

**BUILDING RESILIENCE IN MILITARY FAMILIES:  
DEVELOPMENT AND EVALUATION OF A MILITARY CHILD INTERVENTION**

by

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## **DEDICATION**

This dissertation is dedicated to the service members and their families that I have had the privilege and honor to work with and learn from. Your service, sacrifice, and resilience are truly an inspiration. For my Mother, Brother, and Husband—your unwavering support through this journey has led me here today, and for that, I am grateful.

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## TABLE OF CONTENTS

DEDICATION	ii
ACKNOWLEDGMENTS	iii
LIST OF TABLES	vii
LIST OF FIGURES	viii
ABSTRACT	ix
CHAPTER	
1. Introduction	1
2. Longitudinal Effects of Deployment in National Guard Military Children	21
3. A Review of Evidence-Based Interventions to Promote Resilience in Military Children	63
4. Feasibility and Acceptability of a Resiliency Intervention for Military Children	103
5. Summary of the Three Papers	151
APPENDIX	159

## LIST OF TABLES

### TABLE

1.2	Demographic Comparisons of Mothers	60
2.2	Descriptive Statistics of Study Variables	61
3.2	Correlations of Study Variables	62
1.3	Overview of Selected Studies	99
1.4	HomeFront Strong-Kids Curriculum	135
2.4	HomeFront Strong Family Demographic Variables	136
3.4	HFS-Kids Program Satisfaction	137
4.4	Study Variables and Participant Scores	139



## LIST OF FIGURES

### FIGURE

1.1	Modified Resiliency Model of Family Stress, Adjustment and Adaptation	20
1.2	Modified Resiliency Model and Selected Study Measures	58
2.2	Flow of Participants	59
1.3	Method of Article Review	98
1.4	Modified Resiliency Model for Military Families and Selected Study Measures	140
2.4	Parenting Stress Composite Data	141
3.4	Household Chaos Composite Data	142
4.4	Child Adjustment Difficulties Composite Data	143
5.4	Child Prosocial Behaviors Composite Data	144
6.4	Case Series Analysis of Study Variables: Participant 1	145
7.4	Case Series Analysis of Study Variables: Participant 2	146
8.4	Case Series Analysis of Study Variables: Participant 3	147
9.4	Case Series Analysis of Study Variables: Participant 4	148
10.4	Case Series Analysis of Study Variables: Participant 5	149
11.4	Case Series Analysis of Study Variables: Participant 6	150

## **ABSTRACT**

Over two million children in the United States have been directly affected by the deployment of a family service member since 2001. The impact of deployment on these children may pose significant mental health risks and emotional disturbances, including depression, anxiety, and behavioral problems. However, many military children and family members do exhibit resilience and thrive throughout the deployment cycle. A modified Resiliency Model of Family Stress, Adjustment and Adaptation was used to inform further exploration of resilience and child adjustment in military children. This dissertation includes three papers, each addressing mental health and resilience in military children.

First, a detailed quantitative analysis paper reviews the effect of maternal stress and mental health on child adjustment in the context of a military deployment. A longitudinal study was conducted with National Guard family members who experienced a deployment, with a focus on maternal perspectives of positive and negative child adjustment outcomes before and after a military deployment. Results indicated that maternal mental health and parenting stress significantly predicted adverse child adjustment during pre- and post-deployment.

In the second paper, a review of the literature examined current evidence-based interventions to promote resilience in military families. This paper introduces the concept of resilience and reviews opportunities to incorporate strength-based skills into clinical interventions. Despite the need for interventions to address the unique needs of military children, limited programs are currently available. Recommendations for future interventions are presented.

Finally, the third paper introduces a resiliency intervention for military children and discusses its pilot findings. A case series was performed to provide detailed descriptive information from intervention participants. Parent-report of child mental health revealed a reduction in total emotional and behavioral difficulties after participation in the intervention. Participants reported reduced depression, anxiety, household chaos, and parenting stress after program participation. Findings indicated adequate feasibility and acceptability from participants.

In summary, these findings contribute to greater understanding of resilience and child adjustment outcomes in military children. Future work should focus on continued intervention development and evaluation to provide evidence-based programs for integration into nursing research and practice.

## CHAPTER 1

### **Introduction**

#### **Statement of the Problem**

As of 2015, over 2.5 million service members from the United States have deployed, and approximately 45% of them have children (Department of Defense [DOD], 2015). Following the terrorist attacks of September 11, 2001, increased combat deployments to Iraq and Afghanistan have led to an unprecedented strain on service members and their families. Over a decade of war has introduced unique challenges, including a heavy reliance on National Guard and Reserve members (Gewirtz, Polusney, DeGarmo, Khaylis, & Erbes, 2010), a higher survival rate among injured troops (Cozza, Chun, & Polo, 2005), a higher proportion of female service members (DOD, 2015), and advances in continuous family communication during deployment (Institute of Medicine [IOM], 2010). Compared to previous conflicts, today's military forces have also experienced longer and more frequent deployments, disrupting family growth and processes (Blow et al., 2012). These aspects of military life can affect the functioning of service members and their families. Children are particularly impacted by the separation from a parent, disruption in routines, frequent relocations, and struggles with transitions throughout the deployment cycle (Cozza, Chun, & Polo, 2005; MacDermid Wadsworth et al., 2010; Mansfield, Kaufman, Marshall, Gaynes, Morrisey, & Engel, 2010, IOM, 2010).

Specific effects of deployment on service members and veterans can include increased emotional and behavioral concerns such as depression, anxiety, and post-traumatic stress (Blow et al., 2013; Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004; Gold, Taft, Keehn, King, King, & Samper, 2007). In a study focused on the mental health of wives that have

experienced the deployment of their spouse, depression, anxiety, sleep disturbances, and high levels of parenting stress were reported (Everson, Darling, & Herzog, 2013). Moreover, the study found that the length of deployment was a significant contributing factor in the intensity of these psychological concerns; spouses who experienced longer deployment periods reported higher levels of mental health symptoms (Mansfield et al., 2010). Similar to research on spouses, length of deployments have also been linked to increased mental health diagnoses and stress among military children (Chandra et al., 2010; Everson, Darling, & Herzog, 2013).

Parental military deployment experiences has been associated with a myriad of negative effects for children, including increased number of mental health visits to community providers (De Pedro, Astor, Benbenishty, Estrada, DeJoie Smith, & Esqueda, 2011); increased prevalence of mental illness diagnoses, including anxiety and depression (Gorman, Eide, & Hisle-Gorman, 2010); and elevated rates of child depression and externalizing behaviors (Lester et al., 2010). Adolescents can also struggle with deployment experiences. In a study with adolescents, youth with a parent in the military had a 25% rate of suicidal ideation compared to 19% in youth with no military affiliation (Cederbaum et al., 2014). The same study also reported that adolescents who experienced the deployment of a family member had a 15% increased rate of depressive symptoms compared to adolescents with no military affiliation. Moreover, adolescents who experienced two or more family deployments reported a 41% increase in depressive symptoms compared to adolescents with no military affiliation. Taken together, these findings suggest that military deployment can be a significant stressor for children and adolescents and that these early adverse childhood experiences (Felitti & Anda, 1997) can have a long-lasting impact on the behavioral and emotional health of children and families (Oshri, Lucier-Greer, O'Neal, Arnold, Mancini, & Ford, 2015).

Despite these deployment-related challenges, many military children, adolescents, and families are able to thrive throughout deployment and military life. The ability to adapt and grow during stressful experiences is a defining attribute of resilience (Masten, 2001). Learning what helps build resilience in military families is an area of greater exploration for nurses (Black and Lobo, 2008; Luthar, 2006). Military children can be considered a hidden or vulnerable population. As such, they require specific focus from health care providers to assess and address challenges that these children and families face.

### **Resilience**

The concept of resilience originates from work with civilian children who experienced adversities such as childhood abuse, death, disease, and other adverse childhood experiences (Felitti & Anda, 1997). Resilience can be defined as the ability to “bounce back” to healthy functioning when faced with significant stressors and challenging life events (Masten & Obradovic, 2006). Literature from civilian research suggests that resilience is manifested in various ways, including improved physical and mental health (Ahern, Ark, & Byers, 2008), - resisting engagement in risky behaviors (Ali, Dwyer, Vanner, & Lopez, 2010), personal growth and strength (Chapin, 2011), and improved family functioning (Saltzman, Lester, Beardslee, Layne, Woodward, & Nash, 2011; Walsh, 1996; Simon, Murphy, & Smith, 2005). Resilience has been heavily studied in children who have experienced significant stress or adversity across an array of disciplines, including psychology (Saltzman, et al, 2011; Patterson, 2002; Sapienza & Masten, 2011; Walsh, 1996, 2002, 2003; Luthar, 2006; Lee, Nam, Kim, Kim, Lee, & Lee, 2013) sociology (Simon, Murphy, & Smith, 2005; Hawley & DeHaan, 1996; Johnson, Bryant, Collins, Noe, Strader, & Berbaum, 1998), education (Masten & Obradovic, 2006), human development (MacDermid, Samper, Schwarz, Nishida, & Nyaronga, 2008), and nursing (Atkinson, Martin, &

Rankin, 2009; Black & Lobo, 2008; Earvolino-Ramirez, 2007; Dyer & McGuinness, 1996; Shin, Choi, Kim, & Kim, 2010). Resilience is applicable to many health-related fields because of the potential for reducing or preventing adverse outcomes after significant adversity. For nursing, foundational skills of promoting health and reducing risk are closely aligned with the concept of resilience. Polk (1997) also identified resilience as an area for greater exploration and theory development in the field of nursing.

### **Theoretical Foundation**

Resilience includes specific character traits and behaviors known as protective and recovery factors that emerge in the face of adversity (McCubbin & McCubbin, 1993; 1996; McCubbin, McCubbin, Thompson, Han, & Allen, 1997). Protective factors are ongoing processes that help an individual adapt to life stressors. Individual and family protective factors may include communication, self-efficacy, openness, traditions, presence of supports, and ability to deal with ambiguity or the unknown (Yorgason, 2010). Protective factors are important for military families to help increase family cohesion and the ability to work together when experiencing stress. Recovery factors are processes or skills that an individual or family uses when faced with a stressful event or crisis, such as deployment. Examples of recovery factors include flexibility, hope, family togetherness, and a sense of control. Promoting recovery factors in military families can be beneficial for helping an individual or family to grow and return to healthy functioning after an adversity like deployment (Black & Lobo, 2008; MacDermid Wadsworth, Samper, Schwarz, Nishida, & Nyaronga, 2008).

