Examining Impacts of Cumulative Risk on Military-Connected Youth and the Role of Coping

by

Carlie Nicole Cave

A thesis submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Master of Science

Auburn, Alabama
May 4, 2019

Keywords: military, youth, coping, social support

Approved by

Mallory Lucier-Greer, Chair, Associate Professor of Human Development and Family Studies
Francesca Adler-Baeder, Professor of Human Development and Family Studies
Julianne McGill, Research Assistant Professor of Human Development and Family Studies

Abstract

Youth in military families are confronted with stressors that are normative (e.g., racial or ethnic minority status, non-married family structure, social isolation) and stressors that are context-specific and emerge in relation to a parent's military career (e.g., parental deployment, constant school transitions, enlisted parent, two parents in the military, living outside of the continental United States, and living 30+ minutes from a military base). Using a stress process and cumulative risk lens, this study examined the relationship between the accumulation of risk factors and youth outcomes, specifically self-efficacy and depressive symptomology, and accounts for the role of family as a coping resource as a buffer between risk and adverse outcomes (N = 1,036 youth in military-connected families). This design provided the foundation for examining whether family processes, specifically turning toward one's family in difficult situations, served as a protective factor for military-connected youth. In addition, this study accounted for gender differences and developmental considerations to determine whether findings were applicable to males and females as well as younger and older youth. Higher levels of cumulative risk were associated with lower levels of self-efficacy and higher levels of depressive symptomology. The relationship between cumulative risk and outcomes did not differ based on gender. When examining cumulative risk and age, there were no group differences among older and younger youth for self-efficacy. There was, however, a trend in which older youth reported higher levels of depressive symptomology than younger youth in the context of risk. Turning to family as a coping resource buffered the effects of risk on self-efficacy, but this

finding did not exist for depressive symptomology. A discussion on cumulative risk and recommendations for assisting youth are included for parents and practitioners.

Acknowledgments

It is with an immense sense of gratitude that I thank my committee members, Dr. Mallory Lucier-Greer, Dr. Francesca Adler-Baeder, and Dr. Julianne McGill for investing in me and helping me grow professionally and personally. Your guidance has been essential throughout this process and I feel truly blessed to have your support throughout my most challenging moments. I admire your ambition as scholars and the empathy, patience, and kindness you exhibit as mentors is unmatched.

I thank Dr. Jay Mancini for allowing me to use data from your laboratory for this thesis. The collection of these data was supported by the U.S. Department of Agriculture (NIFA award No. 2009-48680-06069; Jay A. Mancini, Principal Investigator).

To my colleagues at AHMREI, thank you for giving me the opportunity to laugh as I learn. The years I have spent working with you all have been the most rewarding and fun.

I would like to thank my family. Throughout all of the changes and transitions we have encountered, you have been my constant source of support.

To Erin Cooper, Leanna McConnell, and Alex Kaeppler, thank you for cheering me on and being the reason I love Auburn so much.

To Dr. Laura Greenstein, thank you for introducing me to this field. Your enthusiasm and passion for teaching human development my senior year of high school set me on a path that I continue to enjoy every day.

Table of Contents

List of Tables

List of Figures

Chapter 1

Brief Review of the Literature

In the United States, approximately 1 million youth have a parent currently serving as an active duty member of the Armed Forces or, in other words, have a parent who is in the military full time (U.S. Department of Defense, 2016). Their experiences and outcomes are shaped by factors related to military service, such as deployments, duty station transfers, and regular transitions (Mancini, Bowen, O'Neal, & Arnold, 2015). These factors act as stressors for youth as they navigate circumstances such as being separated from a parent during deployment and training as well as transitions to new schools and peer groups (Mancini et al., 2015). It is important to note that stressors related to military service are not inherently good or bad, rather they are factors to be considered when examining the developmental context and well-being of military-connected youth. Evidence suggests that youth in military families are generally well-adjusted as military-related experiences have been associated with high levels of patriotism, self-sufficiency, and strong family times among military-connect youth (Knobloch, Pusateri, Ebata, & McGlaughlin, 2015; Riggs & Riggs, 2011). Yet, the accumulation of stressors stemming from military involvement can generate a context of transition that adversely impacts youth development, especially in the domain of mental health outcomes (Lucier-Greer, Arnold, Mancini, Ford, & Bryant, 2015).

Research, derived from a stress process and cumulative risk lens, has determined that youth, born in civilian and military families, who are confronted with multiple normative and

context-specific stressors are particularly at-risk for negative outcomes (Blum, McNeely, & Nonnemaker, 2002; Lucier-Greer et al., 2015; Rutter, 1981). Youth outcomes tend to improve when *risk factors are reduced or managed* (Appleyard, Egeland, Van Dulmen, & Sroufe, 2005) and/or when *risk factors are offset by protective factors*, such as coping resources (Blum et al., 2002; Gerard & Buehler, 2004). Because military-connected youth cannot eliminate or reduce stressors that are inherently associated with military family life, there is a need to identify factors that buffer the relationship between stress and adverse outcomes. Accordingly, the focus of this study was to examine the relationship between cumulative risk and youth outcomes, specifically self-efficacy and depressive symptomology, and account for the role of family as a coping resource. Specifically, the purpose of this study was to determine whether family processes, specifically turning toward one's family in difficult situations, served as a protective factor for military-connected youth. In addition, this study accounted for gender differences and developmental considerations to determine whether findings were applicable to males and females as well as younger and older youth.

This information is well positioned to inform the youth development literature by enhancing our understanding of the ways risk factors impact youth outcomes and identifying salient protective factors. Findings can also inform the development of meaningful applications, such as a framework to better identify youth who are at-risk for negative outcomes and programming that enhances effective coping strategies.

Theoretical Framework

Tenets of the stress process model (Pearlin, Lieberman, Menaghan, & Mullan, 1981) informed the development of this study and the supposition that cumulative stress was expected to adversely impact the mental health outcomes of military-connected youth. The stress process

model includes multiple components; the first of which includes identifying the chronic and acute stressors in one's life (Pearlin et al., 1981). We know that youth face developmental stressors associated with growth and maturation as well as context-specific stressors associated with their unique circumstances. Though developmental stressors are normative, they must also be considered in conjunction with the context-specific stressors in order to understand the full scope of stress that youth encounter. For the purpose of this study, stressors related to parental military service will be considered for the examination of context-specific stressors. The supposition is that diverse stressors accumulate, and this "pile up" of stressors results in youth feeling overwhelmed (Patterson & McCubbin, 1987; Rutter, 1981).

According to this framework, the accumulation of stress overtime negatively affects individual functioning, namely mental health. In other words, this stress manifests within the individuals and presents as adverse mental health symptomology. Specifically, it is thought to wear down on one's self-efficacy, meaning the degree to which a person perceives they are able to confront stressors (Pearlin et al., 1981). Youth who feel less capable of handling stress are posited to, in turn, be more vulnerable to depressive symptomology (Pearlin et al., 1981).

As stressors manifest, youth use their resources, both internal and external, to manage the stress. The stress process framework specifically considers the role of coping behaviors as a resource and how these behaviors have the potential to help individuals manage their stress via their available coping resources (Pearlin et al., 1981). Coping resources include social supports (external resources) and personal coping behaviors (internal resources), and the use of these resources can potentially mitigate negative outcomes related to stress. Individuals use social supports, such as family, as they navigate stressors so utilizing a model that considers the effect of this type of coping skill best reflects real-life scenarios as well. Though most adolescents use

family as a source of support, military-connected youth especially rely on family given that family serves as a stable form of support in the midst of constant transitions (e.g., physical location, peer group) related to military service.

Cumulative Risk

When examining how stressors are associated with individual-level well-being, there is evidence which supports the use of a cumulative risk model; cumulative risk models consider the accumulation of risk factors as a predictor of individual outcomes (Lucier-Greer, O'Neal, Arnold, Mancini, & Wickrama, 2014). It is surprising that cumulative risk has existed in the literature for decades, but has only recently been applied to military-connected youth. A study examining military-connected youth's stress in the context of cumulative risk found that a cumulative risk model predicted youth's depressive symptoms and academic performance (Lucier-Greer et al., 2014). Utilizing a cumulative risk model is an emerging approach to understanding the compounding stressors of military-connected youth and provides more context for the way risk is conceptualized by service providers (Lucier-Greer et al., 2015, 2014). Based on an established cumulative risk measure for military-connected youth (Lucier-Greer et al., 2015; Richardson, Mallette, O'Neal, & Mancini, 2016), this study identified three normative risk factors and six context-specific risk factors (i.e., risk related to parental military service) to explore the complexities of risk for this population. More specifically, this study sought to examine how the cumulative impact of these risk factors were related to youth outcomes, namely self-efficacy and depressive symptomology, and also consider the influence of gender and age. The next sections explore each of the identified risk factors in greater detail.

Normative risk factors

Normative risk factors for this study are based on empirical research and include

identifying as part of a racial or ethnic minority group, having non-married parents, and lack of social connectedness. Civilian youth who *identify as part of a racial or ethnic minority group* report being punished more often, and have lower expectations set by teachers than youth who do not identify as part of a minority group (Skiba, Michael, Nardo, & Peterson, 2002; Tenenbaum & Ruck, 2007). Civilian youth who identify as an ethnic or racial minority, a salient factor for military-connected youth, are especially at risk for elevated anxiety and depressive symptomology and externalizing problems (Gaylord-Harden & Cunningham, 2009; Hwang & Goto, 2008; Liu, Mustanski, Dick, Bolland, & Kertes, 2017). Civilian youth who have *non-married parents* face challenges related to family instability and socioeconomic challenges and the literature provides evidence that civilian youth in unmarried family structures are more at risk for adverse outcomes (Hartman, Magalhães, & Mandich, 2011; Manning & Lamb, 2003). Finally, evidence maintains that civilian youth who *lack social connectedness*, meaning they are socially isolated, experience lower self-esteem and increased internalizing behaviors (Hall-Lande, Eisenberg, Christenson, & Neumark-Sztainer, 2007; You & Bellmore, 2012).

Context-specific risk factors

As previously mentioned, context-specific risk factors are those that are unique to a particular group of individuals. For this study, six empirically-based context-specific risk factors related to parental military service are included in the cumulative risk model. Two of these risk factors, having a *parent who is currently deployed* and having *dual-military parents*, are considered in the model as evidence shows military-connected youth experience negative outcomes related to major changes in parent's availability due to the demands of military service (Aranda, Middleton, Flake, & Davis, 2011; Drummet, Coleman, & Cable, 2003; Huffman, Craddock, Culbertson, & Klinefelter, 2017). *Parental military rank* is another risk factor given

the increased risk of posttraumatic stress symptoms of enlisted service members, and the evidence that parental psychological distress has implications for military-connected youth's externalizing behaviors and depressive symptomology (Lester et al., 2010; Smith et al., 2008). Similar to living in an unmarried family structure, parent's military rank, specifically holding enlisted status, has also been connected to poorer socioeconomic factors because enlisted service members are given a lower pay grade than officers (Booth et al., 2007). Military-connected youth who experience regular *school transitions* (i.e., two or more schools in five years) encounter challenges related to adjustments required to integrate into a school environment, extracurricular activities, and peer groups (Bradshaw, Sudhinaraset, Mmari, & Blum, 2010). Military-connected youth who live *outside of the continental United States* are further from resources (e.g., programs, activities) and peer groups which assist with handling stress related to parental military service (Davis, Blaschke, & Stafford, 2012; Jeffreys et al., 1997; Lucier-Greer et al., 2014). In some cases, living outside the continental US may present challenges, including language and cultural barriers that limit the use of community supports. Similarly, military-connected youth who live *30 or more minutes from a military base* are also further from resources that may help youth navigate context-specific stressors (Davis et al., 2012; Lucier-Greer et al., 2014).

Cumulative risk and outcomes

Two outcomes of interest were considered for this study based on suggestions from the stress process framework; they include self-efficacy and depressive symptoms. Self-efficacy is the degree to which an individual perceives they are able to confront stressors. Youth who feel less capable of confronting stressors (i.e., low self-efficacy) may be overwhelmed by their stress which could contribute to adverse outcomes. Depressive symptomology is the degree to which a

person has experienced symptoms related to depression within a specified period of time. Youth who report heightened depressive symptomology could be at-risk for being diagnosed with depression. Utilizing the stress process model in conjunction with a cumulative risk approach provides a sufficient foundation for examining these outcomes in an attempt to better understand military-connected youth's experiences with stressors.

Cumulative risk and demographic considerations

To advance this area of study, evaluating demographic factors provides a means to tap into differences that may be experienced as a function of gender or age. It is known that some differences in self-efficacy and depressive symptomology exist for youth based on gender and age. For example, males tend to report higher levels of self-efficacy and females tend to report higher levels of depressive symptoms (Jenkins, Goodness, & Buhrmester, 2002; Nolen-Hoeksema & Girgus, 1994). In addition, age differences are considered due to evidence that youth's depressive symptomology tends to increase with age, such that younger youth experience lower levels of depressive symptomology than older youth (Angold & Rutter, 1992; Dekker et al., 2007).

Coping Resources

As individuals are confronted with risk factors, there are also protective processes at play which: (1) exist in multiple settings (e.g., within an individual, family, community), (2) offer protection from negative outcomes even if risk circumstances differ between individuals, and (3) offer protection from some negative outcomes, but may not influence other outcomes (Blum et al., 2002). These processes were labeled by Appleyard and colleagues (2005) as "risk modifiers." For youth in military-connected families, it is not possible to eliminate familial and military-

related risk factors that are encountered, but it is possible to identify factors that modify or reduce risk for this population.

