kenny, Lomax, Brabeck, & Fife, 1998; McCormick & Kennedy, 2000; Noom et al., 1999; Paterson et al., 1995). For example, Bulanda and Majumdar (2009) examined the links among mother and father availability, involvement, and quality of child-parent relationship in adolescence and adolescents' self-esteem. Results indicated that greater mother and father availability, involvement, and higher quality relations were each independently and positively associated with adolescents' self-esteem. As well, significant interactions were found between parents' involvement and quality relations in that, the positive association between one parent's involvement and quality of child-parent relationship in adolescents' self-esteem became stronger when the second parent was high in involvement and quality of child-parent relationship.

Taken together, the extant research on child-parent relationships in adolescence demonstrates that this relationship undergoes considerable transformations during this developmental period. Adolescents have independent quality relationships with different parents and the nature of this relationship is also influenced by adolescents' gender. Moreover, the quality of adolescent-parent relationships has implications for adolescents' well-being. It is therefore important to explore how children respond and cope with temporary *absences* from their parents.

Parent-child separation. The impact of parental separation due to deployment on adolescents' parent relationships can be understood from an attachment perspective (Riggs & Riggs, 2011). Attachment theorists have long observed that children react strongly to perceived or actual separation and persistent separation of their primary attachment figure (Bowlby, 1973; Heinicke & Westheimer, 1966). This was first documented in young children who were placed in residential hospitals or nurseries, which resulted in parental separation lasting at least one week (Bowlby, Robertson, & Rosenbluth, 1952). Children were observed to display sadness and increased signs of hopelessness that their parents would return. Some children became more withdrawn from people and their environment while others exhibited more hostile behaviour towards play objects and their peers. Moreover, older children and adults have been found to similarly display anxiety, anger, and sadness in response to prolonged absences, emotional disengagement, and signs of rejection or abandonment from the attachment figure (Bowlby, 1973; Kobak, 1999; Weiss, 1975). Previous research on the effects of parent-child separation because of military deployment has been limited. However, results from research examining the consequences of other types of parent-child separations, including divorce, migration, and fly-in/fly-out families may offer some relevant postulations (Rodriguez & Margolin, 2015).

Divorce. Consistent with attachment theory, adolescents and adults who experienced parental *divorce* in childhood reported a lower quality attachment, less closeness, and having more interpersonal difficulties with their parents compared to adults who grew up in stable, non-divorced families (Amato & Booth, 1996; Amato & Keith, 1991; Booth & Amato, 1994; Hetherington & Clingempeel, 1992; Kaufman &

Uhlenberg, 1998; Woodward, Ferguson, & Belsky, 2000). In a prospective longitudinal study that followed children from New Zealand from birth to age 16 years, it was found that the younger children were at the time of parental divorce, the less maternal and paternal affection they perceived in adolescence (Woodward et al., 2000). In addition, following custody arrangements, adult children reported a strained relationship with their nonresidential parent (Aquilino, 1994; Cooney & Uhlenberg, 1990; Rossi & Rossi, 1990).

Previous research has further demonstrated that following a divorce, children with a positive attachment to their parents experienced a sense of emotional security, less fear of abandonment (Sandler, 2001; Wolchik, Tein, Sandler, & Doyle, 2002), and support to cope with the stressors associated with divorce (Kelly & Emery, 2003). Additionally, children with a close relationship with their nonresidential father experience positive well-being (Amato & Gilbreth, 1999; White & Gilbreth, 2001). These findings suggest that although the parent is physically unavailable to the child because they reside in different houses, the maintenance of a close relationship is still possible. Moreover, given evidence that short-term separations from caregivers are distressing (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969/1982; Kobak, 1999), Adam and Chase-Landsdale (2001) reasoned that a history of frequent separations from or losses of mothers and fathers would be particularly devastating to adolescent girls' adjustment. Adjustment was measured in terms of the levels of internalizing and externalizing problems, school grades, and teen sexual activity. Results indicated that more frequent separations from mothers and fathers were associated with higher levels of externalizing behaviours, teen sexual activity, and lower school grades.

Migration. Another instance in which parental separation takes place is where parents *migrate* to another country temporarily for employment or permanently, leaving the children behind. The lack of parental physical and emotional closeness due to migration has been implicated in children's relationship difficulties with parents (Graham & Jordan, 2011; Valtolina & Colombo, 2012). As well, Caribbean adolescents who were separated for years from their parents who immigrated without them felt more detached and psychologically and emotionally distant from their parents (Glasgow & Ghouse-Shees, 1995). Similarly, in a retrospective study of adults who experienced parental separation due to immigration, Smith et al. (2004) found that adults reported a lower quality child-parent relationship in terms of identifying with and conforming to the parents' demands and level of family cohesion.

Compared to children from non-migrant families, children who have been separated from their parents for six months due to migration experienced greater psychological and emotional stress, feelings of abandonment, anxiety, depressive symptoms, and low self-esteem and were more likely to engage in substance abuse and suicidal behaviour (see Valtolina & Colombo, 2012 for a review). They tended to do poorly in school, have more conflictual relationships with teachers and peers, and were more likely to drop-out from school.

Fly in/fly out. Finally, past research on *fly in/fly out families* (FIFO) provides another context that can elucidate the impact of parental separation on child-parent relationships (Beach, 1999). FIFO employment involves working in a remote location for a fixed number of days followed by a fixed number of days at home. Although lodging and food are provided for workers, they are not allowed to bring their families

with them (Storey, 2001), which result in child-parent separation. MacBeth, Kaczmarek, and Sibbel (2012) conducted one-on-one interviews with Australian adolescent boys whose fathers had FIFO employment with the mining industry. The fathers' work schedule that was common to most adolescents included two weeks away/one week home, four weeks away/two weeks home, seven weeks away/one week home, and three months away/one month home. Adolescents were asked to describe their child-father relationship both when he was home and away and whether the fathers' absence influenced adolescents' relationship with the at-home parent.

In terms of adolescents' relationships with their fathers when he was home, they unanimously reported a positive child-father relationship. Adolescents believed their relationships became stronger because of their fathers' FIFO employment. Specifically, they reported that their fathers were not distracted by work when he was home and thus, they were able to spend more time interacting together. In terms of the child-parent relationship when fathers were away, adolescents reported that staying in contact helped provide a sense of security and maintain a healthy relationship with their fathers. Moreover, they noted that during their fathers' absence, their at-home parent had extra responsibilities and experienced greater loneliness and stress. This resulted in strained relationships for a few adolescents and their at-home parents that were characterized by more arguments and fights. Additionally, it was found that adolescent boys reported feeling worried and stressed over their fathers' safety when they working in the mines.

In sum, parental separation due to divorce and work-related absences place a strain on child-parent relationships in adolescence and on adolescents' well-being. Unlike adolescents from divorced families and those from civilian families whose parents

travel for work, adolescents from military families are faced with the possibility of frequent separations as well as the risk of injury or death of their parent.

Effects of parental deployment. For military families, deployment separates the military member from his/her family. Families experience disorientation and disorganization as they try to adjust to new routines, additional roles and responsibilities, and changes within the family dynamic (Pincus, House, Christianson, & Adler, 2001; Tollefson, 2008). The following sections review the research on the influence of deployment on adolescent-parent relationships and adolescents' well-being.

Deployment and adolescent-parent relationships. It has been proposed that parental deployment has a negative effect on the quality of the child and military parent attachment relationship (Kelley, 2002; Lowe, Adams, Brown, & Hinkle, 2012; Paley et al., 2013; Palmer, 2008). When the military parent is absent during deployments, they are less accessible and able to respond to the child's needs during stressful situations. As well, given that frequent parental separation is the norm in military families, the child may be less likely to perceive the military parent as a reliable source of comfort and support to venture and explore the environment or turn to when distressed (Schaetti, 2002). Children's attachment system may also be chronically activated because they fear that at any moment their military parent could receive notice that she or he is being deployed on a combat-related mission (Paley et al., 2013). Further, the constant threat of parental separation is exacerbated by the fact that the deployed parent's safety is at risk.

Moreover, there may be fewer opportunities for the child to communicate with the military parent who is away on deployment. A few studies have examined the adolescent-military parent interaction in terms of the frequency, content, and quality of

communication during deployment (Chandra, Burns, Tanielian, Jaycox, & Scott, 2008; Huebner & Mancini, 2005; Huebner et al., 2010). For example, Wong and Gerras (2010) found that adolescents who communicated with their deployed parent several times a week reported higher levels of stress compared to adolescents who maintained weekly or monthly communications. As well, adolescents who reported "engaged" or "somewhat engaged" communication with the deployed parent reported lower stress levels than adolescents who reported "shallow" communication. However, adolescents who reported "deep" communication reported higher levels of stress compared to those who reported "engaged" or "somewhat engaged" communication. Wong and Gerras speculated that although more frequent communication could result in greater stress, adolescents who are experiencing higher levels of stress may be more likely to communicate with their deployed parent to obtain emotional support and help to resolve their problems.

Additional evidence that the adolescent-military parent attachment is affected by separation is derived from focus groups with adolescents who reported that they felt a sense of loss because the military parent was unable to provide security and support (Huebner, Mancini, Wilcox, Grass, & Grass, 2007; Knobloch, Pusateri, Ebata, & McGlaughlin, 2012). For example, adolescents reported missing their deployed parents during routine, everyday activities such as helping with homework and eating dinner together (Huebner et al., 2007) as well as during momentous occasions such as graduation and high-school prom (Knobloch et al., 2012; Mmari et al., 2010).

Researchers have also examined whether the absence of the military parent affects the quality of the child and *at-home* parent attachment relationship. Riggs and Riggs (2011) suggested that the impact of the military parents' absence is attenuated if children

and adolescents have a secure attachment relationship to the at-home parents. Huebner and Mancini (2005) found evidence for a positive quality relationship between adolescents and the at-home parents during deployment. Specifically, focus groups with adolescents revealed that deployments provided the opportunity for adolescents to spend more time with the at-home parents, which led to a more satisfying relationship. As well, some adolescents reported that their at-home parents were supportive and helped them cope with their military parents' absence.

Notwithstanding, there is evidence to suggest that the adolescent and at-home parent relationship becomes more strained when the other parent is deployed (Huebner & Mancini, 2005; Huebner et al., 2010; Huebner et al., 2007; Kelley, 1994; Knobloch et al., 2012). In particular, adolescents noted changes in their at-home parents' behaviours and emotions, which affected their relationship (Chandra et al., 2008; Huebner & Mancini, 2005; Huebner et al., 2010; Huebner et al., 2007). For example, adolescents have described their at-home parent as having a "shorter fuse" or being much more "snappy" than usual (Huebner & Mancini, 2005). They appeared to be less tolerant and more likely to respond with anger when adolescents misbehaved (Huebner et al., 2010). The number of disagreements or fights between adolescents and the at-home parents also increased during deployment (Huebner & Mancini, 2005; Huebner et al., 2010). Taken together, the evidence suggests that parental deployment affects adolescents' relationships with both the military parent as well as the at-home parent.

Deployment and adolescent well-being. As described earlier, Bowlby et al. (1952) observed children's negative reactions to parental separation. Similarly, adolescents from military families respond negatively to combat deployment-induced

parent separations. During deployment, adolescents experienced fear and worry over the deployed parents' safety (Andres & Moelker, 2010; Cozza, Chun, & Polo, 2005; Crow & Seybold, 2013; Huebner et al., 2007; Mmari et al., 2010; Richardson et al., 2011). As well, deployments are associated with adolescents' increased levels of internalizing and externalizing problems (Aronson & Perkins, 2013; Huebner & Mancini, 2005; Huebner et al., 2010; Huebner et al., 2007; Lester et al., 2010; Mmari et al., 2009; Richardson, Mallette, O'Neal, & Mancini, 2016). Compared to adolescents from civilian and non-deployed military families, adolescents from deployed military families also experienced greater thoughts of suicide and lower quality of life (Aranda, Middleton, Flake, & Davis, 2011; Reed, Bell, & Edwards, 2011). Furthermore, they reported more feelings of sadness, loneliness, and abandonment (Chandra, Martin et al., 2010; Huebner & Mancini, 2005). Reports from at-home parents also indicated that adolescents became upset more easily and appeared to enjoy typical activities less when the military parent was deployed (Chandra et al., 2008).

A few studies have also focused on the relation between *frequency* of parental deployment and adolescents' adjustment with inconsistent results (Chandra et al., 2008; Crow & Seybold, 2013; Wong & Gerras, 2010). For example, Chandra et al. (2008) found that among adolescents who attended Operation Purple Camp (a summer camp for children whose military parents were deployed on combat missions to Afghanistan and Iraq), the frequency of deployments was significantly related to adolescents' emotional and behavioural difficulties (as reported by caregivers), but not related to the level of worry (as reported by the child). Another study found that frequency of deployments was positively associated with the frequency of adolescents' reports of anger (Crow &

Seybold, 2013).

Wong and Gerras (2010) assessed the stress level of adolescents who had a parent currently deployed from both the perspectives of both the deployed parents and the adolescent. From the perspective of the deployed parent, frequency of past deployment was significantly associated with adolescent stress during a current deployment. However, from the adolescents' perspective, frequency of deployments was not significantly related to deployment stress. The authors speculated that this discrepancy could be related to deployed parents not being aware that their children had adjusted to their continuous absences and may have learned adaptive coping strategies along the way. Most recently, military spouses reported that frequency of deployments was positively associated with children and adolescents' behavioural problems (McGuire et al., 2016). The overall findings suggest that exposure to frequent deployments is associated with adolescents' lower well-being. However, this association appears to be influenced by the perspectives of adults and adolescents.

In sum, the extant research demonstrates that the lack of physical and emotional availability, lack of support, and threat of losing the military parent that are inherent in parental deployment could put a strain on the quality of the adolescent-military parent relationship. As well, parental deployment affects the quality of the adolescent-at-home parent relationship. Positive relations between adolescents and at-home parents during the deployment could attenuate the influence of deployment on adolescents' functioning while negative relations could exacerbate it. Moreover, the absence of the military parent has substantial implications for adolescents' psychological and behavioural functioning. Lastly, exposure to frequent deployments appears to negatively impact adolescents' well-

being.

Military Stressors Part II: Residential Relocation

Another unique demand of the military lifestyle that adolescents in military families encounter is residential relocation (Booth & Lederer, 2012). This typically entails the entire family relocating to a new environment (either nationally or internationally) because the military member has either a promotion or career opportunity, training or duty-related assignment to complete, or is asked to fill a priority vacancy (Burrell, 2006; Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014). Compared to relocation among civilian families, military families typically have less control over the location, length, frequency, and time of year they are relocated (Aronson, Caldwell, Perkins, & Pasch, 2011; Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014; Pittman & Bowen, 1994). Indeed, evidence from US research indicates that on average, military families relocate more often and over longer distances as compared to civilian families (Hosek, Asch, Fair, Martin, & Mattock, 2002). A recent study conducted in Canada by the Department of National Defence on N = 370 Regular Force military members from ten CAF bases found that military families relocated three times more frequently as civilian families (Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014).

Although relocating is part of the military lifestyle (Booth & Lederer, 2012), it is considered to be a major source of stress for military families (Burrell, 2006). Gaylord and Symons (1986) characterized relocation as a multi-stage process, including: (1) pre-move or preparatory; (2) actual move and early post-move; (3) post-move crisis; and (4) post-move adjustment, with individuals responding with a range of emotions at each

stage. In the *pre-move* stage, individuals may feel overwhelmed and experience mood fluctuations. The *actual move* and *early post-move* typically spans three months and individuals may experience feelings of both excitement and anxiety. The *post-move crisis*, which occurs around three to six months, is when the reality of the move sets in and individuals feel isolated and depressed. These feelings may be heightened and last a longer period of time if individuals do not receive any support or intervention to cope. In the *post-move adjustment* stage, individuals are likely to adjust to their new location. However, this adjustment period may take up to two years. Although this model provides an understanding of what individuals may go through before, during, and after relocating, it does not take into account that for military families, moving is frequent in which the post-move adjustment period typically gives way to the pre-move stage (Burrell, 2006).

Relocation has been found to influence almost every facet of military families' lives, including their well-being, financial status, spouses' employment, and military members' intention to remain in the military (Burrell, 2006). Relocation presents considerable challenges for military families because they may be geographically isolated from their families and friends, must develop new social relationships, adapt to the new environment, and find services and resources in their new community (Burrell et al., 2006; Segal, 1986). These effects are compounded when military families experience frequent relocations (Drummet et al., 2003; Palmer, 2008).

Despite the evidence that frequent relocation is a stressor for military families (Burrell, 2006; Burrell et al., 2006), there has been limited previous research on its influence on adolescent well-being. Relocation is thought to be particularly difficult for adolescents because they are uprooted from their peer relationships, which provide

sources of emotional and instrumental support (Buhrmester & Furnam, 1986; Laible, 2007), and help adolescents individuate from their parents and find their sense of identity (Blos, 1979). In order to understand the implications of residential relocation on adolescents in military families, a discussion of the nature of peer relationships in adolescence is presented, followed by importance of peer relationships to adolescence psychosocial functioning and well-being. Next, the limited research on residential relocation in the military and its effects on adolescents' peer relationships and well-being is reviewed.

Peer relationships in adolescence. Peer relationships in adolescence may occur in dyads, cliques (i.e., small groups that vary in closeness, duration, and affection), and crowds (i.e., large number of peers with shared interests that spend time together) (Brown, 1999; Furman & Simon, 1998; Rubin, Bukowski, & Bowker, 2015). Adolescents' peer relationships differ from those formed in earlier childhood in terms of spending more time with opposite sex individuals, exploring one's sexuality, and in the capacity to provide mutual comfort (Gorrese & Ruggieri, 2012). As well, peer relationships in adolescence involve less adult control and intervention and are more likely to include opposite sex individuals (Brown & Klute, 2003). Additionally, they are characterized by greater self-disclosure, which promotes adolescents' understanding and awareness of themselves and their own and others' interpersonal relationships (Furnam & Buhrmester, 1985; Parker & Gottman, 1989; Van Lieshout, Cillessen, & Haselager, 1999; Zarbatany, McDougall, & Hymel, 2000).

Relevant theories. Several theories have been postulated to account for the dependency on peers that occur during adolescence. Historically, psychoanalytic

theorists (e.g., Blos, 1979; Douvan & Adelson, 1966; A. Freud, 1952) suggested that adolescents establish peer relationships because they are experiencing intrapsychic turmoil. Specifically, adolescents turn to peers for support and companionship to overcome sexual and aggressive urges and ultimately, their Odepial feelings that were revived during hormonal changes at puberty. In addition, Blos (1979) proposed that through a process of individuation, adolescents achieve a sense of individuality to become adults by shifting their dependency from their parents to their peers. As well, Blos suggested that attachment relationships to peers serve a number of purposes in adolescence, including: (1) helping adolescents' resolve internal conflicts without judgement and provoking anxiety and feelings of guilt; (2) fostering adolescents' identity development based primarily on athletic and social competencies; (3) providing support for coping with social situations, particularly those involving heterosexual behaviours and relationships; and (4) providing honest and critical feedback about adolescents' behaviour and attributes.

From a different perspective, Sullivan (1953) suggested that five social needs emerge from infancy through to adolescence, including tenderness, co-participation in playful activities, acceptance by others, interpersonal intimacy, and sexual contact. Specific individuals (i.e., parents, peers, same-sex best friends, and opposite-sex partners) meet each social need, in both a consecutive and cumulative manner. Accordingly, peers meet adolescents' social needs for intimacy and sexual contact. Building upon Sullivan's work, other scholars have postulated that peer relationships in adolescence fulfill a number of social provisions (Erdley, Nangle, Newman, & Carpenter, 2001). These include providing instrumental aid, companionship, nurturance as well enhancing others'

self-worth (Buhrmester & Furman, 1986; Furman & Robbins, 1985).

Role of child gender. Previous research has shown that the quality of adolescents' peer relationships may differ for boys and girls (Cross & Madson, 1997; Henrich, Sidney, Kuperminc, Zohar, & Leadbeater, 2001; Ma & Huebner, 2008). For example, Ikiz and Cakar (2010) found that adolescent girls perceived more social support from their peer relationships compared to adolescent boys. As well, adolescent girls reported more positive quality peer relationships compare to adolescent boys (Gullone & Robinson 2005; Henrich et al. 2001; Raja et al., 1992; Richards, McGee, Williams, Welch, & Hancox, 2010). Specifically, adolescent girls reported greater trust and deeper communication with their peers as compared to adolescent boys (Gullone & Robinson, 2005; Ruijten, Roelofs, & Rood, 2011; Song, Thompson, & Ferrer, 2009). Adolescent girls also disclose more personal information to their peers than adolescent boys (Rose & Rudolph, 2006).

However, Nelis and Rae (2009) did not find any gender difference in the security of adolescents' peer relationships. In terms of gender differences in alienation in adolescents' peer relationships (i.e., adolescents' feelings of isolation, anger, and detachment in peer relationships; Armsden & Greenberg, 1987), the findings are not consistent (e.g., Ruijten et al., 2011; Song et al., 2009). Some studies have shown that adolescent boys report feeling more alienated in their peer relationships than girls (Gullone & Robinson, 2005; Lapsley et al., 1990), whereas Song et al. (2009) found that adolescent girls felt more alienated than boys. However, the majority of studies did not find any gender difference (Muris, Meesters et al., 2001; Ruijten et al., 2011; San Martini et al., 2009). Given the extant findings of possible gender effects in the quality of

adolescents' peer relationships, the role of gender was also examined in the present study. However, it is worth noting that gender effects in adolescents' peer relationships the child-parent were not a central focus of the present study.

Peer relations and well-being. Self-esteem in adolescence is the result of the internalization of opinions and expectations about oneself that are made by individuals who are highly regarded (Cooley, 1902; Harter, 2006). One such important source for adolescents' self-esteem is derived from their peers' opinions and expectations (Harter, 2006). Just as child-parent relationships in adolescence influence adolescents' well-being, the quality of adolescents' peer relationships has an independent effect on their well-being (Sabetelli & Anderson, 1991). Similar to secure adolescent-parent relationships, peer relationships that are of a positive quality (e.g., involving trust, quality communication) provide adolescents with a sense of feeling needed and valued, that in turn, enhances their self-esteem (Black & McCartney, 1997; Deković & Meeus, 1997; Fass & Tubman, 2002; Hirsch & DuBois, 1991; Hoffman, Levy-Shiff, & Ushpiz, 1999). For example, Khanlou (2004) found that adolescents who perceived their peer relationships as supportive reported higher levels of self-esteem compared to adolescents with less supportive peers. Research by Wilkinson (2004; Wilkinson & Kraljevic, 2004) reported that quality of adolescents' peer attachment was positively related to adolescents' self-esteem.

In addition, adolescents with more positive peer relationships tend to experience fewer psychological problems, less loneliness, and perceive more peer acceptance (Bagwell, Newcomb, & Bukowski, 1998; Holahan, Valentiner, & Moos, 1996; Newcomb, Bukowski, & Pattee, 1993). Buchanan and Bowen (2008) found that

adolescents who perceived greater support from peers and satisfaction with their peer relationships reported higher psychological well-being. Secure peer relationships in adolescence are associated with greater emotional and social competence (Laible, 2007). Research has also shown that adolescents with secure peer relationships experienced lower levels of depression and anxiety (Laible et al., 2000; Nelis & Rae, 2009) and greater perceived life satisfaction than adolescents with insecure peer attachments (Ma & Huebner, 2008).

Adolescents with more supportive peer relationships also experience lower rates of depression, suicidal ideation (Kerr, Preuss, & King, 2006), and anxiety (La Greca & Lopez, 1998) compared to those with less peer support. Additionally, supportive peer relationships are associated with greater emotional well-being and lower levels of emotional distress (Wentzel, 1998; Wentzel, Barry, & Caldwell, 2004). Stewart and Suldo (2011) found that peer support was negatively associated with externalizing problems. Moreover, adolescents with poor quality relationships with peers are at risk for later physical and relational aggression in their romantic relationships (Linder & Collins, 2005).

However, not all studies have found an association between quality of peer relationships and adolescents' well-being. For example, Wilkinson and Walford (2001) compared adolescents' quality of peer attachment, child-parent attachment, and adolescents' psychological well-being (life satisfaction, happiness, positive affect) and distress (anxiety negative affect). It was found that quality of adolescents' peer relationships was not significantly related to their psychological well-being or distress, controlling for adolescents' level of extraversion, neuroticism, and frequency of pleasant

and unpleasant events. Similarly, Wilkinson (2010) found that adolescents' quality of peer relationships was not significantly associated with levels of depression and self-esteem.

In sum, the extant research shows that peer relationships provide adolescents with support and help them through the individuation process. Positive quality peer relationships also predict higher levels of adolescents' self-esteem. As well, there is some evidence to suggest that adolescent girls may have more positive peer relationships than adolescent boys. Given that adolescence is an important period for the formation of attachment with peers and peer relationships influence adolescents' well-being, it may be that adolescents who relocate experience more well-being issues (Booth & Lederer, 2012; Bradshaw et al., 2010; Shaw, 1979).

Effects of relocation. Unlike parental deployment which separates the family from the military member, residential relocation separates the entire family unit from their current community. It uproots families from their familiar surroundings and supportive networks (Anderson, Leventhal, & Dupéré, 2014; Drummet et al., 2003). For adolescents, relocation poses a threat to their school functioning and social relationships (Anderson, Leventhal, Newman, & Dupere, 2014; Bradshaw et al., 2010; Drummet et al., 2003; Jelleyman & Spencer, 2008; Pittman & Bowen, 1994; Oishi & Schimmaker, 2010). The following sections review the research on the influence of relocation on adolescents' peer relationships and adolescents' well-being.

Relocation and peer relationships. Evidence from civilian-related research indicates that adolescents who relocate tend to experience more difficulties having and maintaining long-term peer relationships (Oishi & Schimmaker, 2010). As compared to

younger children in these circumstances, it is also more challenging for adolescents to develop new peer relationships (Brett, 1982) and they tend to have less close peer relationships (Vernberg, 1990). As well, adolescents report experiencing higher levels of social rejection after they relocate (Vernberg, 1990; Vernberg, Ewell, Beery, & Abwender, 1994) and are more likely to be on the periphery of peer social networks (Haynie & South, 2005). Moreover, adolescent girls have been found to experience more stress leaving old friends and making new friends as compared to boys (Orthner, Giddings, & Quinn, 1987) - perhaps because girls tend to place more emphasis and value on social relationships (Brown & Orthner, 1990).

Similar results have been found with adolescents from military families who have relocated. For example, adolescents from military families reported that relocating was stressful because they lost old friendships and had to develop new ones (Darnauer, 1976; Leitzel, Charlton, & Jeffreys, 1997). One qualitative study of adolescents from military families who experienced relocation, it was found that according to adolescents, their parents, and school staff from military bases, relocation interfered with their abilities to obtain social support from their established peer relationships (Bradshaw et al., 2010). Another qualitative study found that adolescents reported that the most stressful aspects of relocation were leaving their friends behind and developing new friendships at their new location (Mmari et al., 2010).

It has also been suggested that children who are *frequently* uprooted from their home and relocated to a new environment are particularly likely to experience difficulties establishing new interpersonal relationships, negotiating new social relationships, and joining social activities at school that are already underway (Oishi, Krochik, Roth, &

Sherman, 2012). For example, Orthner, Giddings, and Quinn (1987) focused on the influence of relocation frequency on the peer relationships of adolescents from military and civilian families. Results indicated that adolescents from military families moved twice as often as adolescents from civilian families. In addition, adolescents from military families reported more difficulties leaving their old friendships and making new friends following the relocation than adolescents from civilian families. Conversely, Finkel et al. (2003) did not find any association between adolescents' peer relationships and frequency of relocation.

Relocation and well-being. For adolescents from civilian families, relocation is a stressful adjustment period, beginning before the move occurs and continuing for some time afterwards (Cornille, 1993). Stokols and Shumaker (1982) proposed that relocating taxes or exceeds individuals' coping capacities, which in turn, negatively affects their psychosocial functioning. Further, it has been suggested that relocating frequently is likely to have negative consequences because there is a "loss of credentials" with each successive move (Seidenberg, 1973). That is, each move involves leaving behind past interpersonal successes and proving oneself in a new environment, which can be emotionally and psychologically tiresome. With increased number of moves, individuals become too exhausted to invest the time and energy to form new "credentials" that they become withdrawn from their surroundings and are more likely to experience low well-being.

Indeed, there is evidence that as compared to their counterparts with more stable residence locations, adolescents who move more *frequently* tend to experience more emotional and mental health issues including suicide (Anderson et al., 2014; Qin,

Mortensen, & Pedersen, 2009; Simpson & Fowler, 1994), behavioural problems (Anderson et al., 2014; Simpson & Fowler, 1994), physical health problems (Busacker & Kasehagen, 2012), school-adjustment difficulties, and lower academic performance (Norford & Medway, 2001; Temple & Reynold, 1999). For example, a review by Jelleyman and Spencer (2008) revealed that adolescents who moved three or more times in their lifetime had higher levels of depression, engaged in higher rates of premarital sexual behaviour, and had more premarital teenage pregnancies as compared to adolescents who moved less frequently. As well, Hendershott (1989) found that adolescents who moved five or more times reported lower levels of self-esteem compared to those who moved less frequently.

Brown and Orthner (1990) examined the associations among relocation frequency and adolescents' well-being including self-esteem, alienation, depression, and life satisfaction. It has been suggested that multiple moves could affect adolescents' well-being by disrupting the maintenance of their peer relationships, which are important sources of social support (Crockett, Petersen, Graber, Schulenberg, & Ebata, 1989). Results indicated that among boys, relocation frequency was associated with well-being. However, among girls, more frequent moves were associated with less life satisfaction and depression was positively associated with relocation frequency. It was postulated that adolescent girls may need more time to develop meaningful interpersonal relationships compared to adolescent boys because of the value they place on social interactions.

Further, there are long-term implications associated with residential relocation in childhood (Dong et al., 2005). For example, Oishi and Schimmack (2010) demonstrated

that children who experienced 11 or more residential moves reported lower life satisfaction, psychological well-being, positive affect, and higher negative affect in adulthood compared to those who relocated less, controlling for age, gender, and education levels.

Based on the findings from civilian children and adolescents, it can be inferred that adolescents from military families who relocate may experience well-being issues. For example, Shaw (1979) found that adolescents from military families who moved at least five times reported feeling more withdrawn, unhappy, and distant, and perceived themselves as boring compared to adolescents who moved less frequently. In contrast, other reports found no evidence that frequency of relocation was associated with adolescents' well-being (Finkel, Kelley, & Ashby, 2003; Orthner et al., 1987).

Further, Pittman and Bowen (1994) examined the relation between adolescents' perceptions of relocation and their psychological adjustment (e.g., feelings of loneliness), external adjustment (e.g., satisfaction with life at their current residence on base), and adjustment in relationships with parents (e.g., acting rebellious towards parents) from families of the US Air Force. Adolescents' perceptions of relocation were measured using four items: (1) dissatisfaction with the frequency of relocation; (2) dissatisfaction with the treatment by local residents; (3) difficulty making new friends; and (4) difficulty leaving old friends. The results indicated that adolescents who endorsed more negative attitudes about relocation experienced lower adjustment across the different domains. Specifically, adolescents' dissatisfaction about the frequency of relocation was associated with lower external adjustment and adjustment relationships with parents. Adolescents' dissatisfaction with the treatment by local residents in the new location was associated

with lower psychological adjustment as well as external adjustment. Adolescents' difficulty with making new friends was related to lower psychological adjustment and external adjustment. Finally, adolescents' difficulty leaving old friends was associated with lower external adjustment. Together, the findings from this study demonstrated the importance of investigating adolescents' perceptions of military related stressors as they relate to adolescents' adjustment outcomes.