Identifying family protective and recovery factors can help to promote resilience. Resilience theories posit that repeated exposure to stress may encourage individuals and families to identify and more effectively utilize needed resources and support as new challenges and

stressors arise (McCubbin & McCubbin, 1993). For example, families that are able to effectively cope with daily stressors and routines are often able to rely on similar strengths when faced with a new stressor or crisis. However, if the accumulation of daily stressors becomes too much, then additional supports may be needed to prevent possible adverse effects such as compromised mental health (McCubbin & McCubbin, 1993). Indeed, resilience is a dynamic process, and protective and recovery factors may be utilized differently during various experiences of adversity. Identifying how protective and recovery factors are related to resilience and child outcomes will allow nurses to develop evidence-based interventions to foster resilience (Ahern, 2006).

The Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993; 1996) is often applied to understand the connections among adversity, resilience, and adaptive outcomes. The foundational grounding for this dissertation is based on this model and will be applied to explore the relationships among stressors related to military deployment and child adjustment. Kees and Rosenblum (2015) have modified this model for use with military families and have applied it to intervention work with military spouses (Table 1).

McCubbin and McCubbin's Resiliency Model expands upon the Family Stress Theory (Hill, 1949; 1958). The Family Stress Theory originates from work with families and soldiers after World War II. In the original model, Hill (1949) created a comprehensive approach to understanding how families cope with stress, noting that a disruption in one family member affects the rest of the family and the subsequent functioning of that family. Hill's model has been expanded by McCubbin and McCubbin (1989) to develop the Double ABCX Model of Adjustment and Adaptation, which takes into account the pile-up of stressors experienced by families and how those stressors affect the functioning of the family.



This model has further expanded to include the process of family adjustment and adaptation in the development of the Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993, 1996). As depicted in Figure 1, in this model, the stressor (A) may be a single occurrence or it may be due to the accumulation of everyday family stressors such as childcare, work issues, existing health problems, and financial issues. The second variable, resources (B), includes the amount of resources or strengths that a family has and how the family utilizes those resources to reduce their stress. The last variable, perception (C), is the family's subjective interpretation of the stressor as positive or negative. The combination of these variables (ABC) leads to (X), which is the level of adaptation or maladaptation that the family exhibits in response to the stress (McCubbin & McCubbin, 1993, 1996; Peterson, Hennon, & Knox, 2010). The McCubbin and McCubbin Resiliency Model expands upon the Double ABCX model by including the process of adjustment and adaptation and can be applied to military families to explore how the stressor of deployment (A) affects family coping resources (B) and the interpretation of that stressor (C), with each ABC influencing how the family adapts (X).

Potential advantages of using this model in nursing include the ability to use it with diverse families and the connection to the nursing metaparadigm of person, environment, health, and nursing (National Network for Family Resiliency, Children, Youth and Families Network, 1995; Nightingale, 1969). In this model, the concept of *person* is the family and the individuals in that family. The *environment* is the family system, including the household, community, and society, and how the family interacts with the environment. *Health* is the ability of the family to exhibit resilience, healthy coping behaviors, and respond to adversity. Finally, *nursing* has a role

to promote health in individuals and families by identifying and expanding upon strengths, thereby reducing adverse outcomes.

The model includes numerous variables and contributing factors that affect the level of resilience in families, offering the ability to consider varied causes of a phenomenon: a holistic approach that is a hallmark of the field of nursing (Weaver & Olson, 2006). This model also views resilience as an ongoing process that involves the entire family and the everyday accumulation of stressors, as well as significant stressors and adversity, such as deployment. This framework can increase understanding of how stress affects all members of a family. The resulting coping and adaptation of the family to that stress is contingent upon the ability to adjust and adapt (i.e., the hallmarks of resilience) for mental health conditions. Using these theoretical approaches when working with military families, one can see that the deployment stress can lead to adverse mental health outcomes if not dealt with appropriately. However, this model also shows the possibility of adapting despite significant stress and other family adjustment issues. The children in these families are of particular interest because their development and overall health can be affected by adverse experiences, and their long-term health outcomes are of interest to nurses in all specialties (Ahern, 2006; Black & Lobo, 2008).

The resilience literature in nursing has largely focused on conceptualizing the phenomenon of resilience as a middle range theory (Polk, 1997). A middle range theory is a level of nursing theory that is often used to describe a phenomenon that can be tested and later translated to nursing practice (Bredow, 2013). Ahern (2006) expanded upon concept development and synthesis of resilience and developed a framework specific for children and adolescents to help understand how nursing interventions can promote resilience using these protective and recovery factors. Since nursing is a profession guided by evidence and theory, the

use of a resiliency theory can help to guide nursing interventions and the overall care of families in various clinical settings (Kaakinen & Harmon Hanson, 2004).

### **Need for Interventions**

The Institute of Medicine (2013) released a comprehensive report on the needs of veterans, service members, and their families after the Iraq and Afghanistan wars. The authors identified areas of concern, including the increased rate of psychological distress in service members and their families. Specific concerns included high rates of depression, anxiety, substance use, and suicide in service members and their spouses, and how best to prevent and reduce these potential effects. Further assessment and exploration is needed in understanding what contributes to difficulties during deployment for families and children and what enhances family strengths during periods of adversity. The IOM (2013) report highlighted the importance of developing evidence-based interventions to support the psychological and physical health needs of military families. A subsequent report (IOM, 2014) examined the landscape of current programs that are geared toward prevention of psychological disorders in service members and their families. The 2014 IOM report findings indicated a critical need for widespread, evidence-based, and effective programs to implement for use with military families.

Despite advances in our understanding of resilience in military families, further work is needed to identify connections among family stress, resilience, and behavioral changes or mental health outcomes in children. Specifically, there is substantial lack of systematic analysis of military family stress and the pile-up of family stressors, particularly when utilizing family and nursing resiliency models to explore and explain this phenomenon. A substantial gap also exists in our understanding of the longitudinal effects of deployment on military children (White, de Burgh, Fear, & Iversen, 2011; IOM, 2014). Prospective studies following military children

across the stages of deployment will allow for an exploration of the process of resilience and how deployment impacts child adjustment over time. Applying resilience to military families, different types of adversity can include deployment, frequent relocations, and changes in parental mental health, parental injury, or parental death. In military families, understanding unique strengths and challenges related to military life will allow nurses and other health care providers to develop resilience interventions aimed at increasing overall family strength and adaptation (Ahern, 2006).

### **Purpose**

The purpose of this descriptive research study is 1) to examine prospectively the effect of deployment-related family stress and adjustment in military children, 2) to review the literature on interventions available to support military children, and 3) to describe the results of a pilot intervention for military children. Taken together, this dissertation is composed of three complementary papers, each addressing mental health and resilience in military children.

The first manuscript, *Longitudinal Effects of Deployment in National Guard Military Children* (Chapter 2), aims to determine the effect of family-level variables in predicting child functioning post-deployment when controlling for pre-deployment variables. The second manuscript, *A Review of Evidence-based Interventions to Promote Resilience in Military Children* (Chapter 3), is a review of the literature on existing child-focused intervention programs for military families. The third manuscript, *Feasibility and Acceptability of a Resiliency Intervention for Military Children* (Chapter 4), is a pilot study testing the feasibility and acceptability of a resiliency intervention for military children. Finally, Chapter 5 integrates the findings from all three papers. This project is an initial step in a long-term research trajectory

focused on resilience, mental health, and efficacious interventions to address the unique needs of military children.

### **Significance for Nursing Research, Practice, and Policy**

Since the founding of the nursing profession, nurses have been involved with military populations. Nursing pioneer Florence Nightingale is known for her work revolutionizing care for soldiers in the Crimean War (Nightingale, 1969). In Great Britain, Nightingale continued to advance the profession of nursing by advocating for improved conditions for military members in her care (Garofalo & Fee, 2010). In the United States, Nurse Clara Barton also volunteered to care for wounded soldiers during the Civil War (Ardalan, 2010). Her experiences and understanding of the needs of military members and civilians in distress led her to the development of the American Red Cross in the late 19<sup>th</sup> century (Ardalan, 2010). During the Vietnam War, most of the women who served were nurses (Street, Vogt, & Dutra, 2009). Nurses today continue to serve and care for service members, veterans, and their families, in military and civilian settings.

Greater exploration and understanding of the unique needs of military family members has implications for nursing research, clinical practice, and community policy. This timely research examines the impact of military-related stress on the mental health of children in military families. The additional focus on resilience and mental health is a particularly important area of exploration for nursing due to the widespread impact of nursing care in hospital, clinic, school, and community settings. The theoretical frameworks used in this study combine nursing and family science theories to expand the applicability of findings of this work for future testing of these theories and their incorporation into evidence-based intervention programs. Nurse scientists are trained to develop and implement specific intervention strategies to address needs

across the continuum of health and wellness. As a partner in health for the entire family, nurses of all levels are uniquely positioned to support these families.

In professional nursing clinical practice, awareness of military family needs will allow the nurse to address health-related consequences of military stress, particularly mental health outcomes. The American Academy of Nursing initiated a campaign, “Have You Ever Served?” to raise awareness for nurses and other health care professionals of the unique needs of service members and veterans (American Academy of Nursing, 2013; Collins, Wilmoth, & Schwartz, 2013). With increased awareness, proper screening, and assessment of possible mental health concerns, nurses can work with families to create care plans to address individual and family needs. Using a combination of family level and nursing middle range theories of resilience, relationships among variables of interest can be tested and measured to determine the utility of evidence-based interventions. Finally, nurses involved in policy will be able to advocate for increased funding of efficacious community programs aimed at building resilience for military children.