Pearlin (1999) theorized that in order to cope with stressors, individuals use social supports, meaning people from which individuals draw support. For youth, families typically provide ongoing support by helping youth effectively and confidently confront stressors (Wills, Vaccaro, & McNamara, 1992). The support families provide also protects youth from negative outcomes (Borowsky, Resnick, Ireland, & Blum, 1999; Robertson, Xiaohe Xu, & Stripling, 2010). For military-youth specifically, family is a stable social support even as school and peer group transitions occur. Thus, turning to family as a coping resource is considered a key risk modifier for military-connected youth.

The Current Study

The purpose of the current study was to consider how accumulated stress influences youth outcomes, how demographic factors play a role in the relationship between stress and youth outcomes, and how coping resources, such as familial support during stress, can buffer the relationship between stress and youth outcomes. Specifically, the first two hypotheses serve as a replication study in which I examined the direct effect of cumulative risk (normative and context-specific risk factors) on military-connected youth's self-efficacy, and the direct effect of cumulative risk on military-connected youth's depressive symptoms in separate models. I hypothesized that risk would be adversely associated with youth outcomes, such that youth who experience more risk factors (i.e., higher levels of cumulative risk) would report lower self-efficacy (H1) and also higher levels of depressive symptoms (H2).

Hypothesis 1 (H1): Military-connected youth's cumulative risk will be directly and negatively associated with self-efficacy, such that youth who report higher levels of cumulative risk will also report lower levels of self-efficacy.

Hypothesis 2 (H2): Military-connected youth's cumulative risk will be directly and positively associated with depressive symptoms, such that youth who report higher levels of cumulative risk will also report higher levels of depressive symptoms.

Secondly, this study provides novel contributions to the existing literature on military-connected youth by examining whether the relationship between cumulative risk and youth outcomes (i.e., self-efficacy and depressive symptoms) differs by gender or by age. I examined whether the relationship between cumulative risk and self-efficacy and the relationship between cumulative risk and depressive symptoms differed by gender (RQ1 and RQ2, respectively). In addition, I also tested for age differences in the relationship between cumulative risk and self-efficacy and the relationship between cumulative risk and depressive symptoms (RQ3 and RQ4, respectively). It was decided in advance that if gender or age differences existed, one or both variables would be accounted for throughout the remaining analyses, depending on the findings of RQ1-RQ4.

Research Question 1 (RQ1): Does gender moderate the relationship between cumulative risk and self-efficacy?

Research Question 2 (RQ2): Does gender moderate the relationship between cumulative risk and depressive symptoms?

Research Question 3 (RQ3): Does age moderate the relationship between cumulative risk and self-efficacy?

Research Question 4 (RQ4): Does age moderate the relationship between cumulative risk and depressive symptoms?

Finally, I examined whether turning to family as a coping resource moderated the relationship between cumulative risk and youth outcomes, also a novel addition to the literature. If turning to family as a coping resource buffers the impact of cumulative risk on youth's self-efficacy or depressive symptomology, it would provide parents and practitioners with valuable information in regards to assisting military-connected youth.

Research Question 5 (RQ5): Does turning to family as a coping resource moderate the relationship between cumulative risk and self-efficacy?

Research Question 6 (RQ6): Does turning to family as a coping resource moderate the relationship between cumulative risk and depressive symptoms?

Chapter 2

Comprehensive Review of the Literature

Theoretical Framework

The stress process framework (Pearlin et al., 1981) was utilized to inform the development of this study and the research questions and hypotheses stated herein. Broadly, this framework explicates how the accumulation of stressors adversely impacts the mental health of individuals. Specific to the study of youth in military families, the application of this framework would suggest that the 'pile-up' of normative and situational stressors, some of which are related to a parent's military career, would adversely influence youth in certain domains of their life. These domains include one's sense of self, specifically self-efficacy, and mental health outcomes, namely depressive symptoms. Furthermore, this framework recognizes the role of protective factors in the stress process with a focus on social support. Protective factors are positioned in the model to act as moderators to buffer the effect of stressors. In this study, family derived support is posited to buffer the negative impact of cumulative stress on outcomes related to youth's self-efficacy and depressive symptomology. Pearlin and colleagues (1981) propose that the stress process is comprised of multiple parts, all which must be considered to understand the scope and impact of stressors on an individual.

The first element of the framework is the *stressor(s)* present in one's life. Stressors can be characterized as acute, such that one can pinpoint when the stressor occurred and subsequently ended, or stressors can be chronic meaning they are ongoing. There is no specific length of time a stressor must be present to be categorized as chronic, but rather this type of stressor

continuously acts as a source of stress for an individual in an impactful way over time. Pearlin (1999) also points out that the timing and normality of stressors can be particularly important. Stressors that youth are expected to face as they develop are thought to be less stressful than an unexpected event or series of events. Additionally, the development of a new stressor when an individual is in the process of managing other stressors reflects an accumulation of stressors. For example, youth who are transitioning from adolescence to adulthood are navigating chronic stressors of development. Youth who are faced with a new stressor in addition to these already-present chronic stressors will likely find the new stressor greatly increases the overall stress in an individual's life. It is not uncommon for individuals to face a proliferation of acute and chronic stressors simultaneously. As more stressors accumulate, individuals find that navigating the stressors becomes more challenging and feel as though the stressors are "piling up," a concept explored in the Double ABC-X model of family stress as well as in the literature on cumulative risk (Patterson & McCubbin, 1987; Rutter, 1979). As stressors accumulate, there are interactions between stressors; this contributes to feeling overwhelmed or depleted of resources as a result of managing a pile-up of stressors.

Another component of the stress process framework is *the manifestation of stressors*. In other words, stress manifests into adverse individual-level outcomes, particularly those related to self and mental health. Suppositions are that chronic, unmanaged stressors erode one's sense of self and adversely impact mental health. When individuals face stressors, they utilize resources to manage the stress; over time this is thought to deplete or erode their sense of self, particularly self-efficacy. Additionally, the stress process wears on one's mental health, namely depressive symptomology. Pearlin (1999) suggests that when examining mental health outcomes in the context of stress manifestation, it is best to use a sociological, community-based approach. Using

this approach allows researchers and practitioners to investigate stress manifestation without requiring the use of clinical diagnostic criteria. Individuals can be greatly affected by stressors, but that stress may not manifest at or above the clinical threshold for a mental health diagnosis (e.g., depression). A sociological approach recognizes the importance of studying elevated symptomology and prevents the loss of participant observations that do not meet clinical standards.

The final component of the stress process framework is *coping*. Coping is defined as a set of behaviors that includes one or more of the following: (1) altering the cause of a stressor if possible, (2) decreasing the significance of a stressor by changing one's outlook, and/or (3) handling one's symptoms that are a result of the stressor (Pearlin et al., 1981). These behaviors occur by way of the coping resources that are available to protect the individual from the impact of the stressors (Pearlin, Mullan, Semple, & Skaff, 1990). The two primary coping resources identified by this theory include one's *social supports* and *personal coping behaviors*. These coping resources are posited to buffer the effect of stress on individual outcomes. In other words, coping resources serve as moderators that can influence the relationship between stressors and adverse individual-outcomes. This thesis focuses specifically on the role of social supports and the ways in which turning to family as a coping resource can buffer the effect of cumulative stress on self-efficacy and depressive symptomology.

Pearlin and colleagues (1981) define social supports as the people an individual uses to deal with changes. Individuals under duress often will turn to social supports which are comprised of both individuals and groups of people, but the type and amount of support a person may receive from these different people to confront a stressor varies. Social supports are a coping resource because they allow individuals to confront stressors through relationships with

others. It is known that during the stage of adolescence, youth tend to tie their sense of self in with their feelings of belonging and support from their peer group, but family also continues to be a valuable resource for youth (Brown & Lohr, 1987; McFarlane, Bellissimo, & Norman, 1995; Pinkerton & Dolan, 2007). Accordingly, social support, specifically support from a youth's family, is the coping resource examined in this study with the purpose of understanding how familial support may buffer the impact of stress for military-connected youth. Family is an important social support for all adolescents but for military-connected youth, family is potentially the most stable source of social support given the nature of transitions for military families and peer group transitions for youth.

Pearlin (1999) suggests that it is beneficial to consider the resources individuals have to deal with stress, such as social support, in the stress process. It is also worthwhile to examine individual levels factors, such as age and gender, to provide better understanding of how stress manifests for different individuals. Generally, it is known that demographic factors such as age and gender can influence youth's experiences in the context of stress. By considering these factors as moderators, we can better understand if particular groups of youth are especially at-risk for negative outcomes related to the stressors in their lives.

For this thesis, the stress process framework was applied specifically to examine stressors for military-connected youth and whether a pile-up of stressors is associated with a depleted sense of self and heightened mental health symptomology. Self-efficacy, meaning the degree to which a person perceives they are able to confront a stressor is examined to better understand how youth's sense of self may be negatively influenced by the accumulation of stressors. The frequency a person experiences symptoms related to depression (i.e., depressive symptomology)

is also examined to determine if youth are experiencing adverse mental health symptoms and are at-risk for reaching levels of symptomology that compel a clinical diagnosis for depression.

Further, through the use of this framework, researchers can better understand how cumulative risk affects youth outcomes and explore how youth's coping resources, like social supports such as family, can buffer negative outcomes related to stressors. We know that youth within military families face a multitude of stressors, and these stressors are associated with vulnerability. Youth with a higher accumulation of stressors report higher levels of depressive symptoms, lower levels of persistence, and poorer academic performance (Lucier-Greer et al., 2015). Applying the stress process framework to the study of cumulative risk with military-connected youth provides an opportunity to consider how the pile-up and interaction of stressors are related to heightened vulnerability, specifically youth's perceptions of self and mental health outcomes. This study also considers demographic factors and examines the ways in which one's age or gender may influence the way in which cumulative risk influences youth's self-efficacy and depressive symptomology. Furthermore, this study applies the stress process model to examine how social support, specifically support provided by the family, and personal coping behaviors of youth moderate or buffer the relationship between stressors and youth outcomes.

Recent work on military-connected youth found that youth outcomes were positively influenced by family support and other support networks (Bradshaw et al., 2010; Mancini et al., 2015). Alfano and colleagues (2016) also suggested that interventions which teach coping skills could be particularly beneficial and that these coping resources can act as protective factors for youth. The next sections provide an in-depth review of the literature on cumulative risk with a focus on youth development and risk factors faced by youth in military families. Then, a

discussion of coping with stress is presented with a focus on protective processes for military-connected youth.

Cumulative Risk

As mentioned in the previous section, stressors generate vulnerability for individuals and increase one's risk of negative outcomes (Kraemer, Lowe, & Kupfer, 2005). Accordingly, throughout the remainder of this thesis, the term risk or risk factor will be utilized to reference various stressors faced by military-connected youth. Risk factors can stem from either demographic factors or factors related to one's environment (Blum et al., 2002). Though exposure to any singular risk factor can present challenges for youth, developmentalists, like Michael Rutter (1979, 1981), focus their attention on the pile up of risk factors. Understanding this accumulation of risk factors continues to be a critical area of study given that: (1) youth's outcomes when exposed to multiple risk factors are generally far worse than when exposed to a singular risk factor, and (2) youth who are encountering one risk factor are likely to encounter multiple other risk factors (Evans, Li, & Sepanski Whipple, 2013). More understanding about the trend of effects of cumulative risk on youth outcomes is needed. Rutter (1979) found evidence that youth outcomes tend to follow a threshold effect in which outcomes are significantly worse after a certain number of risk factors are present.

Researchers utilize a cumulative risk approach to study how the pile-up of multiple risk factors influences an individual's outcomes. This is typically done by creating overall scores of risk for each individual by identifying risk factors, dichotomizing these risk factors (0 = no/low risk, 1 = moderate/elevated risk), assigning values depending on a person's exposure to the risk factors, then summing the values (Evans et al., 2013). The purpose of creating a cumulative risk score is not to determine the severity of one's exposure to each individual risk factor, but rather to determine the variety of risk factors individuals are exposed to given that exposure to more

risk factors is posited to elevate vulnerability and increased the likelihood of negative outcomes.

In relation to military-connected youth, this study utilizes a cumulative risk approach and includes two types of risk factors: normative risk factors and context-specific (e.g., situational) risk factors related to having a parent in the military. Surprisingly, applying a cumulative risk approach is new for studying military-connected youth. There is a consistent body of research linking both types of risk factors to adverse outcomes for military-connected youth, and both normative and context-specific risk factors contributes to cumulative risk; this will be discussed in the next section. Lucier-Greer, O'Neal, Arnold, Mancini, and Wickrama (2014) conducted a study that empirically evaluated three different models of risk and vulnerability among military-connected youth. The authors found compelling evidence for the use of the cumulative risk model. Although some individual risk factors were uniquely associated with adverse outcomes, modeling the pile-up or accumulation of risk factors was a strong predictor of adverse outcomes of military-connected youth. This cumulative risk measure of military-connected youth has since been linked to youth outcomes including higher levels of anxiety and depressive symptoms and lower levels of academic performance and persistence (Lucier-Greer et al., 2015; Richardson et al., 2016). The next sections will provide a definition for *normative risk factors* and *context-specific risk factors* and include information about the nine risk factors that comprise the cumulative risk measure of military-connected youth.

Normative risk factors

Some risk factors can be experienced by both civilian and military-connected youth. These are termed "normative risk factors." This measure of cumulative risk accounts for three, salient normative risk factors identified from the empirical literature: identifying as part of a racial or ethnic minority group, having non-married parents, and being socially isolated.