In sum, research suggests that residential relocation in both the civilian and military context affects adolescents' abilities to establish and maintain peer relationships. The effects of relocation on the functioning and well-being of adolescents from military families is less consistent. Additionally, there is some evidence to suggest that frequent relocation is associated with greater emotional distress. Furthermore, adolescents with more negative attitudes about relocation tend to experience more adjustment difficulties.

Military Stressors: Protective Roles of Relationships with Parents and Peers

The evidence presented so far has supported the notion that the frequency of both parental deployment and residential relocation are associated with the well-being of adolescents in military families. Moreover, adolescents' affective reactivity to both deployment and relocation may be related to adolescents' well-being. However, it is certainly the case that not all adolescents in military families manifest that same impact in terms their well-being in responses to these stressors. Accordingly, it is important to consider potential *moderating* effects. That is, what factors might exacerbate or attenuate associations between military stressors and adolescent well-being? Research has shown that positive relationships with important others appear to have critical buffering effects for at-risk children and adolescents (see for reviews, Grant et al., 2006; Olsson et al.,

2003; Zolkoski & Bullock, 2012). Accordingly, in this final section, the moderating roles of relationships between adolescents and both their parents (mother and father) and peers are considered in the links between military stressors and adolescent well-being.

Resilience in response to relocation. Residential relocation affects multiple domains of functioning in adolescents' lives, both inside and outside of the home (Adam & Chase-Lansdale, 2002). As such, it has been proposed that adolescents need an "arena of comfort" that involves stability and continuity in some aspects of their lives (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). When adolescents relocate, their relationships with their peers are uprooted (e.g., Bradshaw et al., 2010). However, their household members typically still surround them. In this regard, it can be speculated that the quality of the adolescent-parent relationships might be expected to play a particularly important role as a protective factor for adolescents who experience relocation.

In support of this notion, there is evidence from research with civilian families indicating that higher levels of support and closeness from both mothers and fathers are associated with more positive adolescent adjustment outcomes in response to residential relocation (Adams & Chase-Lansdale, 2002; Hagan, MacMillian, & Wheaton, 1996; Hendershott, 1989). A review of the literature revealed only a single previous study to examine this question in military families. Pittman and Bowen (1994) examined whether social support from family members (i.e., mothers, fathers, and/or other relatives) contributed to the psychological adjustment of adolescents from families of the US Air Force who relocated. It was found that high levels of family support increased adolescents' psychological adjustment following a residential move.

It has also been suggested that adolescents' relationships with peers could serve a

protective role for youth who relocated (Mmari et al., 2010). Mmari et al. (2010) conducted focus groups with adolescents from military families, parents, and school personnel across eight military bases in the US to explore the challenges of military life and the strategies for coping. The findings revealed that adolescents coped better with relocation when they formed new friendships with other youth in military families.

Resilience in response to deployment. Research has consistently shown that peer relationships characterized by emotional and instrumental support, nurturance, and affection, provide adolescents with a sense of feeling needed that in turn, enhance their self-esteem (e.g., Fass & Tubman, 2002; Khanlou, 2004). Accordingly, it can be speculated that peers might provide a particularly important source of support in the face of parental deployment.

In support of this notion, studies conducted with adolescents with a deployed parent revealed that adolescents prefer to turn to their peers in military families for support because they can better relate to their experiences as compared to peers from non-military families (Chandra et al., 2008; Huebner & Mancini, 2005; Mmari et al., 2009). For example, Huebner and Mancini (2005) reported that adolescents perceived a greater sense of understanding, relatedness, and trust from their peers in military families as compared to adults such as guidance counsellors and teachers.

It is also plausible that a positive relationship with the at-home parent could help to compensate for the negative effects of having the military parent deployed. Although the research is scare, there is some evidence based on adolescents from civilian families to suggest that a positive relationship with one parent buffered adolescents' adjustment and well-being from the risks of a negative relationship with the other parent (Brennan,

Brocque, & Hammen, 2003; Bulanda & Majumdar, 2009; Graziano, Bonino, & Cattelino, 2009; Sim, 2003). For example, Graziano et al. (2009) examined whether mixed levels of parental support (father high support – mother low support and vice versa) influenced adolescents' depressive symptoms. It was found that high levels of support from one parent, irrespective of the sex of the parent, buffered the negative impact of low support from the other parent on adolescents' depressive symptoms. However, the generalizability of these findings is questionable since the negative relationship between adolescents and parents were not as a result of parental separation and deployment.

Finally, it can also be speculated that adolescents' relationships with the military parent could also serve as a unique protective factor in response to deployment. Most previous research related to adolescent-military parent relationships has focused on the frequency, content, and quality of communication during deployment (Chandra et al., 2008; Huebner & Mancini, 2005; Huebner et al., 2010; Wong & Gerras, 2010). There is some evidence that adolescents feel closer to the deployed parent when communication is maintained during the separation (Huebner & Mancini, 2005; Huebner et al., 2010). Further, evidence from divorce literature suggests that adolescents cope better with parental divorce when they maintain a positive relationship with the non-residential parent (Amato & Gilbreth, 1999; White & Gilbreth, 2001). Therefore, it could be surmised that the adolescent-military parent relationship could protect adolescents against the negative effects of exposure to frequent deployment and affective reactivity to deployment.

Overview of Studies and Hypotheses

The primary goal of this dissertation research was to examine the impact of

military stressors on the well-being of adolescents in CAF families. Frequent parental deployment and residential relocation have both been found to be major stressors affecting CAF families (Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014). However, the impact of frequent relocation in the military context has been studied less extensively than deployment (Drummet et al., 2003). Given that the CAF has been involved in many deployment-related operations in recent years and residential relocation for families occurs frequently (Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014), it is important to further investigate factors that may ameliorate resilience among adolescents in military families. To accomplish this goal, this dissertation research was conducted using primarily surveys with one open-ended question.

Study 1: Qualitative design. In Study 1, adolescents from military families were asked to provide open-ended comments about the challenges that they encounter in comparison to adolescents from non-military families. The primary aim of this qualitative study was to explore adolescents' perceptions about the unique challenges faced by members of military families. Previous qualitative investigations in this area have specifically asked adolescents and adults about their perceptions about the impact of deployment and relocation on adolescents' functioning and adjustment (Aronson & Perkins, 2013; Bradshaw et al., 2010; Chandra, Martin et al., 2010; Huebner & Mancini, 2005; Huebner et al., 2010; Huebner et al., 2007; Knobloch et al., 2012; Mmari et al., 2009). Study 1 employed an open-ended question format to better understand adolescents' own perspectives about the challenges that they experience with military life (i.e., do adolescents believe that deployment and relocation are the most significant

military-life-related stressors that they experience?).

Study 2: Quantitative design. In Study 2, a quantitative study was conducted to address a complex conceptual linking: (1) exposure to military stressors (relocation, deployment); (2) affective reactivity to military stressors; (3) relationships with important others (mothers, fathers, peers); and (4) adolescents' well-being. The first set of research questions addressed whether aspects of relocation and deployment (frequency, emotional reactivity) were uniquely associated with adolescent well-being. Next, the possible *moderating* roles of relationships with important others (mothers, fathers, peers) in associations between military stressors and well-being were explored. Finally, on a more exploratory basis, potential gender differences in these proposed associations were examined. Specific hypotheses for these research questions are now described in more detail.

Residential relocation. Frequency of relocation in adolescents in military families has been associated with poorer outcomes, including lower life satisfaction, depression, and emotional distress (Brown & Orthner, 1990; Shaw, 1979). However, results from some other studies have not indicated significant associations among the frequency of moves and aspects of adolescent psychological functioning and well-being (Finkle et al., 2003; Orthner et al., 1987). In the present study, it was (albeit tentatively) hypothesized that frequency of relocation would be negatively associated with indices of well-being. Results from civilian-based research have consistently indicated that affective reactivity to stressors is associated with lower well-being (e.g., Charbonneau et al., 2009; Herres et al., 2016; Schneiders et al., 2006; Sheeber et al., 2012). Therefore, it was further hypothesized heightened affective reactivity to relocation would also be negatively with

well-being among adolescents from military parents.

Research results from studies of adolescents in civilian families indicate that the quality of attachment relationships to mothers and fathers are positively associated with adolescents' adjustment to relocation (Adams & Chase-Lansdale, 2002; Hendershott, 1989). Pittman and Bowen (1994) also found that parental support was positively related to adjustment among adolescents from military families following a move. Huebner (2009) proposed that the process by which military families adjusted to military stressors was as a result of the interaction between members' perceptions of the stressors and their attachment resources. Thus, in the present study, it was hypothesized that adolescent-parent relationships would moderate links between both relocation frequency and reactivity and well-being. More specifically, at higher levels of adolescent-parent relationship quality, the negative associations between both relocation frequency and reactivity and adolescent well-being were expected to be attenuated.

Positive quality peer relationships have been found to buffer adolescents against stressful events (Grant et al., 2006). Although no previous studies were found that examined the moderating role of peer relationships among adolescents who relocated, it was speculated that positive quality peer relationships would also buffer adolescents against the negative impacts of exposure to frequent relocation and affective reactivity to relocation on adolescents' well-being. A conceptual model of these expected associations is displayed in Figure 1.

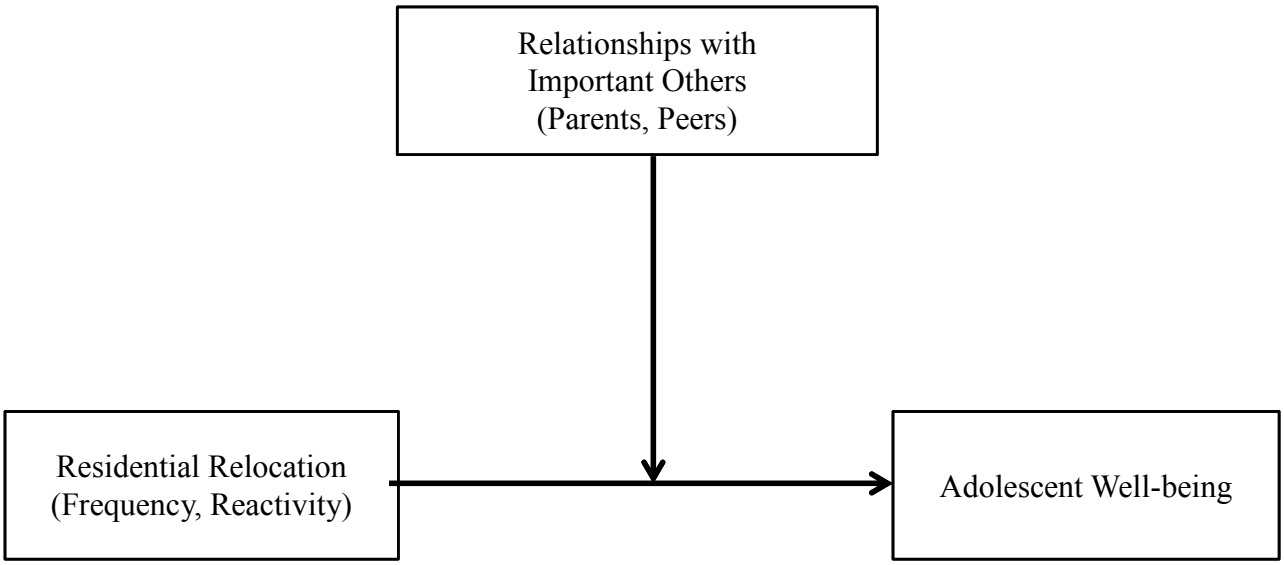

Figure 1. Conceptual of moderating role of relationships with parents and peers in the links between relocation and adolescent well-being.

Parental deployment. Research findings with adolescents from civilian families have indicated that more frequent separation from mothers and fathers is associated greater adjustment difficulties (Adam & Chase-Lansdale, 2001). Similarly, adolescents from military families who experience more frequent parental deployments tend to experience greater anger, as well as more serious emotional and behavioural problems (Chandra et al., 2008; Crow & Seybold, 2013). Of note, Wong and Gerras (2010) did not find significant associations between experiences of parental deployments and stress among adolescents. Notwithstanding, based on the overall pattern of findings, it was anticipated that the frequency of parental deployment would be positively associated with adolescents' lower well-being. Given evidence that affectivity reactivity to stressors is associated with adolescents' lower well-being (e.g., Charbonneau et al., 2009; Herres et al., 2016; Schneiders et al., 2006; Sheeber et al., 2012), it was further hypothesized that adolescents with heightened affective reactivity to deployment would report lower well-being.

Evidence from civilian adolescents has demonstrated that positive quality peer relationships buffer adolescents' well-being from stressors such as low quality adolescent-parent relationships (Birkeland et al., 2013). As well, research conducted with adolescents experiencing parental deployment found that adolescents rely on their peers for support (Chandra et al., 2008; Huebner & Mancini, 2005; Mmari et al., 2009). Accordingly, in the present study, it was hypothesized that peer relationships would moderate links between both deployment frequency and reactivity andwell-being. More specifically, at higher levels of adolescents' peer relationship quality, the negative associations between both deployment frequency and reactivity and adolescent well-

being were expected to be attenuated.

Studies have found that the deployment of the military parent affects the attachment relationships between adolescents and the at-home parent (Harrison & Albanese, 2012; Huebner & Mancini, 2005; Huebner et al., 2007). The quality of the attachment relationship to the at-home parent is compromised when the at-home parents experience difficulties coping with their spouses' deployment, are overwhelmed by the stress of managing the household and family as a single parent, and exhibit signs of mental health issues (e.g., Chandra et al., 2008; Huebner et al., 2007). As such, they may be less emotionally available and supportive (Cozza et al., 2005; Richardson et al., 2011) and adolescent-parent conflict could increase (Huebner & Mancini, 2005; Huebner et al., 2010). There is also some evidence that adolescents receive support from the at-home parent, which helps them to adjust with parental deployment (Wong & Gerras, 2010). Thus, it was hypothesized that positive quality adolescent-at-home parent relationship would buffer adolescents against the negative impact of exposure to frequent deployment and affective reactivity to deployment.

Previous research on the influence of parental deployment on adolescent-parent relationship quality has either focused on adolescents whose parents were currently deployed (Chandra et al., 2008; Houston et al., 2013; Wong & Gerras, 2010) or were qualitative studies that involved focus groups with adolescents who had experienced parental deployment at some point in their lives (Huebner & Mancini, 2005; Huebner et al., 2010; Huebner et al., 2007; Knobloch et al., 2012; Mmari et al., 2009). Overall, these studies have found that parental deployment puts a strain on the attachment relationship between adolescents and the military parent (Paley et al., 2013; Palmer, 2008). This may

be because the military parent is less physically and emotionally available, communication is less frequent, and the ability to provide support is limited (Schaetti, 2002). Deployed parents also miss everyday opportunities to provide guidance to adolescents and miss more important occasions such as birthdays (Huebner et al., 2007; Knobloch et al., 2012). Based on the overall results, it was hypothesized that positive quality adolescent-military parent relationship would buffer adolescents against the negative influence of exposure to frequent deployments and deployment reactivity. A conceptual model of these expected associations is displayed in Figure 2.

Finally, there are inconsistent findings in the literature pertaining to gender differences in adolescent-parent relationships (e.g., Arbona & Power, 2003; Buist et al., 2004) and peer relationships (Nelis & Rae, 2009; Ruijten et al., 2011). Accordingly, on a more exploratory basis, the potential gender differences in the relations among deployment, relocation, adolescent-parent relationship quality, peer relationship quality, and well-being were examined.

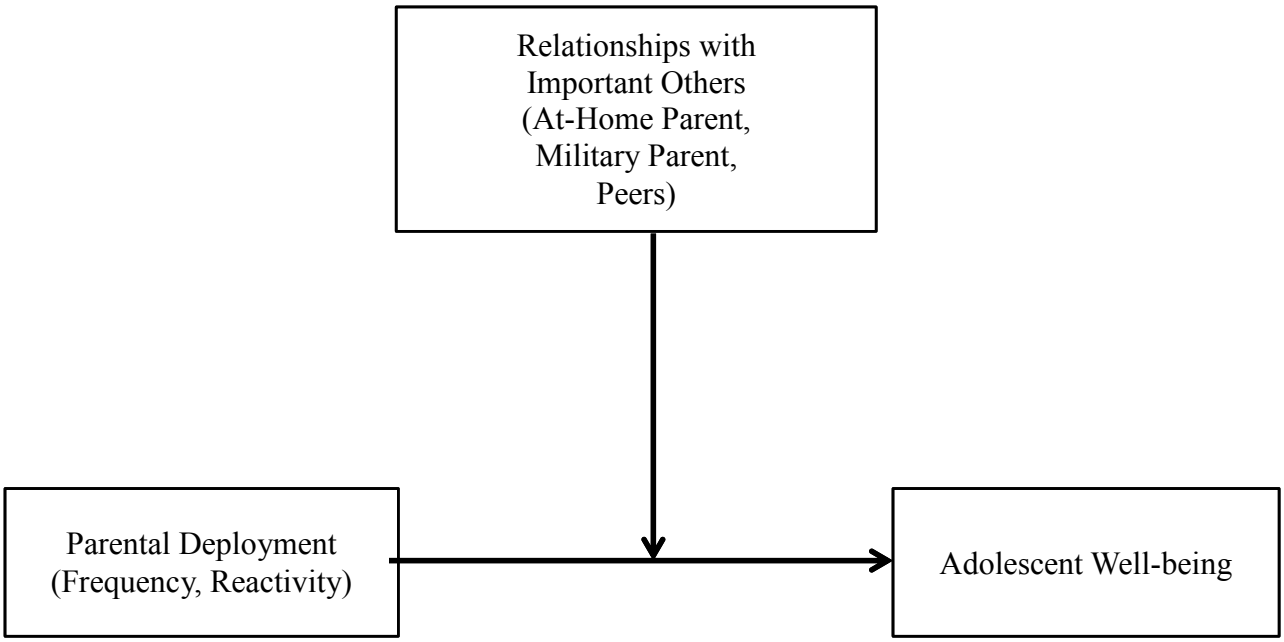

Figure 2. Conceptual of moderating role of relationships with parents and peers in the links between deployment and adolescent well-being.

Method

Data for this doctoral dissertation was collected as part of a larger program of research conducted by the Director General Military Personnel Research and Analysis (DGMPRA) of the Department of National Defence (DND). This broader study had its own set of goals and hypotheses pertaining to the impact of military stressors on the health and well-being of adolescents.[1] In the following sections, only the data and assessments specific to the purpose of the present dissertation research are included.

Procedure

Ethics approval was obtained from DGMPRA Social Science Research Review Board.[2] Subsequently, the home and mailing address, service number, marital status, gender, rank (e.g., junior Non-Commissioned Member, senior Officer), and military environment (i.e., land - army, sea - navy, air – air force) of the Regular Force[3] (RF) parent was obtained from the Director Human Resources Management System. This allowed for the identification of families with an adolescent between 14-19 years. The sample was then stratified according to the military parent's rank, military environment, gender, and marital status. Of the total population of these families, a random sample of 3,000 adolescents was then contacted via mail in the winter of 2014, receiving an English and French version of the invitation letter and survey. Four weeks following the initial mail out of the survey, a reminder letter was sent out by mail.

---

[1] As a research assistant at DND, I was directly involved in the conceptualization and design of this study. I selected some additional constructs/measures to be included for the purposes of my dissertation research.
[2] In accordance with the Tri-Council Policy on human ethics, REB approval from Carleton University is not required if the research uses secondary anonymized and unidentifiable data
[3] CAF Regular Force personnel are active-duty members who are employed full-time in the military (Canadian Forces, n.d.)

The cover-page of the survey described to participants that confidentiality and anonymity were provided and they had the right to decline participating in the study (Appendix B). For participants over the age of 16 years, agreement to complete the anonymous survey constituted consent. For participants below the age of 16 years, informed consent was obtained from parents via signature of the informed consent form that accompanied the survey (Appendix C). For these particular adolescents, participation in the study was not anonymous; however, confidentiality of their responses was maintained. Subsequently, participants completed various questions related to their feelings and attitudes about deployment and relocation, relationships with parents and peers, well-being (e.g., self-esteem), background information (e.g., age, gender, number of parental deployment), and provided open-ended comments about the challenges that they perceived military adolescents encountered in comparison to adolescents from non-military families. Participants also received a debriefing form, including a list of referrals for their personal use with the survey that they could contact for support during or after the survey (Appendix D). Once the surveys were completed, participants mailed the surveys to DND in Ottawa using the pre-paid envelopes that were provided to them in the survey packets.

Participants

Of the 3,000 families who were contacted, responses were received from N = 201 adolescents (117 females, 81 males, 3 did not indicate) between the ages of 14-19 years (M_{age} = 16.44, SD = 1.59). This represents an overall consent rate of 6.7%. To maintain confidentiality of responses, no identifying information that matched participants to the military parents were obtained. As a result, it was not possible to determine the

percentage of responses from different geographical regions of military families or different ranks and environments. Moreover, it was not possible to compare any characteristics of the sample with the expected distribution from the initial pool of families who were contacted. A summary of the characteristics of the military families is provided in Table 1.

Most participants (80.1%) were from families in which their parents were married or living together. About 8% (*n* = 15) reported their parents were divorced, 6% (*n* = 12) reported their parents were separated, 4% (*n* = 8) reported their parents were remarried, 1% (*n* = 2) reported that one of their parents was deceased, almost 2% (*n* = 3) indicated "other" (e.g., parents are married but live apart), and 1% (*n* = 2) did not respond about their family status. Over half of the sample (52.2% or *n* = 105) reported having one sibling. About 26% (*n* = 53) of participants reported having two siblings, close to 8% (*n* = 15) indicated having three siblings, and almost 5% (*n* = 9) reported having four or more siblings. Approximately 7% (*n* = 13) of respondents indicated they are the sole child. Three percent (*n* = 6) of the sample did not report whether they had any siblings.

Table 1

Summary of Descriptive Statistics for Military Variables

Military Parent Characteristics	*N*	M(*SD*)	Range
Parent employed in the military			
Father	137		
Mother	14		
Both	37		
Other (e.g., step-father)	10		
Frequency of parental deployment			
Father	134	3.41(*3.04*)	0-20[4]
Mother	54	1.26(*1.56*)	0-6[5]
Military parent currently deployed			
Yes	7		
No	190		
Length of longest deployment (months)	176	6.85(*3.39*)	1-24
Frequency of relocation	181	3.28(*2.25*)	0-15[6]

[4] Twelve participants indicated they did not experience paternal deployments
[5] Twenty-five participants indicated they did not experience maternal deployments
[6] Fifteen participants indicated they did not experience a move

Measures

Background information. Adolescents were presented with a background questionnaire (see Appendix E) where they were asked about their age, gender, number of siblings, and parents' living situation (e.g., married/living together, remarried, divorced, separated, one of parent is deceased, and other). Additionally, adolescents were asked which parent/guardian was employed in the military, whether the military parent was currently deployed, the frequency of deployment for mother and father, length of military parent's longest deployment, and frequency of relocations.

Challenges of the military lifestyle. Adolescents were asked an open-ended question about the challenges of the military lifestyle: "What challenges do you feel that you have that other non-military adolescents may not have?"

Reaction to deployment. Adolescents' affective reactions toward deployment were assessed using the *Reactions to Deployment Scale* (Day, 2013; see Appendix F), a 7-item questionnaire that was specifically designed by DGMPRA. Adolescents rated their responses to each item using a five-point Likert scale (from 1 = "strongly disagree" to 5 = "strongly agree").

Because this scale was newly developed for the survey, the validity and reliability had yet to be examined. Therefore, an exploratory factor analysis (EFA) using principal component (PC) extraction with varimax rotation was performed on the initial pool of seven items. The Kaiser-Meyer-Olkin (KMO) measure was .767, indicating that the correlation matrix was appropriate for factor analysis as the value is above the acceptable limit of .5 (Field, 2009). As well, Bartlett's Test of Sphericity was significant, $\chi^2(21) = 284.943$, $p < .001$ indicating that the correlations between the items were sufficiently

large for factor analysis (Field, 2009; Tabachnick & Fidell, 2007).

The results yielded a three-component solution accounting for 70.57% of the total variance. Loadings for the items in each component are presented in Table 2. Component 1 (eigenvalue = 2.78, five items, accounting for 39.82% of the variance) was labeled *affective reactivity to deployment*, as the items appeared to reflect specific emotional responses to deployment ($\alpha = .78$).

The other two components consisted of single items: Component 2 (eigenvalue = 1.14, accounting for 16.33% of the variance) included an item related to *coping with deployment*; and Component 3, (eigenvalue = 1.01, accounting for 14.42% of the variance) included an item related to *perceptions of support from the military*. Components with less than three items are generally thought to be weak and unstable – and single-item subscales are particularly not recommended for use (Costello & Osborne, 2005). Accordingly, these items were omitted from subsequent analyses.

Table 2

Component Loadings for the Reaction to Deployment Scale

Items	Component Loadings		
	Component 1	Component 2	Component 3
1. I worry about my parent when s/he is deployed.	.792		
2. I wish my parent would not have to be deployed	.734		
3. When my parent is deployed, I count down the time until s/he returns.	.698		
4. I get angry that my parent has to be away on deployment.	.717		
5. I am sad when my parent is deployed.	.814		
6. I tend to cope well with my parent being deployed.[a]		.906	
7. Military provides me with sufficient support when my parent is deployed.[a]			.993

Note: [a] refers to items that were reverse scored

Reaction to relocation. Adolescents' emotional reactions toward relocation were measured using the *Reactions to Relocation Scale* (Day, 2013; see Appendix G), a 6-item questionnaire that was also designed by DGMPRA. Adolescents rated their responses to each item using a five-point Likert scale (from 1 = "strongly disagree" to 5 = "strongly agree").

An EFA using PC extraction with varimax rotation was also performed on the original pool of six items. The KMO measure of sample adequacy was .70 and the Bartlett's Test of Sphericity was significant, $\chi^2(15) = 246.149$, $p < .001$, both of which indicates that the correlation matrix was appropriate for factor analysis (Field, 2009; Tabachnick & Fidell, 2007).

The results revealed a three-component solution accounting for 72.06% of the total variance. Loadings for the items in each component are presented in Table 3. Component 1 (eigenvalue = 2.28, three items, accounting for 38.04% of the variance) was labeled *affective reactivity to relocation*, as the items appeared to represent emotional responses to relocation ($\alpha = .84$).

The other two components consisted of single and two items respectively: Component 2 (eigenvalue = 1.03, accounting for 17.11% of the variance) included an item related to *attitudes toward relocation*; and Component 3, (eigenvalue = 1.01, accounting for 16.91% of the variance) included two items related to *perception of input about relocating*. Because components with less than three items are generally thought to be weak and unstable – and single-item subscales are particularly not recommended for use (Costello & Osborne, 2005), these items were omitted from subsequent analyses.

Table 3

Component Loadings for the Reaction to Relocation Scale

Items	Component Loadings		
	Component 1	Component 2	Component 3
1. I like the experience of being moved to a new place.[a]	.870		
2. Relocating to a new home is very stressful for me.	.847		
3. I make new friends easily.[a]		.826	
4. I don't like moving to a new city.	.897		
5. I have a lot of input into where we are going to live.[a]			.553
6. My parent(s) let me help make decisions about houses and location to live in.[a]			.822

Note: [a] refers to items that were reverse scored

Relationships with parents and peers. Adolescents' relationships with mothers, fathers, and peers were assessed using several indicators. Adolescents completed the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987; see Appendix H). On a scale from 1 ("almost never to never") to 5 ("almost always or always"), adolescents rated their attachment to mothers, fathers, and peers in terms of trust, communication, and alienation[7]. Trust refers to adolescents' perception of parents and peers' responsiveness, warmth, and respect towards them (e.g., "My parents trust my judgment"; "My friends accept me as I am"). Communication refers to the extent and quality of communication between adolescents-parents and peers (e.g., "I like to get my parents' point of view on things I'm concerned about"; "My friends encourage me to talk about my difficulties"). Alienation refers to adolescents' feelings of resentment toward and emotional isolation from their parents and peers (e.g., "Talking over my problems with my parents makes me feel ashamed or foolish"; "My friends don't understand what I'm going through these days").

Following established protocols for this measure (Armsden & Greenberg, 1987), total subscale scores were first calculated by averaging the respective raw scores together. A final composite score was then calculated by averaging the trust, communication, and alienation (reverse scored) subscales, with higher scores representing more secure attachments. Separate scores were computed for *adolescent-mother attachment* (α = .92 in the present sample), *adolescent-father attachment* (α = .91) and *adolescent-peer attachment* (α = .93).

---

[7] The parent version of the IPPA consists of 28 items (10-items trust, 10-items communication, 8-items alienation). The peer version of the IPPA consists of 25 items (10 items trust, 8-items communication, 7-items alienation).

The IPPA has been previously used in samples of adolescents (e.g., Allen et al., 1998; Boden et al., 2008; Cheung, Pomerantz, & Dong, 2013; Mattanah, Hancock, & Brand, 2004; Muris et al., 2001; Patterson et al., 1995; Schneider & Younger, 1996; Wilkinson & Walford, 2001). It has previously demonstrated acceptable internal reliability, with Cronbach's alphas ranging from .79 to .95 (Armsden & Greenberg, 1987; Allen et al., 1998; Boden et al., 2008; Cheung et al., 2013). Additionally, the IPPA has evidenced convergent validity, discriminant validity, and high three-week test-retest reliability (Armsden & Greenberg, 1987).

Adolescents also completed that *Social Support* scale (Day, 2013; see Appendix I), a 10-item measure created as part of the broader project by DGMPRA to assess adolescents' perception of support from mothers, fathers, other family member, friends, and the military community. This scale was based on House's (1981) conceptualization of social support in terms of emotional, informational, instrumental, and appraisal. Sample items included "I can count on them to listen to my problems", and "I can rely on them to provide me with emotional support". A five-point Likert scale was used (from 1 = "strongly disagree" to 5 = "strongly agree").

Of particular interest for the present study were items pertaining to social support from mothers, fathers, and peers. The psychometric properties of these items have not been previously assessed. Accordingly, a series of EFAs using PC extraction with varimax rotation were performed to assess the underlying structure of the social support scale for mothers, for fathers, and for peers.

For the items pertaining to social support from mothers, the KMO measure of sample adequacy was .912 and the Bartlett's Test of Sphericity was significant, $\chi^2(45) =$

905.011, $p < .001$ both of which indicates that a factor analysis could be performed (Field, 2009; Tabachnick & Fidell, 2007). The results yielded a one-component solution (eigenvalue = 5.27), explaining 57.72% of the variance. The component loadings ranged from .59 to .83 (see Table 4).

For the items pertaining to social support from fathers, the KMO measure of sample adequacy was .937 and the Bartlett's Test of Sphericity was significant, $\chi^2(45) = 1228.982$, $p < .001$ both of which indicates that the correlation matrix was appropriate for factor analysis (Field, 2009; Tabachnick & Fidell, 2007). The results indicated that all items loaded on one component (eigenvalue = 6.06), explaining 60.60% of the variance. The component loadings ranged from .63 to .88 (see Table 4).

For the items relating to social support from peers, the KMO measure of sample adequacy was .910 and the Bartlett's Test of Sphericity was significant, $\chi^2(45) = 1060.796$, $p < .001$, both of which indicates that the correlation matrix was appropriate for factor analysis (Field, 2009; Tabachnick & Fidell, 2007). The results indicated that all items loaded on one component (eigenvalue = 5.59), explaining 55.85% of the variance. The component loadings ranged from .62 to .84 (see Table X). Scales scores were then created by averaging relevant items to create composite scores representing *support from mothers* ($\alpha = .89$) *support from fathers* ($\alpha = .89$), and *support from peers* ($\alpha = .91$), with higher scores indicating greater perceived support.