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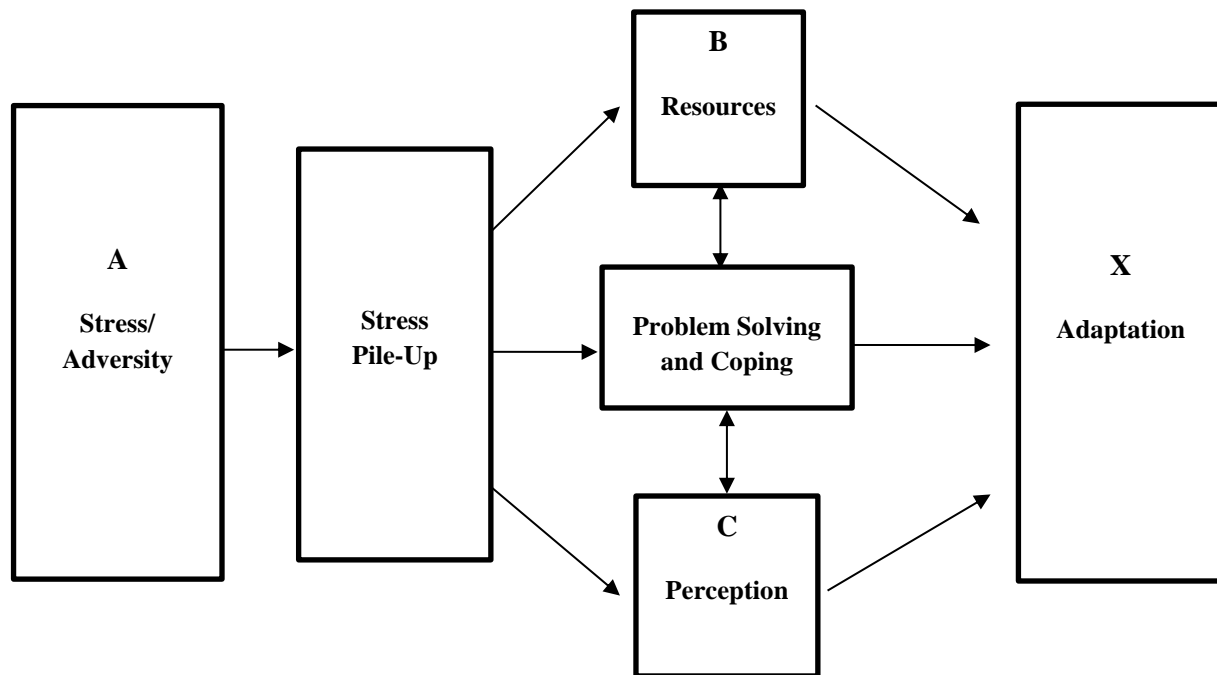
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Figure 1.1

Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993; 1996) modified for military families (Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015).



## CHAPTER 2

### **Longitudinal Effects of Deployment in National Guard Military Children**

Over 2.5 million service members in the United States have deployed to Iraq or Afghanistan since 2001 in efforts toward the Global War on Terrorism (Department of Defense [DoD], 2015). The increased operational tempo of longer and more frequent deployments has required a greater reliance on the Reserve Component of the military, which includes National Guard and Reserve service members. Traditionally, National Guard soldiers and airmen train one weekend a month and up to two weeks in the summer. However, since the terrorist attacks of 9/11, these civilian-service members have served an integral role in Afghanistan and Iraq with more than 760,000 deployments, representing up to 40% of the troops on the ground in these wars (DOD, 2014). Leaving civilian jobs and families for extended training, deployments ranging from 6-18 months, and for many, multiple deployments in the past fifteen years has taken a tremendous toll. By their very nature, National Guard families reside in the community and do not have access to the same resources and supports common for active duty members who live near a military installation. These service members and their families are also balancing two very different worlds – that of military and civilian, often times with limited connections to other military families facing similar experiences. Researchers and clinicians have begun to consider the unique needs and stressors of these service members and their families (Blow et al., 2012; Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004).

The psychological effects of these longer, more frequent deployment experiences can be detrimental, with noted increases in depression, alcohol use, and post-traumatic stress (Chandra,



Burns, Tanielian, & Jaycox, 2011; Blow et al., 2013; Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010). Polusny and colleagues (2009) assessed psychological stressors and resilience factors in National Guard service members prior to deployment. Their results showed that levels of post-traumatic stress (PTS) and depressive symptoms were higher in soldiers that had previously deployed. Levels of PTS and depression during the pre-deployment period were significantly associated with service members who had greater concerns over the impact of deployment on their life and family (Polusny et al., 2009). Stressors such as the length of deployment and family finances have also been identified as significant contributing factors to the intensity of these psychological concerns (Mansfield et al., 2010). Other studies have shown that heightened family stressors exacerbated the risks of divorce (Allen, Rhoaders, Stanley, & Markman, 2010; Lundquist, 2007), domestic violence (Sherman, Sautter, Jackson, Lyons, & Han, 2006), and child maltreatment (Gibbs, Martin, Kupper, & Johnson, 2007; Karney & Crown, 2007; Rabenhorst, McCarthy, Thomsen, Milner, Travis, & Colasanti, 2015; Rentz, Marshall, Loomis, Martin, Casteel, & Gibbs, 2007) in military families. The effects of war on families, and ultimately on children, are concerning, as military children have shown markedly higher rates of behavioral problems, depression, anxiety, and academic concerns in comparison to civilian counterparts (Chandra et al., 2010; Flake, Davis, Johnson, & Middleton, 2009). The purpose of this study was to examine the relationships among the pile-up of family stress including parental stress, household chaos, and maternal mental health, with child adjustment outcomes in a sample of National Guard families.

### **Impact of Deployment on Stress in the Family**

**Parenting Stress.** With increased concerns about the adjustment of military families during a time of prolonged war, a developing area of research has centered on better

understanding the experience of parenting in military families. Parenting can be a significant stressor in civilian families, yet to date, parenting stress has received little attention in military research and practice (Everson, Darling, & Herzog, 2013; Lowe, Adams, Browne, & Hinkle, 2012). Parenting stress is defined as “a set of processes that lead to aversive psychological and physiological reactions arising from attempts to adapt to the demands of parenthood” (Deater-Deckard, 2004, p. 19). While some amount of parenting stress is expected when raising children, if the stress is too high or overwhelming, parenting behaviors and child outcomes may be impacted. Consequences of parenting stress can include a decline in the quality and satisfaction of parenting, increases in psychological distress for parents and children, and changes in the parent-child relationship (Peterson, Hennon, & Knox, 2005).

The natural tempo of military life can lead to unique sources of parenting stress that build up over time, such as parental absence, changes in parent-child relationships, increase in daily family stressors, changes in family roles and routines, and overall disruptions to family life (Kelley, 1994). Similar to civilian families, parenting stress in military families has also been linked to negative outcomes for children (Kelley, Herzog-Simmer, & Harris, 1994). A mixed methods study by Everson, Darling, & Herzog (2013) explored parenting stress among U.S. Army spouses during deployment. As the length of deployment increased, the parenting stress also increased. Similarly, parents with higher levels of parenting stress had decreased levels of family coping. These results emphasized the relationship among parenting stress, deployment, and coping of spouses. The sample in this study included step-parents and single parents, which allowed comparisons to be made with parenting stress and different family structure. Single parents also reported increased levels of parenting stress (Everson, Darling, & Herzog, 2013). The results suggest that single parents who experienced longer deployments will report higher

levels of parenting stress. However, the parents that were able to utilize supports and adapt to stressors reported lower levels of parenting stress. The presence of strong social and family support was a significant mediator of the amount of parenting stress experienced in military families (Taylor, Wall, Liebow, Sabatino, Timberlake, & Ferber, 2005; Chapin, 2011). Thus, parenting stress in military families can be considered a stress that can be managed with proper support and use of resources.

**Household Chaos.** In addition to parenting-specific stress, the household environment may contribute to disorganization and stress, such as increased noise, confusion, clutter, and lack of routine (Matheny, Wachs, Ludwig, and Phillips, 1995). An environment with numerous sources of chaos can affect parent and child functioning. For example, children may struggle if parents are in an environment that does not allow ample attention to be spent on parenting and the fostering of the parent-child relationship. Previous family studies in civilian research have correlated parenting difficulties and child outcomes with household disorganization (Deater-Deckard, 2004). A recent qualitative analysis also recorded the amount of household “hassles” experienced by military spouses and found increased levels of daily household stress (Lara-Cinisomo et al., 2012). In a disorganized home, these changes in roles, rules, and routines may contribute to parenting difficulties and increases in psychological concerns, particularly in parents (Paris, DeVoe, Ross, & Acker, 2010).

### **Impact of Deployment on Family Adjustment**

**Maternal Mental Health.** Extensive literature in the civilian population supports a robust relationship between maternal mental health and rates of emotional and behavioral difficulties in children (Beck, 1999; Cummings & Davies, 1994; Goodman, Rouse, Connell, Broth, Hall, & Heyward, 2011). Specifically, elevated rates of mental health concerns such as

depression and anxiety are highly correlated with adverse behavioral and mental health concerns in children. Similarly, children in military families are also likely impacted by the psychological functioning of their parents. There are limited studies focusing specifically on maternal mental health in military families. An emerging body of literature has documented that non-deployed spouses in military families have experienced heightened rates of mental health concerns, with approximately 1 in 3 showing clinical symptoms of anxiety, depression, or post-traumatic stress (Eaton et al, 2008; Gorman, Blow, Ames, & Reed, 2011). Lester and colleagues (2010) found that levels of depression and anxiety in parents were correlated with increases in emotional and behavioral symptoms in children. Additional studies have found that the non-deployed parent's mental health status predicts the functioning and health of their children (Barker & Berry, 2009; Chartrand, Frank, White, & Shope, 2008). For those who are also mothers, a similar relationship between maternal mental health and child outcomes is expected.

**Child Adjustment.** A growing body of literature has demonstrated the negative effects of deployment on children in military families, particularly in the arena of mental health and behavioral functioning (Cozza, Chun, & Polo, 2005). Gorman, Eide, and Hisle-Gorman (2010) reported an 18% increase in mental health and behavioral health visits due to pediatric mental health concerns during deployment. A series of studies have also shown higher rates of anxiety and depressive symptoms in military children compared to their civilian counterparts (Chandra et al., 2011; Hosek, 2011; Miller, Rostker, Burns, Barnes-Proby, Lara-Cinisomo, & West, 2011; Richardson et al., 2011). There is also a pattern of higher risk of anxiety, depression, and substance use disorders in children of National Guard families (Hosek, 2011; Chandra et al., 2011). Taken together, these findings suggest that for some military children, deployment poses a significant risk for negative mental health outcomes.

## **Theoretical Model**

As depicted in Figure 1, the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin & McCubbin, 1993, 1996) informs the exploration of relationships and proposed hypotheses. This model has been applied to Army families (Lavee, McCubbin, & Patterson, 1985) and to military and veteran spouses (Kees & Rosenblum, 2015). In this model, the experience of a stressful event or adversity (A), such as deployment, can lead to changes in adjustment and adaptation (X) in family members. The pile-up of demands upon a family such as parenting stress, household chaos, and unique stressors related to military life can greatly affect the amount of adjustment (X) of family members. In particular, the functioning of parents can play a significant role in the functioning of children. Additional considerations include the influence of family resources (B) and meaning (C) that is applied to stress experienced by families. The model allows for the testing of pile-up of demands, including parenting stress and household chaos, and the effects of these stressors on child mental health.