Identifying as part of a racial or ethnic minority group has been linked to disparities in physical and mental healthcare and health outcomes (Maura & Weisman de Mamani, 2017; Williams & Collins, 2001). In addition, evidence suggests that students who identify as a member of a racial or ethnic minority group are punished more than students who do not identify as part of a minority group, and teachers have lower expectations for students who identify as part of a racial or ethnic minority group (Skiba et al., 2002; Tenenbaum & Ruck, 2007). Furthermore, many studies have concluded that people who identify as part of a minority group experience racial discrimination which can result in negative mental health outcomes (Gaylord-Harden & Cunningham, 2009; Hwang & Goto, 2008; Liu et al., 2017). For example, racial discrimination stress experienced by African-American youth was related to elevated levels of symptomology of anxiety and depression (Gaylord-Harden & Cunningham, 2009). This finding is supported by a study by Liu and colleagues (2017) which concluded that African-American youth's experiences with racial discrimination were linked to higher comorbidity of internalizing and externalizing problems. There is strong evidence that racial minorities experience disparities and discrimination and the negative outcomes that stem from these experiences make identifying as part of a racial or ethnic minority group a risk factor for both civilian and military-connected youth.

The second risk factor considered within the cumulative risk model is related to parental marital status. This is not to say that all youth in unmarried family structures (e.g., single parent families, stepfamilies, co-habiting families) will experience adverse outcomes (Adler-Baeder et al., 2010). In fact, military-connected youth in two-parent homes, stepfamilies, and single parent families report similar levels of depressive symptomology and academic performance when healthy family processes, such as support and communication, are occuring (Arnold, Lucier-

Greer, Mancini, Ford, & Wickrama, 2017). Yet, it is the case that family structure is a proxy for family changes and, in some cases, instability. For example, Manning and Lamb (2003) found that youth who live in a household with non-married parents (e.g., single parent, co-habiting stepparent) have greater disadvantage than youth who live in a household with both biological parents. They concluded that the disadvantage youth experience stems primarily from the socioecomic challenges non-married parents face compared to married parents. A literature review examining the influences of parental divorce/marital seperation includes multiple findings that help explain why living in a household with non-married parents can be a risk factor for youth (Hartman et al., 2011). Common themes of youth who experience parental divorce/marital seperation include delinquint behaviors, negative externalizing and internalizing symptoms, and decreased ability to cope (Hartman et al., 2011). Again, adverse outcomes are not a given when unmarried family structures are present, but military-connected youth and civilian youth who live with unmarried parent(s) are at elevated risk for adverse outcomes.

Another normative stressor considered in the model is related to the lack of social connectedness. As previously mentioned, social connectedness for youth exists in the form of peer groups during adolescence. Youth who experience social isolation are at increased risk for experiencing negative mental health symptoms related to depression and also experience lower self-esteem (Hall-Lande et al., 2007). Similarly, researchers who conducted a study with a sample of tenth-graders found that youth who had experienced peer victimization (i.e., bullying) reported higher internalizing behaviors related to depression and anxiety (You & Bellmore, 2012). A study conducted by Averdijk, Eiser, and Ribeaud (2014) examined the role of youth's social support after being victimized by peers, and found that youth's social support acted as a buffer from developing internalizing problems.

Though these three risk factors are not directly related to military service, there is futher evidence that shows that these risk factors may be exacerbated by parental military service. For example, Drummet, Coleman, and Cable (2003) suggest that military families who are minorities may face additional challenges as they relocate due to the isolated nature of many communitites. Mancini and colleagues (2015) also explain that because military dependents experience constant transitions, their need for social provisions, or supports, from family, friends, and the surrounding communities is very high. Additionally, military-connected youth with fewer social provisions have more negative outcomes than youth with higher social provisions (Lucier-Greer et al., 2015).

Context-specific risk factors

The cumulative risk approach for studying youth in military families (Lucier-Greer et al., 2015) also includes risk factors that are directly related to parental military service and the nature of being a military family. This section will explore six context-specific risk factors that collectively are posited to enhance vulnerability, including parent deployment status, constant school transitions, military rank, having dual-military parents, living outside of the contential United States (OCONUS), and living 30 or more minutes away from a military base.

Having a parent who is currently deployed is the first risk factor in this category. In a focus group of adolescent military dependents, half of participants used negative words to describe deployment experiences and explained that deployment overall was a stressful time for their family (Huebner, Mancini, Wilcox, Grass, & Grass, 2007). Another qualititative study examined the ways military-connected youth communicated with their parents during a deployment (Owlett, Richards, Wilson, DeFreese, & Roberts, 2015). Results showed that adolescents were less likely to share private information with deployed parents because they did

not want to add more stress to their deployed parent's life. In addition, youth also reported hiding sadness, particularly from their non-deployed parent. Owlett et al. (2015) concluded that the way military-connected youth communicate with their parents (or their lack of communication with parents about their stress) during deployment may be detrimental to their socio-emotional health. It is evident that deployment can serve as a risk factor for youth, and a study conducted by Aranda, Middleton, Flake, and Davis (2011) captured youth's psychosocial health outcomes related to parental military deployment. Aranda and colleagues (2011) compared a group of adolescents with a currently-deployed parent to a group of adolescents who did not have a currently-deployed parent. Findings suggest that youth with a deployed parent experienced more internalizing and externalizing symptoms than the group of youth who did not have a parent deployed at the time of the study. In addition, twice as many youth in the group with a currently deployed parent were deemed at risk of having psychosocial difficulties. Though a direct link between parental deployment and youth outcomes cannot be made from this study, Aranda et al. (2011) provide important evidence that youth who currently have a parent deployed are indeed more at risk than youth who are not experiencing a deployment.

Another risk factor for these youth is regularly changing schools, operationalized as transitioning to two or more schools in five years. Bradshaw, Sudhinaraset, Mmari, and Blum (2010) interviewed military-connected youth, their parents, and staff from the youth's schools to learn more about how these youth are impacted by constant school transitions. Study participants reported that transitioning to a new school environment was difficult for many reasons: forming new peer networks, learning school policies, navigating a new school building, and resolving issues pertaining to the transfer of course credits. Students and their parents also agreed that relocating to different schools had negative consequences on students' abilities to participate in

extracurricular activities. For example, students were unable to participate in some extracurricular activities due to missed tryouts or audition dates. Obtaining leadership positions within clubs or student government organizations proved difficult because these youth were often not well-known by their peers (Bradshaw et al., 2010). Similar challenges surrounding school transitions, or mobility, have also been reported by Pears and colleagues (2015) in the context of children's experiences in the foster care system. These children often move schools due to changes in their foster care placement, and the authors reported that characteristics of these moves, including distance of move and time of year the move occurred, appear to have some bearing on how youth are affected by transitioning to a new school. Findings suggested that youth with a higher number of school transitions reported poorer social emotional competence, meaning that children who transitioned to schools more often were more at-risk for negative outcomes.

Parental rank is another risk factor that may enhance vulnerability for military-connected youth. Smith and colleagues (2008) examined rank as part of their study which focused on the onset of post-traumatic stress symptoms and posttraumatic stress disorder. The researchers found that enlisted service members had greater onset of symptoms than officers. In another study, the authors found a difference in depressive symptoms between enlisted personnel and officers (Pittman, Kerpelman, & McFadyen, 2004). Researchers suggest that the differences in findings related to enlisted personnel may be linked to the socioeconomic factors that come with having a lower pay grade than officers, and being deployed or away from one's family for longer periods of time than officers (Booth et al., 2007; Lucier-Greer et al., 2014; Pittman et al., 2004). We know that stress related to employment can "spill over" into other domains of one's life such as family, and this is particularly true for military service members. Youth who have an enlisted

parent are likely at-risk for adverse outcomes. For example, having an enlisted parent has been linked to poorer academic performance (Lucier-Greer et al., 2014). In addition, researchers who studied child maltreatment (i.e., abuse and neglect) during deployment periods concluded that rates of maltreatment in enlisted soldiers' families were elevated during deployment (Gibbs, Martin, Kupper, & Johnson, 2007).

It is evident that youth who have a parent in the military face various challenges, and suppositions are that youth who have two parents in the military have a unique set of circumstances; this is the fourth military-related risk factor that is considered in this study, dual military parents. Huffman, Craddock, Culbertson, and Klinefelter (2017) explain that while dual-military parents set up care plans for their children before deployment, the fact that these youth may be faced with the deployment of both parents is very difficult for youth because it requires many transitions in a short period of time. Youth of dual-military parents are often required to live with a non-parental family member during deployment, and communication with both parents is limited. In addition, Drummet and colleagues (2003) also suggest that youth with dual-military parents may encounter stressors related to their family structure because these youth have to manage the stressors and emotions that stem from the relocations, deployments, and transitions of two parents, rather than just one parent.

The fifth risk factor is living outside of the contiguous/continental United States (OCONUS). Military-connected youth who live in OCONUS locations may be more at-risk than youth who live inside the contiguous/continental United States (CONUS). A study by Lakhani (1994) compared living conditions and satisfaction of soldiers and their wives who lived OCONUS to those who lived CONUS. The author concluded that study participants were generally less satisfied living OCONUS and attributed the difference to lower employment and

childcare resources, soldiers' increased worry, and soldiers' number of days away from family. Just as adults face challenges related to living OCONUS, it can be inferred that youth also face a number of challenges related to living OCONUS. For example, youth located OCONUS are further from their friends who are located CONUS, and communicating with these friends may be difficult due to differences in time-zones (Lucier-Greer et al., 2014). In addition, youth located OCONUS may not be able to form a large peer group due to language barriers, or could be confined to the military base meaning their opportunities to form a larger peer group are limited (Jeffreys et al., 1997).

The final risk factor in the model is the distance youth live from a military base. Youth who live 30 or more minutes away from the base are more at-risk than youth who live closer to a base. Davis, Blaschke, and Stafford (2012) suggest that youth who live away from a base are further away from the resources needed to handle the stressors military life often presents. Youth who are unable to receive resources especially leading up to a deployment are less likely to adapt well during the transition to deployment. In addition, youth who do not live near a base are farther away from military-sponsored activities and recreation facilities that provide interactions with other youth who also have parents in the military.

Cumulative risk and outcomes

In terms of studying the impact of cumulative risk on youth, two-theoretically derived outcomes of interest were considered, specifically youth's sense of self (self-efficacy) and depressive symptomology. These outcomes were selected based on information from the stress process framework, which suggests that an accumulation of stressors can erode one's sense of self (self-efficacy), and, in turn, have an adverse impact on mental health (Pearlin et al., 1981). Evidence supports the idea that as individuals use resources to cope, their perceptions of self are

influenced (Pearlin et al., 1981). As previously stated, youth who are considered to be "at risk" face increased risk for negative outcomes, and the literature supports the use of a cumulative risk model to examine depressive symptomology as an outcome for this study (Appleyard et al., 2005; Lucier-Greer et al., 2014; Rutter, 1981).

Cumulative risk and demographic considerations

This study provides a novel contribution to the literature by considering potential group differences based on demographic factors (i.e., gender, age) as it relates to cumulative risk and youth's self-efficacy, and cumulative risk and youth's depressive symptomology. In other words, this study determines whether group differences exist between males and females, and older and younger youth in relation to cumulative risk and adverse outcomes. When examining youth development, specifically gender and age. Research shows that males and females differ in outcomes related to self-efficacy and depressive symptomology: males typically report higher levels of self-efficacy, and female, report higher levels of depressive symptoms (Jenkins et al., 2002; Nolen-Hoeksema & Girgus, 1994). For the purpose of this study, I considered the influence of gender on these outcomes. There are also established differences in depressive symptomology among youth based on age (Angold & Rutter, 1992; Dekker et al., 2007). Younger youth report lower levels of depressive symptomology, and these levels increase as youth transition through adolescence (Angold & Rutter, 1992; Dekker et al., 2007). For the purpose of this study, I considered the influence of age on the outcomes and on the relationship between cumulative risk and the outcomes.

Coping Resources

Researchers have examined how individuals can be protected from risk and found that: (1) protective processes span multiple contexts, meaning that these mechanisms exist within

individual, family and community settings; (2) protective processes vary across risk processes, such that individuals can have the same negative outcomes though their risk circumstances differ; and (3) protective processes vary across domains of functioning, meaning that a protective factor can benefit some outcomes, but not have an impact on other outcomes (Blum et al., 2002). It is necessary to determine how such processes protect individuals, in this case, military-connected youth, from risk. For this study, I posit that coping resources will serve as a buffer to protect youth from the accumulation of risk factors, or as Appleyard et al. (2005) term this process, the moderators serve as "risk modifiers."

The literature on coping includes extensive information on the importance of coping in the context of challenging situations or circumstances, but based on two expansive literature reviews, operationalizing coping has varied (see reviews by Compas et al., 2001; Garcia, 2010). As the literature on coping has evolved, the definition of coping along with the dimensions used to conceptualize coping behaviors has also evolved (Compas et al., 2001). For example, early work by Lazarus and Folkman (Lazarus & Folkman, 1984) conceptualized two dimensions of coping, problem-focused coping and emotion-focused coping. These dimensions tie in directly with their definition of coping as problem-focused coping involves behaviors that contribute to confronting a stressor in the environment, whereas emotion-focused coping involves behaviors that contribute to seeking emotional support or changing emotions related to a stressor (Lazarus & Folkman, 1984). These dimensions have been criticized for being too broad and not inclusive of all coping behaviors as some coping behaviors did not seem to fit well with other coping behaviors in the same dimension (Compas et al., 2001).

Weisz, McCabe, and Dennig (1994) provided another means to conceptualize coping. The researchers created new dimensions of coping such as primary control coping and secondary

control coping. These dimensions are closely related to Lazarus and Folkman's dimensions, but are regarded as less ambiguous (Compas et al., 2001). Primary control coping involves actions or behaviors with a goal to change the stressor or manage emotions related to the stressor; secondary control coping involves actions or behaviors with a goal to adapt to the stressor or emotionally accept the stressor (Weisz et al., 1994). In addition, primary and secondary control coping can be used not only to categorize the actions that occur in response to stress, but also the goals an individual is hoping to reach via these actions (Rudolph & Dennig, 1995). The primary and secondary control coping dimensions have been used to study youth confronted with a range of stressors such as undergoing painful medical procedures (Rudolph & Dennig, 1995), war and community displacement (Howell et al., 2015), and high-functioning autism/Asperger's Disorder (Khor, Melvin, Reid, & Gray, 2014).