In addition, adolescents completed the *poor relations with parents* subscales of the *Parent-Child Relationships and Adolescent Adjustment Instrument* (Kerr & Stattin, 2000; see Appendix J), an 8-item measure of adolescents' negative relationships with mothers and fathers. Sample items included "How often do you and your parent quarrel

and fight with each other?" and "How often do you feel angry or irritated by your parent?" A 5-point Likert scale was used (from 1 = "almost never" to 5 = "very often"). A total score is calculated based on the average of the 8 items, with higher scores indicating a poorer relationship with each parent. Separate scales are completed for relationships with mothers and father.

Table 4

Component Loadings for the Social Support Scale for Mothers, Fathers, and Peers

Items	Component Loadings		
	Mother	Father	Peer
1. I can count on them to listen to my problems.	.775	.867	.829
2. I can rely on them to provide me with the advice or suggestions that I may need.	.753	.809	.841
3. They provide time for me when I need it.	.745	.778	.791
4. I could rely on them to provide money for me if I needed it.	.592	.632	.616
5. I can depend on them to help me with school work or chores when I need it.	.750	.800	.579
6. I can rely on them to provide me with emotional support.	.828	.883	.822
7. They go out of their way to make my school work, or chores easier for me.	.745	.733	.655
8. They go out of their way to make my life easier.	.592	.652	.774
9. They express interest and concern for my personal well-being.	.674	.774	.769
10. I trust and have confidence in them.	.770	.818	.746

The *poor relations with parents* subscale has previously evidenced acceptable internal consistency (Cronbach's alphas ranged from .82 to .89; Kerr & Stattin, 2000; Persson, Kerr, & Stattin, 2004; Stattin & Kerr, 2000), and test-retest reliability (r = .75 to .82; Kerr & Stattin, 2000; Stattin & Kerr, 2000). In the present study, the subscale for mothers and fathers showed acceptable internal consistency (α = .76 and .77, respectively).

Finally, adolescents peer relationship quality was assessed using the *loneliness in peer relations* (L-PEER) subscale of the Louvain Loneliness Scale for Children and Adolescents (LLCA; Marcoen, Goossens, & Caes, 1987; see Appendix L), a 12-item measure of adolescents' perception of loneliness in their peer relationships. Sample items included "I feel excluded by my classmates", "I think there is no single friend to whom I can tell everything", and "Making friends is hard for me". A 4-point Likert scale was used (from 0 = "never" to 3 = "often"). A total score was calculated based on the average of the 12 items, with higher scores indicating greater feelings of loneliness from peers. In the present study, the *loneliness in peer relations* subscale evidenced high internal consistency (α = .92), consistent with past studies (Goossen & Marcoen, 1999; Marcoen et al., 1987; van Roekel, Goossens, Scholte, Engels, & Verhagen, 2011; van Roekel, Scholte, Verhagen, Goossens, & Engels, 2010).

Adolescent well-being. Finally, adolescents completed two measures to assess their general well-being. The first was Rosenberg's (1965) *Self-Esteem* scale, (see Appendix M), a widely used scale of self-esteem (Blascovich & Tomaka, 1991; Byrne, 1996) often used in samples of adolescents (e.g., Birkeland et al., 2013; Donnellan et al., 2005; Kakhara, Tilton-Weaver, Kerr, & Stattin, 2010; Laible et al., 2004; Trzesniewski et

al., 2006; Way & Pahl, 2001). The scale includes 10 items (α = .92 in the present sample, e.g., "On the whole, I am satisfied with myself", "I feel that I have a number of good qualities") rated on a 4-point Likert scale (from 1 = strongly disagree" to 4 = "strongly agree"). A total scale score was calculated based on the average of the 10-items, with higher scores indicating greater self-esteem. The *Self-esteem* scale has previously evidenced test-retest reliability (Blascovich & Tomaka, 1991; Rosenberg, 1986), concurrent validity with other measures of self-esteem (Hagborg, 1993), and high internal reliability (Birkeland et al., 2013; Kershaw, Ethier, Niccolai, Lewis, & Ickovics, 2003; Laible et al., 2004).

The second measure used to assess adolescents' general well-being was the *Pediatric Symptoms Checklist for Youth* (PSC-Y; Jellinek et al., 1999; see Appendix N). The scale includes 35 items (α = .92 in the present sample, e.g., "…do you tire easily, have little energy?", "… do you feel sad, unhappy?", "… do you worry a lot?") rated on a 5-point Likert scale from (1 = "almost never" to 5 = "almost always"). A total scale score was calculated on the average of the 35-items, with higher scores indicating greater psychosocial dysfunction. The PSC-Y has evidenced acceptable internal consistency, concurrent validity with other psychosocial impairment measures (Jellinek et al., 1999), convergent construct validity with teacher and parent-reports of adolescents' psychosocial dysfunction, and acceptable 4 month test-retest reliability (κ = .50) (Pagano et al., 2000).

Results Part 1: Qualitative Analyses of Open Ended-Question

Overview of Sample and Approach to Coding

Of the 201 total participants, *n* = 178 adolescents (response rate = 88.6%; 108 females, 70 males, 2 did not indicate) provided written responses to the question related to the challenges they believed military adolescents experienced in comparison to their counterparts from non-military families. These responses were examined using *thematic analysis* (Braun & Clarke, 2006), a commonly used method for identifying, analyzing, and reporting patterns within qualitative data.

Following Braun and Clarke's (2006) protocol for conducting thematic analysis, all the comments were first read through and initial ideas and notes for coding were recorded. Two investigators conducted this procedure independently in order to provide credibility of the findings (Lincoln & Guba, 1985; Seale, 2002). Next, codes were generated and compared between the two investigators in order to identify any discrepancies. Once all the comments were coded, each investigator manually scrutinized the codes to search for patterns to develop themes. Related concepts were combined to create sub-themes within the broader themes. Together, the investigators compared their potential themes as well as sub-themes and checked if the themes and sub-themes were supported by quotes. To further enhance the credibility of the findings, at least two quotes were used to demonstrate the major themes and at least one quote was used to illustrate sub-themes (Rubin & Rubin, 2011). Themes and sub-themes that were not supported were eliminated. The analysis of the responses yielded two overarching themes that captured adolescents' perceptions of the challenges they experienced in comparison to adolescents from non-military families: (1) relocation; and (2) parental

deployment.

Theme of Relocation

Twenty-six percent of adolescents (46/178) reported that they believed adolescents from non-military families do not *relocate* as often as adolescents from military families. As a result, participants felt that non-military adolescents did not encounter constant upheavals to their routine and were less likely to feel a sense of instability than adolescents from military families. This was epitomized in Participant #73's statement that, "They don't understand the difficulties of moving every 2 years, and I have to "re-group" every 2 years and kind of change everything (…)[8]" Another participant (#93) reported, "(…) Don't get settled in quickly [because] by the time you do, you move again!" Three sub-themes were identified within the broader theme of relocation, including: (1) multiple losses; (2) no sense of belonging; and (3) feelings of distress.

Multiple losses. Losses that adolescents from military families believed they experienced unlike adolescents from non-military families included *leaving* their schools, extracurricular activities, and friendships. Fifteen percent (27/178) of adolescents reported that relocation resulted in changing schools. For example, Participant # 180 stated, "I move more often than a non-military teen would so I have to go to new schools (…)" Similarly, Participant #184 commented that adolescents from military families must cope with "Moving and having to start over, meet new people, being in a new house, and

---

[8] (…) indicates that some of the comment was omitted from the data segment

switching schools." Participant #148 also reported, "I move often and have to go to new schools. The worst part is that the hockey coaches do not know me when I move to the new schools, which is not fair."

Forty-two percent of adolescents reported that they are faced with the challenge of leaving behind their old friends when they relocate. For example, Participant #64 responded, "When moving, I have no choice but to leave my friends (…)" Another participant (#162) reported "losing a lot of friends" when moving. Relocating also affected the longevity of some adolescents' friendships that non-military adolescents did not encounter because they did not move as often. For instance, Participant #127 stated that one of the challenges he experiences is, "Not really keeping friends for as long because I move so often." Participant #152 reported, "Having to make new friends every 3 years."

No sense of belonging. Five percent of adolescents (8/178) reported that a challenge they believe they experience unlike their counterparts from non-military families is a sense of *not belonging* because they relocate. This was clearly reflected by Participant #56's comment that, "Non-military adolescents don't have to deal with the feeling of not belonging (…) There's also the kids who need to live in Cold Lake who will never feel like they belong because they haven't lived here forever, so most won't ever get accepted." Participant #119 also explained that non-military adolescents "get to reminisce on childhood memories with other people. They have people who know them." In addition, Participant #10 stated that because of relocating, "I have always felt the odd one out with my friends because they have all been BFS [best friends] since gr. 1 and I just got there."

Feelings of distress. The final sub-theme that emerged from adolescents' accounts of having to relocate more often than non-military adolescents were the *feelings of distress* they experienced. Three percent (6/178) of adolescents reported experiencing distress related to relocating, which ranged from uncertainty and worry if or when the family will relocate to the stress of frequently relocating. For example, Participant #6 stated, "I always worry (…) about having to move." In addition, Participant #5 reported feeling the "stress of never settling."

Theme of Parental Deployment

Experiences of *parental deployment* was the second primary theme that emerged from eighteen percent (32/178) of adolescents' responses about the challenges they believe they encounter that are different from adolescents from non-military families. Most adolescents reported lengthy separations from their military parents. For example, Participant #99 reported, "They do not have to live without their father for months." Participant #4 also said, "I have to deal with a missing father for half a year sometimes." Another participant (#92) commented, "I cannot see my parents for long periods." Moreover, some adolescents from military families had to grapple with their military parents leaving frequently although the duration of the separation was not lengthy. For instance, Participant #72 commented, "My mom only goes away for 1 week to 1 month but she leaves often." Two sub-themes were identified within the broader theme of parental deployment including, (1) lack of military parent availability; and (2) feelings of concern.

Lack of military parent availability. Eight percent (14/178) of adolescents reported that one of the challenges they experienced is that their *military parent is not*

always available when they needed them. For example, Participant #97 stated, "My father was not always present when I need him." Adolescents also reported that they are faced with their military parent missing important occasions in their lives because they are away on deployment. For instance, Participant #183 stated that adolescents from military families must cope with "Having a parent miss out things like holidays and special events." Another participant (#2) commented, "[You are] not always sure if your parents will be able to celebrate big milestones in your life. i.e., birthdays, recitals, Christmas, etc." Further, deployed parents were not available to provide support in everyday activities in adolescents' lives. For instance, Participant #140 noted, "I did not have the chance to learn as much from my father while he was deployed." Participant 190 mentioned, "If one parent doesn't have an answer to one of my questions (homework, etc.), I do not have the other to help me." As well, Participant #195 commented, "One challenge for me is having my dad gone away so much, he does so much and when he's gone a lot fall apart."

Feelings of concern. Another challenge of the military lifestyle, reported by ten percent (18/178) of adolescents, was *feelings of worry and fear* that their military parent may get injured or die while on deployment. For instance, Participant #39 reported, "My biggest challenge is to live in fear that my father may never come back. I live everyday hoping that nothing bad happens on the Valcartier military base." Another participant (#51) commented, "I worry that my dad will have to go to war one day. I also worry when he is away." Participant #88 stated that adolescents from non-military families do not experience "The feeling of worry you get when one parent is in a war zone and you keep praying for their safety." Some adolescents also reported *feelings of uncertainty*

over the deployment. For example, Participant #26 stated that one of the challenges is, "To never know what will happen, not knowing if your parent is going to leave soon and for how long."

Summary

Taken together, these results suggest that the main concerns that adolescents from CAF families believe they encountered in comparison to adolescents from non-military families are related to the broad challenges of relocation and parental deployment. Adolescents reported that relocation resulted in changing schools and losing friends. Because adolescents from military families relocated frequently, they felt a lack of belonging and experienced distress over frequent moves. Moreover, adolescents reported experiencing lengthy and frequent separations from the military parent due to deployment. Deployment resulted in the unavailability of the military parent and adolescents' perception of lack of support from the military parent. Further, adolescents experienced a lot of fear and worry over their deployed parents' safety. In the next section, results are presented from extensive quantitative analyses pertaining to the impacts of relocation and parental deployment on adolescent well-being.

Results Part 2: Quantitative Analyses

Preliminary Analyses

Data screening. General data management techniques were performed in order to appropriately clean the data prior to conducting the main analyses. First, the pattern and amount of missing data were analyzed at both the case- and variable-level. Overall, across the case-level, the pattern of missing data appeared to be random. The amount of missing data ranged from 10.9% (item 22 of the mother version of the IPPA scale) to 0.5% (item 1 of the Self-esteem Scale). Based on these results, cases that were missing less than 25% of data were prorated. At the variable level, none of the variables were missing data in excess of 5%. Furthermore, several independent *t*-tests of mean differences and chi-square tests of independence were computed comparing cases that were missing and not missing on age and gender respectively for all the study variables. The results showed that missing data was not significantly associated with either age or gender. As such, listwise deletion was used to deal with missing data when conducting subsequent analyses.

Next, descriptive analyses were computed for all the variables to obtain means, standard deviations, and minimum and maximum scores to confirm the plausible variable ranges. These results showed that all the variables were within plausible ranges. Then, univariate outliers were identified using normal probability plots, boxplots, and z-scores ($z \pm 3.29$). Three measures (social support from mother, social support from friend, and psychosocial dysfunction) each contained a single univariate outlier, and one measure (social support from father) had three univariate outliers. These outlier cases were not dropped but instead winsorized by creating new scores corresponding to a *z*-score of 3.29

(Tabachnick & Fidell, 2007). Subsequent analyses (i.e., Mahalanobis distance, leverage, 7and Cook's distance) revealed an absence of multivariate outliers.

Next, histograms, normal probability plots, detrended normal probability plots, and skew and kurtosis z-scores ($z \pm 2$, Field, 2009; Gravetter & Wallnau, 2014) were examined to assess if assumptions of normality were met. All the variables appeared to be slightly non-normal. After applying relevant transformations, the distributions more closely approached normality. However, the pattern of results for subsequent analyses was not altered when comparing the findings using pre- vs. post-transformed data. As a result, and to ease interpretation, analyses are presented herein using non-transformed data. A summary of the descriptive statistics for all study variables is presented in Table 5.

The assumptions of linearity and homoscedasticity were assessed by examining bivariate scatterplots for all combinations of variables in the data set, as well as the values of the residuals against the values of the outcomes predicted by our models. The scatterplots demonstrated no systematic relations between the errors in the model and what the model predicts, and, therefore, linearity and homoscedasticity were assumed.

Finally, the bivariate correlations between all combinations of the study variables as well as the tolerance and variance inflation factor values were examined to screen for multicollinearity. The highest correlation was between mother and father attachment scores ($r = .751$, $p < .001$). Further, the tolerance and VIF values did not exceed the cut-off points of less than .10 and greater than 10, respectively (Fields, 2013). Taken together, there was no evidence to support multicollinearity in the dataset.

Table 5

Summary of Descriptive Statistics for all Study Variables

Variable	*N*	Mean (*SD*)	Range
Affective reactivity to deployment	193	3.51(*.79*)	1.00-5.00
Affective reactivity to relocation	198	3.39(*1.04*)	1.00-5.00
Adolescent-mother attachment	197	3.86(*.60*)	2.25-4.97
Adolescent-father attachment	198	3.70(*.66*)	1.88-4.97
Social support from mother	195	4.38(*.51*)	2.77-5.00
Social support from father	196	4.22(*.67*)	2.10-5.00
Poor relationship with mother	194	2.01(*.62*)	1.00-3.71
Poor relationship with father	193	2.05(*.67*)	1.00-4.13
Peer attachment	200	3.70(*.62*)	1.71-4.82
Loneliness in peer relationship	200	2.01(*.70*)	1.00-3.92
Social support from peer	197	3.80(*.69*)	1.40-5.00
Self-esteem	200	3.00(*.60*)	1.40-4.00
Psychosocial dysfunction	201	1.89(*.49*)	1.00-3.51

Validation of measures. Correlation analyses were conducted to provide initial evidence of the construct validity of the Social Support Scale from Mothers, Fathers, and Peers (Day, 2013). The *Social Support Scale from Mothers* correlated positively with self-reported secure attachment with mothers (i.e., the *IPPA for mothers* scale, Armsden & Greenberg, 1999), $r = .65$, $p < .001$ and negatively with the *poor relations with mothers* subscale of the *Parent-Child Relationships and Adolescent Adjustment Instrument* (Kerr & Stattin, 2000), $r = .54$, $p < .001$. Moreover, the *Social Support Scale from Fathers* correlated positively with secure attachment with fathers (*IPPA for fathers*), $r = .70$, $p < .001$, and negatively with the *poor relations with fathers* subscale of the *Parent-Child Relationships and Adolescent Adjustment Instrument*, $r = .60$, $p < .001$. Finally, the *Social Support Scale from Peers* was correlated positively with secure attachment with peers (*IPPA for peers*), $r = .70$, $p < .001$, and negatively with peer loneliness (*L-PEER* subscale of the *LLCA,* Marcoen et al., 1987), $r = .39$, $p < .001$.

Creation of aggregate variables. Once the data were appropriately cleaned, a series of conceptually derived and empirically substantiated aggregate variables was created. Each aggregate variable consisted of Bartlett factor scores (with a mean of 0 and standard deviation of 1) computed following a series of EFAs using PC extraction with varimax rotation.

The first aggregate variable represented *adolescent-mother relationships*, and was comprised of the measures of adolescent-mother attachment, social support from mother, and poor relationship with mother (reverse-coded). Correlations among these three variables ranged from $r = .54$ to $r = .65$ (all p's $< .001$). The KMO measure of sample adequacy was .70 and the Bartlett's Test of Sphericity was significant, $\chi^2(3) = 212.820$, p

< .001, both of which indicates that the correlation matrix was appropriate for factor analysis (Field, 2009; Tabachnick & Fidell, 2007). Results indicated a one-component solution, eigenvalue = 2.22, accounting for 72.03% of the variance, and with component loadings ranging from .84 to .89.

The second aggregate variable represented *adolescent-father relationships*, and was comprised of the measures of adolescent-father relationship, social support from father, and poor relationship with father (reverse-coded). Correlations among these variables ranged from $r = .60$ to $r = .70$ (all p's < .001). The KMO measure of sample adequacy was .72 and the Bartlett's Test of Sphericity was significant, $\chi^2(3) = 243.553$, $p < .001$, both of which indicates that the correlation matrix was appropriate for factor analysis (Field, 2009; Tabachnick & Fidell, 2007). Results revealed a one-component solution, eigenvalue = 2.31, accounting for 76.82% of the variance and with component loadings ranged from .86 to .90.

The third aggregate variable represented *peer relationships*, and was comprised of the measures of peer attachment, social support from peer, and loneliness from peer relationship (reverse coded). Correlations among these variables ranged from $r = .39$ to $r = .70$ (all p's < .001). The KMO measure of sample adequacy was .61 and the Bartlett's Test of Sphericity was significant, $\chi^2(3) = 214.597$, $p < .001$, both of which indicates that the correlation matrix was appropriate for factor analysis (Field, 2009; Tabachnick & Fidell, 2007). Results yielded a one-component solution, eigenvalue = 2.13, accounting for 71.03% of the variance and with component loadings ranged from .77 to .92.

The fourth and final aggregate variable represented adolescent *well-being*, and was comprised of the measures of self-esteem and psychosocial dysfunction (reverse-

coded). The correlation between these variables was $r = .59$ ($p < .001$). The KMO measure of sample adequacy was .50 and the Bartlett's Test of Sphericity was significant, $\chi^2(1) = 79.441$, $p < .001$, both of which indicates that the correlation matrix was appropriate for factor analysis (Field, 2009; Tabachnick & Fidell, 2007). Results revealed a one-component solution, eigenvalue = 1.56, accounting for 78.77% of the variance and with component loadings of .89.

Age and gender effects. Bivariate correlations between adolescents' age and the main study variables (frequencies of relocation and deployment, affective reactivity to relocation and deployment, adolescents' relationships with mothers, fathers, and peers, and well-being) are displayed in Table 6. Results revealed no significant relations between adolescents' age and any of these variables. As such, adolescents' age was not controlled for in subsequent analyses.

Table 6

Bivariate Correlations between with Adolescent Age and the Main Study Variables

Variable	Adolescent age	
Frequency of deployment	.07	(N = 131)
Frequency of relocation	-.01	(N = 192)
Affective reactivity to deployment	.03	(N = 187)
Affective reactivity to relocation	.05	(N = 192)
Adolescent-mother relationships	-.03	(N = 187)
Adolescent-father relationships	-.08	(N = 185)
Peer relationships	-.02	(N = 192)
Well-being	-.12	(N = 194)

Results from independent samples *t*-tests indicated that females reported significant greater affective reactivity to relocation ($M = 3.53$, $SD = 1.02$) than males ($M = 3.17$, $SD = 1.04$), $t(193) = -2.39$, $p = .018$, as well as significantly greater affective reactivity to deployment ($M = 3.69$, $SD = .71$) as compared to males ($M = 3.26$, $SD = .83$), $t(188) = -3.91$, $p < .001$. Subsequently, a multivariate analysis of variance examined whether adolescents' gender influenced their relationships with mothers, fathers, and peers. Results indicated no significant multivariate main effect for gender, Wilks' $\lambda = .97$, $F(3, 180) = 1.63$, *ns*, partial $\eta^2 = .03$. Finally, an independent samples t-test compared whether adolescents' well-being differed for males and females. Results indicated that males reported higher well-being ($M = .22$, $SD = .90$) as compared to females ($M = -.14$, $SD = 1.04$), $t(195) = 2.51$, $p = .013$. Given this pattern of effects, gender was included as a covariate in all the subsequent analyses.

Main Analyses

Overview. The overall goal of these analyses was to examine the inter-associations among adolescents' exposure to military stressors (i.e., frequencies of relocation and deployment), affective reactivity to military stressors, relationships with important others (i.e., mothers, fathers, and peers), and general well-being. The first set of analyses examined linear associations. Accordingly, zero-order correlations were first computed among the main study variables. To ease presentation, results are presented in subsets, including relations between: (1) frequency of military stressors (relocation, deployment) and adolescents' affective reactivity to these stressors; (2) adolescents' relationships with important others (mothers, fathers, peers) and well-being; and (3) military stressors (relocation/deployment frequencies/affective reactivity) and

adolescents' relationships (mothers, fathers, peers) with well-being. Possible gender differences in the magnitude of these associations were also assessed.

Drawing upon the previously described theoretical perspectives, the next set of analyses examined interactive associations among specific variables in the prediction of well-being. First, the potential moderating roles of adolescent's relationships in the links between military stressors and well-being were examined. These analyses tested whether adolescents' relationships with mothers, fathers, and peers moderated the associations between: (1) frequency of relocation and well-being; (2) frequency of deployment and well-being; (3) affective reactivity to relocation and well-being; and (4) affective reactivity to deployment and well-being.

Aspects of adolescent parent relationships were then explored in further detail. For example, the moderating role of adolescent/civilian-parent relationships in the association between deployment (frequency of, affective reactivity to) and well-being was examined (while controlling for adolescent/military-parent relationships). Similarly, the moderating role of adolescent/military-parent relationships in the association between deployment (frequency of, affective reactivity to) and well-being was examined (while controlling for adolescent/civilian-parent relationships). These moderation analyses involved the computation of a series of hierarchical multiple regressions, in accordance with the procedures outlined by Aiken and West (1991).

Linear Associations: Military Stressors, Relationships, and Well-Being

Military stressors: Frequency and reactivity. Correlations among the frequency of military stresses (relocation, deployment) and adolescents' affective reactivity to these stressors are displayed in Table 7. Among the results, frequency of deployment was

significantly and positively associated with adolescents' reactivity to deployment. In addition, adolescents' affective reactivity to relocation was significantly and positively related to adolescents' reactivity to deployment. To test for possible gender differences in these associations, the correlations were transformed into z-scores using Fisher's r-to-z transformation. Results indicated that there were no significant differences among the associations as a function of adolescent gender.

Relationships and well-being. Correlations among adolescents' relationships (mothers, fathers, peers) and well-being are presented in Table 8. Consistent with predictions, well-being was significantly and positively related to adolescent-mother relationships, adolescent-father relationships, and adolescent-peers relationships. Also of note, adolescents' relationships with mothers, fathers, and peers were all significantly and positively inter-correlated. Due to the high correlation between adolescent-mother relationships and adolescent-father relationships, these two variables were combined to create an aggregate measure of *adolescent-parent relationships*, which was used in subsequent analyses predicting well-being.

Table 7

Correlations among Frequencies of Relocation and Deployment and Affective Reactivity to Relocation and Deployment

	2	3	4
(1) Frequency of relocation	-.12	.02	-.03
	(n = 134)	(n = 193)	(n = 188)
(2) Frequency of deployment		.05	.20*
		(n = 133)	(n = 129)
(3) Reactivity to relocation			.36**
			(n = 190)
(4) Reactivity to deployment			

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

Table 8

Correlations among Adolescents' Relationships and Well-being

Variables	2	3	4
(1) Adolescent-mother relationships	.71*	.34*	.42*
	(N = 186)	(N = 192)	(N = 191)
(2) Adolescent-father relationships		.25*	.38*
		(N = 189)	(N = 189)
(3) Peer relationships			.46*
			(N = 196)
(4) Well-being			

* $p < .001$

Military stressors, relationships, and well-being. Finally, correlations between frequencies of relocation and deployment, adolescents' affective reactivity to relocation and deployment, adolescents' relationships with mothers, fathers and peers, and well-being are displayed in Table 9. Contrary to expectations, there were no statistically significant associations between frequency of relocation or deployment and well-being. However, consistent with predictions, affective reactivity to deployment and affective reactivity to relocation were both significantly and negatively related to well-being. Also of note, and somewhat unexpectedly, frequency of deployment was significantly and *positively* associated with the quality of adolescent-mother relationships.

To test for possible gender differences among these associations, correlations were again transformed into z-scores using Fisher's r-to-z transformation. A significant gender difference was found in the association between affective reactivity to relocation and adolescent-father relationships. The negative correlation between affective reactivity to relocation and adolescent-father relationships was significantly stronger for males (r = -.23, p = .047) than for females (r = .12, *ns*), z = -2.34, p = .019. No other significant gender differences were found among the associations.

Table 9

Correlations between Military Stressors and Adolescents' Relationships and Well-being

	Military stressors			
	Frequency of deployment	Frequency of relocation	Reactivity to deployment	Reactivity to relocation
Adolescent-mother relationships	.24** (*N* = 129)	.09 (*N* = 132)	.14 (*N* = 132)	.04 (*N* = 134)
Adolescent-father relationships	-.04 (*N* =189)	-.01 (*N* =187)	-.03 (*N* =193)	.02 (*N* =195)
Peer relationships	.05 (*N* = 185)	.09 (*N* = 183)	-.01 (*N* = 189)	-.17* (*N* = 192)
Well-being	-.11 (*N* =189)	-.05 (*N* =187)	-.31** (*N* =194)	-.26** (*N* =197)

* $p < .05$, ** $p < .01$

Interactive Associations: Moderating Roles of Relationships in the Prediction of Well-Being

The goal of the next set of analyses was to explore the moderating role of different adolescent relationships[9] in the links between military stressors and well-being. For these analyses, the focus was on affective reactivity to relocation and deployment (given that exposure to frequent relocation and deployment were demonstrated to be statistically unrelated to adolescent well-being in the previous analyses).[10] An aggregate variable representing adolescent-*parent* relationships was also created (given the previously demonstrated strong association between adolescent-father and adolescent-mother relationships). Gender differences (main effects and interactions) were also assessed. As well, when assessing links between one type of affective reactivity and military stressors (i.e., to deployment vs. to relocation), affective reactivity to the *other* type of military stressor was controlled for (given the previously demonstrated association between these two variables). Finally, although some were of potential conceptual interest, three-way interactions were not entered in regression equations, because larger sample sizes are required in order to detect higher interactions in non-experimental designs (Judd, McClelland, & Culhane, 1995).

---

[9] Hierarchical multiple regressions were performed to examine whether the links between exposure and reactivity to military stressors and well-being would depend upon the interaction between the quality of adolescents' parent and peer relationships. There were no significant interaction effects found between adolescents' parent and peer relationships.

[10] Hierarchical multiple regressions were performed to examine whether exposure to frequent deployment and relocation would moderate the association between adolescent relationships with parents and peers and adolescent well-being. There were no significant moderating effects found for exposure to frequent deployment and relocation.

Relocation. The first analyses examined the moderating role of relationships (parents, peers) in the links between affective reactivity to relocation and well-being. At Step 1, affective reactivity to deployment was entered as a control variable. At Step 2, main effects were entered (i.e., gender, affective reactivity to relocation, adolescent-parent relationships, peer relationships). At Step 3, conceptually relevant two-way interaction terms were entered (i.e., gender X affective reactivity to relocation, gender X parent relationship, gender X peer relationships, affective reactivity to relocation X parent relationships, affective reactivity to relocation X peer relationships).

Results are summarized in Table 10. In the prediction of well-being, significant main effects for affective reactivity to relocation (negative association), adolescent-parent relationships (positive association), and peer relationships (positive association) were found. No significant main effect of gender was found. There were no significant two-way interaction effects.

Table 10

Summary of the Regression Model Testing the Moderating Effects of Gender, Adolescent-Parent Relationships, and Peer Relationships on the Relation between Affective Reactivity to Relocation and Well-being

Variables Entered	β	sr^2	ΔR^2	ΔF
Step 1			.03	6.37*
Reactivity to deployment	-.19*	-.19		
Step 2			.35	25.12***
Gender	-.11	-.13		
Reactivity to relocation	-.20**	-.23		
Parent relationships	.28***	.31		
Peer relationships	.37***	.41		
Step 3			.01	.29
Gender X relocation	-.08	-.03		
Gender X parent relationships	.07	.02		
Gender X peer relationships	.16	.06		
Reactivity to relocation X parent relationships	.00	.00		
Reactivity to relocation X peer relationships	-.05	-.05		

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

Deployment. The remaining analyses examined the moderating role of relationships (parents, peers) in the links between affective reactivity to deployment and well-being. The first equation included peer relationships and the aggregate measure of parental relationships. At Step 1, affective reactivity to relocation was entered as a control variable at Step 1. At Step 2, main effects were entered (i.e., gender, affective reactivity to deployment, adolescent-parent relationships, peer relationships). At Step 3, conceptually relevant two-way interaction terms were entered (i.e., gender X affective reactivity to deployment, gender X parent relationship, gender X peer relationships, affective reactivity to deployment X parent relationships, affective reactivity to deployment X peer relationships).

Results are summarized in Table 11. In the prediction of well-being, there were no significant main effects of gender and affective reactivity to deployment. Significant main effects for adolescent-parent relationships (positive association) and peer relationships (positive association) were found. However, these effects were superseded by a significant two-way interaction between reactivity to deployment X adolescent-parent relationships. There were no other significant two-way interaction effects.

Results from follow up simple slope analysis indicated that at lower levels of adolescent-parent relationships (-1 SD from the mean), affective reactivity to deployment was significantly and negatively associated with well-being (β = -0.54, p = 0.017). However, at higher levels of adolescent-parent relationships (+1SD from the mean), the relation between affective reactivity to deployment and well-being was attenuated (β = -0.13, *ns*) (see Figure 3). Thus, a more positive relationship with parents appeared to buffer adolescents from the negative effects on well-being of heightened affective

reactivity to deployment.