## **The Unique Experience of National Guard Families**

While there is a growing consensus that deployment can negatively impact family members, prospective data following families over time through the deployment cycles is quite sparse, with virtually no published longitudinal studies on children in National Guard families. National Guard families are unique due to the need to balance between their changing status as members of the civilian and military worlds. These changes in status can affect the amount of military supports and types of support systems, which are largely civilian. Often, there is limited understanding of the challenges families face, including employment changes, unexpected responsibilities, and benefit changes. Because of the geographic isolation and differences in degree of connection to military life (Blow et al, 2012), National Guard families may face

greater challenges in parenting stress and mental health throughout the deployment cycle, and thus their children may also struggle more (Hosek, 2011; Chandra et al., 2011). Most research on military spouses has focused on those with partners in the Active Duty component (Everson, Darling, & Herzog, 2013; Warner, Appenzeller, Warner, & Grieger, 2009) with fewer studies that highlighted psychological symptoms of National Guard spouses (Gorman, Blow, Ames, & Reed, 2011). Thus, research with a sample of National Guard spouses, who are also parents, constitutes an important addition to the literature.

### **Parent Study**

This study is part of a larger Department of Defense funded, multi-wave, multi-method collaborative project between the University of Michigan, Michigan State University, Michigan Public Health Institute, and Michigan National Guard examining the longitudinal effects of deployment on National Guard military families, with a focus on resilience. The overall sample is highly unique in the inclusion of data from multiple family members (National Guard soldiers, their spouses/partners, and their parents) with comprehensive surveys and a subset of qualitative interviews across multiple waves of data collection (pre-deployment; 45-90 days post-deployment; 1-year post-deployment; and 2-years post-deployment) linked to a 2012 combat deployment to Afghanistan. For further description of the study sample and methods, see Gorman, Blow, Ames, & Reed (2011).

### **Participants and Procedures**

The project was reviewed and approved by the University of Michigan and Michigan State University Institutional Review Boards (IRB). Time 2 of the data collection was also approved by the Human Research Protection Office (HRPO) with the Department of Defense (DOD) and the Michigan Public Health Institute (MPHI). Participants in the overall study

included National Guard service members and their spouses who attended a mandatory (for service members) pre-deployment weekend event in 2011, several months prior to an Afghanistan deployment, and a post-deployment reintegration weekend in 2012, which occurred 45-90 days following the service member's return. The survey was voluntary, completed on-site via paper and pencil during non-programmed time at the event, and took about 30-45 minutes to complete. The survey was administered by project staff from the investigative team. Participants received a verbal and written description of consent. A waiver of written consent was obtained from the regulatory bodies to provide the highest level of anonymity and confidentiality to the participants. As an anonymous survey that did not collect protected health information, participants created a specific code to identify and match their survey results during data analysis and entry, and during each wave of data collection. Participants received an incentive of \$25 for completing each survey wave. At pre-deployment, the sample included 629 soldiers, 291 spouses, 187 parents. During post-deployment, the sample included 608 soldiers, 332 spouses, and 54 parents.

### **Current Study**

The current study is a secondary data analysis of a sub set of data that examines the pile-up of stress associated with a military deployment and its effect on child adjustment over time. Using a prospective longitudinal design, 79 non-deployed female spouses completed a survey prior to a combat deployment of their spouse/partner and again 45-60 days after the deployment ended. This study is a secondary data analysis that looked at relationships among maternal stress, household chaos, and child adjustment outcomes.

The purpose of this study was to examine the relationships among pile-up of stress (parenting stress, household chaos, and maternal anxiety and depression) with child adjustment

outcomes (child total difficulties and child prosocial behavior) in a sample of National Guard families pre- and post-deployment.

The following hypotheses were tested:

1. Deployment will have a negative effect on child adjustment, such that child problem behaviors will be higher and child prosocial behavior will be lower at post-deployment, in comparison to pre-deployment.
2. Deployment will produce a pile-up of stress in non-deployed spouses, with higher rates of parenting stress, household chaos, maternal anxiety, and maternal depression at post-deployment in comparison to pre-deployment.
3. Pile-up of stress at pre-deployment as evidenced by family stress (parenting stress, household chaos) and mental health (anxiety, depression) will predict pre-deployment child adjustment (level of prosocial behaviors, and level of total problem behaviors).
4. Using longitudinal data from pre- and post-deployment pile-up of stress at pre-deployment as evidenced by family stress (parenting stress, household chaos) and maternal mental health (anxiety, depression) will predict post-deployment child adjustment (level of prosocial behaviors, level of adverse total problems).

### **Methods**

The current study is a secondary data analysis of a sub-set of data from the pre- and post-deployment waves, focusing specifically on the non-deployed spouse report of family stress, maternal mental health, and child adjustment. Of the 248 non-deployed female spouses/partners that participated in the study, 174 (70%) indicated they were mothers. Of these, 79 participants had pre- and post-deployment data available. The attrition to post-deployment (time 2) for the sample was 54.6% (n=95).



## Measures

The study used well-established measures to evaluate the variables of interest. Participants provided demographic information on age, gender, ethnicity, marital status, socioeconomic status, education level, and military life experiences.

**Child Adjustment.** Child adjustment outcomes were measured using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). The 25-item Likert-type scale is a parent-report questionnaire that measures psychological adjustment in children with scores measuring positive and negative attributes. The subscales include emotional, conduct, hyperactivity/attention, peer relationship problems, and prosocial behavior. For the current study, two key variables were derived from the SDQ: 1) Emotional and behavioral difficulties and 2) Pro-social behavior. The total level of difficulties score was used as a measure of the child's emotional and behavioral difficulties, which includes the degree of difficulty regulating emotions such as fear and worry, the ability to maintain attention, the child's skill in interacting with peers, and the capacity for minimizing conduct disruptions at home and school. Pro-social behavior includes measures of the ability of the child to be considerate of others and to ability to be helpful and kind. The SDQ tool has been widely used in civilian (Goodman and Goodman, 2009) and military child research (Chandra et al., 2010; Flake, Davis, Johnson, & Middleton, 2009; Lester et al., 2013) and is considered a valid and reliable tool, with a Cronbach alpha coefficient of .73 (Goodman, 2001).

**Parenting Stress.** Parenting stress was measured using the Parental Stress Scale (PSS; Berry & Jones, 1995). The Parental Stress Scale is an 18-item self-report scale that asks respondents about the positive aspects (emotional benefits, self-enrichment, and personal development) and the negative aspects (parental strains, lack of control, and demands on

resources) of parenthood. Items are scored using a five-point Likert-type scale to create a total score between 18 and 90. Higher scores on the scale indicate higher levels of parental stress. Total scores over 36 indicate greater than average levels of parenting stress. The scale has acceptable levels of reliability, with a Cronbach alpha of .83 (Berry & Jones, 1995), and has been used in studies with military families (Everson, Darling, & Herzog, 2013). The total PSS score was used to measure parental stress as reported by non-deployed spouses.

**Household Chaos.** Household chaos was measured using the Confusion, Hubbub, and Order Scale (CHAOS; Matheny, Wachs, Ludwig, & Phillips, 1995). The CHAOS is a 15-item self-report questionnaire to measure characteristics of disorganization, noise, confusion, clutter, and frantic activities in the household. Of the 15 items, seven represent routines and organization, while the remaining eight items represent disorganization and are reverse-coded. Each item is rated on a four-point Likert-type scale, with higher scores indicating more disorganized, confused, and noisy home environments. The CHAOS has good internal consistency, with a Cronbach alpha reported of .79 (Matheny & Phillips, 2001). The CHAOS has been used in a military family sample (Blow et al., 2013) and demonstrated adequate internal consistency. The total CHAOS score was calculated for the households of participants in the current study.

**Maternal Anxiety.** Maternal anxiety was measured with the Generalized Anxiety Disorder scale (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006). The GAD-7 is a 7-item instrument providing a total score and algorithm to grade low, moderate, and high anxiety in respondents. Scores range from 0 to 21, with lower total scores indicating lower levels of worry or anxiety. This measure is an internally consistent measure, with a Cronbach alpha of .93 (Spitzer et al., 2006), and is widely used in clinical and research settings (Benjamin, Herr,

McDuffie, Williams, Nagi, & Wing, 2011), as well as with military families and spouses (Kees & Rosenblum, 2015). In the current study, the total score was used to determine the level of anxiety reported by mothers.

**Maternal Depression.** Depressive symptoms were measured using the Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, & Williams, 2001). Originally developed and tested in primary care and obstetrics-gynecology clinics, the PHQ-9 has demonstrated good reliability and validity in general populations, with a Cronbach alpha of .89 (Kroenke et al., 2001; Gilbody, Richards, Brealey, & Hewitt, 2007), and in military populations (Everson, Darling, & Herzog, 2013; Warner et al., 2009). Total scores range from 0 to 27, with higher scores indicating greater severity of depression over the last two weeks. In the current study, the total score was used to measure the extent to which participants self-reported depressive symptoms.

### **Data Analysis**

All analyses were conducted using SPSS version 22.0 (IBM, 2014). All *p*-values were two-tailed, and the level of significance was set at  $< .05$ . For this analysis, the focus was on the non-deployed female spouse. Only the female parent responses were analyzed due to the limited number of male non-deployed spouses who participated in this survey period ( $n=1$ ), as well as the fact that the primary focus of this study was on maternal parenting. The perspectives of non-deployed male spouses is an area for future research. The codebook was created, and all data were initially double entered and cleaned for accuracy. Cohen's (1988) guidelines for power analysis were used; to reach 80% power with an alpha of .05, a minimum sample size of 74 participants was needed for analyses.

First, all preliminary analyses, including demographic analyses of participants and the distributions of all variables in the study, were examined to verify that they met the assumptions

of regression (Cohen, 1988). The sample size, distribution, normality, multicollinearity, and presence of outliers were assessed and addressed. No violations of assumptions were elicited. Reliability analyses of multi-item scales were completed to ensure that the Cronbach's alpha was greater than .70, indicating good internal reliability (Nunnally, 1978).

Pre- and post-analyses were conducted during pre- and post-deployment to determine the change in parent perception of child mental health throughout the deployment cycle. Participants with complete data from pre-deployment (time 1) to post-deployment (time 2) were analyzed to control for confounding variables. This sample was chosen because respondents function as their own controls thereby decreasing the amount of variance in results. Paired t-tests were used to determine the change in child mental health pre- and post-deployment.