For this study, I use the definition of coping presented by Lazarus and Folkman (1984) and used by Pearlin (1999) which summarized, explains that coping is a set of behaviors. These behaviors include: confronting a stressor, changing one's outlook about a stressor, and dealing with emotions that result from the stressor, with the overall goal of lowering stress. Lazarus and Folkman (1984) proposed that individuals can have an influence on the way a stressor affects them and that coping strategies can, in fact, be taught. This relates to Pearlin's (1999) theory which explains that individuals use coping resources in an attempt to cope with stress. One of these coping resources is social supports and is defined as the people from which individuals draw support. These people help an individual confront stressors, change their outlook about stressors, and deal with emotions related to stressors. Support from important others, in this case, family, is a particularly beneficial social support for youth when confronted with stress.

First, coping resources include relying on and drawing support from important others, such as family members. Wills, Vaccaro, and McNamara (1992) write that families often help youth develop their coping skills. Furthermore, when youth are able to utilize coping strategies that involve their family, they are more able to successfully confront stressors (Wills et al., 1992). In a study of adolescent females, it was found that strong kinship ties acted as a protective factor for substance use (Robertson et al., 2010). Discussing problems with family also acted as a buffer for American Indian and Alaska Native youth's suicide attempts (Borowsky et al., 1999). Military-connected youth often experience school and peer group transitions due to a parent's military service, but family remains a stable resource throughout these transitions. Thus, for the current study, I utilized a family support coping subscale to investigate how youth in the sample interacted with family members as a way to cope with stressors.

The Current Study

This study investigated the relationship between cumulative risk and youth outcomes accounting for the role of family, specifically turning to family as a coping resource. First, I examined the association between cumulative risk (an assessment of both normative and context-specific risk factors) and military-connected youth's self-efficacy, and the association between cumulative risk and military-connected youth's depressive symptoms. I hypothesized that cumulative risk would be adversely associated with youth outcomes, such that youth who experience more risk factors, meaning higher levels of cumulative risk, would report lower self-efficacy (H1) and also higher levels of depressive symptoms (H2). H1 and H2 reflect a replication study of existing research on military-connected youth.

Hypothesis 1 (H1): Military-connected youth's cumulative risk will be negatively correlated with self-efficacy, such that youth who report higher levels of cumulative risk will also report lower levels of self-efficacy.

Hypothesis 2 (H2): Military-connected youth's cumulative risk will be positively correlated with depressive symptoms, such that youth who report higher levels of cumulative risk will also report higher levels of depressive symptoms.

This study also contributes novel findings to the body of literature on military-connected youth by examining whether the relationship between cumulative risk and youth outcomes (i.e., self-efficacy and depressive symptoms) differs by gender or by age. There is fairly consistent literature among youth to suggest that males and females differ with regards to their mean-level reports on self-efficacy and depressive symptomology; females tend to report lower levels of self-efficacy and higher levels of depressive symptoms (see literature review in previous chapters). To complement and expand this area of study, I examined whether the relationship between cumulative risk and self-efficacy and the relationship between cumulative risk and depressive symptoms differed by gender (RQ1 and RQ2, respectively). In addition, there is evidence that suggests older and younger youth experience different levels of self-efficacy and depressive symptomology based on age; older youth tend to report higher levels of depressive symptoms (see literature review in previous chapters). To extend our understanding of developmental differences, I also tested for age differences in the relationship between cumulative risk and self-efficacy and the relationship between cumulative risk and depressive symptoms (RQ3 and RQ4, respectively).

Research Question 1 (RQ1): Does gender moderate the relationship between cumulative risk and self-efficacy?

Research Question 2 (RQ2): Does gender moderate the relationship between cumulative risk and depressive symptoms?

Research Question 3 (RQ3): Does age moderate the relationship between cumulative risk and self-efficacy?

Research Question 4 (RQ4): Does age moderate the relationship between cumulative risk and depressive symptoms?

Lastly, I examined whether turning to family as a coping resource moderated the relationship between cumulative risk and youth outcomes. This also is a novel addition to the literature. If turning to family as a coping resource buffers the impact of cumulative risk on youth outcomes, it would reflect a leverage point for serving military-connected youth.

Research Question 5 (RQ5): Does turning to family as a coping resource moderate the relationship between cumulative risk and self-efficacy?

Research Question 6 (RQ6): Does turning to family as a coping resource moderate the relationship between cumulative risk and depressive symptoms?

Chapter 3

Method

Participants and Procedures

Participants (N = 1,036) were adolescents ages 11 to 18 in active-duty, US Army families. Researchers received consent from parents and assent from adolescents prior to survey completion. The adolescents completed the survey electronically in the computer lab of the youth center on the installation. This setting was intended to provide some familiarity for the youth as it was a common place for them to convene, and they were familiar with the staff of the youth center. Surveys took approximately 45 minutes to complete. The purpose of the data collection was to gather information about military-connected youth's life experiences. Other data that were gathered included but were not limited to: participation in activities on military installations and in the wider community, academic performance, school support, family satisfaction, health, and technology usage.

Data collection occurred on seven military installations, four in the United States and three in Europe. Participants were recruited via word of mouth through Child, Youth, and School Services programs as well as via media advertisements such as emails, flyers, and radio announcements. The majority of the sample was between the ages of 11 and 14 (72.4%), and the sample was evenly distributed between female (50.3%) and male participants (49.7%).

Army Research Institute as well as the Institutional Review Board of the University of Georgia granted permission for the original data collection. A research protocol review was

submitted and approved by the Institutional Review Board of Auburn University for secondary data analysis for this thesis project.

Measures

Cumulative risk. For the predictor, this study utilized an existing cumulative risk measure that has demonstrated predictive validity in the study of outcomes for military-connected youth (see Lucier-Greer et al., 2014). For each risk factor, youth were given a score of zero (0) if there was low or no risk experienced, or a score of one (1) if there was a potential for experiencing risk. Youth's cumulative risk was calculated by summating the risk scores of three normative risk factors (i.e., identifying as part of a racial or ethnic minority group, having non-married parents, lacking social connectedness) and six context-specific risk factors related to parent's military service (i.e., having a parent who was deployed at the time of the survey, experiencing two or more school transitions in five years, having a parent who was an enlisted service member, having two military parents, living outside the continental United States, living 30 or more minutes from base). Youth were coded as lacking social connectedness, or being socially isolated, if they responded they receive help or support from "no one." See Appendix A for a full review of the measure and how it was scored. Participants in this sample had an average cumulative risk score of 3.38 (SD = 1.36), where majority of the sample (83 percent) reported experiencing between two (2) to five (5) risk factors.

Self-efficacy. The Self-Efficacy Scale, developed by Sherer et al. (1982), was used to measure how youth feel about themselves and their abilities (see Appendix B); self-efficacy was an outcome variable in this study. The measure utilizes three subscales: *Initiative* which consists of seven items (e.g., "If something looks too complicated, I will not even bother to try it"); *Effort* which consists of five items (e.g., "When I make plans, I am certain I can make them work");

and *Persistence* which consists of four items (e.g., "When I set important goals for myself, I rarely achieve them"). Reponses ranged from "Not like me" (1) to "A lot like me" (3). The subscales can be utilized as separate indicators or self-efficacy can be assessed as a composite measure (α = .495). For this study, the Self-Efficacy Scale was used as a composite measure created by taking the average of the scores. Thus, some items were reverse scored, such that higher scores on all items reflected higher levels of self-efficacy. The mean for the sample was 2.41 (*SD* = .34).

Depressive symptoms. To measure depressive symptoms, an outcome variable in this study, the Center for Epidemiological Studies Depression Scale for Children (CESD-C) was used (Faulstich, Carey, Ruggiero, Enyart, & Gresham, 1986; Weissman, Orvaschel, & Padian, 1980). Participants were presented with twenty statements and were asked to rate the extent to which they had experienced the statement within the past week (e.g., "I was bothered by things that usually don't bother me"). Reponses ranged on a scale of "Not at all" (0) to "A lot" (3). This measure is comprised of four subscales, which can be used as separate indicators or as a composite measure of depressive symptomology (α = .820). The subscales include: *Somatic Symptoms* (e.g., "I didn't sleep as well as I usually sleep"), *Depressed Affect* (e.g., "I felt down and unhappy"), *Positive Affect* (e.g., "I felt like I was just as good as the other kids"), and *Interpersonal Problems* (e.g., "I felt people didn't like me"). For this study, the CESD-C was used as a composite measure by summing response across all 20 items, thus some items were reverse scored, such that higher composite scores indicate higher levels of depressive symptomology. The highest possible score was 60, and the lowest possible score was 0. Scores of 16 or greater reflect a clinical indication of depressive symptoms, and approximately 42% of

participants in this sample were above this clinical indicator. The mean for the sample was 15.50 (*SD* = 11.31). See Appendix C for a full review of the measure.

Turning to family as a coping resource. To measure the use of family as a means of coping, a subscale of the Adolescent Coping Orientation for Problem Experiences (A-COPE) scale was used (Patterson & McCubbin, 1987); turning to family as a coping resource is the moderator in this study. The subscale *Solving Family Problems* consists of six items which measure youth's frequency of engaging in behaviors with family members as a way to cope with problems (e.g., "Talk to your father/mother about what bothers you"). This measure has been renamed *Turning to Family as a Coping Resource* for the purpose of this study (see Appendix D). Reponses for this subscale ranged from "Never" (1) to "Most of the Time (5). The scores for the six items were averaged, and the mean for the sample was 3.01 (*SD* = .81). Internal consistency was acceptable (α = .726).

Demographic variables. Data were collected regarding demographic variables of the participants. For the purpose of this study, data on the age (0 = older cohort, ages 14-18, and 1 = early cohort, ages 11-14) and gender (0 = male, and 1 = female) of participants were used for analyses.

Analytic Plan

All analyses for the current study were conducted using SPSS Statistics software. Before analyses were conducted, composite scores were created for each of the variables in the study; sum scores were calculated for cumulative risk and depressive symptomology, and mean scores were created for self-efficacy and the turning to family as a coping resource measure. List wise deletion was utilized in the analyses; participants were omitted from analyses when they did not provide responses for all questions related to cumulative risk (*n* = 262) or depressive symptoms

(n = 3), as a sum score could not be accurately calculated for these variables. Next, descriptive statistics were examined to evaluate normality, kurtosis, and skew across all of the variables. The correlations between the variables were analyzed to better understand the relationships between the variables and determine if multicollinearity would present challenges during analyses. Demographic variables (i.e., gender, age) were examined as dichotomous variables to test whether demographic factors are significantly associated with youth outcomes; if correlations were significant, demographic factors were controlled for in the final analyses (RQ5 and RQ6). Specifically, gender was coded as 0 (male) and 1 (female), and age was coded as 0 (older cohort, ages 14-18) and 1 (early cohort, ages 11-14). To create the interaction term, the cumulative risk and family as a coping resource variables were, first, mean-centered, which permitted a clearer and more straight-forward approach to interpreting results. Interaction terms were created using the centered cumulative risk variable and each dichotomous variable, gender (cumulative risk x female) and age (cumulative risk x early), and then an interaction term was created with the centered cumulative risk variable and the centered family as a coping resource variable (cumulative risk x family as a coping resource).

To test the first hypothesis (H1), that cumulative risk has a direct, negative relationship with self-efficacy, and to test the second hypothesis (H2), that cumulative risk is adversely associated with depressive symptomology, correlational analyses were conducted.

To test the first research question (RQ1), that gender moderates the relationship between cumulative risk and self-efficacy, a moderation analysis was conducted by first examining direct effects and subsequently adding the interaction term. I used the centered cumulative risk measure, gender, and the interaction term (cumulative risk x female) as the independent variables, and self-efficacy as the dependent variable for the moderation analysis. If the

interaction term was significant and accounted for unique variance within the model, I concluded that gender moderates the relationship between cumulative risk and self-efficacy.

To test the second research question (RQ2), that gender moderates the relationship between cumulative risk and depressive symptomology, a moderation analysis was conducted by first examining direct effects and subsequently adding the interaction term. I used the centered cumulative risk measure, gender, and the interaction term (cumulative risk x female) as the independent variables, and depressive symptomology as the dependent variable for the moderation analysis. If the interaction term was significant and accounted for unique variance within the model, I concluded that gender moderates the relationship between cumulative risk and depressive symptomology.

For Research Question 3 (RQ3), that age moderates the relationship between cumulative risk and self-efficacy, a moderation analysis was conducted by first examining direct effects and subsequently adding the interaction term. I used the centered cumulative risk measure, age, and the interaction term (cumulative risk x early) as the independent variables, and self-efficacy as the dependent variable for the moderation analysis. If the interaction term was significant and accounted for unique variance within the model, I concluded that age moderates the relationship between cumulative risk and self-efficacy.

To test the fourth research question (RQ4), that age moderates the relationship between cumulative risk and depressive symptomology, a moderation analysis was conducted by first examining direct effects and subsequently adding the interaction term. I used the centered cumulative risk measure, age, and the interaction term (cumulative risk x early) as the independent variables, and depressive symptomology as the dependent variable for the moderation analysis. If the interaction term was significant and accounted for unique variance

within the model, I concluded that age moderates the relationship between cumulative risk and depressive symptomology.

Two separate moderation analyses were conducted to address RQ5 and RQ6. To address RQ5, a moderation analysis was conducted by first examining direct effects and subsequently adding the interaction term. Centered cumulative risk, centered family as a coping resource, and the interaction term (cumulative risk x turning to family as a coping resource) were used as the independent variables, and self-efficacy as the dependent variable. If the interaction term was significant and accounted for unique variance within the model, I concluded that turning to family as a coping resource buffers the relationship between cumulative risk and self-efficacy.