Table 11

Summary of the Regression Model Testing the Moderating Effects of Gender, Adolescent-Parent Relationships, and Peer Relationships on the Relation between Affective Reactivity to Deployment and Well-being

Variables Entered	β	sr^2	ΔR^2	ΔF
Step 1			.09	16.99***
Reactivity to relocation	-.29***	-.29		
Step 2			.30	21.39***
Gender	-.11	-.13		
Reactivity to deployment	-.10	-.11		
Parent relationships	.28***	.41		
Peer relationships	.37***	.41		
Step 3			.05	2.82*
Gender X reactivity to deployment	.45	.09		
Gender X parent relationships	-.17	-.06		
Gender X peer relationships	.23	.08		
Reactivity to deployment X parent relationships	.24***	.27		
Reactivity to deployment X peer relationships	-.12	-.13		

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

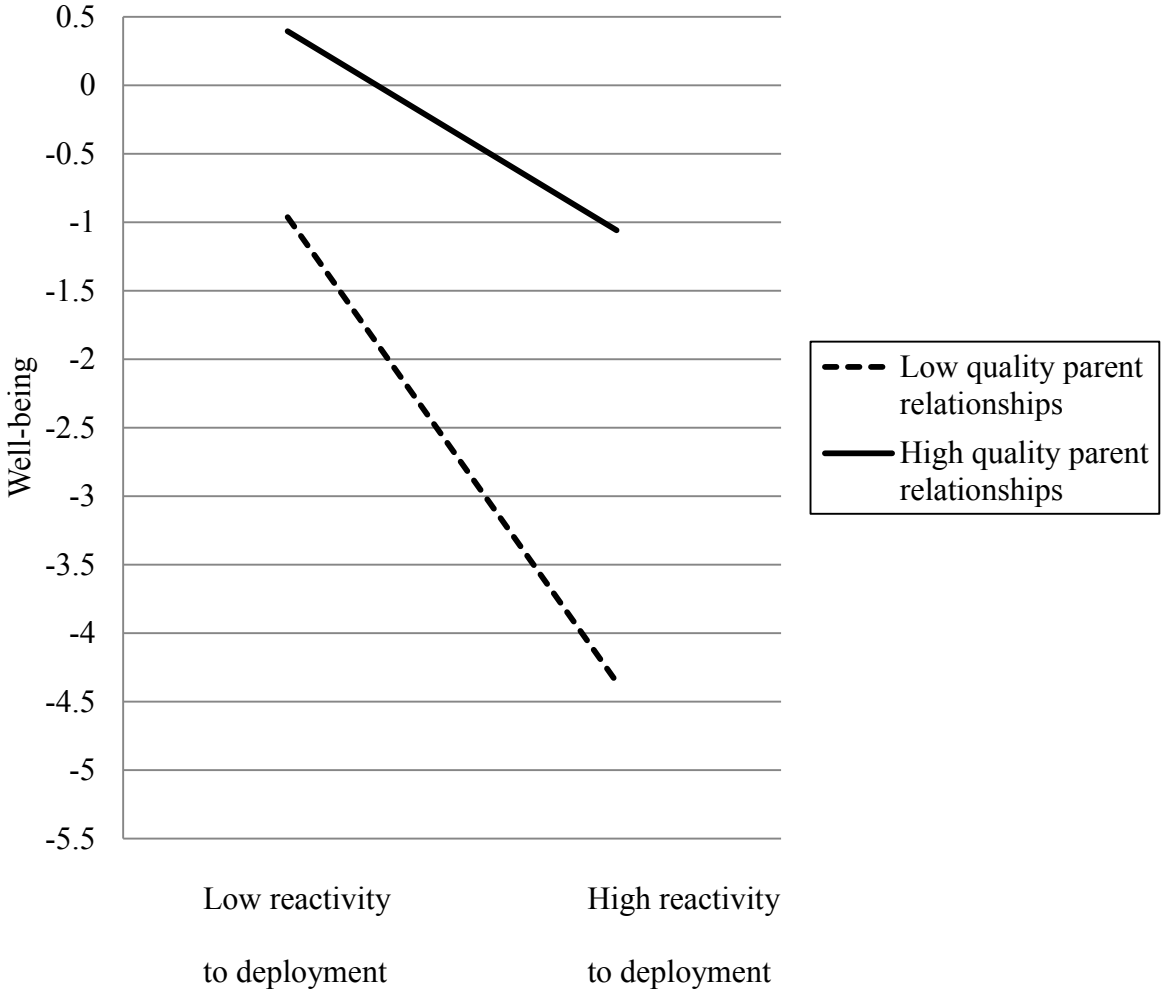

Figure 3. Simple slopes for the two-way interaction between affective reactivity to deployment and adolescent-parent relationships to predict well-being

Note: The aggregate variable of well-being is a z-score (which resulted in the Y-Axis values below zero)

The next set of analyses more specifically examined the moderating role of relationships with the civilian vs. military parent in the links between affective reactivity to deployment and well-being. Because these analyses pertaining specifically to deployment and parent-child relationships, it was important to distinguish which parent was deployed (military parent) and which remained at home (civilian parent). As mentioned previously, in the vast majority of cases, it was the father who was deployed. Since there were not enough cases of maternal deployment to analyze separately, for these analyses, only adolescents with fathers in the military were included (n = 137).

At Step 1, affective reactivity to relocation and adolescent-father (i.e., military parent) relationship were entered as control variables. At Step 2, gender, affective reactivity to deployment, and adolescent-mother (civilian parent) relationship were entered. At Step 3, conceptually relevant two-way interaction terms (i.e., gender X affective reactivity to deployment, gender X mother relationship, affective reactivity to deployment X mother relationship) were entered.

Results are summarized in Table 12. There were no significant main effects of gender and adolescent-mother relationships. However, a significant main effect of affective reactivity to deployment (negative association) was found. This main effect was superseded by a significant two-way interaction effect between affective reactivity to deployment X adolescent-mother (civilian parent) relationships. There was no other significant two-way interaction effect.

Results from follow up simple slope analysis indicated that at lower levels of adolescent-mother relationships (-1 SD from the mean), affective reactivity to deployment was significantly and negatively associated with well-being (β = -0.69, p =

.012). However, at higher levels of adolescent-parent relationships (+1SD from the mean), the relation between affective reactivity to deployment and well-being was attenuated (β = -0.27, *ns*) (see Figure 4). This suggests that positive adolescent-mother (civilian parent) relationship served to partially buffer adolescents from the negative implications of heightened affective reactivity to paternal (military parent) deployment.

Table 12

Summary of the Regression Model Testing the Moderating Effects of Gender and Adolescent- Civilian Parent Relationships on the Relation between Affective Reactivity to Deployment and Well-being

Variables Entered	β	sr^2	ΔR^2	ΔF
Step 1			.22	16.83***
Reactivity to relocation	-.25**	-.28		
Father (military parent) relationships	.39***	.40		
Step 2			.04	2.29
Gender	-.03	-.03		
Reactivity to deployment	-.20*	-.20		
Mother (civilian parent) relationships	.11	.08		
Step 3			.06	3.16*
Gender X reactivity to deployment	.55	.11		
Gender X mother relationships	-.13	-.05		
Reactivity to deployment X mother relationships	.25**	.26		

Note: Hierarchical regression analysis calculated on $N = 137$

$^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$

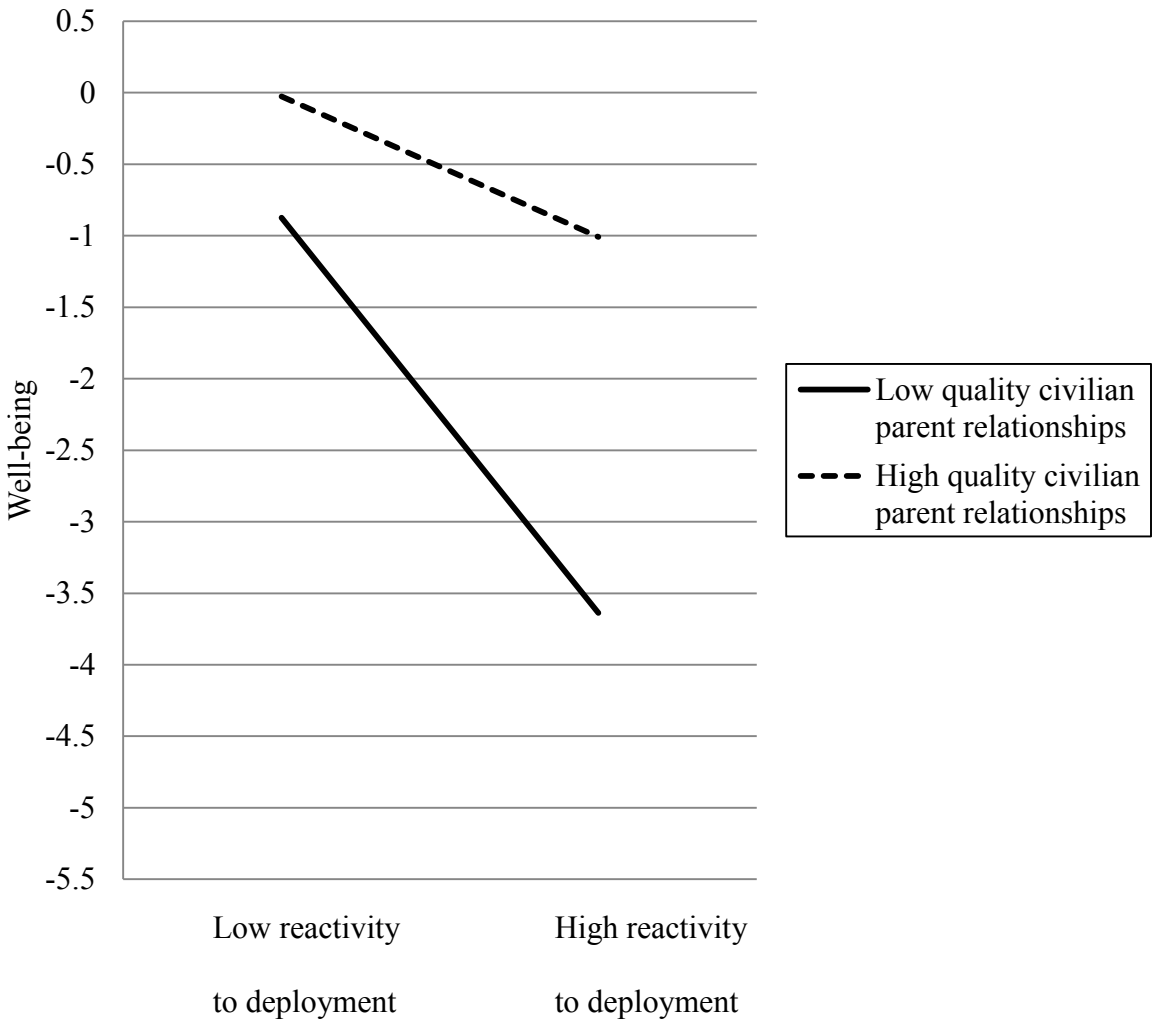

Figure 4. Simple slopes for the two-way interaction between affective reactivity to deployment and adolescent-civilian parent relationships to predict well-being

Note: The aggregate variable of well-being is a z-score (which resulted in the Y-Axis values below zero)

The final analyses examined the moderating role of military parent relationships in the links between affective reactivity to deployment and well-being. At Step 1, affective reactivity to relocation and adolescent-mother (i.e., civilian parent) relationship was entered as control variables. At Step 2, gender, affective reactivity to deployment, and adolescent-father (military parent) relationship were entered. At Step 3, conceptually relevant two-way interaction terms (i.e., gender X affective reactivity to deployment, gender X father relationship, gender X affective reactivity to deployment X father relationships) were entered.

Results are summarized in Table 13. In the prediction of well-being, there was no significant main effect of gender. However, significant main effects of affective reactivity to deployment (negative association) and adolescent-father relationships (positive association) were found. These main effects were superseded by a significant two-way interaction effect between affective reactivity to deployment X adolescent-father relationship. There was no other significant two-way interaction effect.

Results from follow up simple slope analysis indicated that at lower levels of adolescent-father relationships (-1 SD from the mean), affective reactivity to deployment was significantly and negatively associated with well-being (β = -0.85, p = .002). However, at higher levels of adolescent-father relationships (+1SD from the mean), the relation between affective reactivity to deployment and well-being was attenuated (β = -0.34, *ns*) (see Figure 5). This suggests that positive adolescent-father (military parent) relationship served to partially buffer adolescents from the negative implications of heightened affective reactivity to deployment.

Table 13

Summary of the Regression Model Testing the Moderating Effects of Gender and Adolescent-Military Parent Relationships on the Relation between Affective Reactivity to Deployment and Well-being

Variables Entered	β	sr^2	ΔR^2	ΔF
Step 1			.20	14.45^{***}
Reactivity to relocation	$-.23^{**}$	-.25		
Mother (civilian parent) relationship	$.36^{***}$	.37		
Step 2			.07	3.61^{*}
Gender	-.03	-.03		
Reactivity to deployment	$-.20^{*}$	-.20		
Father (military parent) relationships	$.32^{*}$	.22		
Step 3			.08	4.78^{**}
Gender X reactivity to deployment	.78	.15		
Gender X father relationships	-.35	-.12		
Reactivity to deployment X father relationships	$.32^{***}$	.33		

Note: Hierarchical regression analysis calculated on $N = 132$

$^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$

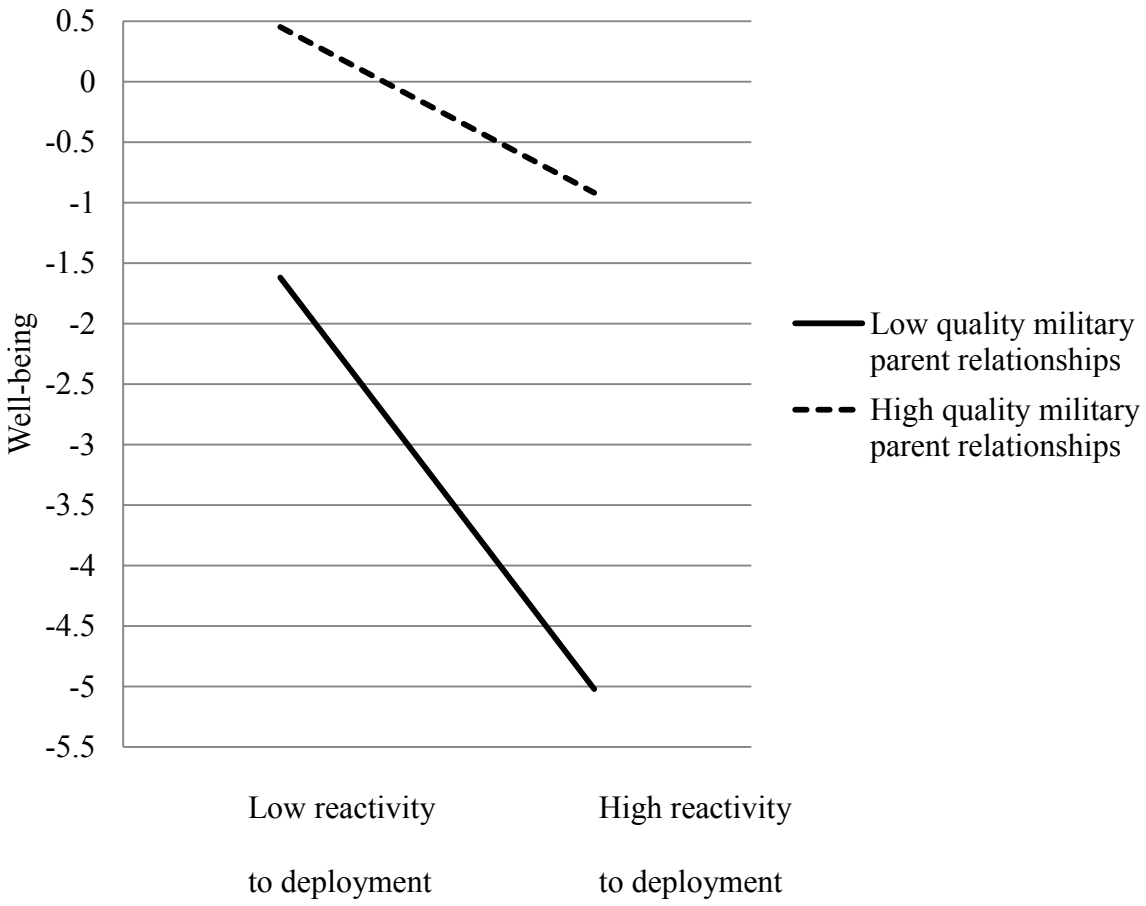

Figure 5. Simple slopes for the two-way interaction between affective reactivity to deployment and adolescent-military parent relationships to predict well-being

Note: The aggregate variable of well-being is a z-score (which resulted in the Y-Axis values below zero)

Discussion

Adolescents in military families are particularly vulnerable to risk because they are simultaneously exposed to normative developmental pressures (e.g., establishing one's identity) as well as the additional and unique demands of the military lifestyle (Booth & Lederer, 2012; Wiens & Boss, 2006). Accordingly, scholars have suggested that the challenges of the military lifestyle may impede children and adolescents' normal development and functioning (Watanabe & Jensen, 2000). Previous research has examined the impact on adolescents' adjustment of specific aspects of the military lifestyle, including residential relocation and parental deployment. These studies have found that relocation and deployment are associated with adolescents' poorer psychosocial and behavioural adjustment (e.g., Aronson & Perkins, 2013; Bradshaw et al., 2010; Chandra, Lara-Cinisomo et al., 2010; Huebner & Mancini, 2005; Huebner et al., 2010; Huebner et al., 2007; Knoboch et al., 2012; Mmari et al., 2010; Mmari et al., 2009; Wong & Gerras, 2010). Moreover, these adjustment problems are exacerbated when adolescents are exposed to more frequent relocation and deployment (Crow & Seybold, 2013; Mmari et al., 2010).

Despite these findings, the extant research is limited in several ways. First, few studies have sought to identify what adolescents perceive as the main stressors or challenges of having a parent who is a military member. Second, there are virtually no studies on adolescents' affective *reactivity* to military stressors, despite substantial evidence from civilian-based research indicating that affective reactivity to stressors are linked to well-being outcomes (Casey et al., 2010; Herres et al., 2016; Schneiders et al., 2006; Sheeber et al., 2006). Furthermore, there is limited research on the protective

factors that buffer adolescents' well-being against the impacts of relocation and deployment. Finally, almost all of the research on the well-being of adolescents from military families has focused on samples from the US military, most of which have used qualitative research designs (Bradshaw et al., 2010; Chandra, Martin et al., 2010; Huebner & Mancini, 2005; Huebner et al., 2010; Huebner et al., 2007; Knoboch et al., 2012; Mmari et al., 2010; Mmari et al., 2009; Wong & Gerras, 2010). Therefore, to address these shortcomings in the extant research, the present study used surveys and an open-ended question. First, qualitative analyses of adolescents' perceptions of the challenges of military life were conducted. In addition, quantitative analyses examined links between aspects of military stressors (exposure to frequent relocation/deployment, reactivity to relocation/deployment) and well-being, with a particular interest in the possible moderating role of adolescents' relationships (with parents/peers) in these associations.

In the qualitative aspects of the study, adolescents were asked to respond to an open-ended question on their beliefs about the challenges that adolescents from military families experienced in comparison to adolescents from non-military families. Because qualitative research uses an inductive approach with the goal of understanding, interpreting, and providing meaning to participants' responses (Lichtman, 2012), no specific hypotheses were forwarded. Adolescents reported that they believed their counterparts from non-military families were not encumbered by the challenges associated with frequent residential relocation. Specifically, participants believed that adolescents from non-military families did not change schools and extracurricular activities frequently, lose friends, feel a lack of belonging, and experience distress. In

addition, adolescents from military families also believed that those from non-military families did not encounter lengthy and frequent separations from their military parent due to deployments. As such, it was believed that adolescents from non-military families would not be challenged by a lack of parental availability and would not experience fear and worry that a parent may be injured or killed while on the job.

In regards to the quantitative aspects of the study, it was predicted that both frequency of exposure and affective reactivity to military stressors (relocation and deployment) would be related to adolescents' lower well-being. It was also hypothesized that the quality of adolescent-parent and peer relationships would moderate these associations. Specifically, more positive relationships with parents and peers were speculated to buffer adolescents against the negative effects of relocation and deployment and more negative parent and peer relationships were expected to exacerbate these negative effects. Further, positive quality adolescent/civilian-parent relationship (while controlling for adolescent/military-parent relationship) and adolescent/military-parent relationship (while controlling for adolescent/civilian-parent relationship) were expected to also protect adolescents against the negative influence of deployment.

Overall, aspects of residential relocation and parental deployment were found to be associated with adolescents' well-being. More specifically, although adolescents believed that frequent relocation and frequent deployment were challenges that they faced in comparison to those from non-military families, the frequencies of these two unique stressors were not significantly related to adolescents' well-being. However, heightened affective *reactivity* to relocation and deployment were both associated with adolescents' lower well-being.

Overall, positive quality relationships with parents and peers were also related to better well-being. Neither adolescent-parent relationships nor peer relationships were found to moderate the association between affective reactivity to relocation and well-being. However, adolescent-parent relationships (but not peer relationships) significantly moderated the relation between affective reactivity to deployment and well-being. Positive quality adolescent-parent relationships were found to buffer adolescents against the negative implications of heightened affective reactivity to deployment on their well-being. A similar pattern of moderation was also found for adolescent/civilian-parent and adolescent/military-parent relationships.

Finally, some interesting gender differences also emerged. For example, female adolescents reported greater affective reactivity to relocation and deployment as compared to males. However, male adolescents reported higher well-being than females. Lastly, affective reactivity to relocation was more strongly associated with lower quality adolescent/military-parent relationships for males than for females.

In the following sections, each of these results is discussed in turn, organized as follows: (1) impact of adolescents' relationships with parents and peers on their well-being within the context of military families; (2) implications of relocation; (3) implications of deployment; and (4) the moderating roles of adolescents' relationships with important others

Relationships with Important Others and Well-being among Adolescents from Military Families

In terms of preliminary analyses, there were no significant gender differences in the quality of adolescents' relationships with mother, father, or peers. These findings are

consistent with previous research with civilian families related to parent-child relationships (Arbona & Power, 2003; Lapsley, Rice, & FitzGerald, 1990; McCormick & Kennedy, 1994) and peer relationships (Muris, Meesters et al., 2001; Nelis & Rae, 2009; Ruijten et al., 2011; Sam Martini et al., 2009). However, adolescent females did report lower well-being than males, which is also consistent with past studies on adolescents in civilian families (e.g., Charbonneau et al., 2009; Flook, 2011).

The quality of adolescents' relationships with parents and peers were found to be inter-related. For example, the quality of adolescent-mother relationships was positively associated with the quality of adolescent-father relationships. Previous research based on civilian families has often combined adolescents' attachment scores with mothers and fathers together because of the strong and positive association (Armsden & Greenberg, 1987; Raja, McGee, & Stanton, 1992; Stolz, Barber, & Olsen, 2005).

In addition, the quality of both adolescent-mother and father relationships were each positively associated with the quality of adolescents' peer relationships. These results are also consistent with past studies conducted with adolescents in civilian families (Ducharme, Doyle, Markiewicz, 2002; Furnam, Simon, Shaffer, & Bouchey, 2002; Lieberman, Doyle, & Markiewicz, 1999). The findings suggest that adolescents with secure parent attachments have developed an internal working model that they are worthy of love and care from others, including their peers (Ainsworth, 1989; Bowlby, 1980). As a result, securely attached adolescents are likely to expect positive interactions with their peers and behave in ways that elicit positive responses from their peers (Cohn, Patterson, & Christopoulos, 1991; Kerns, Klepac, & Cole, 1996; Kobak & Sceery, 1988). Moreover, securely attached adolescents are able to rely on their parents as a secure base

for exploring their social environment, developing their social skills, and learning to interact in a cooperative manner during social interactions (Kerns et al., 1996), which in turn, transfers to their relationships with peers (Putallaz & Heflin, 1990).

In terms of the types of interpersonal relationships that were directly related to adolescents' well-being, adolescent-*parent* relationships were found to uniquely predict well-being. Specifically, positive quality adolescent-parent relationships were associated with higher well-being, which is consistent with previous studies based on civilian families (e.g., Buchanan & Bowen, 2008; Laible, 2000; Muris et al., 2003; Rönnlund & Karlsson, 2006). This is the first evidence of the nature of the adolescent-parent relationship among military families and its relation to adolescents' well-being. The finding suggests that although adolescents from military families are faced with unique stressors (as will be discussed in the subsequent section), positive relationships that they develop with their parents appear to contribute to improved well-being. Moreover, these findings highlight that although the child-parent relationship in adolescence is characterized by lower frequency of shared activities and interaction, (Steinberg, 1990; Steinberg & Silk, 2002), secure attachment to parents plays a significant predictive role in adolescents' well-being.

The quality of adolescents' *peer* relationships was also found to be associated with adolescents' well-being. Specifically, positive quality peer relationships uniquely predicted adolescents' greater well-being (above and beyond the effects of adolescents' relationships with parents). This finding is consistent with past research with adolescents in civilian families (e.g., Kerr et al., 2006; Khanlou, 2004; Laible et al., 2000; Nelis & Rae, 2009). It is the first evidence that the quality of adolescents' peer relationships

contributes to enhanced well-being among adolescents in military families. The finding suggests that although attachment to parental figures is important in adolescence, peers are also able to meet adolescents' attachment needs (Allen, 2008; Cassidy & Shaver, 2008; Kerns et al., 2006). Moreover, given that adolescents in military families are prone to unique stressors related to the demands of the military lifestyle, secure attachments to peers provide emotional support during stressful situations (Hazan & Zeifman, 1999), which ultimately contributes to their self-esteem development and overall well-being (Harter, 2006). In sum, the findings indicate that adolescents' relationship with parents and peers are connected and positive quality relationships with both parents and peers are each uniquely linearly associated with adolescents' well-being. Thus, overall, despite the unique context of growing up in a military family, relationships with parents and peers appear to be associated with adolescents' well-being in a similar fashion as has been demonstrated in non-military families.

Adolescents' Self-Identification of Military Stressors

Adolescents in the current sample were asked to provide open-ended comments about the challenges that they encounter in comparison to adolescents from non-military families. Results from qualitative analyses indicated that adolescents perceived frequent relocation as well as frequent and lengthy parental deployment as the main challenges that they experienced as compared to their counterparts from non-military families. The following section discusses each of the themes and sub-themes revealed in the qualitative portion of the study.

Residential relocation. Frequent relocation was one of the challenges that adolescents believed they experienced as compared to adolescents in non-military

families. This is consistent with findings from adolescents in US military families, who have previously reported that frequent moves are one of the main stressors that they are faced with having a parent in the military (Mmari et al., 2010).

Adolescents in the present study indicated that relocation affected them in a number of ways. For example, several participants reported that they changed schools because of relocation. Transitioning schools have been previously reported as a considerable challenge because of differences in the school's policy, academic standards, and quality of education (Bradshaw et al., 2010). Other participants indicated that relocation resulted in them having to leave extracurricular activities. Adolescents in US military families have previously indicated that their participation in extracurricular activities is negatively affected by relocation because the number and type of activities may differ between schools (Bradshaw et al., 2010). As well, depending upon the time of the move, the deadline for tryouts have passed and in some cases, coaches are reluctant to offer positions in a team to adolescents in military families because they anticipate the youth will move again shortly (Bradshaw et al., 2010).

Some adolescents also reported that relocation influenced their friendships. Specifically, adolescents lost their friends from their previous location and were challenged with making friends at the new residence. Other studies have similarly found that losing friends is a major stressor for adolescents in military families who relocate (Bradshaw et al., 2010; Darnauer, 1976; Leitzel et al., 1997; Mmari et al., 2010; Orthner et al., 1987). This is may be because relocation separates adolescents from their peers, whom they increasingly rely on for support as they individuate from their parents and establish their self-identity (Blos, 1979; Buhrmester & Furnam, 1986; Laible, 2007). As

well, adolescents who relocate typically have difficulties developing new peer relationships and are more likely to be socially rejected and on the periphery of social networks (Bret, 1982; Haynie & South, 2005; Vernberg, 1990; Vernberg et al., 1994). Moreover, adolescents reported that their friendships were short-lived because they moved frequently, which is also consistent with past studies (Oishi & Schimmaker, 2010).

Another challenge few adolescents believed they uniquely experienced as compared to those in non-military families was the feeling of not belonging to a community because they moved frequently. This appears to be the first report that adolescents in military families experienced a lack of belonging due to relocation. The physical environment that individuals reside in helps to create a sense of meaning, stability, and order in peoples' lives through the familiarity of the physical characteristics of the landscape as well as the social and cultural aspects of the place (Cicognani, Menezes, & Nata, 2011; Plas & Lewis, 1996). As such, a person's sense of belonging to a physical environment is related to his or her self-identity (Proshansky, Fabian, & Kaminoff, 1983; Relph, 1976). There is some evidence to suggest that frequent residential relocation disrupts adolescents' development of a strong sense of belonging and self-identity (Cicognani et al., 2011; Fischer & Malmberg, 2001; Gustafson, 2008). Therefore, adolescents in military families who feel a lack of belonging to a place because of frequent moves may be at risk for developing a weak sense of self-identity.

Furthermore, few adolescents reported that one of the challenges they believe is unique to adolescents in military families is the feeling of distress over the uncertainty of another move and the stress associated with frequent relocation. This supports some

previous research that frequent relocation is associated with lower psychological well-being among adolescents in US military families (Shaw, 1979). It has been suggested that individuals experience various emotions as they go through the relocation process ranging from feeling overwhelmed during the pre-move stage to experiencing isolation and depression within the first three to six months post-move (Gaylord & Symons, 1986). However, it is anticipated that within two years post-relocation, individuals are able to positively adjust. Given that adolescents in military families relocate frequently (Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014), they may be at risk for experiencing greater distress as the post-move adjustment leads to the pre-move stage and the cycle of negative emotions continues. Furthermore, adolescents who relocate frequently may be at increased risk for lower well-being because they leave behind support systems with each successive move and must form new relationships, which could be emotionally taxing (Brown & Orthner, 1990; Crockett et al., 1989; Seidenberg, 1973; Stokols & Shumaker, 1982).

Parental deployment. Parental deployment was the other substantive challenge that adolescents in military families believed that their counterparts in non-military families did not experience. Deployment has been previously reported by youth in US military families as one of the main challenges of having a parent in the military (Mmari et al., 2010). In the present study, many respondents also indicated that their counterparts in non-military families did not face lengthy separations from their parent as a result of deployment. As well, some adolescents reported that although the duration of the deployment was short, they were challenged by the frequency of deployment.

In addition, several adolescents indicated that their parents missed holidays and

special events because they were deployed. This finding corroborates adolescents' reports in US military families as one of the challenges of parental deployment (Huebner et al., 2007; Knobloch et al., 2012; Mmari et al., 2010). Moreover, some adolescents reported that because their military parents were away on deployment, they were unable to provide their children with support in everyday activities such as helping with homework. This result is also consistent with past qualitative studies on adolescents in US military families with a deployed parent (Huebner et al., 2007; Knobloch et al., 2012).

Moreover, several adolescents expressed feeling worry and fear over the safety of the deployed military parent as another challenge that their counterparts in non-military families did not experience. Indeed, previous qualitative research has found that adolescents in US military families are concerned their deployed military parent may be injured or killed while on duty (Huebner et al., 2010; Huebner et al., 2007; Mmari et al., 2010). Further, some adolescents reported feelings of uncertainty over the duration and frequency of their military parents' deployment. Past studies have found that these feelings of uncertainty are common reactions among military families (Chandra, Martin et al., 2010; Huebner et al., 2007; Pincus et al., 2001).

Taken together, these findings indicate that adolescents from CAF families experience similar challenges as adolescents from US military families. Therefore, future research could consider collaborating reports from families from both Canadian and US military families. Furthermore, the results from the qualitative portion of the study provided strong validation (from the participants themselves) that it is important to quantitatively examine the impact of these specific military stressors on adolescent well-

being.