Additional pre- and post-deployment analyses were conducted to determine the change in child adjustment behaviors when controlling for parenting stress, household chaos, and parental mental health. Hierarchical linear regression analyses were conducted to control for parenting stress, household chaos, and parental mental health pre-deployment compared to post-deployment. Controlling for level of parental stress and parental mental health before deployment allowed for further determination of the effect that these variables had on child mental health functioning during post-deployment.

Linear regression analyses were conducted to determine what maternal variables were predictive of child problem behaviors during both pre- and post-deployment. Each predictor variable was added to the regression model one at a time to determine the greatest predictor of child mental health outcomes as measured by the Strengths and Difficulties Questionnaire (SDQ). Multivariate analyses were chosen to control for the influence of independent covariates. The dependent variables, or outcomes of interest, were the SDQ total score and prosocial

subscale. The total score was used to identify negative child behavior outcomes, and the prosocial subscale was used to identify positive child behaviors, as reported by parents. Each independent variable of interest, including parental stress, household chaos, parental depression, and parental anxiety, was added to the model to determine which variable had the greatest effect on child mental health.

## **Results**

### **Sample**

Detailed demographic analyses of participants in the pre-post sample ( $n=79$ ) are included in Table 1. Note that for some survey measures, the sample was smaller due to incomplete data and attrition. This sample is demographically similar to recent military family population statistics including race, age, sex, and age of children (DOD, 2015). Descriptive statistics of mean, standard deviation, and comparisons for each variable during pre and post-deployment are included in Table 2. A comparison of the pre-deployment sample and the post-deployment sample revealed no differences on key factors or variables of interest. Of note, attributes of military experience such as length and number of deployments were also assessed. The minimum length of deployment in the sample was 2 months, and the maximum length was 24 months ( $M=12.02$ ,  $SD = 2.74$ ). The number of deployments experienced ranged from 0 to 4 ( $M= .90$ ,  $SD= 1.06$ ).

### **Parenting Stress**

Scores on the Parental Stress Scale (PSS) ranged from 18 to 64 ( $M=31.8$ ,  $SD=9.9$ ) during pre-deployment and from 18 to 56 ( $M=33.5$ ,  $SD=9.3$ ) during post-deployment. Approximately 27% of participants reported clinically significant levels of parenting stress during pre-

deployment, while 37% reported clinically significant levels of parenting stress during post-deployment. The Cronbach alpha coefficient for the PSS was .89 in this study.

### **Household Chaos**

As measured by the CHAOS, the level of household chaos ranged from 0 to 41 (M=16.1, SD=7.8) during pre-deployment and from 0 to 36 (M=36, SD=17.1) during post-deployment. Higher scores indicated higher levels of household chaos and disorganization. In the current study, the Cronbach alpha coefficient was .86, indicating good internal consistency.

### **Maternal Anxiety**

During pre-deployment, 27% of the sample reported mild anxiety, 15% reported moderate anxiety, and 4% reported severe anxiety. During post-deployment, 29% reported mild anxiety, 10% reported moderate anxiety, and 7% reported severe anxiety. The Cronbach alpha was .90 in this study, indicating excellent internal reliability.

### **Maternal Depression**

During pre-deployment, 31% of the sample reported mild depression symptoms, 6% reported moderate depressive symptoms, and 5% report moderately severe depression. During post-deployment, 23% reported mild depression, 10% reported moderate depression, 5% reported moderately severe depression, and 2.5% reported severe depression. The Cronbach's alpha for this study was .85, indicating excellent internal reliability.

### **Child Adjustment**

The total difficulties score on the SDQ during pre-deployment had an average of 8.23. The scores trended upwards during post-deployment, indicating increased child difficulties with an average score of 9.34. However, these changes in scores were not significant, and the levels of prosocial behavior measured on the SDQ subscale were not significantly different from pre-

deployment compared to post-deployment. The overall SDQ measure had a Cronbach alpha coefficient of .70, indicating acceptable internal consistency (Nunnally, 1978).

### **Effect of Deployment on Variables**

To test Hypothesis 1 (deployment will have a negative effect on military families such that child negative behaviors will be higher at post-deployment, in comparison to pre-deployment), paired sample t-tests were performed between scores of the SDQ before and after deployment. The paired data for mothers who completed the SDQ during pre- and post-deployment was  $n=48$ . A paired sample t-test was conducted to evaluate the impact of deployment on the total difficulties score of the SDQ. While scores on the total difficulties subscale increased, there was not a statistically different increase in total difficulties on the SDQ from pre-deployment ( $M=8.17$ ,  $SD=5.81$ ) to post-deployment ( $M=9.40$ ,  $SD=7.02$ ,  $t(47)=-1.47$ ,  $p=.15$ ). To further test Hypothesis 1, paired sample t-tests were performed between scores of the SDQ before and after deployment. The paired data indicated that there was not a statistically significant decrease in prosocial child behaviors from pre- deployment ( $M=8.23$ ,  $SD=2.0$ ) to post- deployment ( $M=8.25$ ,  $SD=1.9$ ,  $t(56)=.113$ ,  $p=.91$ ).

Hypothesis 2 (deployment will have a negative effect on the non-deployed spouses such that maternal depression and anxiety and maternal parenting stress and household chaos will be higher at post-deployment, in comparison to pre-deployment) was not supported. While total scores on the PHQ-9 did trend upward, there was not a statistically significant difference in maternal depression scores pre-deployment ( $M=4.72$ ,  $SD=4.46$ ) compared to post-deployment ( $M=5.09$ ,  $SD=5.31$ ,  $t(77)=-.74$ ,  $p=.46$ ). Similarly, maternal anxiety scores pre-deployment ( $M=5.57$ ,  $SD=5.28$ ) were not significantly higher when compared to post-deployment scores ( $M=5.14$ ,  $SD=5.35$ ,  $t(78)=-.70$ ,  $p=.48$ ). Additionally, there was not a statistically significant

difference in parenting stress scores pre-deployment ( $M=32.41$ ,  $SD=8.25$ ) compared to post-deployment ( $M=33.53$ ,  $SD=9.35$ ,  $t(77)=-1.06$ ,  $p=.30$ ). Similarly, when comparing household chaos pre-deployment ( $M=17.37$ ,  $SD=7.88$ ) to post-deployment ( $M=17.10$ ,  $SD=7.92$ ,  $t(77)=.323$ ,  $p=.75$ ), results were not statistically significant. To further clarify the relationship among the length and the number of deployments with child outcomes, regression models were performed to determine if length or number was a significant predictor. After adding the number of deployments to the regression model as the first step, the model was not significant. This finding is consistent with results from researchers Tanielian, Karney, Chandra, & Meadows (2016), suggesting that the length of deployment, and not the number of deployments, is a significant predictor of adverse outcomes in military family members.

### **Predictors of Child Outcomes**

To better understand the associations among household chaos, parenting stress, maternal mental health, and child outcomes, bivariate correlations of paired pre- and post-data were conducted and are included in Table 4. Parenting stress was significantly positively associated with household stress, depression, and anxiety during both pre- and post-deployment. Household stress was significantly positively associated with depression and anxiety during pre- and post-deployment. Depression was significantly associated with anxiety during pre- and post-deployment. All correlations were significant during pre- and post-deployment.

Correlations among child mental health total difficulties were significant among parenting stress, and parental anxiety during pre-deployment. During post-deployment, correlations among child mental health total difficulties were significant among household stress, parenting stress, depression, and anxiety. Finally, correlations among prosocial child behaviors had a significant negative correlation with parenting stress during pre- and post-deployment.



Prosocial behaviors also had a significant negative correlation with child total difficulties pre- and post-deployment. Prosocial behaviors had significant negative correlation between household stress during post-deployment only.

Hypothesis 3 (pre-deployment family stress [parenting stress, household chaos] and pre-deployment maternal mental health [anxiety, depression] will predict pre-deployment child adjustment [level of prosocial behaviors and level of adverse total problems]) was partially supported. A series of multiple regression analyses were conducted to evaluate the influence of family level variables and their predictive ability for child mental health outcomes during pre- and post-deployment. Each model met the assumptions of regression for normality, linearity, and multicollinearity. The overall regression model was significant and accounted for 29% of the variance in child adverse mental health scores ( $R^2=.29$ ,  $F(4,117)=11.66$ ,  $p<.001$ ). The level of parenting stress ( $\beta = -.097$ ,  $p < .001$ ) during pre-deployment explained a significant proportion of the variance in child adverse mental health during pre-deployment. Additionally, parental anxiety pre-deployment ( $\beta= .247$ ,  $p <.05$ ) also explained a significant proportion of variance in child adverse mental health pre-deployment. The overall regression model measuring prosocial child scores was not significant, and the model only accounted for 10% of the total variance in level of prosocial child scores during pre-deployment.

Hypothesis 4 (using paired pre- and post- data, pre-deployment family stress [parenting stress, household chaos] and pre-deployment maternal mental health [anxiety, depression] will predict post-deployment child adjustment [level of prosocial behaviors, level of adverse total problems]) was partially supported. The overall regression model was significant and accounted for 41% of the variance in child adverse mental health scores ( $R^2=.41$ ,  $F(9,51)=3.96$ ,  $p<.001$ ). The level of parenting stress ( $\beta =.365$ ,  $p < .001$ ) during post-deployment explained a significant

proportion of the variance in child adverse mental health during post-deployment. The overall regression model measuring prosocial child scores was not significant and family level variables only accounted for 24% of the variance in prosocial child scores.

Overall, increased levels of parenting stress, household chaos, and increased anxiety and depressive symptoms were correlated with adverse child outcomes during pre- and post-deployment. However, when controlling for pre-deployment variables, parenting stress was the only significant predictor of adverse child outcomes.

### **Discussion**

The purpose of this study was to prospectively explore the effects of family level variables on both child prosocial and negative adjustment outcomes in a sample of National Guard military family members who experienced a deployment. Family level variables were assessed for their ability to predict child adjustment during pre- and post-deployment. To assess whether family stress and maternal health predicted child adjustment outcomes during deployment, two sets of hierarchical regressions were utilized. Relations among the predictors were examined separately for the pre-deployment and the post-deployment time period.

The independent variables of interest, including levels of maternal depression and anxiety, household chaos, and parenting stress, were not significantly different from pre-deployment to post-deployment. However, within the pre- and post-deployment samples, these family level variables had a significant effect on the level of adverse child outcomes. Parenting stress at pre-deployment predicted both positive and negative child adjustment at post-deployment. These findings are consistent with literature comparing levels of adjustment in families before and after deployment, indicating that military families struggle throughout the deployment cycle (Paris et al., 2010). Specifically, these findings are consistent with work from

civilian families (Deater-Deckard, 2004) and military families (Kelley, Herzog-Simmer, Harris, 1994; Flake, et al., 2009), which indicates that parenting stress is one of the strongest predictors of child emotional and behavioral problems.