Similarly, for RQ6, the moderation analysis was conducted by first examining direct effects and subsequently adding the interaction term. This analysis used centered cumulative risk, centered family as a coping resource, and the interaction term (cumulative risk x family as a coping resource) as the independent variables, and depressive symptomology as the dependent variable. If the interaction term was significant and accounted for unique variance within the model, I concluded that coping via using family as a coping resource buffers the relationship between cumulative risk and depressive symptomology.

Chapter 4

Results

Preliminary Analyses

Composite scores were created for each of the variables in the study. Specifically, sum scores were calculated for cumulative risk and depressive symptomology, and mean scores were created for self-efficacy and the turning to family as a coping resource variable. Descriptive statistics were examined and all variables were assessed for normality, kurtosis, and skew (see Table 1). All variables were considered to be normally distributed. Skewness statistics and kurtosis for all variables were within an acceptable range.

Correlations between the variables were also analyzed (see Table 1). In general, correlations were as expected regarding significance and direction of effect. Cumulative risk was positively correlated with depressive symptoms. Cumulative risk was negatively correlated with self-efficacy and negatively associated with turning to family as a coping resource. Self-efficacy was positively correlated with turning to family as a coping resource, and it was negatively correlated with gender. Age was not correlated with reports of cumulative risk, self-efficacy, or turning to family as a coping resource. Depressive symptomology was negatively correlated with self-efficacy, turning to family as a coping resource, and age (i.e., older youth reported higher depressive symptoms than younger youth). Depressive symptomology was positively correlated with gender (i.e., females reported high depressive symptoms than males). Given the significant correlations described above, for RQ5 I controlled for gender and for RQ6 I

controlled for gender and age. While examining the correlation, it was determined that multicollinearity did not present any challenges for the analyses.

Cumulative Risk on Youth Outcomes

First, the relationship between cumulative risk and self-efficacy (H1) and the relationship between cumulative risk and depressive symptoms (H2) were examined via a correlational analysis. Cumulative risk was negatively correlated with self-efficacy, such that higher levels of cumulative risk were related to lower levels of self-efficacy in youth r (771) = -.18, $p < .001$. Cumulative risk was positively correlated with depressive symptoms r (763) = .18, $p < .001$, such that higher levels of cumulative risk were related to higher depressive symptoms in youth. Existing research on the CESD-C, the measure of depressive symptomology used in this current study, suggests that scores of 15 or higher reflect clinical levels of depressive symptomology. As a post hoc assessment, I plotted the relationship between cumulative risk and depressive symptomology to determine, on average, at what level of cumulative risk do depressive symptomology scores reach clinical levels (see Figure 1). The graph was examined and depressive symptomology steadily increased as risk factors increased from zero risk factors up to four risk factors with a plateau effect thereafter. Importantly, this trend analysis depicted that participants who reported three or more risk factors also consistently reported clinical levels of depressive symptomology.

Cumulative Risk and the Role of Demographic Variables

Cumulative risk, gender, and self-efficacy. First, a multiple regression analysis was conducted to assess the direct effect of gender and cumulative risk on self-efficacy. The combination of variables (i.e., gender and cumulative risk) to predict self-efficacy was statistically significant, F (2, 768) = 15.153, $p < .001$, $R^2 = .04$. It was determined that gender

was significantly associated with self-efficacy (β = -.07, p = .050), such that females reported lower levels of self-efficacy than males. Cumulative risk was also significantly associated with self-efficacy, such that higher levels of cumulative risk were related to lower levels of self-efficacy in youth (β = -.18, p < .001).

Next, to test the hypothesis that cumulative risk is associated with youth's self-efficacy, and that gender acts as a moderator in this relationship (R1), a moderation analysis was conducted. The three independent variables, centered cumulative risk, gender, and the interaction term (cumulative risk x gender), explained a significant portion of the variance in self-efficacy, R^2 = .04, F(3, 767) = 10.09, p < .001. The interaction term (cumulative risk x gender) was non-significant (β = .003, p = .959), indicating that the relationship between cumulative risk and self-efficacy is similar for males and females.

Cumulative risk, gender, and depressive symptoms. A multiple regression analysis was conducted to assess the effect of gender and cumulative risk on depressive symptomology. The combination of variables (i.e., gender and cumulative risk) to predict depressive symptoms was statistically significant, F (2, 760) = 31.962, p < .001, R^2 = .08. Gender was significantly associated with depressive symptoms (β = .21, p < .001), such that that females reported higher depressive symptoms than males. Cumulative risk was also significantly associated with depressive symptoms (β = .17, p < .001), such that higher levels of cumulative risk were related to higher depressive symptoms in youth.

Then, to examine whether gender acted as a moderator in the relationship between cumulative risk and youth's depressive symptoms (RQ2), a moderation analysis was conducted. The three independent variables, centered cumulative risk, gender, and the interaction term (cumulative risk x gender), explained a significant portion of the variance in depressive

symptoms, $R^2 = .08$, $F(3, 759) = 21.51$, $p < .001$. The interaction term (cumulative risk x gender) was non-significant ($\beta = .04$, $p = .427$), indicating that the relationship between cumulative risk and depressive symptoms is similar for males and females.

Cumulative risk, age, and self-efficacy. A multiple regression analysis was conducted to assess the effect of age and cumulative risk on self-efficacy. Together age and cumulative risk were significant predictors of self-efficacy, $F(2, 768) = 14.62$, $p < .001$, $R^2 = .04$. It was determined that age did not significantly predict self-efficacy ($\beta = -.06$, $p = .094$), such that older youth and younger youth reported similar levels of self-efficacy. Cumulative risk was significantly associated with self-efficacy, such that higher levels of cumulative risk were related to lower levels of self-efficacy in youth ($\beta = -.18$, $p < .001$).

Although age was not significantly associated with self-efficacy, I chose to still evaluate whether age acts as a moderator in the relationship between cumulative risk and youth's self-efficacy (RQ3) via a moderation analysis. The three independent variables, centered cumulative risk, age, and the interaction term (cumulative risk x age), explained a small, but significant portion of the variance in self-efficacy, $R^2 = .04$, $F(3, 767) = 9.74$, $p < .001$. The interaction term (cumulative risk x age) was non-significant ($\beta = -.01$, $p = .866$), indicating that the relationship between cumulative risk and self-efficacy is similar for older and younger youth.

Cumulative risk, age, and depressive symptoms. A multiple regression analysis was conducted to assess the effect of age and cumulative risk on depressive symptomology. Together they significant predicted depressive symptoms, $R^2 = .05$, $F(2, 760) = 19.45$, $p < .001$. Age was significantly associated with depressive symptoms ($\beta = -.13$, $p < .001$), older youth (ages 15 to 18) reported higher depressive symptoms than youth in the younger cohort. Cumulative risk was

also significantly associated with depressive symptoms (β = .18, p < .001), such that higher levels of cumulative risk were related to higher depressive symptoms in youth.

To examine whether age acts as a moderator in the relationship between cumulative risk and youth's depressive symptoms (RQ4), a moderation analysis was conducted. The three independent variables, centered cumulative risk, age, and the interaction term (cumulative risk x age), explained a small, but significant portion of the variance in depressive symptoms, R^2 = .05, $F(3, 759) = 13.87$, p < .001. The interaction term (cumulative risk x age) was marginally significant (β = -.11, p = .10), indicating that older youth who experience a greater number of cumulative risk factors report higher levels of depressive symptoms than younger youth who experience heightened cumulative risk to a level that is approaching significance.

Cumulative Risk and the Role of Family as a Coping Resource

Cumulative risk, turning to family, and self-efficacy. A multiple regression analysis was conducted to assess the effect of turning to family as a coping resource and cumulative risk on self-efficacy, controlling for gender. These three variables together significantly predicted self-efficacy, R^2 = .09, $F(3, 765) = 24.14$, p < .001. Turning to family was significantly associated with self-efficacy (β = .22, p < .001), such that youth who turned to family more often reported higher levels of self-efficacy than youth who turned to family less often. Cumulative risk was also significantly associated with self-efficacy (β = -.16, p < .001) as was gender (β = .07, p = .041).

To test the hypothesis that cumulative risk influences youth's outcomes of self-efficacy, and that turning to family as a coping resource acts as a moderator in this relationship (RQ5), a final moderation analysis was conducted, controlling for gender. The four independent variables, gender, centered cumulative risk, centered turning to family as a coping resource, and the

interaction term (cumulative risk x turning to family), explained a significant portion of the variance in self-efficacy symptoms, $R^2 = .09$, $F(4, 764) = 19.40$, $p < .001$. The interaction term (cumulative risk x turning to family) was significant ($\beta = -.08$, $p = .028$), indicating that the relationship between cumulative risk and self-efficacy differs for youth based on how often they turn to their family as a coping resource (see Figure 2) controlling for gender. Although cumulative risk generally has an adverse impact on self-efficacy for youth, turning to one's family as a coping resource at moderate ("sometimes") or high levels ("often"), appears to buffer that impact to some extent.

Cumulative risk, turning to family, and depressive symptoms. A multiple regression analysis was conducted to assess the effect of turning to family as a coping resource and cumulative risk on depressive symptomology, controlling for gender and age. Together these four variables significantly predicted depressive symptoms, $R^2 = .16$, $F(4, 756) = 35.47$, $p < .001$. Turning to family was significantly associated with depressive symptoms ($\beta = -.26$, $p < .001$), such that youth who turned to their families often reported lower depressive symptomology than youth who turned to their families less often. Cumulative risk ($\beta = .15$, $p < .001$), gender ($\beta = -.21$, $p < .001$), and age ($\beta = -.10$, $p = .002$) were also significant predictors of depressive symptomology.

To test the hypothesis that cumulative risk influences youth's outcomes of depressive symptoms, and that turning to family as a coping resource acts as a moderator in this relationship (RQ6), a moderation analysis was conducted, controlling for gender and age. The five independent variables, gender, age, centered cumulative risk, centered turning to family as a coping resource, and the interaction term (cumulative risk x turning to family), explained a significant portion of the variance in depressive symptoms, $R^2 = .16$, $F(5, 755) = 28.82$, $p < .001$.

The interaction term (cumulative risk x turning to family) was non-significant (β = .05, p = .155) indicating that the relationship between cumulative risk and depressive symptoms is similar for youth regardless of how often they turn to family as a coping resource controlling for gender and age.

Chapter 5

Discussion

The purpose of this study was to examine the complexities of stress among military-connect youth, namely whether the cumulative nature of risk arising from both normative aspects of development and family life and those associated with being in a military family have bearing on the self-efficacy and depressive symptoms of these youth, and, then, to ascertain the role that family plays in this process. As expected, I first found that cumulative risk was negatively associated with self-efficacy and depressive symptoms, confirming the work of past research (Lucier-Greer et al., 2015). In terms of examining gender as a demographic factor, there were no differences in the relationship between cumulative risk and depressive symptomology, or in the relationship between cumulative risk and self-efficacy based on gender. Similarly, there were no group differences among older and younger youth when examining the relationship between risk and self-efficacy. There was a trend in which older youth reported higher levels of depressive symptomology than younger youth in the context of risk. Lastly, social supports, specifically turning to family as a coping resource, moderated the relationship between negative cumulative risk and self-efficacy, such that the relationship between cumulative risk and self-efficacy is buffered for youth who utilized their family as a coping resource. Yet, turning to family as a coping resource was not found to moderate the link between cumulative risk and depressive symptomology. Each of these findings are explored in greater detail in the following sections

with specific ties to theory and existing research and, then, a focus on application as findings have implications for practitioners and parents.

Cumulative Risk and Youth Outcomes

The purpose of the first part of this study was to investigate the direct effect of cumulative risk on military-connected youth's self-efficacy, and the direct effect of cumulative risk on youth's depressive symptomology to replicate and substantiate existing research (Lucier-Greer et al., 2015; Richardson et al., 2016). Elevated levels of cumulative risk were negatively associated with self-efficacy and positively associated with depressive symptoms in separate models, and these findings support existing research. Research has demonstrated that specific factors related to military life, such as deployment (Aranda et al., 2011; Huebner et al., 2007; Owlett et al., 2015) and multiple school transitions (Bradshaw et al., 2010), have an impact on youth well-being. Yet, there is also value in assessing a more holistic perspective of risk factors faced by youth to understand the multitude of stressors that they are managing, particularly in light of the evidence suggesting that cumulative risk has bearing on youth self-efficacy and depressive symptomology.

Research suggests that at a certain point (i.e., a certain threshold of risk factors) the pile-up of stressors is especially detrimental for individual outcomes (Rutter, 1979). The post hoc analysis in the current study provided evidence that the cumulative addition of risk factors was associated with elevated risk for depressive symptomology. On average, when youth reported three or more risk factors, depressive symptomology reached clinical levels. This finding provides meaningful information that can assist families and practitioners identify youth who are the most at-risk for increased depressive symptoms through the application and use of the cumulative risk model (Lucier-Greer et al., 2015). Researchers have explored ways to screen

military-connected youth for psychosocial symptoms using parents reports and youth self-reports (Aranda et al., 2011) and additional research has explored the use of deployment-related screening tools (Cederbaum et al., 2014). These specific screening tactics are useful, and using a cumulative risk approach provides practitioners with a more comprehensive landscape of the sources of stress youth encounter, and how this stress accumulates. Having the ability to understanding which youth are the most at-risk for adverse outcomes also provides opportunities to determine who is most in need of intervention. The cumulative risk measure used in this study could serve as a screening tool for service providers and acts as a conversation starter for these providers to think more broadly about assessing diverse sources of stress when working with military-connected youth.