Implications of Relocation

First, gender differences were found for adolescents' affective reactivity to relocation. Specifically, adolescent females reported higher levels of affective reactivity to relocation as compared to adolescent males. This is consistent with previous research with adolescents in civilian families that adolescent females are more emotionally reactive to stressors as compared to males (e.g., Flook, 2011; Hankin et al., 2007; Shih et al., 2006). It may be that females are more emotionally reactive to relocation because relocation disrupts their peer relationships. Prior studies have found that adolescent females experience more stress leaving old friends and making new friends as compared to boys (Orthner et al., 1987) - perhaps because girls' peer relationships involve high levels of intimacy and emotional support (Brown & Orthner, 1990).

Frequency of relocation. Overall, adolescents' exposure to *frequent* relocation was largely unrelated to adolescents' relationships and well-being. First, frequency of relocation was not significantly related to the quality of adolescent-mother or -father relationships. This is the first examination of the potential association between frequency of relocation and adolescent-mother/father relationships in a military sample. It has been suggested that relocation affects multiple domains of functioning in adolescents' lives, both inside and outside of the home (Adams & Chase-Lansdale, 2002). However, for military families in which frequent relocation is the norm, it is speculated that dealing with the relocation process may not strain the adolescent-parent relationships.

The frequency of relocation was also not significantly related to the quality of adolescents' peer relationships. Some previous research has similarly found that the

number of moves does not significantly influence the quality of adolescents' peer relationships (Finkel et al., 2003; Orthner et al., 1987). Instead, in these studies, the quality of adolescents' peer relationships was related to the length of time that adolescents lived at the current residence. Specifically, adolescents had better peer relationships when they resided at their current residence for a longer period of time, possibly because it gives adolescents more time to develop and maintain positive relationships. Therefore, it may be important to consider other objective relocation-related variables as they relate to youth peer relationships.

Finally, no significant association was found between frequency of relocation and adolescents' well-being. Although this finding is contrary to expectation, there is some research that has similarly found that the frequency of relocation is unrelated to adolescents' well-being (Finkel et al., 2003; Orthner et al., 1987). In terms of the Double ABC-X Model of Adjustment and Adaptation (McCubbin & Patterson, 1983), this finding suggests that the "A" factor or the objective aspect of relocation does not influence adolescents' well-being. It is speculated that other factors may account for the association between frequency of relocation and adolescents' well-being. For example, Adam and Chase-Landsdale (2002) reported that among low-income civilian families, the quality of adolescents' current relationship with their mothers partially mediated the link between frequency of moves and adolescents' internalizing problems. Therefore, future research could consider exploring potential mediators in the link between frequency of relocation and adolescents' well-being. As will now be discussed, a stronger pattern of associations was observed for reactivity to relocation.

Reactivity to relocation. Adolescents' affective *reactivity* to relocation was not significantly related, overall, to the quality of adolescent-mother and father relationships. However, an interaction effect with gender was noted. Specifically, adolescents' affective reactivity to relocation was negatively associated with the quality adolescent-father relationships among males, but not females. One speculation is that male youth adopt more responsibilities during the relocation process (e.g., packing), which increases their stress. As a result, tension may increase in the adolescent-military father relationship, which may deteriorate the quality of their relationship.

Heightened affective reactivity was also found to be negatively associated with the quality of peer relationships (across the entire sample). This is the first evidence that affective reactivity to relocation is related to adolescents' peer relationship. The finding suggests that adolescents who respond to relocation more negatively are more likely to have lower quality peer relationships. A possible interpretation is that highly reactive youth experience difficulty in regulating their negative affect (Shapero et al., 2016). As a result, these adolescents may display their negative emotions in an inappropriate manner during social interactions, which decreases the quality of the peer relationships. Another speculation is that adolescents with heightened affective reactivity to relocation report lower quality peer relationships because their peers are less empathetic and supportive. This may be the case if the majority of adolescents have peers who are from non-military families as they may have less understanding about relocation and the implications for adolescents from military families.

Finally, adolescents' subjective experience of relocation was also significantly associated with their well-being. Specifically, heightened affective reactivity to

relocation was found to predict lower well-being. This result provides partial support for the Double ABC-X Model (McCubbin & Patterson, 1983) that the "C" factor or the subjective definition of relocation has an impact on adolescents' well-being. It also furthers the work by Pittman and Bowen (1994) who found that the negative perceptions held by adolescents in US Airforce families about relocation were positively associated with adolescents' adjustment difficulties. Moreover, previous research using civilian adolescents have shown that heightened affective reactivity to stressors increases youth vulnerability to lower well-being independent of the effects of exposure to stressors (e.g., Hankin et al., 2007; Shapero & Steinberg, 2013; Shih et al., 2006). Taken together, the findings from the present research underscore the importance of examining both adolescents' exposure to relocation as well as their affective reactivity to relocation as they may each exert differential effects on adolescents' wellbeing.

Implications of Deployment

To begin with, adolescent females reported higher levels of affective reactivity to deployment as compared to males. This is consistent with past studies with adolescents from civilian families that adolescent females are more emotionally reactive to stressors than males (e.g., Flook, 2011; Hankin et al., 2007; Shih et al., 2006). It is speculated that females respond more negatively toward deployment because during deployment, they tend to undertake greater domestic roles and responsibilities as well as providing emotional support to family members, which have been cited as a source of stress (Harrison & Albanese, 2012).

Frequency of deployment. Frequency of deployment displayed a somewhat complex (and somewhat unexpected) pattern of associations with adolescent relationships

and well-being. First, frequency of deployment was not significantly related to the quality of adolescent-father relationships. This was an unexpected finding since insecure parent-child attachment exists when parents are physically and emotionally unavailable (Ainsworth, 1989; Bowlby, 1951, 1973). As well, frequent deployments are likely to reduce the opportunities for youth to spend time with the military parent and obtain support (Schaetti, 2002). One interpretation of this finding is that the quality of the adolescent/military-parent relationship was stable from early childhood and did not change as a result of the frequent separations from the military parent. As well, frequent separations from the military parent may be the norm for adolescents in military families, which constitute part of the adolescent/military-parent relationship.

Interestingly and somewhat unexpectedly, frequency of deployment was significantly and *positively* associated with adolescent/at-home parent relationships. It can be speculated that adolescents developed a more positive relationship with the at-home parent because s/he is physically and emotionally available. As well, adolescents may be able to turn to the at-home parent for support while the other parent is away. One previous qualitative study found that adolescents reported more positive relationship with the at-home parent during deployment because it provided more opportunities to bond with the at-home parent, which strengthened their relationship and they obtained support from the at-home parent to cope with the deployment (Huebner & Mancini, 2005).

No significant association was found between adolescents' exposure to frequent deployment and the quality of adolescents' peer relationships. This is the first study to investigate the link between frequent deployment and adolescent' peer relationships. The lack of direct association between frequency of deployment and adolescents' peer

relationships might suggest that other mediator factors are involved. For instance, adolescents who experience frequent deployment and in turn, positive relationships with the at-home parent might develop closer relationships with their peers because they learned to interact in a cooperative manner, improved their social skills, and developed their social competence from having a secure parent attachment (Kerns et al., 1996; Youngblade & Belsky, 1992).

Finally, no significant association was found between frequency of deployment and well-being. This is in contrast to the results of previous studies that have shown that according to caregivers' reports, adolescents experience greater psychological and behavioural problems when their military parents are deployed more frequently (Chandra et al., 2008; Crow & Seybold, 2013; McGuire et al., 2016; Wong & Gerras, 2010). This suggests that the "A" factor of the Double ABC-X Model of Adjustment and Adaptation (McCubbin & Patterson, 1983) or the objective aspect of deployment did not influence youth well-being.

One possible explanation for this finding is that adolescents' reports on their well-being differ from caregivers' reports. Scholars have argued that adolescents are better at judging their emotional states and are able to provide unique insights into their internalized distress as compared to others (Card et al., 2011). Indeed, there is evidence based on adolescents in both military and civilian families that caregivers' reports of youth well-being are different from youth self-report (Crow & Seybold, 2013; Lopoz-Perez & Wilson, 2015; Wong & Gerras, 2010). It is also possible that other objective characteristics of deployment that were not examined are associated with adolescents' well-being. For instance, some studies have focused on the influence of length of

deployment on youth adjustment outcomes (Chandra et al., 2008; Chandra, Lara-Cinisomo et al., 2010; Cozza et al., 2010; Lester et al., 2010). These results indicate that longer parental deployments are associated with adolescents' lower well-being. Therefore, it might be beneficial for future research to explore multiple objective aspects of deployment.

Reactivity to deployment. Adolescents' affective reactivity to deployment was not found to be significantly associated with their relationships with mothers, fathers, or peers. This is also the first investigation of the links between adolescents' affective reactivity to deployment and relationships with parents and peers. It is speculated that although adolescents reported more negative emotions toward deployment, they may internalize these feelings and not communicate with their parents and peers, thereby not affecting the quality of their relationships with their parents and peers. Another possibility is that adolescents have previously established a secure (or insecure) relationship with their parents and peers, which is not affected by adolescents' emotional reactivity. Future research is encouraged to further explore the potential associations between adolescents' affective reactivity to deployment and relationship with others.

Notwithstanding, and consistent with prediction, adolescents' subjective experiences about deployment were found to be significantly related to adolescents' well-being. That is, adolescents' heightened affective reactivity predicted adolescents' lower well-being. This finding provides partial support for the Double ABC-X Model of Adjustment and Adaptation (McCubbin & Patterson, 1983) that the "C" factor or individuals' perception of the stressor influences their well-being. Furthermore, this result is consistent with previous research conducted on adolescents in civilian families

that heightened affective reactivity to stressors exerts an influence on youth adjustment and functioning, independently from adolescents' exposure to greater stressors (Shapero & Steinberg, 2013; Shih et al., 2006; Stawski et al., 2008). Taken together, the findings underscore the importance of exploring both the objective aspects of deployment as well as the individuals' subjective experiences of deployment on ones' well-being. The implications of these results are discussed in more detail in a subsequent section.

Moderating Roles of Adolescents' Relationships with Important Others

According to the Double ABC-X Model of Adjustment and Adaptation (McCubbin & Patterson, 1983), the B factor (which represents *resources*) is thought to prevent the impact of military-related stressors from becoming a crisis to the family system. Huebner (2009) further elaborated on the types of resources by proposing that individuals' attachment security would protect ones' adjustment from the negative influence of military-related stressors. Huebner (2009) also suggested that the *process* by which military-related stressors influences individuals' adjustment is through the interaction between the "B" and "C" factors or one's attachment resources and subjective experience of the stressor. Therefore, the present study examined the interactions between adolescents' parent relationships/peer relationships and affective reactivity to relocation/deployment to account for the process of change in adolescents' well-being. It was hypothesized that adolescents' parent relationships/peer relationships would moderate the association between adolescents' affective reactivity to relocation/deployment and adolescents' well-being.

Peer relationships. Inconsistent with expectation, the quality of adolescents' peer relationships did not significantly moderate the relation between adolescents' affective

reactivity to relocation and adolescents' well-being. Similarly, the quality of adolescents' peer relationships was not found to moderate the association between adolescents' affective reactivity to deployment and well-being. These findings imply that adolescents' well-being is not dependent upon the interaction between adolescents' attachment security to peers and their subjective experiences of relocation and deployment, as Huebner (2009) suggested.

One explanation for these findings is that the present study did not explore the quality of adolescents' relationships with peers prior to the move and after relocating which may have influenced the findings. A previous qualitative study on relocation and peer relationships among adolescents in military families found that adolescents who formed new friendships post-relocation reported coping better with the move (Mmari et al., 2010). However, although this study highlights the importance of adolescents' peer relationships when dealing with military-related stressors such as relocation, adolescents' affective reactivity to relocation was not examined. Therefore, it may be worthwhile to consider other aspects of adolescents' peer relationships in the relation between adolescents' affective reactivity to relocation and adolescents' well-being before discounting Huebner's (2009) argument about the process of change in individuals' adjustment and adaptation to military stressors.

Another speculation is that the present study did not consider the quality of adolescents' relationships with peers in military families versus non-military families. Previous research has found that adolescents prefer to turn to their peers from military families because they better relate and understand the challenges of the military lifestyle, including parental deployment (Chandra et al., 2008; Huebner & Mancini, 2005; Mmari

et al., 2009). Notwithstanding, in the extant research, neither the quality of adolescents' peer relationships nor adolescents' affective reactivity to stressors including deployment were assessed. Taken together, the findings indicate that the quality of adolescents' peer relationships do not moderate the associations between adolescents' affective reactivity to both relocation and deployment and adolescents' well-being. Notwithstanding, it is important to remember that peer relationships quality was a significant (and unique) predictor of adolescents' overall well-being.

Parent-child relationships. Contrary to expectation, the quality of adolescents' parent relationships was not found to significantly moderate the association between adolescents' affective reactivity to relocation and adolescents' well-being. This finding is counter to Huebner's (2009) postulation that the process by which relocation affects individual' adjustment is based on the interplay between attachment security and one's subjective experience of the stressor.

One possibility is that how adolescents emotionally respond to relocation depends upon other parenting characteristics. For instance, Gillespie (2015) found that relocation is associated with an increase in parental monitoring and changes in parenting styles. It has also been suggested that moving can be a source of stress for parents and how parents respond to relocating could influence children and youth adjustment to relocation (Anderson et al., 2014). For example, Mantzicopoulos and Knutson (2000) reported that the association between moving and children's lower school adjustment is attenuated if parents do not experience stress related to the move. Although these studies demonstrate the importance of examining different parenting characteristics among adolescents who relocate, it should be noted that adolescents' affective reactivity to relocation was not

tested.

However, as predicted, the quality of adolescents' parent relationships was found to significantly moderate the association between adolescents' affective reactivity to deployment and adolescents' well-being. Specifically, positive quality adolescent-parent relationships appeared to buffer the negative influence of affective reactivity to deployment on adolescents' well-being. This finding provides support for Huebner's (2009) contention that the security of people's attachment moderates the relation of their subjective experiences about the stressor and their adjustment and adaptation. It is also consistent with previous research with adolescents in civilian families that positive adolescent-parent relationships buffer adolescents against the negative impact of stressors on their adjustment and functioning (see for reviews Grant et al., 2006; Olsson et al., 2003).

It has been further suggested that parental deployment has a negative effect on both the quality of the adolescent/civilian parent relationship as well as quality of the adolescent/military-parent relationship (e.g., Lowe et al., 2012; Paley et al., 2013; Riggs & Riggs, 2011). Moreover, research conducted with civilian families has shown that adolescents' relationships with mothers and fathers are different (e.g., Bulanda & Majumdar, 2009; Caldwell et al., 2005; Gomez & McLaren, 2006). Therefore, in the present study, the quality of adolescents' relationships with the civilian parent (i.e., mother) and military parent (i.e., father) were examined separately in the link between adolescents' affective reactivity to deployment and adolescents' well-being.

The results indicated that independent of the quality of adolescents' relationships with the military parent, the quality of the adolescent/civilian parent relationship was

found to significantly moderate the association between adolescents' affective reactivity to deployment and adolescents' well-being. Specifically, positive quality adolescent/civilian-parent relationships appeared to buffer the negative impact of affective reactivity to deployment on youth well-being. The finding provides support for Huebner's (2009) revision of the Double ABC-X Model of Adjustment and Adaptation (McCubbin & Patterson, 1983). As well, it supports Riggs and Riggs (2011) contention that the negative implication of deployment is attenuated when adolescents share a secure attachment with the at-home parent. The result also corroborates previous qualitative findings that adolescents are better able to cope with deployment of their military parent when they have a positive relationship with the at-home parent (Huebner & Mancini, 2005).

Finally, the quality of adolescents' relationships with the military parent was found to significantly moderate the association between adolescents' affective reactivity to deployment and adolescents' well-being, over and above the impact of the adolescent/civilian parent relationship. Specifically, positive quality adolescent/military-parent relationship appeared to buffer the negative impact of affective reactivity on adolescents' well-being. This finding also provides support for Huebner's (2009) argument that individuals' attachment security to others change the manner in which ones' subjective experiences of a military stressor affects their adjustment and adaptation. It may be that adolescents who share a positive relationship with the military parent have a better sense of what to expect during deployment because there is trust and open communication, which attenuates the negative impact of their heightened affective reactivity on their well-being. For instance, a previous study on single military parents of

the CAF found that children and youth were better adjusted to deployment when they informed about what the deployment entailed (e.g., duration, location) and the changes that occur during deployment (e.g., increase in household responsibilities) by the military parents (Skomorovsky & Bullock, 2015).

Another possibility is that adolescents with a positive attachment to the military parent maintain communication with the military parent when he is deployed. Qualitative evidence suggests that adolescents feel closer to the military parent when communication is maintained during the deployment (Huebner & Mancini, 2005; Huebner et al., 2010). This in turn, may help to strengthen the relationship between adolescents and the military parent, thereby protecting them against the negative effects of deployment. However, it is worth noting that in the present sample, the majority of adolescents reported that their military parent was not currently deployed. Taken together, the results suggest that although adolescents' peer relationships are important to the well-being of adolescents from military families, adolescents' attachments to parents are also crucial. Moreover, both the quality of adolescents' relationships with the civilian and military parent is integral for adolescents' positive well-being. These positive relationships serve to protect adolescents against the negative influence of heightened affective reactivity to deployment on their well-being.

Limitations and Future Directions

The present study provided much needed insight into the challenges that adolescents in families of the CAF believe they experienced as compared to their counterparts in non-military families. In addition, the present study furthered the extant research on the impact of military-life related stressors on youth well-being by exploring

the role of both adolescents' exposure to frequent military stressors as well as adolescents' affective reactivity to military stressors. As well, the present study extrapolated from the existing research on the protective roles of parent and peer attachments among civilian families to explore their moderating effects in the associations between adolescents' exposure and affective reactivity to military stressors and adolescents' well-being. Notwithstanding these contributions, there are some limitations that should be considered in the interpretation of the findings, some of which could be addressed in future studies.

Methodological issues. First, and perhaps most importantly, the response rate to the survey must be considered as very low. Response rates from Regular Force CAF personnel are typically quite low (e.g., 36.1%, Yelle, 2015) and even lower among Regular Force CAF spouses/partners (e.g., 22.8%, Wang, 2014). In comparison, some of the existing research on military families in the US is based on larger sample sizes because they used administrative data (e.g., Mansfield et al., 2011) or utilized convenience sampling (e.g., Chandra et al., 2008; Chandra, Lara-Cinisomo et al., 2010).

In the present study, participation may have been even lower because many adolescents under 16 years of age likely did not receive parental consent to participate in the study. Some adolescents may also have chosen not to participate in the survey because it was lengthy to complete and there was no specific external incentive to complete it. As well, other adolescents may have completed the survey but did not return it by mail. Finally, it is also possible that adolescents with the most stressors and poorest well-being opted not to participate in the study. Therefore, the findings from the present study may not generalize to all adolescents from Regular Force CAF families. To

increase participation among adolescents in military families, future research could consider advertising the survey in newsletters that are mailed to families and display posters at the local base Military Family Resource Centers (MRFCs). As well, future surveys could be shortened and more easily accessible to youth (e.g., web-based).

Another methodological limitation is the sole reliance on self-reported assessments. Self-reported data are prone to different kinds of response bias (Campbell & Fiske, 1959; Schwartz, 1999; Stone et al., 2000) and the inferences drawn from the inter-relations among the constructs could be inflated due to shared method variance (Donaldson, Thomas, Graham, Au, & Hansen, 2000; Spector, 1994). Therefore, it is suggested that future research consider collecting data from multiple sources across multiple contexts (e.g., home, school) given that parents and peers' perceptions of the attachment relationships may differ from youth self-reports.

There are alternative (i.e., non self-report) ways to assess adolescents' affective reactivity to stressors, including physiological assessments, behavioural observations, and experimental paradigms (Herres et al., 2016; Rottenberg, Gross, Gotlib, 2005; Sheeber et al., 2012). It has been argued that although there are limitations to using self-reports, this method "provides a unique and relatively direct window into the emotional experiences of participants that other physiological and behavioural measures cannot provide" (Silvers et al., 2012, p.1236). Furthermore, experimental studies tend to use non-interpersonal laboratory stimuli (e.g., film picture) to elicit emotional responses, which might be difficult to do if people are not engaged with the presented stimuli (Rottenberg et al., 2005). Therefore, in order to elicit adolescents' emotional responses to context-specific stimuli, the *Affective Reactivity to Relocation* and *Affective Reactivity*

to Deployment subscales (Day, 2013) were used to understand youth emotional reactions to relocation and deployment respectively. Each subscale was found to be reliable; however, future research is needed to assess the construct validity of the subscales. Furthermore, it is suggested that future research explicitly assess individuals' threat perception as an aspect of their reactivity to relocation and deployment.

Also, given that adolescents were asked to report on the frequency of deployment and relocation, there is a chance that adolescents may have underestimated the number of deployments and moves. This may be the case particularly if those changes occurred when adolescents were younger. Thus, in order to obtain the most accurate data on the rates of deployment and relocation, future studies could obtain the administrative data that are held on each military personnel of the CAF.

In addition, the distributions of adolescents' parent and peer relationships and well-being were negatively skewed suggesting that most participants reported positive quality parent and peer relationships and high well-being. As well, the gender composition of the sample comprised of mostly military fathers and daughters. Taken together, these characteristics of the sample suggest that the sample may be biased and caution should be taken when interpreting the results, including findings related to gender differences. Therefore, future research could aim to obtain a more normally distributed sample with more military mothers and sons in order to make non-biased conclusions about the manner in which military stressors influence the quality of adolescents' relationships with others and their well-being.

Moreover, the design of the study was cross-sectional in nature, which prohibited causal inferences from being made. As well, it was not possible to assess the changes

over time in the quality of adolescents' parent relationships and whether deployment and relocation exerted stronger or weaker effects on adolescents' well-being at different developmental periods. Many of these relations may be bi-directional. For example, adolescents' well-being might influence the quality of the adolescent-parent relationship while the quality of the adolescent-parent relationship influences adolescents' well-being. In addition, alternative interpretation of the findings cannot be discounted. For example, in terms of the interaction effects involving affective reactivity to deployment, adolescent-parent relationships, and well-being, it is possible that adolescents with lower well-being are more reactive to deployment, which in turn, damages their relationships with their parents. Therefore, it is encouraged that future research use longitudinal designs to assess changes in the core constructs over time as well as the causal relations among the constructs.

Furthermore, the dissertation used aggregated variables of adolescents' parent and peer relationships and well-being instead of single surveys to assess each of the study constructs. This approach was chosen since the different measurements of adolescents' parent and peer relationships and well-being were conceptually related. As well, because this is the first study to quantitatively assess the relationship quality and well-being of youth in military families, broad assessments of these constructs were considered appropriate. Notwithstanding, there are limitations to this approach. For instance, the aggregated variables may be too general to accurately reflect adolescents' relationships and well-being. Therefore, future research could replicate the study using single surveys of adolescents' parent and peer relationships to determine whether the same pattern of results are found.

The present study also focused on the experiences of adolescents in Regular Force CAF families whose fathers are the military parent in the family. However, their experiences may not generalize to adolescents in different military family context. There were low numbers of responses indicating the mother as the military parent in the family or both parents as belonging to the military. As such, it was not possible to examine whether the relations between adolescents' affective reactivity to deployment, quality of adolescent-parent relationship, and adolescents' well-being changed with different military family characteristics.

As well, data were not collected on the specific sector that the military parent belonged to (e.g., Navy) as well as the military parent's commissioned versus non-commissioned status. Given that the frequency in which military families are deployed and relocate vary as a function of these characteristics (Lucier-Greer et al., 2014; Office of the National Defence and Canadian Forces Ombudsman & Daigle, 2014), it may be useful for future research to collect such demographic data. In addition, data were not collected on adolescents' place of residence, which could impact their ability to form peer relationships. For example, adolescents who reside in Private Military Quarters (PMQs) on the bases may have easier access to peers in other PMQs to form relationships. As well, adolescents' well-being may be impacted if they relocate internationally as compared to nationally. Moreover, the experiences of adolescents in Reserve Force CAF families were not collected, which may differ from the experiences of adolescents in Regular Force CAF families. Therefore, future studies could consider examining the experiences of adolescents in other military contexts.

Finally, although this study focused on a unique population of adolescents, there were many aspects surrounding the survey design that were determined by the Department of National Defence and therefore, outside of the author's control. For instance, it was not possible to change the protocol for recruitment of participants in order to try to obtain a larger sample size. As well, it was not possible to obtain more nuanced details about the deployment and relocation process in the background survey such as the types of deployment and place of relocation. Therefore, the study partnership between the organization and the author created some limitations with the survey design, which made it difficult to explore other factors that might influence the inter-associations among adolescents' exposure and reactivity to military stressors, relationships with others, and well-being.

Age effects. In the present study, adolescents' age was not associated with any of the variables of interest. There is some research to suggest that adolescents' age plays a role in their adjustment to deployment and reactions to stressors. For example, Chandra, Lara-Cinisomo et al. (2010) examined the impact of parental deployment on the social, emotional, and academic adjustment of children in military families between 7 to 17 years of age. The results indicated that older youth experienced more difficulties across all the domains of adjustment as compared to younger children. As well, some studies have shown that affective reactivity is highest in children and reduces during adolescence (Carthy et al., 2010; Murphy, Eisenberg, Fabes, Shepard, & Guthrie, 1999); however, other studies have found that affective reactivity peaks in adolescence (Casey, Getz, & Galvan, 2008; Casey et al., 2010). In the present study, adolescents' age may have been unrelated to their responses because of the truncated age range of participants. Future

research could use a wider age-range in order to assess whether the relations among adolescents exposure and affective reactivity to military stressors, quality of relationships with important others, and well-being change as a function of adolescents' age.

Stress exposure and stress reactivity. In the present study, adolescents' exposure to frequent deployment was positively associated with adolescents' affective reactivity to deployment. However, no relation was found between adolescents' exposure to frequent relocation and adolescents' affective reactivity to relocation. This may suggest that other variables may be involved that account for the association between exposure to stressors and affective reactivity to stressors. For instance, Swaski (2008) found that exposure to daily stressors was positively associated with emotional reactivity to daily stressors among young adults but not older adults.

Other influential factors. Although adolescents' affective reactivity to relocation and deployment as well as the quality of adolescents' relationships with parent and peers were found to influence adolescents' well-being, the effect sizes were small. Therefore, other constructs not examined in the present study may have influenced the findings. For example, there is some evidence to suggest that the at-home parents' level of stress and depression as a result of deployment are associated with an increase in children and youth adjustment problems (Chandra, Lara-Cinisomo et al., 2010; Finkel et al., 2003; Flake et al., 2009; Lester et al., 2010; Palmer, 2008). As well, the quality of the adolescent-military parent relationship deteriorates when the military parent displays symptoms of posttraumatic stress disorder (e.g., Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010; Sampler, Taft, King, & King, 2004). This in turn, may negatively influence adolescents' well-being.

In addition, there is some evidence to suggest that personality traits play a role in emotional reactivity (see Lucas & Baird, 2004 for a meta-analytic review). For example, individuals high in neuroticism are more emotionally reactive toward stressors as compared to those low in neuroticism (Suls & Martin, 2005). Finally, the present study focused on adolescents' affective reactivity towards the military parent being deployed. Some studies have found that the reintegration of the military parent following deployment is stressful for children and youth (Andres & Moelker, 2011; Chandra, Lara-Cinisomo et al., 2010; Huebner et al., 2010; Huebner et al., 2007). Therefore, it is suggested that future research explore other factors that may influence the responses of adolescents in military families.

Implications for Policy and Practice

Drawing upon these results, several recommendations can be offered for policy and practices. First, local base MFRCs could provide workshops educating youth about the deployment and relocation process and what are the normative emotional and psychological responses to deployment and relocation versus the signs of distress. As well, MFRCs could provide social activities to youth from deployed military families and to those who newly relocated in order to help them make friends easily and obtain social support. As well, these programs may offer youth the opportunity for them to share their experiences and tips for adjusting to the changes that occur with deployment and relocation.

Another recommendation is for MFRCs to develop parenting workshops that provide parents with strategies to strengthen the relationships with their children particularly during stressful times such as deployment and relocation. For example,

parents could be encouraged to actively involve adolescents in the relocation process (e.g., help to select the new home). Relatedly, it has been suggested that filial therapy can be offered to military families to help them cope with military-related stressors including deployment (Chawla & Solinas-Saunders, 2011). In filial therapy, parents are taught to engage in therapeutic play with their children (Vanfleet, 2005). During therapeutic play sessions, both parents and children learn about emphatic listening, strategies to develop more structure during times of change, and ways to foster limit-setting (Chawla & Solinas-Saunders, 2011). In sum, these skills help families to maintain stability during periods of stressful changes and allow for open communication between parents and children about their feelings as they cope with military stressors (Chawla & Solinas-Saunders, 2011). Parents could also be encouraged to provide youth with age-appropriate roles and responsibilities while the military parent is away on deployment, which may increase adolescents' self-esteem (Alfano et al., 2016; Harrison & Albanese, 2012).

Finally, the military organization could consider intervening at the school-level to help adolescents cope with deployment and relocation. This could entail raising the awareness of the school staff and peers about the military lifestyle and its challenges for military families, particularly in schools with a low number of adolescents in military families. This in turn, may help adolescents obtain support from their peers because they will have a better understanding about military stressors including deployment and relocation. As well, it may help adolescents feel more integrated into a new school environment and develop a sense of belonging with peers with a non-military background.

Conclusion

In summary, the present study provided an initial exploration of the stressors and resources related to the well-being of adolescents in families of the Canadian Armed Forces. Using a mixed-method research approach, adolescents' perceptions of the challenges they experienced in comparison to adolescents in non-military families were assessed. In addition, the inter-relationships among adolescents' exposure and affective reactivity to relocation and deployment, adolescents' relationships with parents and peers, and adolescents' well-being were examined. Adolescents reported that the challenges they experienced unlike their counterparts in non-military families included relocating frequently and frequent and lengthy parental deployments. However, adolescents' exposure to frequent relocation and frequent deployment were unrelated to their well-being. Instead, heightened affective reactivity was associated with adolescents' lower well-being.

Moreover, positive quality parent and peer relationships were found to be related to adolescents' higher well-being. Although positive quality peer relationships were associated with greater well-being, peer relationships did not play a moderating role in the relations between affective reactivity to relocation and deployment and adolescents' well-being. However, there was some evidence to suggest that positive quality adolescent-parent relationships may buffer adolescents against the negative effects to well-being of heightened affective reactivity to relocation and deployment. Furthermore, positive quality adolescent/civilian-parent relationship and positive quality adolescent/military-parent relationship were each found to uniquely predict adolescents' higher well-being. The findings from the present study can be used to develop support

and treatments to improve the well-being of youth in CAF families.

References

Adam, E. K., & Chase-Lansdale, P. L. (2002). Home sweet home (s): parental separations, residential moves, and adjustment problems in low-income adolescent girls. *Developmental Psychology*, *38*, 792-805.

Ahnert, L., Gunnar, M. R., Lamb, M. E., & Barthel, M. (2004). Transition to child care: Associations with infant–mother attachment, infant negative emotion, and cortisol elevations. *Child Development*, *75*, 639-650.

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression:Testing and interpreting interactions*. Thousand Oaks, California: Sage.

Ainsworth, M. S. (1982). Attachment: Retrospect and prospect. In C. M. Parkes & J. Stevenson-Hinde (Eds.), *The place of attachment in human behaviour* (pp. 3-30). New York, NY: Basic Books.

Ainsworth, M. S. (1989). Attachments beyond infancy. *American Psychologist*, *44*, 709-716.

Ainsworth, M. S., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Erlbaum.

Alfano, C. A., Lau, S., Balderas, J., Bunnell, B. E., & Beidel, D. C. (2016). The impact of military deployment on children: Placing developmental risk in context. *Clinical Psychology Review*, *43*, 17-29.