A strength of this study is that it provides additional information by comparing participants before and after deployment to determine family level variables that may predict adverse child adjustment outcomes. The ability to analyze longitudinal information from the sample of parents in National Guard families is a unique addition to the literature. This study reports that parenting stress has a significant impact on both positive and negative child mental health outcomes and continues to be an important area of focus for care providers. The interaction between the pile-up of stressors, such as parental stress and household chaos, and the ability of military families to adapt to those stressors is an area for further exploration. More questions remain with regard to the impact of coping and resilience factors in children and families.

Indeed, emerging literature has focused on identifying healthy coping and adaptation in military families (Saltzman, Lester, Beardslee, Layne, Woodward, & Nash, 2011). In particular, parental adaptation has been identified as a key mediator for child outcomes in military families, including parent mental health, parenting stress, and parental coping (Chandra et al., 2010). These factors, when trending in a positive direction, can be protective and may serve to foster resilience. As noted at the beginning of this paper, resilience is the ability to “bounce back” to healthy functioning when faced with significant stressors or challenging life events (Masten & Obradovic, 2006); as researchers work to better understand stress and coping in both civilian and military families, resilience has become an increasingly common focus. Indeed, the concept of resilience and the factors that enhance resilience may be a strong mediating factor of mental

health outcomes in military children. While some studies have looked at the process of resilience in military families, more research is needed to identify the specific factors present in military families that may be important when coping with stress, and ultimately, in promoting positive child mental health during stress (Edward, Welch, & Chater, 2009). In addition to identifying factors already present in military families, another area of future interest for practitioners is the identification of specific protective and risk factors that may be modified to enhance resilience. The influence of family coping, problem solving, use of resources, and cognitive perceptions—as indicated in the McCubbin and McCubbin (1993; 1996) Resiliency Model of Family Adjustment and Adaptation (Figure 1)—is also an area for further exploration. As new knowledge emerges with regard to the psychological strengths and challenges faced by military spouses and children throughout stages of deployment and in times of drawdown (reductions in forces), clinicians will be better able to develop and tailor interventions for military families that promote resilience and adaptive coping for all members of the family.

### **Limitations and Future Directions**

The results of this secondary, longitudinal study are limited by the aims and objectives of the parent study, including sample attrition. Reasons for attrition were multi-variate and included absence at the post-deployment event (relationship ended during deployment, non-deployed spouse chose not to attend the post-deployment event) or errors related to data matching between pre-and post-deployment survey. The matching method for surveys centered on the participants reproducing an individual code based on “password-like” questions. Anecdotally, there appeared to be errors for participants as they reproduced these codes, and as such, the matching percentage was artificially lowered. This study included a convenience sample from single reporter (i.e. mothers) on data variables. Including child-self report data on multiple measures of functioning

would provide additional information about the child experiences of deployment. In particular, a child report measure of depressive and anxiety symptoms would provide another avenue of specific intervention outcomes for nurses and other healthcare providers to address.

Additional information about the parent-child relationship, family supports and coping strategies, and other health outcomes would be valuable contributions, as indicated by the Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993, 1996). The bi-directional influence of the relationship among maternal mental health and child mental health is an important consideration for the interpretation of these findings. Future work should continue to investigate additional family- and individual-level factors influencing the overall mental health and wellness of family members. Measuring additional protective family-level variables—such as level of coping, amount of supports, satisfaction with life, and other aspects of resilience—may further advance understanding of how military families thrive. These variables may also have an effect on the amount of distress experienced by parents and children during the post-deployment period. Specific study with families that continue to thrive despite high levels of stress is of particular important to our understanding of resilience processes and of how best to meet the needs of military families throughout different stages of deployment.

This sample is unique in that it provided prospective, longitudinal data from family members, including spouses and parents of National Guard service members, prior to and after a military deployment. There is often very limited data available from family members, and even less that includes multiple time points. Of note, the post-deployment data collection was soon (45 to 60 days) after a service member returned from a deployment experience. During this time, families often enjoy the return of their family member and have not yet settled into new family roles and routines (Blow et al., 2013). In a phenomenon commonly termed the “honeymoon

period,” families may not yet realize the significant changes that have occurred for individuals and for the family as a whole, and thus may not fully appreciate the effects of these changes (Pincus, House, Christenson, & Adler, 2001). This “honeymoon period” may have an effect on the results by presenting a more positive experience overall and a more positive report of child and maternal functioning during this phase. Indeed, researchers have been exploring and conceptualizing this type of experience through qualitative study with military families and their young children (Louie & DeMarni Cromer, 2015). Additionally, despite the fact that deployment typically represents a significant family disruption, the experience of deployment may actually lead to an increased capacity for coping on the part of the parent and the children in order to allow adjustment and adaptation to occur. Future work measuring changes in adaptation and coping for military family members throughout additional times during the deployment cycle would provide further insight into these relationships.

While this study had adequate power, additional analyses are limited due to the lack of power when other variables, such as resilience, coping, and number of deployments, are included in the model. The demographics of this sample were also primarily Caucasian and highly educated, which may not adequately describe the diverse group of service members and their families. Regardless, this study provides an important contribution to the literature and expands understanding of pre- and post-deployment indicators of child adjustment, particularly in a National Guard family population. Additional exploration would also include the non-deployed male spouses and other military family compositions including female service members, dual service member families, and gay and lesbian families. Comparisons could also be made to civilian and Active Duty families.

Despite the limitations already noted, additional work can further examine remaining questions on this topic. One area would be to perform dyadic analyses to match and compare the service member and spouse survey results. Doing so may help to determine each parent's assessment of the amount of distress they are experiencing and their own understanding of their child's level of adjustment and functioning before and after deployment. Future analyses of child report can be assessed using the self-report versions of the measures that were used in this study. For example, there is a self-report version of the Strengths and Difficulties Questionnaire (SDQ; Goodman, Meltzer, & Bailey, 1998) and the modified version of the Patient Health Questionnaire-9 (PHQ-9; Johnson, Harris, Spitzer, & Williams, 2002). There are also validated measures of child anxiety, resilience, and coping factors. As indicated in the theoretical model of the Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993, 1996), an important variable for consideration is the perception and meaning of the adversity. In military families specifically, these cognitive perceptions (Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015) are an area for further exploration to include the unique experiences of military parents and children. While child report was missing in this analysis, Aranda, Middleton, Flake, and Davis (2011) measured the psychosocial effects of military deployment on children and youth through parent and child reports, and researchers concluded that both parents and children had similar perspectives of the challenges faced during wartime military deployment. Qualitative information from parents and children may also provide further insight into the depth of the types of stress experienced and the meaning attributed to the stressful experience.

Additional longitudinal analyses can also be conducted to determine the amount of change in stress and change in coping mechanisms. It is imperative to consider the long lasting

effects of continued acute and ongoing family stressors and how interventions may help to reduce these effects. Responding to the needs of these families may be best addressed through quality intervention programs. The Institute of Medicine (2013) has concluded that ongoing efforts should be made to develop, implement, and evaluate interventions that are feasible for and acceptable to military families, including children. A review of currently available resilience-promoting interventions for military children is needed to adequately develop and evaluate a program specifically for military children. As the findings of this study demonstrate, the importance of parenting stress and child outcomes during both pre- and post-deployment should also be included as an area of interest for future intervention programs.

### **Nursing Implications**

This study provides preliminary evidence that deployment and the pile-up of family stressors have an effect on the adjustment of children in military families through parenting stress of non-deployed spouses. Health professionals, including nurses of all levels, can assess for individual- and family-level variables and for signs of adverse mental health outcomes in parents and children, such as depressive and anxiety symptoms. Nurses, in particular, are encouraged to be attuned to these variables, which affect child mental health outcomes throughout the deployment cycle. In terms of work with children, assessment of strengths, such as prosocial behaviors, is an area worthy of further exploration. Overall, these results suggest that it is important to understand the level of maternal distress when working with military families and children, as the level of maternal parenting stress and mental health symptoms of depression and anxiety were significantly correlated with increases in child problem behaviors.

Nurses and other healthcare providers are trained to provide psychosocial support to individuals, families, and communities and to recognize the psychological and physical effects



that may be the outcome of parenting stress (Laser & Stephens, 2010). In particular, nurses are well positioned to assess and care for psychological and behavioral problems in children in a variety of school and community health settings. For children in schools, Fitzsimons & Krause-Parello (2009) reviewed specific techniques for school nurses to use to assist children with behavioral and emotional problems throughout all stages of deployment. In fact, a collaboration among the Red Sox Foundation and Massachusetts General Hospital Home Base Program, the Massachusetts Child Psychiatry Access Project, and the Massachusetts Department of Public Health has led to the development of a school nurse toolkit to increase awareness and support to military children (Ohye, B., Rauch, P., & Bostic, J. , n.d.).

Additionally, due to the strong prediction of parenting stress on adverse child mental health throughout the deployment cycle, parents need to be supported. The successful implementation of interventions in clinical settings can be used to support ongoing research related to resilience, ultimately leading to evidence-based nursing practice guidelines (Edward, Welch, & Chater, 2009). In the area of mental health education, a study has shown that nursing interventions that include parenting skills and stress reduction, along with resilience-promoting activities, can potentially decrease the incidence of depression and anxiety disorders in this family population (Lester & Bursch, 2011). While many military children exhibit positive strengths and mental health outcomes, continuing to build upon these strengths and aspects of resilience is an area for further exploration. Finally, given the stigma that often surrounds health-seeking behaviors, addressing the mental health needs of military families may best be approached in a way that reduces that stigma, potentially by using resilience, strength-based approaches.