Cumulative Risk and Demographic Factors

Risk factors stem from an individual's environment as previously explained, but, at times, risk factors also emanate from the demographic characteristics of an individual (Blum et al., 2002). Accordingly, it was imperative that this study also consider possible group differences for youth's self-efficacy and youth's depressive symptomology based on gender and age as a means of providing more nuance to our understanding of how cumulative risk is associated with adverse youth outcomes.

Previous studies found evidence for gender differences when examining youth's self-efficacy and depressive symptoms (Jenkins et al., 2002; Nolen-Hoeksema & Girgus, 1994), and this study similarly found that gender differences emerged based on these two outcomes. Specifically, girls reported lower levels of self-efficacy and higher levels of depressive symptoms than boys meaning that in general, service providers and parents may need to devote extra attention to girls than boys in the context of these adverse outcomes. However, gender did

not act as a moderator in the relationship between cumulative risk and youth's self-efficacy or depressive symptomology in this study. This means males and females appear to face similar outcomes based on their level of cumulative risk, and that the stress process for military-connected youth can be applied to both boys and girls.

With regard to developmental differences among younger and older youth, results of the current study suggested that youth who were in the early age cohort reported similar levels of self-efficacy as youth who were in the later age cohort. Furthermore, age did not moderate the relationship between cumulative risk and self-efficacy. This means that younger youth and older youth are similarly influenced by risk and that being a particular age does not make an individual more at-risk for decreased self-efficacy. Knowing the number of risk factors youth encounter will provide valuable information about their levels of self-efficacy compared to knowing basic demographic information such as age.

With regard to age and depressive symptomology, older youth in this sample reported higher depressive symptomology than younger youth. Similarly, previous studies found evidence for age differences when examining depressive symptoms in youth, such that older youth reported experiencing more depressive symptoms than younger youth (Angold & Rutter, 1992; Dekker et al., 2007). This study also provides evidence, albeit of marginal or emerging significance, that age is a meaningful factor to consider when examining the relationship between cumulative risk and depressive symptoms. These findings suggest that youth who are in the latter part of adolescence (e.g., ages 14-18) are more at-risk for reaching clinical levels of depression than youth who are in early adolescence (e.g., 11-13) when levels of cumulative risk rise. Parents and practitioners should be aware that when military-connected youth are confronted with various stressors in their lives, the older youth are more likely to report

increased levels of depressive symptoms. Age may serve as a starting point for practitioners and family members to keep in mind if they are concerned about depressive symptomology.

Cumulative Risk and the Role of Family as a Coping Resource

Protective factors, such as coping resources, help youth manage risk factors in their environment and, in turn, act as a buffer for negative youth outcomes (Appleyard et al., 2005; Blum et al., 2002; Gerard & Buehler, 2004). Social supports are a specific type of coping resource used by youth (Pearlin et al., 1990). Military-connected youth have little to no control over the risk factors that are associated with military life, thus, they must rely on social supports, such as friends and family, to help navigate the stressors that are present. Though peers are an important source of support for both military-connected and civilian youth, family remains to be a vital source of support for youth as they encounter stressors (Ryan, Russell, Huebner, Diaz, & Sanchez, 2010; Sullivan, Kung, & Farrell, 2004). This study focused specifically on family as a coping resource because the family is potentially the most stable source of support for military-connected youth as they are confronted with constant transitions and changes to their peer groups. Morris and Age (2009) found that maternal support was a protective factor against developing emotional symptoms, and Mmari and colleagues (2010) suggested that a supportive family environment better equips youth to handle stressors and ultimately transition to a new location and create new friendships.

It was found that youth who turn to their families often (i.e., used them as a coping resource) had significantly higher self-efficacy than youth who turned to their families less often. It was also found that using family as a coping resource significantly moderated the relationship between risk and self-efficacy. This means that using family as a coping resource buffers the effect of risk on youth's self-efficacy. These findings are similar to the existing literature on

family and coping, such that family members assist youth with the development of coping skills, and youth are more capable of managing stressors when their family is involved in the coping process (Wills et al., 1992). Youth who are able to turn to their family when they are overwhelmed by stressors will likely be protected from experiencing decreased self-efficacy compared to youth who do not turn to their family for support. Families provide stability and support through positive interactions and previous research supports the finding that families can buffer adverse outcomes for youth (Borowsky et al., 1999; Robertson et al., 2010).

This finding is similar to research conducted with newlywed couples; couples who were able to "turn toward" one another in times of conflict reported more stability than couples who tended to be more defensive when discussing conflict (Gottman, Coan, Carrere, & Swanson, 1998). Turning toward a trusted other, such as parent or partner, evokes support and stability.

Given this finding, it is worth noting that military-connected youth have reported hesitations with turning toward their parents. More specifically, they explained that even though they wanted to discuss their stress with a parent, youth sometimes avoid bringing it up in conversation to prevent the parent from feeling more stressed (Owlett et al., 2015). This is cause for concern given the role that families play in buffering the relationship between cumulative risk and adverse outcomes for military-connected youth.

Families have the potential to make youth feel more capable of handling the stressors in their lives and, in turn, protect them from adverse outcomes. Esposito-Smythers and colleagues (2011) recommend that military families utilize family-based resources in order to help facilitate positive relationships between youth and their families. Family-centered prevention programs are often accessible online and in-person and offered free or with a minimal fee to military families (Military OneSource, n.d.). For example, Families OverComing Under Stress Family Resilience

Training (FOCUS) is a program that teaches resiliency skills for military families facing challenges related to deployment and reintegration (Lester et al., 2013). FOCUS has demonstrated promising outcomes, such as improved family function which in turn lowered youth's distress (Lester et al., 2013). It is also suggested that parent's coping may influence youth's ability to cope and that parents who access these resources are likely benefitting their family by doing so (Mmari et al., 2010). The way to help increase youth's self-efficacy may be best described as a "family effort." By creating more stability within a family, youth feel more capable, and risk is modified through this type of social support.

Results from the current study suggest a need for family-based resources and programs, such as FOCUS. The use of a family systems perspective and social learning theory gives reason to propose the use of couple education relationship (CRE) program to benefit military couples and their families. A meta-analysis by Erel and Burman (1995) found that positive couple relationships were related to positive parent-child relationships. Evidence from couple relationship education (CRE) literature also supports the link between couple relationship and parent-child relationships, and suggests that improving couple relationships will benefit children (Adler-Baeder et al., 2013; Lucier-Greer, Adler-Baeder, Harcourt, & Gregson, 2014). Given the findings from this study, there is support to suggest the use of CRE programs to strengthen couple relationships which will engage a "trickle-down" effect for children.

Turning to family as a coping resource was beneficial for buffering youth self-efficacy in the context of cumulative risk, but, contrary to expectations, turning to family did not seem to moderate the relationship between cumulative risk and depressive symptoms. Other factors may be more salient when considering what buffers the relationship between risk and depressive symptoms for military-connected youth. For instance, the bond, or attachment, between youth

and their parents may be a more salient factor of risk and youth's depressive symptoms. Armsden and colleagues (1990) found evidence that youth's attachment to parents was negatively associated with depressive symptoms, such that youth who reported feeling less attached to their parents reported higher levels of depression. Contextual factors may also come into play in this process, such that the literature on military-connected youth suggests that youth's relationship with their military parent may be influenced by military service due to deployments, posttraumatic stress disorder, and difficulties reintegrating after deployment (Huebner et al., 2007; Riggs & Riggs, 2011; Ruscio, Weathers, King, & King, 2002). In addition, youth's relationship with their non-military parent may also be influenced by military service given that the strains of the military lifestyle are also felt by military spouses or partners (Lester et al., 2013) and a study found evidence that maternal depressive symptoms predicted depressive behaviors in military-connected youth (Finkel, Kelley, & Ashby, 2003). Besides family, there are suggestions that improving youth's personal coping resources through skill building techniques will help address concerns with depressive symptoms (Esposito-Smythers et al., 2011). These factors could be investigated in future studies and will be discussed more in the next section.

In terms of recommendations for practitioners, there are multiple approaches practitioners can utilize when understanding the experiences of military-connected youth. This study provides strong evidence for the use of an ecological lens in which practitioners assess for multiple risk factors that may stem from typical developmental and family situations or from context-specific situations connected to being part of a military family. Though certain experiences may seem particularly stressful for youth (e.g., deployment of a parent), multiple factors contribute to youth's cumulative stress. By focusing on multiple normative and context-specific risk factors, practitioners will have the most comprehensive understanding of risk as it relates to youth

outcomes. Though the cumulative risk model is not a diagnostic tool for levels of self-efficacy or depressive symptomology, it serves as a beneficial screening approach for parents and practitioners. Both groups have the potential to use the model as a way to understand which youth are most at risk for adverse outcomes, and would likely benefit from prevention efforts which could include the use of school-based therapists. It is also important that practitioners are aware of military culture and that screening tools and interventions appropriately account for the impact military life has on families.

Limitations and Future Directions

The findings in this study contribute to the literature on military-connected youth and complements to our understanding of how cumulative risk can be buffered by social supports, specifically one's family. This study, however, is not without limitations. In regard to examining family as a coping resource, considering additional factors related to youth's family (e.g., warmth and hostility between parents, quality of communication between youth and parents, attachment to parents) would expand the understanding of how family is a positive coping resource for youth. There is also evidence which suggests that other social supports, such as the military community and youth's schools, provide valuable social support that assists youth with buffering their stress (Esposito-Smythers et al., 2011; Mancini et al., 2015). In addition, Pearlin and Skaff (1996) explicated that coping resources include one's personal coping behaviors in addition to the social supports in one's life. Future directions for this research include a focus on the role of personal coping behaviors and how these coping behaviors potentially buffer the relationship between cumulative risk and outcomes.

Overall, this study investigated the complexities between cumulative risk, youth's self-efficacy and depressive symptoms, and how family buffers the relationship between risk and

outcomes. Additional research will contribute to the well-being of military-connected youth and their families as more evidence uncovers the ways in which stressors affect youth and how adverse outcomes can be minimized.

References

Adler-Baeder, F., Calligas, A., Skuban, E., Keiley, M., Ketring, S., & Smith, T. (2013). Linking changes in couple functioning and parenting among couple relationship education participants: Linking couple functioning and parenting in CRE. *Family Relations*, *62*(2), 284–297. https://doi.org/10.1111/fare.12006

Adler-Baeder, F., Russell, C., Kerpelman, J., Pittman, J., Ketring, S., Smith, T., … Stringer, K. (2010). Thriving in stepfamilies: Exploring competence and well-being among African American youth. *Journal of Adolescent Health*, *46*(4), 396–398. https://doi.org/10.1016/j.jadohealth.2009.10.014

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. https://doi.org/10.1016/j.cpr.2015.11.003

Angold, A., & Rutter, M. (1992). Effects of age and pubertal status on depression in a large clinical sample. *Development and Psychopathology*, *4*(1), 5–28. https://doi.org/10.1017/S0954579400005538

Appleyard, K., Egeland, B., Van Dulmen, M. H. M., & Sroufe, L. A. (2005). When more is not better: The role of cumulative risk in child behavior outcomes. *Journal of Child Psychology & Psychiatry*, *46*(3), 235–245. https://doi.org/10.1111/j.1469-7610.2004.00351.x

Aranda, M. C., Middleton, L. S., Flake, E., & Davis, B. E. (2011). Psychosocial screening in children with wartime-deployed parents. *Military Medicine*, *176*(4), 402–407.

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*(6), 683–697. https://doi.org/10.1007/BF01342754

Arnold, A. L., Lucier-Greer, M., Mancini, J. A., Ford, J. L., & Wickrama, K. A. S. (2017). How family structures and processes interrelate: The case of adolescent mental health and academic success in military families. *Journal of Family Issues*, *38*(6), 858–879. https://doi.org/10.1177/0192513X15616849

Averdijk, M., Eisner, M., & Ribeaud, D. (2014). Do social relationships protect victimized children against internalizing problems? *Journal of School Violence*, *13*(1), 80–99. https://doi.org/10.1080/15388220.2013.842175

Blum, R. W., McNeely, C., & Nonnemaker, J. (2002). Vulnerability, risk, and protection. *Journal of Adolescent Health*, *31*(1, Supplement 1), 28–39. https://doi.org/10.1016/S1054-139X(02)00411-1

Booth, B., Segal, M., Bell, D., Martin, J. A., Ender, M. G., Rohall, D. E., & Nelson, J. (2007). *What We Know About Army Families: 2007 Update* (Army Family and Morale, Welfare and Recreation Command). Alexandria, VA.

Borowsky, I. W., Resnick, M. D., Ireland, M., & Blum, R. W. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. *Archives of Pediatrics & Adolescent Medicine*, *153*(6), 573–580. https://doi.org/10.1001/archpedi.153.6.573

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*(1), 84–105.

Brown, B. B., & Lohr, M. J. (1987). Peer-group affiliation and adolescent self-esteem: An integration of ego-identity and symbolic-interaction theories. *Journal of Personality and Social Psychology*, *52*(1), 47–55. https://doi.org/10.1037/0022-3514.52.1.47

Cederbaum, J. A., Gilreath, T. D., Benbenishty, R., Astor, R. A., Pineda, D., DePedro, K. T., … Atuel, H. (2014). Well-Being and Suicidal Ideation of Secondary School Students From Military Families. *Journal of Adolescent Health*, *54*(6), 672–677. https://doi.org/10.1016/j.jadohealth.2013.09.006

Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory. *Psychological Bulletin*, *127*(1), 87. https://doi.org/10.1037/0033-2909.101.3.393

Davis, B. E., Blaschke, G. S., & Stafford, E. M. (2012). Military children, families, and communities: Supporting those who serve. *Pediatrics*, *129*(Supplement 1), S3–S10. https://doi.org/10.1542/peds.2010-3797c

Dekker, M. C., Ferdinand, R. F., Lang, N. D. J. V., Bongers, I. L., Ende, J. V. D., & Verhulst, F. C. (2007). Developmental trajectories of depressive symptoms from early childhood to late adolescence: gender differences and adult outcome. *Journal of Child Psychology and Psychiatry*, *48*(7), 657–666. https://doi.org/10.1111/j.1469-7610.2007.01742.x

Drummet, A. R., Coleman, M., & Cable, S. (2003). Military families under stress: Implications for family life education. *Family Relations*, *52*(3), 279.