Allen, J. P. (2008). The attachment system in adolescence. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed., pp. 419-435). New York, NY: Guilford.

Allen, J. P., & Land, D. (1999). Attachment in adolescence. In J. Cassidy & P. R. Shaver

(Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 319-335). New York, NY: Guilford.

Allen, J. P., Moore, C., Kuperminc, G., & Bell, K. (1998). Attachment and adolescent psychosocial functioning. *Child Development*, *69*, 1406-1419.

Amato, P. R., & Booth, A. (1996). A prospective study of divorce and parent-child relationships. *Journal of Marriage and the Family, 58*, 356-365.

Amato, P. R., & Gilbreth, J. G. (1999). Nonresident fathers and children's well-being: A meta-analysis. *Journal of Marriage and the Family*, 557-573.

Amato, P R., & Keith, B. (1991). Parental divorce and adult well-being: A meta-analysis. *Journal of Marriage and the Family, 53*, 43-58.

Anderson, S., Leventhal, T., & Dupéré, V. (2013). Residential mobility and the family context: A developmental approach. *Journal of Applied Developmental Psychology*. Advance online publication.

Andres, M. D., & Moelker, R. (2011). There and back again: How parental experiences affect children's adjustments in the course of military deployments. *Armed Forces & Society*, *37*, 418-447.

Anthony, E., & Stone, S. (2010). Individual and contextual correlates of adolescent health and well-being. *Families in Society: The Journal of Contemporary Social Services*, *91*, 225-233.

Aquilino, W. S. (1994). Later life parental divorce and widowhood: Impact on young adults' assessment of parent-child relations. *Journal of Marriage and the Family*, 908-922.

Aquilino, W. S., & Supple, A. J. (2001). Long-term effects of parenting practices during

adolescence on well-being outcomes in young adulthood. *Journal of Family Issues*, *22*, 289-308.

Aranda, M. C., Middleton, L. S., Flake, E., & Davis, B. E. (2011). Psychosocial screening in children with wartime-deployed parents. *Military medicine*, *176*, 402-407.

Arbona, C., & Power, T. G. (2003). Parental attachment, self-esteem, and antisocial behaviors among African American, European American, and Mexican American adolescents. *Journal of Counseling Psychology, 50*, 40-51.

Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Relationships to well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427-454.

Armsden, G. C., McCauley, E., Greenberg, M. T., Burke, P. M., & Mitchell, J. R. (1990). Parent and peer attachment in early adolescent depression. *Journal of Abnormal Child Psychology*, *18*, 683-697.

Aronson, K. R., Caldwell, L. L., Perkins, D. F., & Pasch, K. W. (2011). Assisting children and families with military-related disruptions: The United States Marine Corps school liaison program. *Psychology in the Schools, 48*, 998-1015.

Aronson, K. R., & Perkins, D. F. (2013). Challenges faced by military families: Perceptions of United States Marine Corps school liaisons. *Journal of Child and Family Studies, 22*, 516-525.

Aseltine, R. H., Gore, S., & Colten, M. E. (1998). The co-occurrence of depression and substance abuse in late adolescence. *Development and Psychopathology*, *10*, 549-570.

Bagwell, C. L., Newcomb, A. F., & Bukowski, W. M. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development*, *69*, 140-153.

Baldwin, S., & Hoffmann, J. (2002). The dynamics of self-esteem: a growth-curve analysis. *Journal of Youth and Adolescence, 31*, 101-113.

Beach, R. (1999). The impact of intense work schedules on family structure: A case study of a fly in/fly-out schedule in the Australian mining industry. In M. Collis, L. Munro, & S. Russell (Eds.), *Sociology for a new millennium: Challenges and prospects* (pp. 289-300). Churchill, Victoria: CeLTS.

Bell, K. L., Allen, J. P., Hauser, S. T., & O'Connor, T. G. (1996). Family factors and young adult transitions: Educational attainment and occupational prestige. In J. A. Graber, J. Brooks-Gunn, & A. C. Petersen (Eds.), *Transitions through adolescence: Interpersonal domains & context* (pp. 345-366). Mahwah, NJ: Erlbaum.

Belsky, J., & Fearon, R. P. (2002). Early attachment security, subsequent maternal sensitivity, and later child development: Does continuity in development depend upon continuity of caregiving? *Attachment & Human Development*, *4*, 361-387.

Berzonsky, M. D. and Adams, G. R. (1999). Reevaluating the identity status paradigm: Still useful after 35 years. *Developmental Review, 19*, 557-590.

Birkeland, M. S., Breivik, K., & Wold, B. (2013). Peer acceptance protects global self-esteem from negative effects of low closeness to parents during adolescence and early adulthood. *Journal of Youth and Adolescence, 1*, 70-80.

Black, K. A., & McCartney, K. (1997). Adolescent females' security with parents

predicts the quality of peer interactions. *Social Development, 6*, 91-110.

Blascovich, J., & Tomaka, J. (1991). Measures of self-esteem. In J. Robinson, P. Shaver, & L. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 115–160). San Diego, CA: Academic Press.

Blos, P. (1979). The second individuation process of adolescence. In P. Blos, *The adolescent passage: Developmental issues.* New York, NY: International University.

Boden, J. M., Fergusson, D. M., & Horwood, L. J. (2008). Does adolescent self-esteem . predict later life outcomes? A test of the causal role of self-esteem. *Development and Psychopathology, 20*, 319-339.

Booth, A., & Amato, P. R. (1994). Parental marital quality, divorce and relations with offspring in young adulthood. *Journal of Marriage and the Family, 56*, 21-34.

Booth, B., & Lederer, S. (2012). Military families in an era of persistent conflict. In J. H. Laurence and M. D. Matthews (Eds.), *The Oxford Handbook of Military Psychology* (pp. 365-380), Oxford, NY: Oxford University.

Booth, B., Segal, M. W., & Bell, D. B. (2007). *What we know about Army families: 2007 update*. Arlington, VA: Family and Morale, Welfare, and Recreation Command.

Bos, A. E., Huijding, J., Muris, P., Vogel, L. R., & Biesheuvel, J. (2010). Global, contingent and implicit self-esteem and psychopathological symptoms in adolescents. *Personality and Individual Differences*, *48*, 311-316.

Bowlby, J. (1951). Maternal care and mental health. *World Health Organization Monograph* (Serial No. 2)

Bowlby, J. (1969/1982). *Attachment and Loss, Volume 1, Attachment*. New York, NY:

Basic Books.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation, anxiety and anger.* New York: Basic Books.

Bowlby, J. (1980). *Attachment and Loss, Volume 2, Separation.* New York, NY: Basic Books.

Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment.* New York: Basic Books. (Original work published 1969)

Bowlby, J., Robertson, J., & Rosenbluth, D. (1952). A two-year-old goes to the hospital. In R. S. Eisler, A. Freud, H. Hartman, & E. Kris (Eds.), *Psychoanalytic study of the child* (Vol. 7, pp. 82-94). New York, NY: International University.

Bradshaw, C. P., Sudhinaraset, M., Mmari, K., & Blum, R. W. (2010). School transitions among military adolescents: A qualitative study of stress and coping. *School Psychology Review*, *39*, 84-105.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101.

Brennan, P. A., Le Brocque, R., & Hammen, C. (2003). Maternal depression, parent–child relationships, and resilient outcomes in adolescence. *Journal of the American Academy of Child & Adolescent Psychiatry*, *42*, 1469-1477.

Bretheton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretherton and E. Waters (Eds.), Growing points in attachment theory and research. *Monograph of the Society for Research in Child Development, 50*, (1-2, Serial No. 209), 3-38.

Brett, J. (1982). Job transfer and well-being. *Journal of Applied Psychology, 67*, 450-463.

Brown, B. B. (1999). Measuring the peer environment of American adolescents. In S. L.

Friedman & T. D. Wachs (Eds.), *Assessment of the environment across the life span* (pp. 59-90). Washington, DC: American Psychological Association.

Brown, B. B., & Klute, C. (2003). Friends, cliques, and crowds. In G. R. Adams & M. D. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 330-348). Malden, MA: Blackwell.

Brown, S., & Orthner, T. (1990). Relocation and personal well-being among early adolescents. *Journal of Early Adolescence, 10*, 366-381.

Buchanan, R., & Bowen, G. (2008). In the context of adult support: The influence of peer support on the psychological well-being of middle-school students. *Child and Adolescent Social Work Journal, 25*, 397–407.

Burhmester, D. (1992). The developmental courses of sibling and peer relationships. In F. Bou, & J. Dunn (Eds.), *Children's sibling relationships* (pp. 192–240). Hillsdale, NJ: Erlbaum.

Buhrmester, D., & Furman, W. (1986). The changing functions of friends in childhood: A neo-Sullivan perspective. In V. J. Derlega & B. A. Winstead (Eds.), *Friendship and social interaction* (pp. 41-62). New York, NY: Springer-Verlag.

Buhrmester, D., & Furman, W. (1987). The development of companionship and intimacy. *Child Development*, 1101-1113.

Buist, K. L., Deković, M., Meeus, W., & van Aken, M. A. (2002). Developmental patterns in adolescent attachment to mother, father and sibling. *Journal of Youth and Adolescence*, *31*, 167-176.

Bulanda, R. E., & Majumdar, D. (2009). Perceived parent–child relations and adolescent self-esteem. *Journal of Child and Family Studies*, *18*, 203-212.

Burrell, L. M. (2006). Moving military families: The impact of relocation on family well-being, employment, and commitment to the military. In C. A. Castro, A. B. Adler, & T. W. Britt (Eds.), *Military life: The psychology of serving in peace and combat* (Vol. 3, pp. 39-63). Westport, CT: Praeger Security International.

Burrell, L. M., Adams, G. A., Durand, D. B., & Castro, C. A. (2006). The impact of military lifestyle demands on well-being, Army, and family outcomes. *Armed Forces & Society*, *33*, 43-58.

Busacker, A., & Kasehagen, L. (2012). Association of residential mobility with child health: An analysis of the 2007 National Survey of Children's Health. *Maternal and Child Health Journal*, *16*, 78-87.

Byrne, B. M. (1996). Academic self-concept: Its structure, measurement, and relation to academic achievement. In B. A. Bracken (Ed.), *Handbook of self-concept* (pp. 287-316). New York, NY: John Wiley.

Caldwell, R. M., Beutler, L. E., Ross, S. A., & Silver, N. C. (2005). Brief report: An examination of the relationships between parental monitoring, self-esteem and delinquency among Mexican American male adolescents. *Journal of Adolescence, 29*, 459-464.

Card, N. A., Bosch, L., Casper, D. M., Wiggs, C. B., Hawkins, S. A., Schlomer, G. L., & Borden, L. M. (2011). A meta-analytic review of internalizing, externalizing, and academic adjustment among children of deployed military service members. *Journal of Family Psychology*, *25*, 508-520.

Carthy, T., Horesh, N., Apter, A., & Gross, J. J. (2010). Patterns of emotional reactivity and regulation in children with anxiety disorders. *Journal of Psychopathology and*

Behavioral Assessment, *32*, 23-36.

Casey, B. J., Getz, S., & Galvan, A. (2008). The adolescent brain. *Developmental Review, 28*, 42–77.

Casey, B. J., Jones, R. M., Levita, L., Libby, V., Pattwell, S. S., Ruberry, E. J., ... & Somerville, L. H. (2010). The storm and stress of adolescence: insights from human imaging and mouse genetics. *Developmental Psychobiology*, *52*, 225-235.

Cassidy, J. (2001). Truth, lies, and intimacy: An attachment perspective. *Attachment and Human Development, 3*, 121–155.

Cassidy, J., & Shaver, P. R. (Eds.). (2008). *Handbook of attachment: Theory, research, and clinical applications*. Guilford.

Caughlin, J. P., & Malis, R. S. (2004). Demand/withdraw communication between parents and adolescents: Connections with self-esteem and substance use. *Journal of Social and Personal Relationships*, *21*, 125-148.

Charbonneau, A. M., Mezulis, A. H., & Hyde, J. S. (2009). Stress and emotional reactivity as explanations for gender differences in adolescents' depressive symptoms. *Journal of Youth and Adolescence*, *38*(8), 1050-1058.

Chandra, A., Burns, R. M., Tanielian, T., Jaycox, L. H., & Scott, M. M. (2008). Understanding the impact of deployment on children and families: Findings from a pilot study of Operation Purple Camp participants. Santa Monica, CA: RAND.

Chandra, A., Lara-Cinisomo, S., Jaycox, L. H., Tanielian, T., Burns, R. M., Ruder, T., & Han, B. (2010). Children on the homefront: The experience of children from military families. *Pediatrics*, *125*, 16-25.

Chandra, A., Martin, L. T., Hawkins, S. A., & Richardson, A. (2010). The impact of

parental deployment on child social and emotional functioning: Perspectives of school staff. *Journal of Adolescent Health*, *46*, 218-223.

Chawla, N., & Solinas-Saunders, (2011). Supporting military parents and child adjustment to deployments and separations with filial therapy. *The American Journal of Family Therapy, 39*, 179-192.

Chen, C., & Faruggia, S. (2002). Culture and adolescent development. Online readings in psychology and culture. Retrieved from www.ac.wwu.edu/~culture/Chen_Faruggia.htm

Cheung, C. S. S., Pomerantz, E. M., & Dong, W. (2013). Does adolescents' disclosure to their parents matter for their academic adjustment? *Child Development, 84*, 693-710.

Cicognani, E., Menezes, I., & Nata, G. (2011). University students' sense of belonging to the home town: The role of residential mobility. *Social Indicators Research*, *104*, 33-45.

Cohn, D. A., Patterson, C. J., & Christopoulos, P. A. (1991). The family and children's peer relations. *Journal of Social and Personal Relationships, 8*, 315–346.

Cole,D. A.,& McPherson,A. E. (1993). Relation of family subsystems to adolescent depression: Implementing a new family assessment strategy. *Journal of Family Psychology*, *7*, 119-133.

Colin, V. L. (1996). *Human attachment*. New York, NY: McGraw-Hill.

Collins, W. A., & Laursen, B. (2004). Parent–adolescent relationships and influences. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 331–362). Hoboken, NJ: Wiley.

Collins, W. A., & Russell, G. (1991). Mother-child and father-child relationships in middle childhood and adolescence: A developmental analysis. *Developmental Review*, *11*, 99-136.

Compton, L., & Hosier, A. F. (2011). *Renewing infant attachment bond following military deployment*. Retrieved from http://www.ca.uky.edu/agc/pubs/fcs7/fcs7196/fcs7196.pdf

Cooley, C. H. (1902). *Human nature and the social order*. New York, NY: Schribners.

Cooley, E. L. Van Buren, A., & Cole, S. P. (2010). Attachment styles, social skills, and depression in college women. *Journal of College Counselling, 13*, 50-62.

Cooney, T. M., Uhlenberg, P. (1992). Support from parents over the life course: the adult child's perspective. *Social Forces, 71*, 63-84.

Cornille, T. A. (1993). Support systems and the relocation process for children and families. *Marriage & Family Review, 19,* 281-298.

Costello, A.B., Osborne, J.W., 2005. Best practises in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation 10*, 1–9.

Coulthard, J. (2011). The Impact of Deployment on the Well-Being of Military Children: A Preliminary Review. *Res Militaris*, *1*, 1-30.

Cozza, S. J., Chun, R. S., & Polo, J. A. (2005). Military families and children during operation Iraqi freedom. *Psychiatric Quarterly, 76*, 371–378.

Cozza, C. S. J., & Lerner, R. M. (2013). Military children and families: Introducing the issue. *The Future of Children*, *23*, 3-11.

Cozza, S. J., Lerner, R. M., & Haskins, R. (2014). Military and veteran families and

children: Policies and programs for health maintenance and positive development. *Social Policy Report*, *28,* 1-17.

Cramm, H., Norris, D., Tam-Seto, L., Eichler, M., & Smith-Evans, K. (2015). Making military families in Canada a research priority. *Journal of Military, Veteran and Family Health*, *1*, 8-12.

Creswell, J. W. (2002). Educational research: Planning, conducting, and evaluating quantitative. *New Jersey: Upper Saddle River*.

Crockett, L. J., Petersen, A. C., Graber, J. A., Schulenberg, J. E., & Ebata, A. (1989). School transitions and adjustment during early adolescence. *The Journal of Early Adolescence*, *9*, 181-210.

Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin*, *122*, 5-37.

Crouter, A. C., Bumpus, M. F., Maguire, M. C., & McHale, S. M. (1999). Linking parents' work pressure and adolescents' well being: Insights into dynamics in dual earner families. *Developmental Psychology*, *35*, 1453-1461.

Crow, J. R., & Seybold, A. K. (2013). Discrepancies in military middle-school adolescents' and parents' perceptions of family functioning, social support, anger frequency, and concerns. *Journal of Adolescence, 36*, 1-9.

Crouter, A. C., Bumpus, M. F., Maguire, M. C., & McHale, S. M. (1999). Linking parents' work pressure and adolescents' well-being: Insights into dynamics in dual-earner families. *Developmental Psychology, 35,* 1453–1461.

Cummings, E. M., & Cicchetti, D. (1990). Towards a transactional model of relations between attachment and depression. In M. Greenberg, D. Cicchetti, & E. M.

Cummings (Eds.), *Attachment in the preschool years : Theory, research, and intervention* (pp. 339-372). Chicago, ILL : University of Chicago.

Cutrona, C. E., Cole, V., Colangelo, N., Assouline, S. G., & Russell, D. W. (1994). Parental social support and academic achievement: An attachment theory perspective. *Journal of Personality and Social Psychology, 66*, 369-378.

Darnauer, P. (1976). The adolescent experience in career army families. In McCubbin, H., Dahl, B., & Hunter, E. (Eds.), *Families in the military system* (pp. 42-66). Beverly Hills, CA: Sage.

Day, A. (2013). Youth survey: Parent well-being and youth-parent relationships. Contract Report.

Derdikman-Eiron, R., Indredavik, M. S., Bratberg, G. H., Taraldsen, G., Bakken, I. J. & Colton, M. (2011). Gender differences in subjective well-being, self-esteem and psychosocial functioning in adolescents symptoms of anxiety and depression: Findings from the Nord- Trøndelag health study. *Scandinavian Journal of Psychology, 52*, 261–267.

Deković, M., & Meeus, W. (1997). Peer relations in adolescence: Effects of parenting and adolescents' self-concept. *Journal of Adolescence*, *20*, 163-176.

Dong, M., Anda, R. F., Felitti, V. J., Williamson, D. F., Dube, S. R., Brown, D. W., & Giles, W. H. (2005). Childhood residential mobility and multiple health risks during adolescence and adulthood. *Archives of Pediatrics and Adolescent Medicine, 159,* 1104-1110.

Donnellan, M., Trzesniewski, K., Conger, K., & Conger, R. (2007). A three-wave longitudinal study of self-evaluations during young adulthood. *Journal of*

Research in Personality, 41, 453–472.

Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science*, *16*, 328-335.

Douvan, E., & Adelson, J. (1966). *The adolescent experience.* New York, NY: Wiley.

Driscoll, D. L., Appiah-Yeboah, A., Salib, P., & Rupert, D. J. (2007). Merging qualitative and quantitative data in mixed methods research: How to and why not. *Ecological and Environmental Anthropology, 3*, 19-28.

Drummet, A. R., Coleman, M., & Cable, S. (2003). Military families under stress: Implications for family life education. *Family Relations, 52*, 270-287.

DuBois, D. L., & Tevendale, H. D. (1999). Self-esteem in childhood and adolescence: Vaccine or epiphenomenon? *Applied and Preventive Psychology, 8*, 103-117.

Ducharme, J., Doyle, A. B., & Markiewicz, D. (2002). Attachment security with mother and father: Associations with adolescents' reports of interpersonal behavior with parents and peers. *Journal of Social and Personal Relationships*, *19*, 203-231.

Ender, M. G. (2006). Voices from the backseat: Demands of growing up in military families. In C. A. Castro, A. B. Adler, & T. W. Britt (Eds.), *Military life: The psychology of serving in peace and combat Vol. 3. The military family* (pp. 138-166). Westport, CT: Praeger Security International.

Erdley, C. A., Nangle, D. W., Newman, J. E., & Carpenter, E. M. (2001). Children's friendship experiences and psychological adjustment: Theory and research. *New Directions for Child and Adolescent Development*, *2001*, 5-24.

Erikson E (1969), *Identity: Youth and Crisis.* New York, NY: WW Norton.

Erol, R.Y. & Orth, U. (2011). Self-esteem development from age 14 to 30 years: A longitudinal study. *Journal of Personality and Social Psychology, 101*, 607–619.

Esposito-Smythers, C., Wolff, J., Lemmon, K. M., Bodzy, M., Swenson, R. R., & Spirito, A. (2011). Military youth and the deployment cycle: Emotional health consequences and recommendations for intervention." *Journal of Family Psychology, 25*, 497-507.

Evans, D. L., & Seligman, M. E. P. (2005). Introduction. In D.L. Evans, E. B. Foa, R. E. Gur, H. Hendin, C. P. O'Brien, M. E. P. Seligman, et al. (Eds.), *Treating and preventing adolescent mental health disorders: What we know and what we don't know* (pp. xxv-xl). New York, NY: Oxford University.

Fass, M. E., & Tubman, J. G. (2002). The influence of parental and peer attachment on college students' academic achievement. *Psychology in the Schools*, *39*, 561-573.

Field, A. (2009). *Discovering statistics using SPSS*. Washington, DC: Sage.

Field, A. (2013). Discovering statistics using IBM SPSS statistics: And sex and drugs and rock 'n'roll. Washington, DC: Sage.

Finkel, L., Kelley, M., & Ashby, J. (2003). Geographic mobility, family, and maternal variables as related to the psychosocial adjustment of military children. *Military Medicine, 168*, 1019-1024.

Fischer, P. A., & Malmberg, G. (2001). Settled people don't move: On life course and (im-) mobility in Sweden. *International Journal of Population Geography*, *7*, 357-371.

Flake, E. M., Davis, B. E., Johnson, P. L., & Middleton, L. S. (2009). The psychosocial

effects of deployment on military children. *Journal of Developmental & Behavioural Pediatrics*, *30*, 271-278.

Freud, A. (1952). The role of bodily illness in the mental life of children. *Psychoanalytic Study of the Child, 7,* 69–81.

Freud, S. (1949). *Group psychology and the analysis of the ego.* New York, NY: Bantam. (Original work published 1921).

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology, 21*, 1016–1024.

Furman, W., & Robbins, P. (1985). What's the point? Issues in the selection of treatment objectives. In B. H. Schneider, K. H. Rubin, & J. E. Ledingham (Eds.), *Children's peer relations: Issues in assessment and intervention* (pp. 41-54). New York, NY: Springer-Verlag.

Furman, W., & Simon, V. A. (1998). Advice from youth: Some lessons from the study of adolescent relationships. *Journal of Social and Personal Relationships, 15*, 723-739.

Furman, W., Simon, V. A., Shaffer, L., & Bouchey, H. A. (2002). Adolescents' working models and styles for relationships with parents, friends, and romantic partners. *Child Development*, *73*, 241-255.

Gaylord, M., & Symons, E. (1986). Relocation stress: A definition and a need for services. *Employee Assistance Quarterly*, *2*, 31-36.

Gewirtz, A. H., Polusny, M. A., DeGarmo, D. S., Khaylis, A., & Erbes, C. R. (2010). Posttraumatic stress symptoms among National Guard soldiers deployed to Iraq: associations with parenting behaviors and couple adjustment. *Journal of*

Consulting and Clinical Psychology, *78*, 599-610.

Gillespie, B. J. (2015). Residential mobility and change and continuity in parenting processes. *Journal of Research on Adolescence*, *25*, 279-294.

Gilman, R., & Huebner, E. S. (2006). Characteristics of adolescents who report very high life satisfaction. *Journal of Youth and Adolescence*, *35*, 293-301.

Glasgow, G. F.,& Ghouse-Shees,J. (1995). Themes of rejection and abandonment in group work with Caribbean adolescents. *Social Work with Groups, 17,* 3–27.

Goossen, L., & Marcoen, A. (1999). Adolescent loneliness, self-reflection, and identity: From individual differences to development process. In K. J. Rotenberg and S. Hymel (Eds.), *Loneliness in childhood and adolescence*, (pp. 225-243), Cambridge, MA: Cambridge University.

Gorrese, A., & Ruggieri, R. (2012). Peer attachment: A meta-analytic review of gender and age differences and associations with parent attachment. *Journal of Youth and Adolescence*, *41*, 650-672.

Graham, E., & Jordan, L. P. (2011). Migrant parents and the psychological well-being of left behind children in Southeast Asia. *Journal of Marriage and Family*, *73*, 763-787.

Grant, K. E., Compas, B. E., Thurm, A. E., McMahon, S. D., Gipson, P. Y., Campbell, A. J., ... & Westerholm, R. I. (2006). Stressors and child and adolescent psychopathology: Evidence of moderating and mediating effects. *Clinical Psychology Review*, *26*(3), 257-283.

Gravetter, F. J., & Wallnau, L. B. (2014). *Essentials of statistics for the behavioral sciences* (8th ed.). Belmont. CA: Wadsworth, Cengage Learning.

Graziano, F., Bonino, S., & Cattelino, E. (2009). Links between maternal and paternal support, depressive feelings and social and academic self-efficacy in adolescence. *European Journal of Developmental Psychology*, *6*, 241-257.

Gullone, E., & Robinson, K. (2005). The Inventory Of Parent And Peer Attachment-Revised (IPPA-R) for children: A psychometric investigation. *Clinical Psychology & Psychotherapy, 12*, 67–79.

Gustafson, P., (2008), Transnationalism in retirement migration. The case of North European retirees in Spain, *Ethnic and Racial Studies*, *31*, 451–75.

Hagan, J., Macmillan, R., Wheaton, B. (1996).New kid in town: Social capital and the life course effects of family migration on children. *American Sociological Review, 61,* 368–385.

Hagborg, W. J. (1993). The Rosenberg Self-Esteem scale and Harter's Self-Perception profile for adolescents: A concurrent validity study. *Psychology in the Schools*, *30*, 132-136.

Hair, E. C., Moore, K. A., Garrett, S. B., Ling, T., & Cleveland, K. (2008). The continued importance of quality parent–adolescent relationships during late adolescence. *Journal of Research on Adolescence*, *18*, 187-200.

Hankin, B. L., Mermelstein, R., & Roesch, L. (2007). Sex differences in adolescent depression: Stress exposure and reactivity models. *Child Development*, *78*, 279-295.

Harrison, D., & Albanese, P. (2012). The "parentification" phenomenon as applied to adolescents living through parental military deployments. *Canadian Journal of Family and Youth/Le Journal Canadien de Famille et de la Jeunesse*, *4*, 1-27.

Harter, S. (1993). Causes and consequences of low self-esteem in children and adolescents. In Roy F. Baumeister *Self-esteem: The puzzle of low self-regard* (pp. 87-116). New York, NY: Plenum.

Harter, S. (2006). The self. In W. damon & R. Lerner (Eds.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol 3, Social, emotional, and personality development* (6th ed., pp. 505-570). New York, NY: Wiley.

Harter, S. (2012). The construction of the self. New York, NY: Guilford.

Hattie, J. (1992). *Self-concept*. Hillsdale, NJ: Lawrence Erlbaum.

Hay, I., & Ashman, A. F. (2003). The development of adolescents' emotional stability and general self-concept: The interplay of parents, peers, and gender. *International Journal of Disability, Development, and Education, 50*, 78-91.

Haynie, D. L., & South, S. J. (2005). Residential mobility and adolescent violence. *Social Forces, 84,* 363-376.

Hazan, C., & Zeifman, D. (1999). Pair bonds as attachments: Evaluating the evidence. In J.Cassidy, & P. Shaver (Eds.), Handbook of attachment: Theory, research, and clinical applications (pp. 336–354). New York, NY: Guilford.

Heinicke, C., & Westheimer, T. (1966). *Brief separations*. New York, NY: International University.

Helsen, M., Vollebergh, W., & Meeus, W. (2000). Social support from parents and friends and emotional problems in adolescence. *Journal of Youth and Adolescence, 29*, 319-335.

Hendershott, A. B. (1989). Residential mobility, social support, and adolescent self-concept. *Adolescence, 24,* 217-232.

Henrich, C. C., Sidney, J. B., Kuperminc, G. P., Zohar, A., & Leadbeater. (2001). Levels of interpersonal concerns and social functioning in early adolescent boys and girls. *Journal of Personality Assessment, 76*, 48-67.

Herres, J., Ewing, E. S. K., & Kobak, R. (2016). Emotional reactivity to negative adult and peer events and the maintenance of adolescent depressive symptoms: A daily diary design. *Journal of Abnormal Child Psychology*, *44*, 471-481.

Herres, J., & Kobak, R. (2016). The role of parent, teacher, and peer events in maintaining depressive symptoms during early adolescence. *Journal of Abnormal Child Psychology*, *43*, 325-337.

Hetherington, E. M., Bridges, M., & Isabella, G. M. (1998). What matters? What does not? Five perspectives on the association between marital transitions and children's adjustment. *American Psychologist, 53,* 167– 184.

Hetherington, E. M., & Clingempeel, W. G. (1992). Coping with marital transitions (Monographs of the Society for Research in Child Development, Vol. 57, Nos. 2-3). Chicago, ILL: University of Chicago.

Hill, K. T. (1988). Adapting to menarche: Familial control and conflict. In M. Gunnar & W. A. Collins (Eds.), *Minnesota symposia on child development* (Vol. 21, pp. 43-77). Hillsdale, NJ: Erlbaum.

Hirsch, B. J., & DuBois, D. L. (1991). Self-esteem in early adolescence: The identification and prediction of contrasting longitudinal trajectories. *Journal of Youth and Adolescence, 20,* 53-72.

Hoffman, M., Levy-Shiff, R., & Ushpiz, V. (1993). Moderating effects of adolescent social orientation on the relation between social support and self-esteem. *Journal*

of Youth Adolescence, 22, 23-31.

Holahan, C. J., Valentiner, D. P., & Moos, R. H. (1996). Parental support, coping strategies, and psychological adjustment during the transition to college. *Journal of Youth and Adolescence, 24*, 633-648.

Holmbeck, G. N. (1996). A model of family relational transformations during the transition to adolescence: parent-adolescent conflict. In J. Graber, J. Brooks-Gunn, & A. Peterson (Eds.), *Transitions through adolescence: Interpersonal domains and contexts* (pp. 167–99). Mahwah, NJ: Erlbaum.

Holmes, J. (1993). Attachment theory: A biological basis for psychotherapy? *British Journal of Psychiatry*, 163, 430-438.

House, J. S. (1981). *Work stress and social support*. Reading, MA: Addison-Wesley.

Howard, M. S., & Medway, F. J. (2004). Adolescents' attachment and coping with stress. *Psychology in the Schools*, *41*, 391-402.

Huebner, A. J. (2009). Exploring processes of family stress and adaptation: An expanded model. In J. A. Mancini, & K. A Roberto (Eds.), *Pathways of human development: Explorations of change.* (pp. 227-242). Lanham, MD: Lexington.

Huebner, E. S., & Gilman, R. (2006). Students who like and dislike school. *Applied Research in Quality of Life*, *1*, 139-150.

Huebner, A. J., & Mancini, J. A. (2005). Adjustments among adolescents in military families when a parent is deployed. Final report to the Military Family Research Institute and Department of Defense Quality of Life Office.

Huebner, A. J., Mancini, J. A., Wade, K. E., McElhaney, S. J., Wiles, B. B., & Ford, J. L. (2010). Resilience and vulnerability: the deployment experiences of youth in

military families. *Final report submitted to the Army Child, Youth, and School Services, and the National Institute of Food and Agriculture.* Retrieved 07/17/13, from www.fcs.uga.edu/cfd/docs/resilience_and_vulnerability.pdf.