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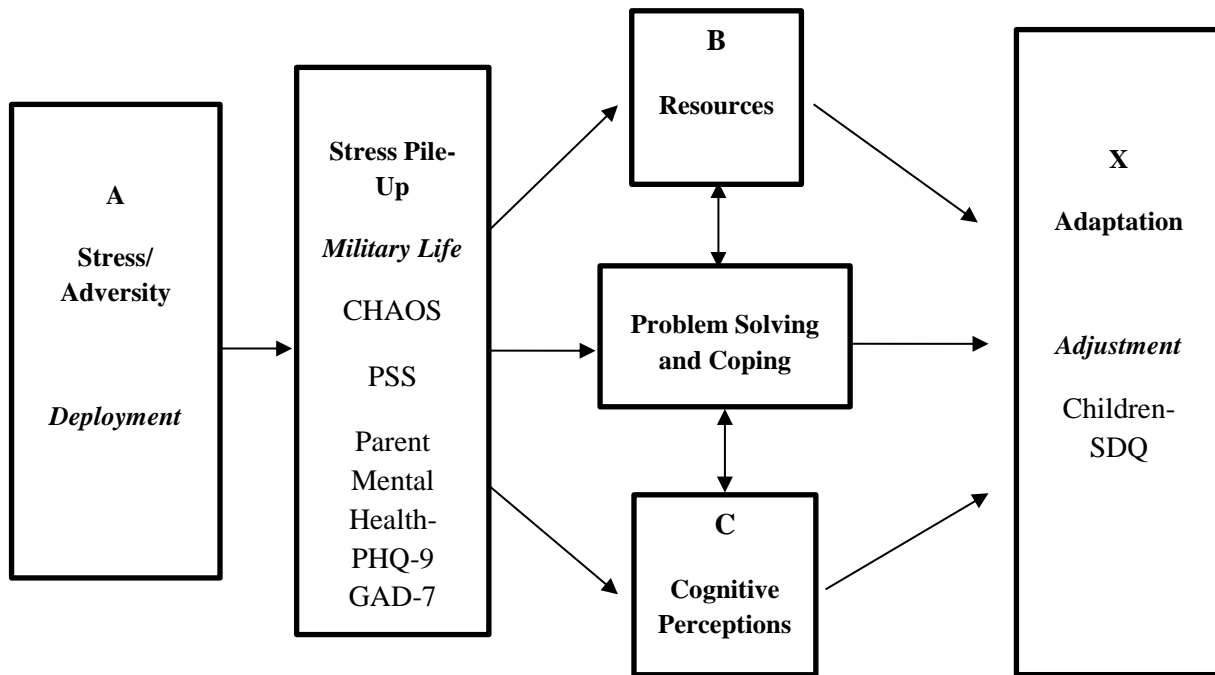
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Figure 1.2

Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin & McCubbin, 1993; 1996) modified for military families (Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015).



*Note:* CHAOS= Confusion, Hubbub, and Order Scale; PSS=Parental Stress Scale; PHQ-9=Patient Health Questionnaire; GAD-7=Generalized Anxiety Disorder scale; SDQ= Strengths and Difficulties Questionnaire

Figure 2.2

Flow of Participants

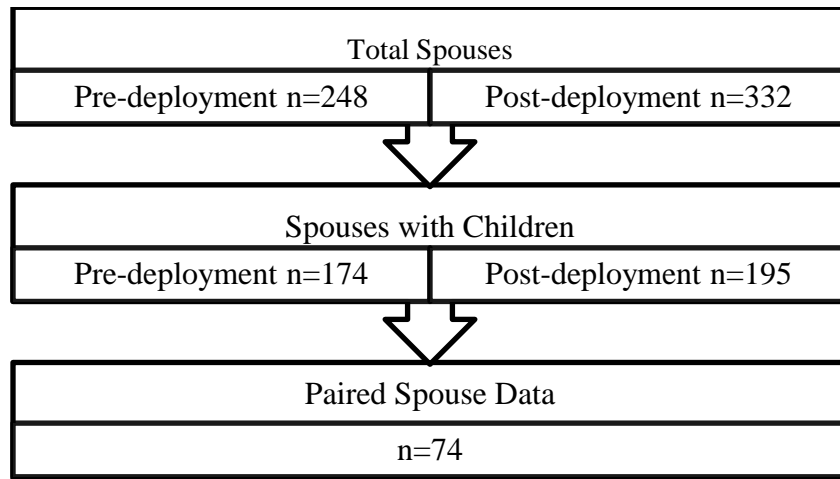


Table 1.2

## Demographic Comparisons of Non-Deployed Spouses

Characteristic	Pre-deployment n(%)	Post-deployment n(%)
<b>Age</b>		
18-21 years	19 (11)	1 (.6)
22-24 years	30 (17.3)	7 (13.9)
25-30 years	39 (22.5)	21 (25.3)
31-40 years	56 (32.4)	34 (43.6)
41-50 years	26 (14.9)	13 (16.7)
Over 50 years	3 (1.7)	2 (2.6)
<b>Ethnicity</b>		
African American	9 (5.2)	2 (2.6)
Asian American	1 (0.6)	1 (1.3)
Caucasian	145 (83.8)	68 (88.3)
Hispanic	4 (2.3)	1 (1.3)
Native American	4 (2.3)	1 (1.3)
Multi-ethnic	4 (3.5)	3 (3.9)
Other	4 (2.3)	1 (1.3)
<b>Marital Status</b>		
Married	121 (87.3)	75 (97.4)
Unmarried, cohabiting	10 (5.8)	1 (1.3)
Committed, not cohabitating	4 (2.3)	1 (1.3)
Divorced	2 (1.2)	0 (0)
Other	6 (3.4)	0 (0)
<b>Education Level</b>		
Some high school	7 (4.1)	2 (2.6)
GED	6 (3.5)	1 (1.3)
High school diploma	32 (18.4)	10 (12.8)
Some college	69 (40.1)	28 (35.9)
Associate degree	31 (18.0)	26 (33.3)
Bachelor degree	15 (8.7)	10 (12.8)
Graduate degree	3 (1.7)	1 (1.3)
<b>Family Income</b>		
Below \$25,000	50 (29.2)	13 (17.6)
\$25,001 to \$50,000	70 (40.9)	36 (48.6)
\$50,001 to \$75,000	25 (14.6)	16 (21.6)
\$75,001 to \$100,000	20 (11.7)	7 (9.5)
Over \$100,001	6 (3.5)	2 (2.7)

Table 2.2

## Descriptive Statistics of Study Variables

Characteristic	Pre-Deployment (Time 1) <i>M (SD)</i>	n*	Post-Deployment (Time 2) <i>M (SD)</i>	n*	$\chi^2$ or t	<i>p</i>
CHAOS	17.22(7.90)	174	16.61(7.92)	76	.32	.75
PSS	31.84 (9.96)	174	3.21 (9.35)	76	-1.04	.30
PHQ-9	4.71 (4.49)	174	5.65 (5.37)	76	-.74	.46
GAD-7	5.48 (4.93)	174	5.33 (5.35)	79	.70	.48
SDQ Total	8.23 (5.37)	119	9.34 (6.29)	66	-1.85	.07
SDQ Prosocial	8.34 (1.72)	119	8.38 (1.93)	66	-.11	.91

*Note:*

\*Not all subject categories are complete due to missing data

\*\* $p < .05$

M=Mean; SD=Standard deviation; CHAOS= Confusion, Hubbub, and Order Scale;

PSS=Parental Stress Scale; PHQ-9=Patient Health Questionnaire; GAD-7=Generalized Anxiety Disorder scale; SDQ= Strengths and Difficulties Questionnaire



Table 3.2

Correlations of Main Study Variables (n=76)

	1 Household Chaos	2 Parenting Stress	3 Depression	4 Anxiety	5 Total Difficulties
1 CHAOS					
2 PSS					
Pre	.475**				
Post	.581**				
3 PHQ-9					
Pre	.442**	.396**			
Post	.507**	.414**			
4 GAD-7					
Pre	.342**	.426**	.715**		
Post	.493**	.295**	.841**		
5 SDQ Total Difficulties					
Pre					
Post	.237	.488**	.204	.281*	
	.525**	.635**	.320**	.357**	
6 SDQ Prosocial Behaviors					
Pre					
Post	-.082	-.284*	-.029	-.092	-.450**
	-.244**	-.250*	.009	.023	-.307**

*Note:*\* $p < .05$ , \*\* $p < .01$ 

CHAOS= Confusion, Hubbub, and Order Scale; PSS=Parental Stress Scale; PHQ-9=Patient Health Questionnaire; GAD-7=Generalized Anxiety Disorder scale; SDQ= Strengths and Difficulties Questionnaire

## CHAPTER 3

### **A Review of Evidence-Based Interventions to Promote Resilience in Military Children**

Since September 11, 2001, repeated experiences of deployment have affected our service members and the families they leave behind. Many of these family members exhibit traits of resilience, which have allowed them to respond effectively and adapt to these experiences. Resilience has emerged as an important part of reducing the negative effects of deployment, including maladaptive responses to stress and increases in anxiety and depressive symptoms (Gorman, Eide, & Hisle-Gorman, 2010; Lester et al., 2010; Chandra, Burns, Tanielian, & Jaycox, 2011). Prevention and intervention programs have been developed to aid military families in fostering resilience, with the hope of promoting adaptive coping under stressful military life situations. In the health care arena, providers, particularly nurses, have been using concepts of resilience in the development of intervention programs uniquely tailored to military families. In recent years, more and more programs have emerged to support military families; however, the evidence base of these programs is less well understood.

A thorough review of existing resilience-based programs for military families is essential to determine what programs have sufficient empirical evidence to warrant further consideration of dissemination into larger community practice. Of particular interest is focusing on programs that are specifically designed for children in military families. While many interventions have been developed to address the needs of service members and veterans, families—especially children in military families—often struggle to receive support for their unique needs. These findings are particularly important to the field of nursing, as the current knowledge base is

limited, especially from a holistic, nursing lens. Moreover, the clinical implications of these findings are important because nurses are often front-line providers, interacting with individuals, families, and communities—including service members, veterans, and their families.

Nurses in all health care settings and practice levels may encounter military families for both medical and mental health concerns. In fact, families have often sought care from non-mental health providers, such as primary care physicians and nurse practitioners (Agazio et al., 2013), to avoid the stigma related to mental illness (Eaton et al., 2008). Military families have described a number of barriers to seeking care, including concerns about the effect seeking mental health treatment might have on the reputation and career of the service member (Aranda, Middleton, Flake, & Davis, 2011; Flake, Davis, Johnson, & Middleton, 2009; Warner, Appenzeller, Warner, & Grieger, 2009), as well as limited providers in their geographical area and financial strains. With proper awareness and understanding of the unique stresses in military families, nurses and other health care providers can address some of these barriers and provide quality care for this vulnerable population. The purpose of this paper is 1) to review the needs of military children and adolescents that have experienced deployment and 2) to examine parenting and child-focused intervention programs for military families.

### **Impact of Deployment**

Deployment is one of the experiences unique to service members and their families, and the wars in Iraq and Afghanistan have increased awareness of the effects of combat deployment on service members, veterans, and their families. DeVoe and Ross (2012) outlined the unique stressors military parents experience during the deployment cycle (i.e. pre-deployment, deployment, and post-deployment). Each part of the cycle presents new challenges, as military parents face different stressors and family transitions. As expected, deployment-related

experiences affect service members and their family members in different ways. Through education and training, service members have been primed for certain aspects of military life; unfortunately, family members often have not been exposed to such training and may be left feeling uninformed, confused, and isolated from other military families who might be able to support them during challenging experiences such as deployment (Murphy & Fairbank, 2013).