Erel, O., & Burman, B. (1995). Interrelatedness of marital relations and parent-child relations: A meta-analytic review. *Psychological Bulletin*, *118*(1), 108–132. https://doi.org/10.1037/0033-2909.118.1.108

Esposito-Smythers, C., Lemmon, K. M., Wolff, J., 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*(4), 497–507. https://doi.org/10.1037/a0024534

Evans, G. W., Li, D., & Sepanski Whipple, S. (2013). Cumulative risk and child development. *Psychological Bulletin*, *139*(6), 1342–1396. https://doi.org/10.1037/a0031808

Faulstich, M. E., Carey, M. P., Ruggiero, L., Enyart, P., & Gresham, F. (1986). Assessment of depression in childhood and adolescence: an evaluation of the Center for Epidemiological Studies Depression Scale for Children (CES-DC). *The American Journal of Psychiatry*, *143*(8), 1024–1027. https://doi.org/10.1176/ajp.143.8.1024

Finkel, L. B., Kelley, M. L., & Ashby, J. (2003). Geographic mobility, family, and maternal variables as related to the psychosocial adjustment of military children. *Military Medicine*, *168*(12), 1019–1024. https://doi.org/10.1093/milmed/168.12.1019

Garcia, C. (2010). Conceptualization and measurement of coping during adolescence: A review of the literature. *Journal of Nursing Scholarship*, *42*(2), 166–185. https://doi.org/10.1111/j.1547-5069.2009.01327.x

Gaylord-Harden, N., & Cunningham, J. (2009). The impact of racial discrimination and coping strategies on internalizing symptoms in African American youth. *Journal of Youth and Adolescence*, *38*, 532–543. https://doi.org/10.1007/s10964-008-9377-5

Gerard, J. M., & Buehler, C. (2004). Cumulative environmental risk and youth maladjustment: The role of youth attributes. *Child Development*, *75*(6), 1832–1849. https://doi.org/10.1111/j.1467-8624.2004.00820.x

Gibbs, D. A., Martin, S. L., Kupper, L. L., & Johnson, R. E. (2007). Child maltreatment in enlisted soldiers' families during combat-related deployments. *Journal of the American Medical Association*, *298*(5), 528–535. https://doi.org/10.1001/jama.298.5.528

Gottman, J. M., Coan, J., Carrere, S., & Swanson, C. (1998). Predicting Marital Happiness and Stability from Newlywed Interactions. *Journal of Marriage and Family*, *60*(1), 5–22. https://doi.org/10.2307/353438

Hall-Lande, J. A., Eisenberg, M. E., Christenson, S. L., & Neumark-Sztainer, D. (2007). Social isolation, psychological health, and protective factors in adolescence. *Adolescence*, *42*(166), 265–286.

Hartman, L. R., Magalhães, L., & Mandich, A. (2011). What does parental divorce or separation mean for adolescents? A scoping review of North American literature. *Journal of Divorce & Remarriage*, *52*(7), 490–518. https://doi.org/10.1080/10502556.2011.609432

Howell, K. H., Kaplow, J. B., Layne, C. M., Benson, M. A., Bruce E. Compas, Katalinski, R., … Pynoos, R. (2015). Predicting adolescent posttraumatic stress in the aftermath of war: Differential effects of coping strategies across trauma reminder, loss reminder, and family conflict domains. *Anxiety, Stress & Coping*, *28*(1), 88–104. https://doi.org/10.1080/10615806.2014.910596

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*, *56*(2), 112–122. https://doi.org/10.1111/j.1741-3729.2007.00445.x

Huffman, A. H., Craddock, E. B., Culbertson, S. S., & Klinefelter, Z. (2017). Decision-making and exchange processes of dual-military couples: A review and suggested strategies for

navigating multiple roles. *Military Psychology (American Psychological Association)*, *29*(1), 11–26. https://doi.org/10.1037/mil0000135

Hwang, W., & Goto, S. (2008). The impact of perceived racial discrimination on the mental health of Asian American and Latino college students. *Cultural Diversity & Ethnic Minority Psychology*, *14*(4), 326–335. https://doi.org/10.1037/1099-9809.14.4.326

Jeffreys, D. J., Leitzel, J. D., Cabral, G., Gumpert, J., Hartley, E., Lare, D., … Strobino, J. (1997). *Military adolescents: Their strengths and vulnerabilities.* Scranton: Military Family Institute of Marywood University. Retrieved from http://www.dtic.mil/docs/citations/ADA332277

Jenkins, S. R., Goodness, K., & Buhrmester, D. (2002). Gender differences in early adolescents' relationship qualities, self-efficacy, and depression symptoms. *Journal of Early Adolescence*, *22*(3), 277.

Khor, A. S., Melvin, G. A., Reid, S. C., & Gray, K. M. (2014). Coping, daily hassles and behavior and emotional problems in adolescents with high-functioning autism/Asperger's disorder. *Journal of Autism and Developmental Disorders*, *44*(3), 593–608. https://doi.org/10.1007/s10803-013-1912-x

Knobloch, L. K., Pusateri, K. B., Ebata, A. T., & McGlaughlin, P. C. (2015). Experiences of military youth during a family member's deployment: Changes, challenges, and opportunities. *Youth & Society*, *47*(3), 319–342. https://doi.org/10.1177/0044118X12462040

Kraemer, H. C., Lowe, K. K., & Kupfer, D. J. (2005). *To your health*. New York, NY: Oxford University Press.

Lakhani, H. (1994). The socioeconomic benefits to military families of home-basing of armed forces. *Armed Forces & Society (0095327X)*, *21*(1), 113–128.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

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*(4), 310–320. https://doi.org/10.1016/j.jaac.2010.01.003

Lester, P., Stein, J. A., Saltzman, W., Woodward, K., MacDermid, S. W., Milburn, N., … Beardslee, W. (2013). Psychological health of military children: Longitudinal evaluation of a family-centered prevention program to enhance family resilience. *Military Medicine*, *178*(8), 838–845. https://doi.org/10.7205/MILMED-D-12-00502

Liu, J., Mustanski, B., Dick, D., Bolland, J., & Kertes, D. A. (2017). Risk and protective factors for comorbid internalizing and externalizing problems among economically disadvantaged African American youth. *Development & Psychopathology*, *29*(3), 1043–1056. https://doi.org/10.1017/S0954579416001012

Lucier-Greer, M., Adler-Baeder, F., Harcourt, K. T., & Gregson, K. D. (2014). Relationship education for stepcouples reporting relationship instability—evaluation of the Smart Steps: Embrace the Journey curriculum. *Journal of Marital and Family Therapy*, *40*(4), 454–469. https://doi.org/10.1111/jmft.12069

Lucier-Greer, M., Arnold, L. A., Mancini, J. A., Ford, J. L., & Bryant, C. M. (2015). Influences of cumulative risk and protective factors on the adjustment of adolescents in military families. *Family Relations*, *64*(3), 363–377. https://doi.org/doi:10.1111/fare.12123

Lucier-Greer, M., O'Neal, C. W., Arnold, A. L., Mancini, J. A., & Wickrama, K. A. S. (2014). Adolescent mental health and academic functioning: Empirical support for contrasting models of risk and vulnerability. *Military Medicine*, *179*(11), 1279–1287. https://doi.org/10.7205/MILMED-D-14-00090

Mancini, J. A., Bowen, G. L., O'Neal, C. W., & Arnold, A. L. (2015). Relationship provisions, self-efficacy and youth well-being in military families. *Journal of Applied Developmental Psychology*, *40*, 17–25. https://doi.org/10.1016/j.appdev.2015.02.003

Manning, W. D., & Lamb, K. A. (2003). Adolescent well-Being in cohabiting, married, and single-parent families. *Journal of Marriage and Family*, *65*(4), 876–893. https://doi.org/10.1111/j.1741-3737.2003.00876.x

Maura, J., & Weisman de Mamani, A. (2017). Mental health disparities, treatment engagement, and attrition among racial/ethnic minorities with severe mental illness: A review. *Journal of Clinical Psychology in Medical Settings*, *24*(3/4), 187–210. https://doi.org/10.1007/s10880-017-9510-2

McFarlane, A. H., Bellissimo, A., & Norman, G. R. (1995). The role of family and peers in social self-efficacy. *American Journal of Orthopsychiatry*, *65*(3), 402–410. https://doi.org/10.1037/h0079655

Military OneSource. (n.d.). Family and Relationships. Retrieved from https://www.militaryonesource.mil/family-relationships

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 & Youth Care Forum*, *39*(5), 351–366. https://doi.org/10.1007/s10566-010-9109-3

Morris, A. S., & Age, T. R. (2009). Adjustment among youth in military families: The protective roles of effortful control and maternal social support. *Journal of Applied Developmental Psychology*, *30*(6), 695–707. https://doi.org/10.1016/j.appdev.2009.01.002

Nolen-Hoeksema, S., & Girgus, J. S. (1994). Emergence of gender differences in depression during adolescence. *Psychological Bulletin*, *115*(3), 424.

Owlett, J. S., Richards, K. A. R., Wilson, S. R., DeFreese, J. D., & Roberts, F. (2015). Privacy management in the military family during deployment: Adolescents' perspectives. *Journal of Family Communication*, *15*(2), 141–158. https://doi.org/10.1080/15267431.2015.1013105

Patterson, J. M., & McCubbin, H. I. (1987). Adolescent coping style and behaviors: Conceptualization and measurement. *Journal of Adolescence*, *10*(2), 163–186. https://doi.org/10.1016/S0140-1971(87)80086-6

Pearlin, L. I. (1999). The stress process revisited. In *Handbook of the Sociology of Mental Health* (pp. 395–415). Springer, Boston, MA. https://doi.org/10.1007/0-387-36223-1_19

Pearlin, L. I., Lieberman, M., Menaghan, E., & Mullan, J. (1981). The stress process. *Journal of Health and Social Behavior*, *22*(4), 337–356. https://doi.org/10.2307/2136676

Pearlin, L. I., Mullan, J. T., Semple, S. J., & Skaff, M. M. (1990). Caregiving and the stress process: An overview of concepts and their measures. *The Gerontologist*, *30*(5), 583–594. https://doi.org/10.1093/geront/30.5.583

Pears, K. C., Kim, H. K., Buchanan, R., & Fisher, P. A. (2015). Adverse consequences of school mobility for children in foster care: A prospective longitudinal study. *Child Development*. https://doi.org/10.1111/cdev.12374

Pinkerton, J., & Dolan, P. (2007). Family support, social capital, resilience and adolescent coping. *Child & Family Social Work*, *12*(3), 219–228. https://doi.org/10.1111/j.1365-2206.2007.00497.x

Pittman, J. F., Kerpelman, J. L., & McFadyen, J. M. (2004). Internal and external adaptation in army families: Lessons from Operations Desert Shield and Desert Storm. *Family Relations*, *53*(3), 249–260. https://doi.org/10.1111/j.0197-6664.2004.0001.x

Richardson, E., Mallette, J., O'Neal, C., & Mancini, J. (2016). Do youth development programs matter? An examination of transitions and well-being among military youth. *Journal of Child & Family Studies*, *25*(6), 1765–1776. https://doi.org/10.1007/s10826-016-0361-5

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*(5), 675–687. https://doi.org/10.1037/a0025286

Robertson, A. A., Xiaohe Xu, & Stripling, A. (2010). Adverse events and substance use among female adolescent offenders: Effects of coping and family support. *Substance Use & Misuse*, *45*(3), 451–472. https://doi.org/10.3109/10826080903452512

Rudolph, K. D., & Dennig, M. D. (1995). Determinants and consequences of children's coping in the medical setting: Conceptualization, review, and critique. *Psychological Bulletin*, *118*(3), 328–357.

Ruscio, A. M., Weathers, F. W., King, L. A., & King, D. W. (2002). Male war-zone veterans' perceived relationships with their children: The importance of emotional numbing. *Journal of Traumatic Stress*, *15*(5), 351–357. https://doi.org/10.1023/A:1020125006371

Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. *Annals of the Academy of Medicine*, *8*, 324–338.

Rutter, M. (1981). Stress, coping, and development: Some issues and some questions. *Journal of Child Psychology and Psychiatry*, *22*, 323–356. https://doi.org/doi:10.1111/j.1469-7610.1981.tb00560.x

Ryan, C., Russell, S. T., Huebner, D., Diaz, R., & Sanchez, J. (2010). Family acceptance in adolescence and the health of LGBT young adults. *Journal of Child and Adolescent Psychiatric Nursing*, *23*(4), 205–213. https://doi.org/10.1111/j.1744-6171.2010.00246.x

Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The self-efficacy scale: Construction and validation. *Psychological Reports*, *51*(2), 663–671. https://doi.org/10.2466/pr0.1982.51.2.663

Skiba, R. J., Michael, R. S., Nardo, A. C., & Peterson, R. L. (2002). The color of discipline: Sources of racial and gender disproportionality in school punishment. *The Urban Review*, *34*(4), 317–342. https://doi.org/10.1023/A:1021320817372

Smith, T. C., Ryan, M. A. K., Wingard, D. L., Slymen, D. J., Sallis, J. F., & Kritz-Silverstein, D. (2008). New onset and persistent symptoms of post-traumatic stress disorder self reported after deployment and combat exposures: Prospective population based US military cohort study. *BMJ*, *336*(7640), 366–371. https://doi.org/10.1136/bmj.39430.638241.AE

Sullivan, T. N., Kung, E. M., & Farrell, A. D. (2004). Relation between witnessing violence and drug use initiation among rural adolescents: Parental monitoring and family support as protective factors. *Journal of Clinical Child & Adolescent Psychology*, *33*(3), 488–498. https://doi.org/10.1207/s15374424jccp3303_6

Tenenbaum, H. R., & Ruck, M. D. (2007). Are teachers' expectations different for racial minority than for European American students? A meta-analysis. *Journal of Educational Psychology*, *99*(2), 253–273. https://doi.org/10.1037/0022-0663.99.2.253

U.S. Department of Defense. (2016). *2016 demographics profile of the military community*. Washington: Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy. Retrieved from http://download.militaryonesource.mil/12038/MOS/Reports/2016-Demographics-Report.pdf

Weissman, M. M., Orvaschel, H., & Padian, N. (1980). Children's symptom and social functioning self-report scales comparison of mothers' and children's reports. *The Journal of Nervous and Mental Disease*, *168*(12), 736.