Huebner, A. J., Mancini, J. A., Wilcox, R. M., Grass, S. R., & Grass, G. A. (2007). Parental deployment and youth in military families: Exploring uncertainty and ambiguous loss. *Family Relations: An Interdisciplinary Journal of Applied Family Studies, 56*, 112-122.

Ikiz, F. E., & Cakar, F. S. (2010). Perceived social support and self-esteem in adolescence. *Procedia-Social and Behavioral Sciences*, *5*, 2338-2342.

Jellinek, M. S., Murphy, J. M., Little, M., Pagano, M. E., Comer, D.M., & Kelleher, K. J. (1999). Use of the Pediatric Symptom Checklist (PSC) to screen for psychosocial problems in pediatric primary care: A national feasibility study. *Archives of Pediatric and Adolescent Medicine,* 153, 254-260.

Jelleyman, T., & Spencer, N. (2008). Residential mobility in childhood and health outcomes: A systematic review. *Journal of Epidemiology and Community Health, 62,* 584-592.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, *33*, 14-26.

Judd, C. M., McClelland, G. H., & Culhane, S. E. (1995). Data analysis: Continuing issues in the everyday analysis of psychological data. *Annual Review of Psychology*, *46*, 433-465.

Kaufman, G., & Uhlenberg, P. (1998). Effects of life course transitions on the quality of

relationships between adult children and their parents. *Journal of Marriage and the Family*, 924-938.

Kelly, M. L. (2002). The effects of deployment on traditional and non-traditional military families: Navy mothers and their children. In M.G. Ender (Ed.), *Military brats and other global nomads: Growing up in organization families* (pp. 1-20). London, England: Praeger.

Kelley, J., & Emery, R. (2003). Children's adjustment following divorce: Risk and resilience perspectives. *Family Relations, 52,* 352-362.

Kenny, M. E., Lomax, R., Brabeck, M., & Fife, J. (1998). Longitudinal pathways linking adolescent reports of maternal and paternal attachments to psychological well-being. *The Journal of Early Adolescence*, *18*, 221-243.

Kerns, K. A., Klepac, L., & Cole, A. K. (1996). Peer relationships and preadolescents' perceptions of security in the mother-child relationship. *Developmental Psychology, 32*, 457–466.

Kerns, K. A., Tomich, P. L., & Kim, P. (2006). Normative trends in children's perceptions of availability and utilization of attachment figures in middle childhood. *Socia Development, 15*, 1-22.

Kerr, D. C., Preuss, L. J., & King, C. A. (2006). Suicidal adolescents' social support from family and peers: Gender-specific associations with psychopathology. *Journal of Abnormal Child Psychology, 34*, 103-114.

Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology*, *36*, 366-380.

Kershaw, T. S., Ethier, K. A., Niccolai, L. M., Lewis, J. B., & Ickovics, J. R. (2003). Misperceived risk among female adolescents: Social and psychological factors associated with sexual risk accuracy. *Health Psychology*, *22*, 523-532.

Khanlou, N. (2004). Influences on adolescent self-esteem in multicultural Canadian secondary schools. *Public Health Nursing*, *21*, 404-411.

Kling, K. C., Hyde, J. S., Showers, C. J., Buswell, B. N. (1999). Gender differences in self-esteem: A meta-analysis. *Psychological Bulletin, 125*, 470-500.

Knobloch, L. K., Pusateri, K. B., Ebata, A. T., & McGlaughlin, P. C. (2012). Experiences of military youth during a family member's deployment: Changes, challenges, and opportunities. *Youth & Society,* 1-24.

Kobak, R. (1999). The emotional dynamics of disruptions in attachment relationships: Implications for theory, research, and clinical intervention. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 21-43). New York, NY: Guilford.

Kobak, R., Rosenthal, N. L., Zajac, K., & Madsen, S. D. (2007). Adolescent attachment hierarchies and the search for an adult pair-bond. *New Directions for Child and Adolescent Development*, *2007*, 57-72.

Kobak, R. R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development, 59*, 135–146.

Kolberg, L. (1969). Stage and sequence: The cognitive-developmental approach to socialization. In D. A. Goslin (Ed.), *Handbook of socialization theory and research* (pp. 347-480). Chicago, ILL: Rand McNally.

Kotchick, B. A., Summers, P., Forehand, R., & Steele, R. G. (1997). The role of parental and extrafamilial social support in the psychosocial adjustment of children with a chronically ill father. *Behavior Modification, 21*, 409-432.

Kroger, J. (2000). Ego identity status research in the new millennium. *International Journal of Behavioral Development, 24*, 145-148.

Jackson, S., & Goossens, L. (Eds.). (2006). *Handbook of adolescent development*. Hove, UK: Psychology Press.

La Greca, A. M., &Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology, 26*, 83-94.

Laible, D. (2007). Attachment with parents and peers in late adolescence: Links with emotional competence and social behavior. *Personality and Individual Differences*, *43*, 1185-1197.

Laible, D. J., Carlo, G., & Raffaelli, M. (2000). The differential relations of parent and peer attachment to adolescent adjustment. *Journal of Youth and Adolescence, 29*, 45-59.

Laible, D. J., Carlo, G., & Roesch S. C. (2004). Pathways to self-esteem in late adolescence: The role of parent and peer attachment, empathy, and social behaviours. *Journal of Adolescence, 27*, 703-716.

Lapsley, D. K., Rice, K. G., & FitzGerald, D. P. (1990). Adolescent attachment, identity, and adjustment to college: Implications for the continuity of adaptation hypothesis. *Journal of Counseling & Development, 68*, 561-565.

Larson, R., Richards, M., Moneta,G., Holmbeck, G., & Duckett, E. (1996). Changes in

adolescents' daily interactions with their families from ages 10-18: Disengagement and transformation. *Developmental Psychology, 32*, 744-754.

Laursen, B., & Collins, W. (2009). Parent-child relationships during adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology: Contextual influences on adolescent development* (Vol. 2, pp. 3-42). Hoboken, NJ: Wiley.

Laursen, B., Coy, K. C., & Collins, W. A. (1998). Reconsidering changes in parent-child conflict across adolescence: A meta-analysis. *Child Development*, *69*, 817-832.

Leitzel, D., Charlton, N., & Jeffreys, D. (1997). A qualitative analysis of the comments of military adolescents completing a worldwide survey (MFI Tech. Rep. 97-4). Scranton, PA: Military Family Institute.

Lester, P., Peterson, K., Reeves, J., Knauss, L., Glover, D., Mogil, C., … Beardslee, W. (2010). The long war and parental combat deployment: effects on military children and at-home spouses. *Journal of the American Academy of Child & Adolescent Psychiatry*, *49*, 310-320.

Lieberman, M., Doyle, A. B., & Markiewicz, D. (1999). Developmental patterns in security of attachment to mother and father in late childhood and early adolescence: Associations with peer relations. *Child Development*, *70*, 202-213.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Linder, J. R., & Collins, W. A. (2005). Parent and peer predictors of physical aggression and conflict management in romantic relationships in early adulthood. *Journal of Family Psychology*, *19*, 252-262.

Lichtman, M. (2012). *Qualitative Research in Education: A User's Guide: A User's Guide*. Washington, DC: Sage.

Loeber, R., Drinkwater, M., Yin, Y., Anderson, S. J., Schmidt, L. C., & Crawford, A. (2000). Stability of family interaction from ages 6 to 18. *Journal of Abnormal Child Psychology*, *28*, 353-369.

López-Pérez, B., & Wilson, E. L. (2015). Parent–child discrepancies in the assessment of children's and adolescents' happiness. *Journal of Experimental Child Psychology*, *139*, 249-255.

Lowe, K. N., Adams, K. S., Browne, B. L., & Hinkle, K. T. (2012). Impact of military deployment on family relationships. *Journal of Family Studies*, *18*, 17-27.

Lucas, R. E., & Baird, B. M. (2004). Extraversion and emotional reactivity. *Journal of Personality and Social Psychology*, *86*, 473-485.

Ma, C. Q., & Huebner, E. S. (2008). Attachment relationships and adolescents' life satisfaction: Some relationships matter more to girls than boys. *Psychology in the Schools*, *45*, 177-190.

MacBeth, M. M., Kaczmarek, E., & Sibbel, A. M. (2012). Fathers, adolescent sons and the fly-in/fly-out lifestyle. *Australian Community Psychologist*, *24*, 98-114.

Mantzicopoulos, P., & Knutson, D. J. (2000). Head Start children: School mobility and achievement in the early grades. *The Journal of Educational Research*, *93*, 305-311.

Marcia, J. E. (1988). Common processes underlying ego-identity, cognitive/moral development and individuation. In D. K. Lapsley and F. C. Power (Eds.), *Self, ego, identity* (pp. 211–225) New York, NY: Springer.

Marcoen, A., Goossens, L., & Caes, P. (1987). Lonelines in pre-through late adolescence:

Exploring the contributions of a multidimensional approach. *Journal of Youth and Adolescence*, *16*, 561-577.

Masten, A., Coatsworth, J., Neemann, J., Gest, S., Tellegen, A., Garmezy, N. (1995). The structure and coherence of competence from childhood through adolescence. *Child Development, 66*, 1635-1659.

Mattanah, J. F., Hancock, G. R., & Brand, B. L. (2004). Parental attachment, separation-Individuation, and college student adjustment: A Structural Equation Analysis of Mediational Effects. *Journal of Counseling Psychology*, *51*, 213-225.

McCormick, C. B., & Kennedy, J. H. (1994). Parent-child attachment working models and self-esteem in adolescence. *Journal of Youth and Adolescence*, *23*, 1-18.

McCubbin, H., & Figley, C. R. (Eds.). (1983). *Stress and the family, Volume I: Coping with normative transitions.* New York, NY: Brunner/Mazel.

McCubbin, H., & Patterson, J. (1983). The family stress process: The double ABCX model of adjustment and adaptation. In McCubbin, H., Sussman, M, and Patterson J. (Eds.), *Social stress and the family: advances and developments in family stress theory and research* (pp. 7-37). New York, NY: Haworth.

McGuire, A. C., Kanesarajah, J., Runge, C. E., Ireland, R., Waller, M., & Dobson, A. J. (2016). Effect of multiple deployments on military families: A cross-sectional study of health and well-being of partners and children. *Military Medicine*, *181*, 319-327.

McGuire, S., Neiderhiser, J. M., Reiss, D., Hetherington, E. M., & Plomin, R. (1994). Genetic and environmental influences on perceptions of self-worth and competence in adolescence: A study of twins, full sibships, and step-siblings.

Child Development, 65, 785–799.

McLaughlin, K. A., & Hatzenbuehler, M. L. (2009). Stressful life events, anxiety sensitivity, and internalizing symptoms in adolescents. *Journal of Abnormal Psychology, 118*, 659–669.

McLaughlin, K. A., Kubzansky, L. D., Dunn, E. C., Waldinger, R., Vaillant, G., & Koenen, K. C. (2010). Childhood social environment, emotional reactivity to stress, and mood and anxiety disorders across the life course. *Depression and Anxiety*, *27*, 1087-1094.

McLoyd, V. C. (1990). The impact of economic hardship on black families and children: Psychological distress, parenting, and socioemotional development. *Child Development, 61*, 311-346.

McWhirter, B. T., Besett-Alesch, T. M., Horibata, J., & Gat, I. (2002). Loneliness in high risk adolescents: The role of coping, self-esteem, and empathy. *Journal of Youth Studies*, *5*, 69-84.

Meeus, W., Oosterwegel, A., & Vollebergh, W. (2002). Parental and peer attachment and identity development in adolescence. *Journal of Adolescence, 25*, 93-106.

Milne, L.C., & Lancaster, S. (2001). Predictors of depression in female adolescents. *Adolescence, 36*, 209-223.

Mmari, K. N., Bradshaw, C. P., Sudhinaraset, M., & Blum, R. (2010). Exploring the role of social connectedness among military youth: Perceptions from youth, parents, and school personnel. *Child and Youth Care Forum, 39*, 351-366.

Mmari, K., Roche, K. M., Sudhinaraset, M., & Blum, R. (2009). Exploring the issues faced by adolescents and their families. *Youth & Society, 40,* 455–475.

Moksnes, U. K., & Espnes, G. A. (2012). Self-esteem and emotional health in adolescents gender and age as potential moderators. *Scandinavian Journal of Psychology*, *53*, 483-489.

Moksnes, U. K., Moljord, I. E. O., Espnes, G. A. & Byrne, D. G. (2010). The association between stress and emotional states in adolescents: The role of gender and self-esteem. *Personality and Individual Differences, 49*, 430–435.

Muris, P., & Meesters, C. (2002). Attachment, behavioral inhibition, and anxiety disorders symptoms in normal adolescents. *Journal of Psychopathology and Behavioral Assessment*, *24,* 97-105.

Muris, P., Meesters, C., & Van Den Berg, S. (2003). Internalizing and externalizing problems as correlates of self-reported attachment style and perceived parental rearing in normal adolescents. *Journal of Child and Family Studies*, *12*, 171-183.

Muris, P., Meesters, C., van Melick, M., & Zwambag, L. (2001). Self-reported attachment style, attachment quality, and symptoms of anxiety and depression in young adolescents. *Personality and Individual Differences*, *30,* 809-818.

National Defence and Canadian Armed Forces (2013). *Archived-Operation ATHENA, 2013* Retrieved from http://www.forces.gc.ca/en/operations-abroad-past/op-athena.page?

National Defence and the Canadian Armed Forces (2013). *Backgrounder – Women in the Canadian Armed Forces*. Retrieved from http://www.forces.gc.ca/en/news/article.page?doc=women-in-the-canadian-armed-forces/hie8w7rm

National Defence and the Canadian Armed Forces (2013). *Current deployments*.

Retrieved from http://www.forces.gc.ca/en/operations-abroad-current/index.page

National Defence and the Canadian Armed Forces (2013). *Frequently asked questions*. Retrieved from http://www.forces.gc.ca/en/about/canadian-armed-forces.page?

Nelis, S. M., & Rae, G. (2009). Brief report: Peer attachment in adolescents. *Journal of Adolescence, 32*, 443-447.

Neto, F. (2001). Satisfaction with life among adolescents from immigrant families in Portugal. *Journal of Youth and Adolescence*, *30*, 53-67.

Newcomb, A. F., Bukowski, W. M., & Pattee, L. (1993). Children's peer relations: A meta-analytic review of popular, rejected, neglected, controversial, and average sociometric status. *Psychological Bulletin, 113*, 99-128.

Nickerson, A. B., & Nagle, R. J. (2004). The influence of parent and peer attachments on life satisfaction in middle childhood and early adolescence. *Social Indicators Research*, *66*, 35-60.

Nickerson, A. B., & Nagle, R. J. (2005). Parent and peer attachment in late childhood and early adolescence. *The Journal of Early Adolescence, 25*, 223-249.

Nock, M. K., Wedig, M. M., Holmberg, E. B., & Hooley, J. M. (2008). The emotion reactivity scale: Development, evaluation, and relation to self-injurious thoughts and behaviors. *Behavior Therapy, 39,* 107–116.

Noom, M. J., Dekovic´, M., & Meeus, W. H. J. (1999). Autonomy, attachment and psychosocial adjustment during adolescence: A double-edged sword? *Journal of Adolescence, 22*, 771-783.

Norford, B. C, & Medway, F. J. (2001). Adolescents' mobility histories and present social adjustment. *Psychology in the Schools, 39,* 51-62.

Obradović, J., Bush, N. R., Stamperdahl, J., Adler, N. E., & Boyce, W. T. (2010). Biological sensitivity to context: The interactive effects of stress reactivity and family adversity on socioemotional behavior and school readiness. *Child Development*, *81*(1), 270-289.

O'Connor, E., & McCartney, K. (2007). Examining teacher–child relationships and achievement as part of an ecological model of development. *American Educational Research Journal*, *44*, 340-369.

Oishi, S., Krochik, M., Roth, D., & Sherman, G. D. (2012). Residential mobility, personality, and subjective and physical well-being an analysis of cortisol secretion. *Social Psychological and Personality Science*, *3*, 153-161.

Oishi, S., & Schimmack, U. (2010). Residential mobility, well-being, and mortality. *Journal of Personality and Social Psychology*, *98*, 980-994.

Office of the National Defence and Canadian Forces Ombudsman, & Daigle, P. (2014). *On the Homefront: Assessing the Well-being of Canada's Military Families in the New Millennium*.

Olsson, C. A., Bond, L., Burns, J. M., Vella-Brodrick, D. A., & Sawyer, S. M. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence*, *26*, 1-11.

Orth, U., Robins, R. W. & Roberts, B. W. (2008). Low self-esteem prospectively predicts depression in adolescence and young adulthood. J*ournal of Personality and Social Psychology, 95*, 695-708.

Orthner, D. K., Giddings, M., & Quinn, W. (1987). *Youth in transition: A study of adolescents from Air Force and civilian families*. Washington, DC: U.S. Air Force.

Paley, B., Lester, P., & Mogil, C. (2013). Family systems and ecological perspectives on the impact of deployment on military families. *Clinical Child and Family Psychology Review, 16*, 1-21.

Palmer, C. (2008). A theory of risk and resilience factors in military families. *Military Psychology, 20*, 205-217.

Pagano, M. E., Cassidy, L. J., Little, M., Murphy, J. M., & Jellinek, M. S. (2000). Identifying psychosocial dysfunction in school-age children: The Pediatric Symptom Checklist as a self-report measure. *Psychology in the Schools*, *37*, 91-108.

Papini, D. R., & Roggman, L. A. (1992). Adolescent perceived attachment to parents in relation to competence, depression, and anxiety a longitudinal study. *The Journal of Early Adolescence*, *12*, 420-440.

Papini, D. R., Roggman, L. A., & Anderson, J. (1991). Early-adolescent perceptions of attachment to mother and father a test of the emotional-distancing and buffering hypotheses. *The Journal of Early Adolescence*, *11*, 258-275.

Parker, J. S., & Benson, M. J. (2004). Parent-adolescent relations and adolescent functioning: Self-esteem, substance abuse, and delinquency. *Adolescence*, *39*, 519-530.

Parker, J. G., & Gottman, J. M. (1989). Social and emotional development in a relational context: Friendship interaction from early childhood to adolescence. In T. J. Berndt & G. W. Ladd (Eds.), *Peer relations in child development* (pp. 95-131). New York, NY: Wiley.

Paschall, K. W., & Mastergeorge, A. M. (2016). A review of 25 years of research in

bidirectionality in parent-child relationships: An examination of methodological approaches. *International Journal of Behavioural Development, 40*, 5, 442-451.

Paterson, J. E., Field, J., & Pryor, J. (1994). Adolescents' perceptions of their attachment relationships with their mothers, fathers, and friends. *Journal of Youth and Adolescence*, *23*, 579-600.

Paterson, J. E., Prior, J., & Field, J. (1994). Adolescent attachment to parents and friends in relation to aspects of self-esteem. *Journal of Youth and Adolescence, 24*, 365-376.

Persson, A., Kerr, M., & Stattin, H. (2004). Why a leisure context is linked to normbreaking for some girls and not others: personality characteristics and parent–child relations as explanations. *Journal of Adolescence*, *27*, 583-598.

Perry, M. (2012). Development of puberty in adolescent boys and girls. *British Journal of School Nursing, 7*, 275-277.

Petersen, A. C., & Leffert, N. (1995). What is special about adolescence? In M. Rutter (Ed.), *Psychosocial disturbances in young people: Challenges for prevention* (pp. 3–36). Cambridge, MA: University of Cambridge.

Piaget, J. (1965). *The moral judgment of the child*. New York: Free. (Original work published 1932).

Pincus, S. H., House, R., Christensen, J., & Adler, L.E. (2001). The emotional cycle of deployment: A military family perspective. *Journal of the Army Medical Department*, 615-623.

Pittman, J. F., & Bowen, G. L. (1994). Adolescents on the move: Adjustment to family relocation. *Youth & Society, 26,* 69-91.

Plas, J. M., & Lewis, S. E. (1996). Environmental factors and sense of community in a planned town. *American Journal of Community Psychology*, *24*, 109-143.

Proshansky, H. M., Fabian, A. K., & Kaminoff, R. (1983). Place-identity: Physical world socialization of the self. *Journal of Environmental Psychology*, *3*, 57-83.

Putallaz, M., & Heflin, A. H. (1990). Parent child interaction. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 189–216). New York: Cambridge University Press.

Qin, P., Mortensen, P. B., & Pedersen, C. B. (2009). Frequent change of residence and risk of attempted and completed suicide among children and adolescents. *Archives of General Psychiatry, 56*, 628-632.

Raja, N. S., McGee, R., & Stanton, W. R. (1992). Perceived attachments to parents and peers and psychological well-being in adolescence. *Journal of Youth and Adolescence, 21*, 471-485.

Reed, S. C., Bell, J. F., & Edwards, T. C. (2011). Adolescent well-being in Washington State military families. *American Journal of Public Health*, *101*, 1676-1682.

Relph, F. (1976). *Place and placelessness*. London: Pion Ltd.

Richards, R., McGee, R., Williams, S. M., Welch, D., & Hancox, R. J. (2010). Adolescent screen time and attachment to parents and peers. *Archives of Pediatrics & Adolescent Medicine, 164*, 258-262.

Richardson, A., Chandra, A., Martin, L. T., Setodji, C. M., Hallmark, B. W., Campbell, N. F., ... & Grady, P. (2011). *Effects of soldiers' deployment on children's academic performance and behavioural health*. Santa Monica, CA: RAND.

Richardson, E. W., Mallette, J. K., O'Neal, C. W., & Mancini, J. A. (2016). Do youth

development programs matter? An examination of transitions and well-being among military youth. *Journal of Child and Family Studies*, *25*, 1765-1776.

Riggs, S. A., & Riggs, D. S. (2011). Risk and resilience in military families experiencing deployment: The role of the family attachment network. *Journal of Family Psychology*, *25*, 675-687.

Robertson, J. (1962). *Hospitals and children: A parent's eye view*. New York, NY: Gollancz.

Rodriguez, A. J., & Margolin, G. (2015). Parental incarceration, transnational migration, and military deployment: Family process mechanisms of youth adjustment to temporary parent absence. *Clinical Child and Family Psychology Review*, *18*, 24-49.

Rohall, D. E., Segal, M. W., & Segal, D. R. (1999). Examining the importance of organizational. *Journal of Political and Military Sociology*, *27*, 49-65.

Rönnlund, M., & Karlsson, E. (2006). The relation between dimensions of attachment and internalizing problems during adolescence. *The Journal of Genetic Psychology, 167*, 47–63.

Rossi, A. S., & Rossie, P. H. (1990). *Of Human Bonding : Parent-Child Relations Across the Life Course.* New York, NY: Aldine de Gruyter.

Rose, A. J., & Rudolph, A. D. (2006). A review of sex differences in peer relationship processes: Potential trade-offs for the emotional and behavioural development of girls and boys. *Psychological Bulletin, 132,* 98-131.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University.

Rosenberg, M. (1985). Self-concept and psychological well-being in adolescence. In R. L. Leahy (Ed.), *The development of the self* (pp. 205–246). Orlando, FL: Academic.

Rubin, K. H., Bukowski, W. M., & Bowker, J. C. (2015). Children in peer groups. In M. H. Bornstein & T. Leventhal (Eds.), *Handbook of child psychology and developmental science: Vol. 4. Ecological Settings and Processes in Developmental Systems* (7th ed., pp.175–222). New York, NY: Wiley.

Rubin, K. H., Dwyer, K. M., Booth-LaForce, C. L., Kim, A. H., Burgess, K. B., & Rose-Krasnor, L. (2004). Attachment, friendship, and psychosocial functioning in early adolescence. *Journal of Early Adolescence, 24*, 326-356.

Rubin, H. J., & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data*. Washington, DC: Sage.

Rudolph, K. D. (2002). Gender differences in emotional responses to interpersonal stress during adolescence. *Journal of Adolescent Health*, *30*, 3-13.

Ruijten, T., Roelofs, J., & Rood, L. (2011). The mediating role of rumination in the relation between quality of attachment relations and depressive symptoms in non-clinical adolescents. *Journal of Child Family Studies, 20*, 452-459.

Rutter, M. (1987). Psychosocial resilience and protective factors. *American Journal of Orthopsychiatry, 57*, 316–331.

Ryan, R. M., Stiller, J. D., & Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *The Journal of Early Adolescence*, *14*, 226-249.

Sabatelli, R. M., & Anderson, S. A. (1991). Family system dynamics, peer relationships, and adolescents' psychological adjustment. *Family Relations, 40*, 363-369.

Samper, R. E., Taft, C. T., King, D. W., & King, L. A. (2004). Posttraumatic stress disorder symptoms and parenting satisfaction among a national sample of male Vietnam veterans. *Journal of Traumatic Stress*, *17*, 311-315.

Samuolis, J., Layburn, K., & Schiaffino, K. M. (2001). Identity development and attachment to parents in college students. *Journal of Youth and Adolescence*, *30*, 373-384.

Sandler, I. N. (2001). Quality and ecology of adversity as common mechanisms of risk and resilience. *American Journal of Community Psychology, 29,* 19-61.

San Martini, P., Zavattini G. C., & Ronconi, S. (2009). The Inventory of Parent and Peer Attachment (IPPA): A psychometric investigation of an Italian sample of adolescents. *Giornale Italiano di Psicologia, XXXVI*, 199–225.

Schaetti, B. F. (2002). Attachment theory: A view into the global nomad experience. In M. G. Ender (Ed.), *Military brats and other global nomads* (pp. 103–119). Westport, CT: Praeger.

Schneider, B. H., & Younger, A. J. (1996). Adolescent-parent attachment and adolescents' relations with their peers a closer look. *Youth & Society*, *28*, 95-108.

Schneiders, J., Nicolson, N. A., Berkhof, J., Feron, F. J., van Os, J., & deVries, M. W. (2006). Mood reactivity to daily negative events in early adolescence: relationship to risk for psychopathology. *Developmental Psychology*, *42*, 543-554.

Scholte, R. H. J., van Lieshout, C. F. M., & van Aken, M. A. G. (2001). Perceived relationship support in adolescence: Dimensions, configurations, and adolescent

adjustment. *Journal of Research on Adolescence, 11*, 71-94.

Schlotz, W. (2013). Stress reactivity. In *Encyclopedia of Behavioral Medicine* (pp. 1891-1894). NY, New York: Springer.

Scott Brown, L. S., & Wright, J. (2003). The relationship between attachment strategies and psychopathology in adolescence. *Psychology and Psychotherapy: Theory, Research and Practice, 76*, 351-367.

Seale, C. (2002). Quality issues in qualitative inquiry. *Qualitative Social Work*, *1*, 97-110.

Segal, M. W. (1986). The military and the family as greedy institutions. *Armed Forces & Society*, *13*, 9-38.

Seidenberg, R. (1973). *Corporate wives: Corporate casualties*. New York, NY: Anchor.

Selman, R. L. (1980). *The growth of interpersonal understanding*. New York, NY: Academic.

Skomorovsky, A., & Bullock, A. (2015). Impact of deployment and relocation on adolescents from military families. Director General Military Personnel Research and Analyses Canada DRDC-RDDC-2015-R9999, Ottawa, ON: Defence Research and Development Canada.

Shantz, C. U. (1987). Conflict between children. *Child Development, 58*, 283-305.

Shapero, B. G., Abramson, L. Y., & Alloy, L. B. (2016). Emotional reactivity and internalizing symptoms: Moderating role of emotion regulation. *Cognitive Therapy and Research*, *40*, 328-340.

Shapero, B. G., & Steinberg, L. (2013). Emotional reactivity and exposure to household

stress in childhood predict psychological problems in adolescence. *Journal of youth and Adolescence*, *42*, 1573-1582.

Shaw, J. A. (1979). Adolescents in the mobile military community. In D. X. Freedman et al. (Eds.), *Adolescent psychiatry* (Vol. 7, pp. 191 – 198). Chicago, IL: University of Chicago Press.

Sheeber, L. B., Kuppens, P., Shortt, J. W., Katz, L. F., Davis, B., & Allen, N. B. (2012). Depression is associated with the escalation of adolescents' dysphoric behavior during interactions with parents. *Emotion*, *12*, 913-918.

Shek, D. T. (1998). A longitudinal study of the relations between parent-adolescent conflict and adolescent psychological well-being. *The Journal of Genetic Psychology*, *159*, 53-67.

Sheppard, S. C., Malatras, J. W., & Israel, A. C. (2010). The impact of deployment on US military families. *American Psychologist*, *65*, 599-609.

Shih, J. H., Eberhart, N. K., Hammen, C. L., & Brennan, P. A. (2006). Differential exposure and reactivity to interpersonal stress predict sex differences in adolescent depression. *Journal of Clinical Child and Adolescent Psychology*, *35*, 103-115.

Silk, J. S., Steinberg, L., & Morris, A. S. (2003). Adolescents' emotion regulation in daily life: Links to depressive symptoms and problem behavior. *Child Development*, *74*, 1869-1880.

Sim, H. O. (2000). Relationship of daily hassles and social support to depression and antisocial behavior among early adolescents. *Journal of Youth and Adolescence*, *29*, 647-659.

Sim, T. N. (2003). The father-adolescent relationship in the context of the mother-adolescent relationship exploring moderating linkages in a late-adolescent sample in Singapore. *Journal of Adolescent Research*, *18*, 383-404.

Simmons, R. G., Burgeson, R., Carlton-Ford, S., & Blyth, D. (1987). The impact of cumulative change in early adolescence. *Child Development, 58,* 1220-1234.

Simons, K. J., Paternite, C. E., & Shore, C. (2001). Quality of parent/adolescent attachment and aggression in young adolescents. *The Journal of Early Adolescence*, *21*, 182-203.

Simpson, J. A., Collins, A., Tran, S., & Haydon, K. C. (2007). Attachment and the experience and expression of emotions in romantic relationships: A developmental perspective. *Journal of Personality and Social Psychology, 92,* 355-367.

Simpson, G., & Fowler, M. (1994). Geographic mobility and children's emotional/behavioral adjustment and school functioning. *Pediatrics, 93,* 303-309.

Smetana, J. G. (1988). Adolescents' and parents' conceptions of parental authority. *Child Development, 59*, 321-335.

Smith, A., Lalonde, R. N., & Johnson, S. (2004). Serial migration and its implications for the parent-child relationship: A retrospective analysis of the experiences of the children of Caribbean immigrants. *Cultural Diversity and Ethnic Minority Psychology*, *10*, 107-122.

Song, H. R., Thompson, R. A., & Ferrer, E. (2009). Attachment and self-evaluation in Chinese adolescents: Age and gender differences. *Journal of Adolescence, 32*, 1267-1286.

Spear, L. P. (2009). Heightened stress responsivity and emotional reactivity during pubertal maturation: Implications for psychopathology. *Development and Psychopathology*, *21*, 87-97.

Sroufe, L. A. (1988). The role of infant–caregiver attachment in development. In J. Belsky and T. Nezworski (Eds.), *Clinical Implications of attachment* (pp. 18-38). Hillsdale, NJ: Lawrence Erlbaum.

Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study f from birth to adulthood. *Attachment & Human Development*, *7*, 349-367.

Stanton-Salazar, R. D., & Spina, S. U. (2005). Adolescent peer networks as a context for social and emotional support. *Youth & Society*, *36*, 379-417.

Stawski, R. S., Sliwinski, M. J., Almeida, D. M., & Smyth, J. M. (2008). Reported exposure and emotional reactivity to daily stressors: the roles of adult age and global perceived stress. *Psychology and Aging*, *23*, 52-61.

Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development*, *71*, 1072-1085.

Steinberg L. 1989. Pubertal maturation and parent-adolescent distance: an evolutionary perspective. In G. R. Adams, R. Montemayor, T. Gullotta (Eds.), Advances in Adolescent Development (pp. 71-97). Beverly Hills, CA: Sage.