Weisz, J. R., McCabe, M. A., & Dennig, M. D. (1994). Primary and secondary control among children undergoing medical procedures: Adjustment as a function of coping style. *Journal of Consulting and Clinical Psychology*, *62*, 324–332.

Williams, D. R., & Collins, C. (2001). Racial residential segregation: A fundamental cause of racial disparities in health. *Public Health Reports*, *116*(5), 404–416.

Wills, T. A., Vaccaro, D., & McNamara, G. (1992). The role of life events, family support, and competence in adolescent substance use: A test of vulnerability and protective factors. *American Journal of Community Psychology*, *20*(3), 349–374. https://doi.org/10.1007/BF00937914

You, J.-I., & Bellmore, A. (2012). Relational peer victimization and psychosocial adjustment: The mediating role of best friendship qualities. *Personal Relationships*, *19*(2), 340–353. https://doi.org/10.1111/j.1475-6811.2011.01365.x

Appendices

Appendix A – Cumulative Risk Coding (Lucier-Greer et al., 2014)

The following were used to code for level of risk. A score of 0 denotes no/low risk, and a score of 1 denotes moderate/elevated risk. Scores for each risk factor were summed to create a score for cumulative risk. The lowest cumulative risk score possible was 0; the highest cumulative risk score possible was 9.

Identified risk factor	Scoring
Identifying as part of a racial or ethnic minority group	0 = Does not identify as part of a racial or ethnic minority group 1 = Identifies as part of a racial or ethnic minority group
Parent marital status	0 = Has married parents 1 = Has non-married parents
Lack of social connectedness	0 = Does not lack social connectedness 1 = Lacks social connectedness
Parent deployment status	0 = Parent is not currently deployed 1 = Parent is currently deployed
School changes	0 = Has not transitioned to two or more schools in five years 1 = Has transitioned to two or more schools in five years
Parent's military rank	0 = Parent holds officer rank 1 = Parent holds enlisted rank
Two parents in military	0 = Does not have two parents in the military 1 = Has two parents in the military
Living outside of the continental United States	0 = Does not live outside of the continental United States 1 = Lives outside of the continental United States
Living 30 or more minutes away from military base	0 = Does not live 30 or more minutes away from military base 1 = Lives 30 or more minutes away from military base

Appendix B – Measure of Self-Efficacy (Sherer et al., 1982)

How true do you feel these statements are about you personally?	Not like me (1)	A little like me (2)	A lot like me (3)
1. If something looks too complicated, I will not even bother to try it.	1	2	3
2. I avoid trying to learn new things when they look too difficult.	1	2	3
3. When trying something new, I soon give up if I am not at first successful.	1	2	3
4. When I make plans, I am certain I can make them work.	1	2	3
5. If I can't do a job the first time, I keep trying until I can.	1	2	3
6. When I have something unpleasant to do, I stick to it until I finish it.	1	2	3
7. When I decide to do something, I go right to work on it.	1	2	3
8. Failure just makes me try harder.	1	2	3
9. When I set important goals for myself, I rarely achieve them.	1	2	3
10. I do not seem to be capable of dealing with the most problems that come up in my life.	1	2	3
11. When unexpected problems occur, I don't handle them very well.	1	2	3
12. I feel insecure about my ability to do things.	1	2	3

Appendix C – Measure of Depressive Symptoms (Weissman et al., 1980)

During the past week…	Not at All (0)	A Little (1)	Some (2)	A Lot (3)
1. I was bothered by things that usually don't bother me.	0	1	2	3
2. I did not feel like eating, I wasn't very hungry.	0	1	2	3
3. I wasn't able to feel happy, even when my family or friends tried to help me feel better.	0	1	2	3
4. I felt like I was just as good as other kids.	0	1	2	3
5. I felt like I couldn't pay attention to what I was doing.	0	1	2	3
6. I felt down and unhappy.	0	1	2	3
7. I felt like I was too tired to do things.	0	1	2	3
8. I felt like something good was going to happen.	0	1	2	3
9. I felt like things I did before didn't work out right.	0	1	2	3
10. I felt scared.	0	1	2	3
11. I didn't sleep as well as I usually sleep.	0	1	2	3
12. I was happy.	0	1	2	3
13. I was more quiet than usual.	0	1	2	3
14. I felt lonely, like I didn't have any friends.	0	1	2	3
15. I had a good time.	0	1	2	3
16. I felt like the kids I know were not friendly or that they didn't want to be with me.	0	1	2	3
17. I felt like crying.	0	1	2	3
18. I felt sad.	0	1	2	3
19. I felt people didn't like me.	0	1	2	3
20. It was hard to get started doing things.	0	1	2	3

Appendix D – Turning to Family as a Coping Resource (Patterson & McCubbin, 1987)

When you face difficulties or feel tense, how often do you:	Never (1)	Hardly Ever (2)	Sometimes (3)	Often (4)	Most of the Time (5)
1. Talk to your father about what bothers you	1	2	3	4	5
2. Talk to your mother about what bothers you	1	2	3	4	5
3. Do things with your family	1	2	3	4	5
4. Talk to a brother or sister about how you feel	1	2	3	4	5
5. Try to reason with parents and talk things out; compromise	1	2	3	4	5
6. Go along with parents' requests and rules	1	2	3	4	5

Table 1

Descriptive Statistics and Correlations for Predictors, Moderators, and Outcomes

		1	2	3	4	5	6
1	Cumulative Risk						
2	Self-Efficacy	-.18***					
3	Depressive Symptoms	.18***	-.40***				
4	Turning to Family as a Coping Resource	-.11**	.26***	-.29***			
5	Gender	.04	-.09*	.17***	-.01		
6	Age	-.01	-.03	-.15***	.06	-.04	
N		774	1032	1022	1030	1036	1036
Mean		3.38	2.41	15.50	3.01	-	-
Standard Deviation		1.36	.34	11.31	.81	-	-
Range		0-9	1-3	0-60	1-5	-	-
Skew		.03	-.32	.99	-.20	-	-
Kurtosis		-.19	-.48	.65	-.06	-	-

Note: Gender (1 = female), Age (1 = early cohort, ages 11-14)

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

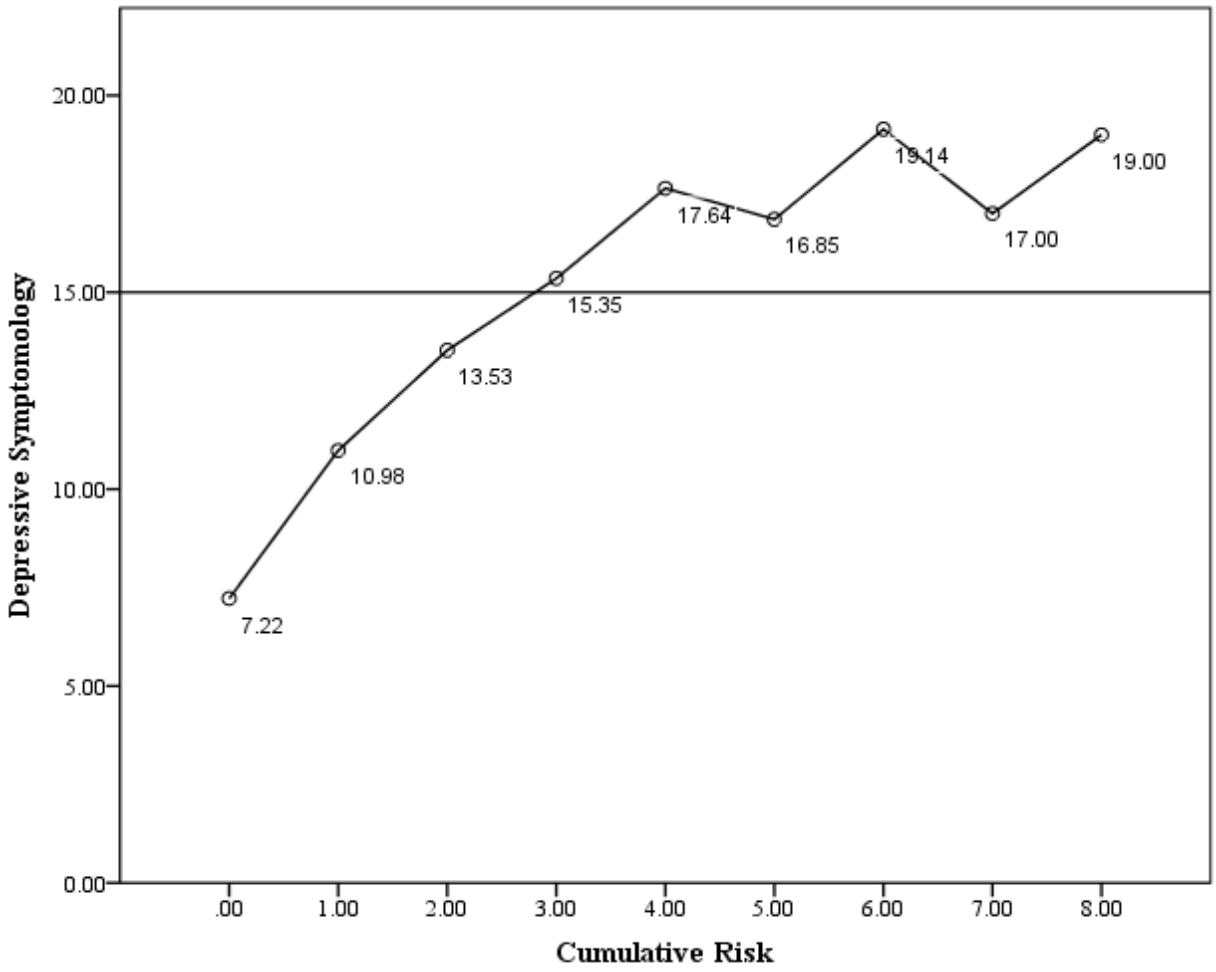

Figure 1. Post hoc analysis examining associations between cumulative risk and depressive symptomology among youth ages 11-18 (N = 763).

Note: A score of 15 indicates clinical levels of depressive symptomology.

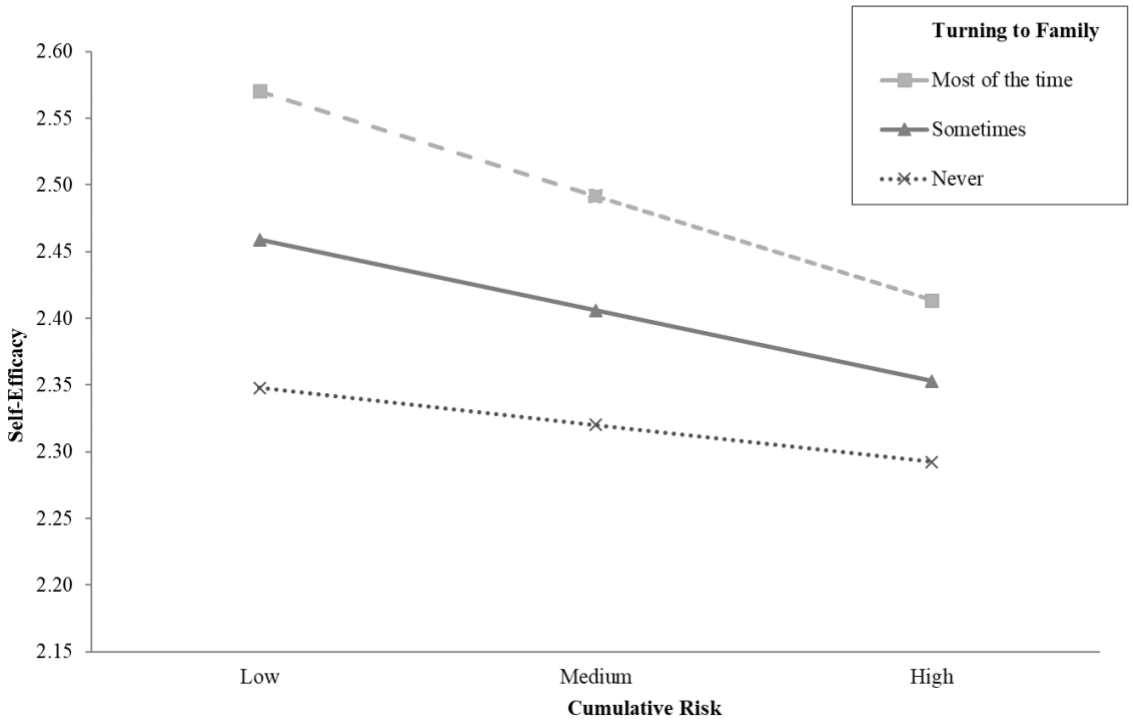

Figure 2. Associations between cumulative risk and self-efficacy accounting for how often youth turn to their family as a coping resource.