Steinberg, L. (1990). Autonomy, conflict, and harmony on the family relationship. In S. S. Feldman & G. R. Elliot (Eds.), *At the threshold: The developing adolescent* (pp. 255–276). Cambridge, MA: Harvard University Press.

Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Journal of Cognitive Education and Psychology*, *2*, 55-87.

Steinberg, L. and Silk, X. (2002). Parenting adolescents. In M. H. Bornstein (Ed. *Handbook of Parenting: Vol. 1: Children and Parenting* (pp. 103-133), Mahwah, NJ: Erlbaum.

Stewart, T., & Suldo, S. (2011). Relationships between social support sources and early adolescents' mental health: The moderating effect of student achievement level. *Psychology in the Schools*, *48*, 1016-1033.

Stokols, D., & Shumaker, S. A. (1982). The psychological context of residential mobility and well-being. *Journal of Social Issues*, *38*, 149-171.

Stolz, H. E., Barber, B. K., & Olsen, J. A. (2005). Toward disentangling fathering and mothering: An assessment of relative importance. *Journal of Marriage and Family*, *67*, 1076-1092.

Storey, K. (2001). Fly in/fly out and fly-over: Mining and regional development in Western Australia. *Australian Geographer, 32,* 133-148.

Sullivan, H. S. (1953). *The interpersonal theory of psychiatry.* New York, NY: Norton.

Suls, J., & Martin, R. (2005). The daily life of the garden-variety neurotic: Reactivity, stressor exposure, mood spillover, and maladaptive coping. *Journal of Personality*, *73*, 1485-1510.

Tabachnick, B. G., & Fidell, L. S. (2007). Using multivariate statistics, 5th. *Needham Height, MA: Allyn & Bacon*.

Temple, J., & Reynolds, A. (1999). School mobility and achievement: Longitudinal findings from an urban cohort. *Journal of School Psychology, 37*, 355-377.

Thompson, R. A. (1999). Early attachment and later development. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment* (pp. 265-286). New York: Guilford.

Tollefson, T. T. (2008). Supporting spouses during a military deployment. *Family & Community Health*, *31*, 281-286.

Trzesniewski, K. H., Donnellan, M. B., Moffitt, T. E., Robins, R. W., Poulton, R., & Caspi, A. (2006). Low self-esteem during adolescence predicts poor health, criminal behavior, and limited economic prospects during adulthood. *Developmental Psychology*, *42*, 381-390.

Valtolina, G. G., & Colombo, C. (2012). Psychological well-being, family relations, and developmental issues of children left behind. *Psychological Reports*, *111*, 905-928.

Vanfleet, R. (1992). Using filial therapy to strengthen families with chronically ill children. In Vanfleet, R. (2005). *Filial therapy: Strengthening parent-child relationships through play*. Sarasota, FL: Professional Resources Press.

Van Lieshout, C. F. M., Cillessen, A. H., & Haselager, G. J. T. (1999). Interpersonal support and individual development. In W. A. Collins & B. Laursen (Eds.), Minnesota Symposia on Child Psychology: Vol. 30. *Relationships as developmental contexts* (pp. 37-60). Mahwah, NJ: Erlbaum.

van Roekel, E., Goossens, L., Scholte, R. H., Engels, R. C., & Verhagen, M. (2011). The dopamine D2 receptor gene, perceived parental support, and adolescent loneliness: Longitudinal evidence for gene–environment interactions. *Journal of Child Psychology and Psychiatry*, *52*, 1044-1051.

van Roekel, E., Scholte, R. H., Verhagen, M., Goossens, L., & Engels, R. C. (2010). Loneliness in adolescence: Gene × environment interactions involving the serotonin transporter gene. *Journal of Child Psychology and Psychiatry*, *51*, 747-

754.

Vernberg, E. M. (1990). Experiences with peers following relocation during early adolescence. *American Journal of Orthopsychiatry, 60,* 466-472.

Vernberg, E. M., Ewell, K. K., Beery, S. H., & Abwender, D. A. (1994). Sophistication of adolescents' interpersonal negotiation strategies and friendship formation after relocation: A naturally occurring experiment. *Journal of Research on Adolescence, 4,* 5-19.

Wang, Z. (2014). Results of the QOL survey on military spouses' perceptions of family support programs/services. Director General Military Personnel Research and Analyses Canada DRDC-RDDC-2014-L269, Ottawa, ON: Defence Research and Development Canada.

Watanabe, H., & Jensen, P. (2000). Young children's adaptation to a military lifestyle. In J. A., Martin, L. N. Rosen, & L. R. Sparacino (Eds.), *The military family: A practice guide for human service providers*, (pp. 208-223). Westport, CT: Praeger.

Waterman, A. S. (1993). Developmental perspectives on identity formation: from adolescence to adulthood. In J. Marcia, A. Waterman, D. Matteson, S. Archer and J. Orlofsky (Eds.), *Ego identity* (pp. 42–68), New York, NY: Springer Verlag.

Waters, E., & Cummings, E. M. (2000). A secure base from which to explore close relationships. *Child Development, 71*, 164-172.

Way, N., & Pahl, K. (2001). Individual and contextual predictors of perceived friendship quality among ethnic minority, low-income adolescents. *Journal of Research on Adolescence*, *11*, 325-349.

Wiens, T.W. & Boss, P. (2006). Maintaining family resiliency before, during and after military separation. In Castro, C.A., Adler, A.B. & Britt, C. A. (Eds.), *Military Life: The psychology of serving in peace and combat [Four Volumes]*. Bridgeport, CT: Praeger Security International.

Weiss, R. S. (1975). *Marital separation: Coping with the end of a marriage and the transition to being single again*. New York, NY: Basic Books.

Weiss, R. S. (1982). Attachment in adult life. In C. M. Parkes & J. Stevenson-Hinde (Eds.), *The place of attachment in human behavior* (pp.171-184). New York, NY: Basic Books.

Wentzel, K. R. (1998). Paley Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology, 90*, 202-209.

Wentzel, K. R., Barry, C. M., & Caldwell, K. A. (2004). Friendships in middle school: Influences on motivation and school adjustment. *Journal of Educational Psychology, 96*, 195–203.

Westhius, D. J. (1999). Working with military families during deployments. In J. Daley (Ed.) *Social work practice in the military* (pp. 217-233). New York, NY: Hawthorne.

White, L., & Gilbreth, J. G. (2001). When children have two fathers: Effects of relationships with stepfathers and noncustodial fathers on adolescent outcomes. *Journal of Marriage and Family*, *63*, 155-167.

Wild, L. G., Flisher, A. J., Bhana, A., & Lombard, C. (2004). Associations among

adolescent risk behaviours and self-esteem in six domains. *Journal of Child Psychology and Psychiatry*, *45*, 1454-1467.

Wilkinson, R. B. (2004). The role of parental and peer attachment in the psychological health and self-esteem of adolescents. *Journal of Youth and Adolescence, 33*, 479-493.

Wilkinson, R. B. (2010). Best friend attachment versus peer attachment in the prediction of adolescent psychological adjustment. *Journal of Adolescence*, *33*, 709-717.

Wilkinson, R. B., & Kraljevic, M. (2004). Adolescent psychological health and school attitudes: The impact of attachment relationships. Proceedings of the Australian Psychological Society's Psychology of Relationships Interest Group 4th Annual Conference, pp. 150-155.

Wilkinson, R. B., & Walford, W. A. (2001). Attachment and personality in the psychological health of adolescents. *Personality and Individual Differences*, *31*, 473-484.

Wolchik, S. A., Tein, J., Sandler, I. N., & Doyle, K. W. (2002). Fear of abandonment as a mediator of the relations between divorce stressors and mother-child relationship quality and children's adjustment problems. *Journal of Abnormal Child Psychology, 30,* 401-418.

Wong, L., & Gerras, S. (2010). *The effects of multiple deployments on army adolescents*. Carlisle, PA: Strategic Studies Institute.

Woodward, L., Ferguson, D. M., & Belsky, J. (2000). Timing of parental separation and attachment to parents in adolescence: Results of a prospective study from birth to age 16. Journal of Marriage & the Family, *62*, 162-174.

Yelle, M. (2015). Spring 2014 Your-Say survey top line results. Director General Military Personnel Research and Analyses Canada DRDC-RDDC-2015-318, Ottawa, ON: Defence Research and Development Canada.

Youniss, J. (1980). *Parents and peers in social development: A Sullivan-Piaget perspective*. Chicago, ILL: Chicago University.

Youngblade, L. M., & Belsky, J. (1992). Parent-child antecedents of 5-year-olds' close friendships: A longitudinal analysis. *Developmental Psychology*, *28*, 700-713.

Zarbatany, L., McDougall, P., & Hymel, S. (2000). Gender-differentiated experience in the peer culture: Links to intimacy in preadolescence. *Social Development, 9*, 62-79.

Zeigler-Hill, V. (2011). The connections between self-esteem and psychopathology. *Journal of Contemporary Psychotherapy*, *41*, 157-164.

Zhang, L., & Leung, J. P. (2002). Moderating effects of gender and age on the relationship between self-esteem and life satisfaction in mainland Chinese. *International Journal of Psychology*, *37*, 83-91.

Zimmerman, B.J. (2002). Achieving self-regulation: The trial and triumph of adolescence. In F. Pajares & T. Urdan (Eds.), Academic motivation of adolescents (Vol. 2, pp. 1–27). Greenwich, CT: Information Age.

Zimmermann, P., & Becker-Stoll, F. (2002). Stability of attachment representations during adolescence: The influence of ego-identity status. *Journal of Adolescence*, *25*, 107-124.

Zolkoski, S. M., & Bullock, L. M. (2012). Resilience in children and youth: A review. *Children and Youth Services Review*, *34*, 2295-2303.

Appendix A

Invitation Letter

Dear Canadian Armed Forces Family,
The Canadian Armed Forces (CAF) are strongly committed to the well-being of adolescents from military families. As you know, the military lifestyle involves frequent separations of military members from their families and even relocations of the entire family. While this is a necessary part of military life, we know it can have a significant impact on adolescents' well-being.

We acknowledge the unique nature of growing up in a military family and it is important that we understand your needs and concerns and how being in a military family impacts on your well-being. This survey, *The Impact of Military Life on Adolescents from Military Families,* conducted by the Director General of Military Personnel Research and Analysis in collaboration with the Director of Military Family Services, will provide us with invaluable information to guide our future policy and program development efforts regarding military family issues.

We invite you to participate in this survey, as it provides an opportunity to express your views concerning your experiences and attitudes in relation to the stressors of military life, including parental deployments, family moves, and your well-being.

Please note that the survey is intended to be completed by adolescents only (13-18 years old).

This survey will take a maximum of 1 hour to complete. Your input is very important as it will assist us in identifying effective practices and resources that can be directed towards more vulnerable adolescents from military families across Canada. The closing date to complete the survey is **February 28, 2013**.

We hope that you take advantage of this opportunity to voice your opinions. Your participation in this survey is completely voluntary. All responses you provide will remain strictly confidential and anonymous. Should you have any immediate questions or concerns regarding this survey, please contact Dr. Alla Skomorovsky at Alla.Skomorovsky@forces.gc.ca.

This research project has been approved by the DGMPRA Social Science Research Review Board, in accordance with CANFORGEN 198/08. The SSRRB approval # is 1261/13F.

Appendix B

Cover Page

AIM:
The Director General Military Personnel Research and Analysis (DGMPRA) is conducting a study on the impact of military life on adolescents from military families. There is some evidence that military life poses challenges for adolescents growing up in military families; however, most adolescents are capable of overcoming these challenges. The aim of this survey is to examine the main risk factors associated with the military lifestyle and the factors that can protect adolescents against the negative impact of stress. The topics of the survey focus on adolescents' feelings about parental separation due to military requirements (e.g., deployment) and family relocation, attachment to parents, well-being, relationships with peers, types of coping strategies used, and sources of support. The results of this survey will be used to provide recommendations to the military leadership regarding the most effective resources that can be directed towards adolescents from military families.

PARTICIPATION:
The survey is intended to be completed by adolescents only. *The survey is expected to take a maximum of 1 hour to complete.* Participation in this study is voluntary. However, maximum participation is crucial in order for us to obtain an accurate picture of the risk and resilience factors related to your well-being to inform the policies regarding military family issues. You may withdraw from the study at any time. If you no longer wish to take part *after* you have provided information, we cannot remove the information from consideration as we are not collecting any personal information that would allow us to segregate your responses from others. **What if you are not sure what a certain question means?** If you are not sure about the meaning of a particular question, please feel free to skip the question. We encourage you to complete the survey independently, to ensure your true opinions are expressed.

Are there any risks involved in participating?
There are minimal risks involved in participating in this study. Because you volunteer or share personal experiences and information which may cause you to experience some slight discomfort, you will be provided with a list of referrals for your personal use that you may contact for support during or after the survey.

CONFIDENTIALITY:
The responses that you provide will remain confidential. No identifying information will be collected. Under the Access to Information Act, Canadian citizens are entitled to obtain copies of reports and data held in federal government files - this includes information from this survey. Similarly, under the Privacy Act, Canadian citizens are entitled to copies of all information concerning them that is held in federal government files. However, prior to releasing the requested information, the Director of Access to

Information and Privacy (DAIP) screens the data to ensure that individual identities are not disclosed. The results from this survey administration will only be released in combined form to ensure that the anonymity of all participants is protected. In other words, your individual responses will not be released, and you will not be identified in any way. **Please note**: reporting of suspected child abuse/neglect to the Ministry of Children and Family Development Child Protection Services is mandatory under Canadian law.

INFORMED CONSENT:
If you are over the age of 16 years, your agreement to complete the survey constitutes your consent.
If you are under the age of 16 years, please obtain a parent's written informed consent (see attached Parental Informed Consent form) if you chose to participate.

If you have any questions or concerns regarding this study, please contact Dr. Alla Skomorovsky (Alla.Skomorovsky@forces.gc.ca; 613-992-8739).

Appendix C

Informed Consent

The Impact of Military Life on Adolescents from Military Families

Purpose of the Study:
The Chief Military Personnel and the Director Military Family Services have made the well-being of adolescents growing up in military families a top priority. The purpose of the research is to identify and examine the main risk factors associated with the development of psychological problems among adolescents in military families and resilience factors that can protect these adolescents against the negative impact of stress.

SSRRB Approval Number
This research project has been approved by the DGMPRA Social Science Research Review Board, in accordance with CANFORGEN 198/08. The SSRRB approval # is 1261/13F.

Participation
Your child's participation is completely voluntary and your child has a choice at every stage to end his/her participation without reprisal. The survey will be 30-40 minutes in duration. The researcher(s) will keep your child's responses confidential and will protect his/her anonymity in any reports or publications.

Risks
There may be risks involved in participating in this study, they are assessed as: minimal level of risks. Due to the nature of the research, your child's participation in this study will require that:

> Your child volunteers or shares personal experiences and information which may cause him/her to experience some slight discomfort. Appropriate measures will be taken to minimize your child's discomfort and your child has been provided a list of referrals for his/her personal use should s/he experience a degree of unease during or after the survey.

Your child is not required to respond to any question that s/he is not comfortable with.

Information Your Child Provides
The information collected will be kept strictly confidential, and will only be shared with members of the research team and the Department of National Defence. No information that will directly identify you or your child as an individual participant will be collected in the survey. All individual level information will be kept strictly confidential. The report on the data will be strictly anonymous – the data will be reported in the aggregate form. Source documentation will be archived for up to five years after the publication of

any results, after which it will be destroyed. Please note that reporting of suspected child abuse/neglect to the Ministry of Children and Family Development Child Protection Services is mandatory under Canadian law.

ATIP Considerations
You are aware that under the Access to Information Act, Canadian citizens are entitled to obtain copies of research reports and research information (including the database pertaining to this project) held in Federal government files. Similarly, under the Privacy Act, Canadian citizens are entitled to copies of all information concerning them that is held in Federal government files. Prior to releasing requested information, the Directorate of Access to Information and Privacy (DAIP) screens the information to ensure that individual identities are not disclosed.

Questions/Concerns
Any information about your child's rights as a research participant may be addressed to Dr. Alla Skomorovsky at 613-992-8739 or by e-mail at Alla.Skomorovsky@forces.gc.ca. You may verify the authenticity of the research by contacting: Dr. Sanela Dursun at 613-995-1882, or by e-mail at Sanela.Dursun@forces.gc.ca.

What if You change Your Mind About Your Child Participating?
Your child may withdraw from the study at any time - participation is completely voluntary. However, if your child decides s/he no longer wishes to take part after s/he has provided information we: B. Cannot remove the information from consideration as we are not collecting any personal information that would allow us to segregate their responses in the research study.

Acceptance
Your signature on this form indicates that you 1) understand to your satisfaction the information provided to you about your child's participation in this research project, and 2) agree for your child to participate as a research subject.

In no way does this waive your child's legal rights nor release the researcher, sponsors, or involved institutions from their legal and professional responsibilities. Your child is free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your child's participation.

Name (please print) Signature Date

Parent's Name: _____ _____ _____

Child's Name: _____ _____ _____

Appendix D

Debriefing Form

Impact of Military Life on Adolescents from Military Families

The aim of this research is to identify and examine the impacts of military life on well-being of adolescents from military families. The purpose of this survey was to examine the main risk factors associated with the military life style and the factors that can protect adolescents against the negative impact of stress. The results of this survey will be used to provide recommendations to the military leadership regarding the most effective practices and resources that can be directed towards adolescents from military families.

If you have any questions, concerns, or comments about the study, please feel free to contact Dr. Alla Skomorovsky, at 613-992-8739 or by email Alla.Skomorovsky@forces.gc.ca.

If responding to these questions has brought back difficult memories or caused you discomfort of any kind, we encourage you to contact local Military Family Resource Centre (MFRC) or to ask you parent(s) to help you to contact them. Your local MFRC may offer a list of specific programs (e.g., "Friends for Life Teen" and "Youth of Parents who have Experienced Trauma", which teach coping strategies in order to build resilience, "Peers Assisting with Life Skills", which is a mentoring for teens with anxiety program) developed for your age that can help you to overcome some stress related to the parental deployment or family relocation. You can also ask for individual or family psycho-educational counselling, which is designed to promote resiliency, self-esteem and coping skills based on your unique needs and circumstances being offered by a qualified professional at the local MFRC. Please note that all the programs' availability varies across different MFRCs in Canada – please check the availability and schedule at your local MFRC.

Some general websites and phone numbers you may find useful are below:

CANADIAN/MILITARY FAMILY RESOURCE CENTRES (C/MFRC)

http://www.familyforce.ca/en/pages/default.aspx

FAMILY INFORMATION LINE

1-800-866-4546 (Toll-free in North America)
1-613-995-5234 (Collect calls accepted)

The Family Information Line (FIL) is a toll-free bilingual telephone service for families of Canadian military personnel, intended to provide timely and accurate information as well as reassurance, support and referrals to other resources as needed.

The Family Information Line counsellors are experienced, caring professionals familiar with Canadian Forces policies and operating procedures. During their business hours from 8:00 to midnight EST, you can expect to speak directly to a counsellor.

CIVILIAN SERVICE PROVISION CONTACT NUMBERS

MENTAL HEALTH INFORMATION LINE 1-800-661-2121

Provides taped information on provincial mental health programs as well as symptoms, causes, treatment, support groups and publications relating to a number of mental illnesses. This is a 24 hour line.

THE MENTAL HEALTH HELPLINE 1-866-531-2600
http://www.mentalhealthhelpline.ca

Provide information about counselling services and supports in your community, as well as basic education about mental illness.

CRISIS LINE 1-866-996-0991
http://www.crisisline.ca/home.htm

This is the first point of public access to the mental health crisis response system.

Appendix E

Background Survey

1. Date of Birth: Month: _____ Year: _____

2. Your Gender: O Male O Female

3. # of Sibling(s): ____

4. Age of Sibling(s) (1) ____ (2) ____ (3) ____ (4) ____ (5) ____ (6)___

5. Are you currently employed?

O Yes O No If yes, how many hrs/ week do you work? _____

6. Which of your parents/guardians currently work in the military?

O Mother O Father O Both O Other guardian (please explain): _____

7. Are your parents: O Married/Living together O Remarried O Divorced O Separated

O One of my parents is deceased O None of the above (please explain) _____

8. Please explain your current living arrangements? (e.g., Do you live with both parents/ live with one parent or guardian all of the time/ live with one parent for one week and one parent next week/ shared custody arrangements, etc?):
_____

9. On average, how many days/week do you spend with each parent:
Mother: ___days Father: ___ days Other guardian: ___ days

10. Who is your primary caregiver? _____

11. Who is your primary caregiver/guardian when your military parent is away on duty? _____

12. How many times have you moved? _____

13. When did you last move? _____

14. How old were you at each move? Move 1: ___ Move 2: ___ Move 3: ___ Move 4: ___ Others: ___

15. Did you ever have to move away from one of your parents? O Yes O No
If yes, please explain: _____

16. Is your military parent(s) currently deployed? O Yes O No

17. How many deployments have your military parent(s)/guardian had?

Mother (if applicable): _____ Father (if applicable): _____ Guardian (if applicable): _____

18. How does your life (routine; living arrangements, etc.) change when your military parent is deployed?
O Stays the same O Move to my other parent's place O Other parent/guardian moves in with me

O Other (please explain): _____

19. What challenges do you feel that you have that other non-military adolescents may not have?
_____
_____
_____
_____

20. What resources (e.g., programs) do you feel you have that other non-military adolescents may not have?
_____
_____
_____
_____

Appendix F

Reactions to Deployment scale (Day, 2013)

Please indicate the extent to which you agree with the following statements.

		Strongly disagree	***Disagree***	***Neither agree nor disagree***	***Agree***	***Strongly agree***
1	I worry about my parent when s/he is deployed.	O	O	O	O	O
2	I wish my parent would not have to be deployed	O	O	O	O	O
3	When my parent is deployed, I count down the time until s/he returns.	O	O	O	O	O
4	I get angry that my parent has to be away on deployment.	O	O	O	O	O
5	I am sad when my parent is deployed.	O	O	O	O	O
6	I tend to cope well with my parent being deployed.	O	O	O	O	O
7	Military provides me with sufficient support when my parent is deployed.	O	O	O	O	O

Appendix G

Reactions to Relocation scale (Day 2013)

Please indicate to the extent to which you agree with the following statements.

		Strongly disagree	***Disagree***	***Neither agree nor disagree***	***Agree***	***Strongly agree***
1	I like the experience of being moved to a new place.	O	O	O	O	O
2	Relocating to a new home is very stressful for me.	O	O	O	O	O
3	I make new friends easily.	O	O	O	O	O
4	I don't like moving to a new city.	O	O	O	O	O
5	I have a lot of input into where we are going to live.	O	O	O	O	O
6	My parent(s) let me help make decisions about houses and location to live in.	O	O	O	O	O

Appendix H

Parent scale of the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987)

Please indicate for the following statements the extent to which each is an accurate description of your relationship with your mother and father using the scale below.

1	2	3	4	5
Almost never or never	Seldom	Sometimes	Often	Almost always or always

		Mother	***Father***	***N/A***
1	My parent respects my feelings.			
2	I feel my parent is successful as a parent.			
3	I wish I had a different parent.			
4	My parent accepts me as I am.			
5	I have to rely on myself and not my parent when I have a problem to solve.			
6	I like to get my parent's point of view on things I'm concerned about.			
7	I feel it's no use letting my feelings show to my parent.			
8	My parent senses when I'm upset about something.			
9	Talking over my problems with my parent makes me feel ashamed or foolish.			
10	My parent expects too much from me.			
11	I get upset easily at my parent.			
12	I get upset a lot more than my parent knows about.			
13	When we discuss things, my parent considers my point of view.			
14	My parent trusts my judgment.			
15	My parent has his/her own problems, so I don't bother him/her with mine.			
16	My parent helps me to understand myself better.			
17	I tell my parent about my problems and troubles.			
18	I feel angry with my parent.			
19	I don't get much attention at home from my parent.			
20	My parent encourages me to talk about my difficulties.			
21	My parent understands me.			
22	I don't know if I can depend on my parent these days.			

		Mother	***Father***	***N/A***
23	When I am angry about something, my parent tries to be understanding.			
24	I trust my parent.			
25	My parent doesn't understand what I'm going through these days.			
26	I can count on my parent when I need to get something off my chest.			
27	I feel that my parent does not understand me.			
28	If my parent knows something is bothering me, they ask me about it.			

Appendix I

Social Support scale (Day, 2013)

Please indicate the extent of your agreement with the following statements using the scale below:

1 2 3 4 5
Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

		Mother	***Father***	***Other Family Members***	***My Friends***	***Military Community***
1	I can count on them to listen to my problems.					
2	I can rely on them to provide me with the advice or suggestions that I may need.					
3	They provide time for me when I need it.					
4	I could rely on them to provide money for me if I needed it.					
5	I can depend on them to help me with school work or chores when I need it.					
6	I can rely on them to provide me with emotional support.					
7	They go out of their way to make my school work, or chores easier for me.					
8	They go out of their way to make my life easier.					
9	They express interest and concern for my personal well-being.					
10	I trust and have confidence in them.					

Appendix J

Poor Relations with Mothers or Fathers scale of the Parent-Child Relationships and Adolescent Adjustment Instrument (Kerr & Stattin, 2000)

Please answer the following questions using the scale below:

1	2	3	4	5
Not at all	A little	Somewhat	A lot	Quite a lot

		Mother	***Father***	***N/A***
1	How often do you and your parent quarrel and fight with each other?			
2	How often do you feel disappointed with your parent?			
3	How often do you feel proud of your parent?			
4	Do you think that you and your parent understand each other?			
5	Do you wish that your parent were different?			
6	Do you accept your parent the way they are?			
7	Do your parent usually support and encourage you?			
8	How often do you feel angry or irritated by your parent?			

Appendix K

Peer scale of the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987)

Please indicate for the following statements the extent to which each is an accurate description of your relationship with your friends.

		Almost never or never	***Seldom***	***Sometimes***	***Often***	***Almost always or always***
1	I like to get my friends' point of view on things I'm concerned about.	O	O	O	O	O
2	My friends sense when I'm upset about something.	O	O	O	O	O
3	When we discuss things, my friends consider my point of view.	O	O	O	O	O
4	Talking over my problems with my friends makes me feel ashamed or foolish.	O	O	O	O	O
5	I wish I had different friends.	O	O	O	O	O
6	My friends understand me.	O	O	O	O	O
7	My friends encourage me to talk about my difficulties.	O	O	O	O	O
8	My friends accept me as I am.	O	O	O	O	O
9	I feel the need to be in touch with my friends more often.	O	O	O	O	O
10	My friends don't understand what I'm going through these days.	O	O	O	O	O
11	I feel alone or apart when I am with friends.	O	O	O	O	O
12	My friends listen to what I have to say.	O	O	O	O	O
13	I feel my friends are good friends.	O	O	O	O	O
14	My friends are fairly easy to talk to.	O	O	O	O	O
15	When I am angry about something, my friends try to be understanding.	O	O	O	O	O
16	My friends help me to understand myself better.	O	O	O	O	O

		Almost never or never	***Seldom***	***Sometimes***	***Often***	***Almost always or always***
17	My friends are concerned about my well-being.	O	O	O	O	O
18	I feel angry with my friends.	O	O	O	O	O
19	I can count on my friends when I need to get something off my chest.	O	O	O	O	O
20	I trust my friends.	O	O	O	O	O
21	My friends respect my feelings.	O	O	O	O	O
22	I get upset a lot more than my friends know about.	O	O	O	O	O
23	It seems as if my friends are irritated with me for no reason.	O	O	O	O	O
24	I tell my friends about my problems and troubles.	O	O	O	O	O
25	If my friends know something is bothering me, they ask me about it.	O	O	O	O	O

Appendix L

Loneliness in Peer Relations subscale of the Louvain Loneliness Scale for Children and Adolescents (Marcoen et al., 1987)

Please indicate your agreement with each of the statements below.

		Never	***Seldom***	***Sometimes***	***Often***
1	I think I have fewer friends than others.	O	O	O	O
2	I feel isolated from other people.	O	O	O	O
3	I feel excluded by my classmates.	O	O	O	O
4	I want to be better integrated in the class group.	O	O	O	O
5	Making friends is hard for me.	O	O	O	O
6	I am afraid the others won't let me join in.	O	O	O	O
7	I feel alone at school.	O	O	O	O
8	I think there is no single friend to whom I can tell everything.	O	O	O	O
9	I feel abandoned by my friends.	O	O	O	O
10	I feel left out by my friends.	O	O	O	O
11	I feel sad because nobody wants to join in with me.	O	O	O	O
12	I feel sad because I have no friends.	O	O	O	O
13	I think I have fewer friends than others.	O	O	O	O

Appendix M

Self-esteem scale (Rosenberg, 1965)

Please indicate the extent to which you agree with these statements.

		Strongly disagree	***Disagree***	***Agree***	***Strongly agree***
1	On the whole, I am satisfied with myself.	O	O	O	O
2	At times, I think I am no good at all.	O	O	O	O
3	I feel that I have a number of good qualities.	O	O	O	O
4	I am able to do things as well as most other people.	O	O	O	O
5	I feel I do not have much to be proud of.	O	O	O	O
6	I certainly feel useless at times.	O	O	O	O
7	I feel that I'm a person of worth, at least on an equal plane with others.	O	O	O	O
8	I wish I could have more respect for myself.	O	O	O	O
9	All in all, I am inclined to feel that I am a failure.	O	O	O	O
10	I take a positive attitude toward myself.	O	O	O	O

Appendix N

Pediatric Symptoms Checklist for Youth (PSC-Y; Jellinek et al., 1999)

Please indicate to what extent you demonstrated each of the following using the scale below.

To what extent…

		Almost never	***Sometimes***	***About half of the time***	***Most of the time***	***Almost always***
1	…do you complain of aches and pain?	O	O	O	O	O
2	…do you spend more time alone?	O	O	O	O	O
3	…do you tire easily, have little energy?	O	O	O	O	O
4	…are you fidgety, unable to sit still?	O	O	O	O	O
5	…do you have trouble with teachers?	O	O	O	O	O
6	…are you less interested in school?	O	O	O	O	O
7	…do you act as if driven by a motor?	O	O	O	O	O
8	…do you daydream too much?	O	O	O	O	O
9	…are you easily distracted?	O	O	O	O	O
10	…are you afraid of new situations?	O	O	O	O	O
11	…do you feel sad, unhappy?	O	O	O	O	O
12	…are you irritable, angry?	O	O	O	O	O
13	…do you feel hopeless?	O	O	O	O	O
14	…do you have trouble concentrating?	O	O	O	O	O
15	…are you less interested in friends?	O	O	O	O	O
16	...do you fight with other children?	O	O	O	O	O
17	…are you absent from school?	O	O	O	O	O
18	…are your school grades	O	O	O	O	O

		Almost never	*Sometimes*	*About half of the time*	*Most of the time*	*Almost always*
	dropping?					
19	…are you down on yourself?	O	O	O	O	O
20	…do you visit with the doctor	O	O	O	O	O
21	…do you have trouble sleeping?	O	O	O	O	O
22	…do you worry a lot?	O	O	O	O	O
23	…do you want to be with your parent more than before?	O	O	O	O	O
24	…do you feel that you are bad?	O	O	O	O	O
25	…do you take unnecessary risks?	O	O	O	O	O
26	…do you get hurt frequently?	O	O	O	O	O
27	…do you seem to be having less fun?	O	O	O	O	O
28	…do you act younger than children your age?	O	O	O	O	O
29	…do you not listen to rules?	O	O	O	O	O
30	…do you not show feelings?	O	O	O	O	O
31	…do you not understand other people's feelings?	O	O	O	O	O
32	…do you tease others?	O	O	O	O	O
33	…do you blame others for your troubles?	O	O	O	O	O
34	…do you take things that do not belong to you?	O	O	O	O	O
35	…do you refuse to share?	O	O	O	O	O