A growing research base has described the elevated incidence and prevalence of mental health issues in military children of all ages. Chartrand, Frank, White, & Shope (2008) explored the child behavior outcomes of young military children. Researchers concluded that children aged 3 to 5 years old exhibited increased behavioral symptoms compared to children without a deployed parent, even after controlling for the caregiver's stress and depressive symptoms. Aranda, Middleton, Flake, and Davis (2011) measured the psychosocial effects of military deployment on children and adolescents through parent and child reports on the Pediatric Symptom Checklist (PSC) and the Youth self-reported Pediatric Symptom Checklist (Y-PSC). As one of the first studies collecting information from both parent and child reports, researchers compared parent and child responses and found respondents had similar perspectives on the challenges faced during wartime military deployment. In comparison to military youth without a parent deployed, parents and youth with a deployed parent reported more psychosocial difficulties. In this study, younger children, aged 4 to 10 years old, indicated significantly more internalizing symptoms, externalizing symptoms, school problems, and attention problems than same-aged peers without a deployed parent. Similarly, adolescents aged 11 to 16 years old with a deployed parent reported significantly more internalizing symptoms, externalizing symptoms, and school problems. These findings have shown that military children experience stress when a parent is deployed.

The distress of parents can also have a negative impact on military children. Lester et al. (2010) interviewed children and their at-home civilian or recently returned Active Duty parent to explore the impact of parental stress and parental combat deployment on the prevalence and severity of child emotional and behavioral adjustment problems. Researchers concluded that both at-home civilian and Active Duty parents had elevated symptoms of distress, anxiety, and depression compared to community norms. The psychological distress of parents predicted child-adjustment difficulties for children who currently had a parent deployed and for children who recently had a parent return home. The occurrence of distress at multiple points in the deployment cycle has raised the importance of assessing for parental distress and child symptoms at all parts of the deployment cycle. These researchers also concluded that longer deployments and parental distress were related to childhood adjustment and behaviors. Of note, Lester and colleagues used the Brief Symptom Inventory (BSI) to measure aspects of emotional distress in parents; future studies would benefit from measures of parenting stress and qualitative characteristics of the parent-child relationship.

A rare, yet serious consequence of parental stress can be child maltreatment and abuse. Gibbs, Martin, Kupper & Johnson (2007) found that among families of enlisted U.S. Army personnel with substantiated reports of child maltreatment (e.g. physical, emotional, or sexual abuse), rates of maltreatment were 42 percent higher during a combat deployment, and rates of neglect were twice as high during deployment. Their findings implied that the non-deployed spouse is at greater risk of committing an act of child maltreatment, perhaps related to stress or lack of resources, during the deployment period. Further research has identified key risk factors for child maltreatment in military families, which include having experienced at least one deployment, being younger in age, and having young children (Rentz Marshall, Loomis, Martin,

Casteel, & Gibbs, 2007). Sheppard and colleagues (2010) also found that more frequent deployments were related to increased rates of child neglect and maltreatment. Furthermore, parental distress, depression, and family conflict predicted child abuse potential for both mothers and fathers in an Active Duty Army sample (Schaeffer, Alexander, Bethke, & Kretz, 2005). The same study reported poor marital adjustment, dissatisfaction with support networks, and low family cohesion as uniquely predictive of child abuse potential for mothers.

A more recent analysis of United States Air Force parents found that severe child maltreatment rates were increased during post-deployment for some parents who experienced a deployment (Rabenhorst, McCarthy, Thomsen, Milner, Travis, & Colassanti, 2015). A specific connection was made between increased alcohol use and rates of child maltreatment. Taken together, these findings support the critical importance of assessing for family and parenting stress and developing tailored interventions to support parenting in military families as avenues for decreasing the risk of child maltreatment. Thus, the relationship between child maltreatment, family stress, and resilience is an important area for further research.

To date, the bulk of research on military children has focused on paternal deployment, in large part because the base rate for women serving in the military is lower than males and is lower for mothers in particular. Women compose 15% of the total force in Active Duty and compose 18% in the National Guard (Department of Defense, 2015). Female service members have been included in a recent study focused on their unique military experiences. Southwell & MacDermid Wadsworth (2016) conducted in-depth interviews with spouses of female service members to learn how their military experience affected positive and negative aspects of family functioning. One particular study looked specifically at the effects of maternal deployment and identified similar negative outcomes in children. Kelley and colleagues (2001) examined the

effects of maternal deployment on children by examining mental health symptoms of Navy children who had a mother deployed versus Navy children who did not have a mother deployed. According to maternal report, children of deployed mothers were more likely to exhibit clinical levels of internalizing behaviors (Kelley, Hock, Smith, Jarvis, Bonney, & Gaffney, 2001). In general, internalizing behaviors are focused inward and include feelings of sadness, guilt, social withdrawal, anxiety, irritability, concentration difficulties, and unexplained physical symptoms such as headaches, changes in eating, and sleeping. A more recent study by nurses utilized a grounded theory approach to understand the unique experiences of mothers who experienced a deployment. Agazio and colleagues (2013) conducted a semi-structured interview with 37 Active Duty and National Guard mothers who experienced a deployment and found that the mental health of mothers and their children was a significant concern for mothers during all aspects of the deployment cycle.

Taken together, these findings indicate that military stress, particularly deployment, can have adverse mental health effects for service members, spouses, parents, and children. Despite advances in our understanding about the impact of deployment on military families and children, there is much to be learned about how best to support children and families who have experienced military deployment.

### **Resilience**

The use of resilience promoting activities may help military families cope and adapt to deployment and military life. Resilience can be defined as the ability to “bounce back” to healthy functioning when faced with significant stressors and challenging life events (Masten & Obradovic, 2006). Once thought of simply as a personality trait, resilience is now considered a dynamic process with many related factors that can change throughout an individual’s life. Those

who exhibit resilience can better cope with stress and are less likely to suffer from adverse outcomes such as depression or alcohol use (Gottman, Gottman, & Atkins, 2011; Chapin, 2011).

Despite advances in our understanding of resilience, future work is needed to better understand resilience in individuals and in families. For individuals, future work is needed to better identify individual differences of resilience, how to increase resilient traits that can be sustained long-term, and connections between resilience and behavioral changes. With regard to families, treating the family as a unit may improve new dynamics such as family communication, awareness, and understanding, likely leading to long term increases in resilience. In military families, in particular, understanding the unique strengths and challenges related to military life will allow nurses and other health care providers to target interventions with potential benefits for all members of the family.

### **Intervention and Support Programs**

President Obama and the current Federal Administration have declared military families a national priority. The White House released a report in January 2011, *Strengthening our Military Families: Meeting America's Commitment*, that urged health care providers, researchers, and policy makers to recognize the unique needs of service members, veterans, and their families. In response to the report, the Joining Forces Initiative, led by First Lady Michelle Obama and Second Lady Dr. Jill Biden, was developed to raise community awareness of the needs of military members and families, including employment, education, and wellness. In August 2012, President Obama released an executive order, *Improving Access to Mental Health Services for Veterans, Service Members, and Military Families* (Executive Order No. 13625, 2012). In response to unprecedented reports of stress in military families, the order expanded the



call to raise awareness about the needs of military families and urged lawmakers and community members to engage in research, pass legislation, and increase support for military families.

Previously, in 2007, the Presidential Task Force of the American Psychological Association (APA) identified opportunities for interventions aimed at addressing the needs of service members and their families (APA, 2007). The report recommended improvements for civilian and military sectors in providing adequate care to military-connected family members in order to meet their unique needs. In addition, the task force recommended systematic evaluation of existing and developing programs to ensure their effectiveness. Providing support for military youth was specifically identified as an area for further exploration due to emerging research that found increased emotional and behavioral health difficulties in youth after experiencing a parental deployment. One such study (Esposito-Smythers, Wolff, Lemmon, Bodzy, Swenson, & Spirito, 2011) analyzed the emotional health consequences of military youth across the deployment cycle and provided specific recommendations to consider when developing intervention programs for military children, including the use of evidence-based treatment modalities such as cognitive behavioral therapy (CBT). Another study by Friedberg & Brelsford (2011) examined certain techniques, such as using CBT skills, to improve resilience and help children cope with parental military deployments. Tailoring existing evidence-based intervention programs to address topics relevant for military children has also been encouraged (Cozza, 2015).

Currently, intervention programs for military families can be implemented with the whole family, the parent(s), or the child. In this context, nurses, along with other providers, are trained to recognize the psychological and physical effects of stress and provide psychosocial support to individuals, families, and communities. Each of these approaches may ultimately affect child

outcomes, but in different ways. For example, working with the family and addressing their needs and concerns as a unit have been found to benefit children individually (Chawla & Solinas-Saunders, 2011). This holistic approach to treating families has allowed the clinician and the family to consider the causes and consequences of stress. Improving parent health and mental health and addressing issues such as marital relationship and parenting stress has also been found to reduce the residual effects on family dynamics and improve child outcomes (Lester & Bursch, 2011). In addition, interventions may focus specifically on military children, developing approaches to address their unique needs and thus directly influence individual outcomes.

### **Current Study**

The purpose of this review was to examine current evidence-based interventions to promote resilience in military families and children. The goal was to understand, first, what is known about current intervention programs specifically for military families and children and, second, to summarize the research on the available programs and report on their effectiveness.

### **Methods**

A review of the literature was initiated using databases including Cumulative Index to Nursing & Allied Health Literature (CINAHL), PsycINFO, and PubMed. Search terms used included *military* and *child* and *intervention* and yielded 379 results: 350 academic articles and 29 dissertations. To be included in this review, the study needed to be original research evaluating intervention work with military families, parents, or children. The article needed to be published in an English-language peer-reviewed journal. All abstracts and titles were reviewed for relevance and read in their entirety. All relevant articles that discussed the development or evaluation of an intervention were included. The process resulted in a total of eight peer-reviewed articles, meeting study criteria. Figure 1 details the research process for article

selection. Each article was assessed by purpose, design, methods, sample, and results. Table 1 summarizes the studies reviewed and included in this review.

### **Family and Parenting Intervention Programs**

There are several intervention programs for military families and parents that have ongoing development, implementation, and evaluation. Five such programs include Families OverComing Under Stress (FOCUS; Saltzman, Lester, Beardslee, Layne, Woodward, & Nash, 2011; Lester et al., 2012; Beardslee et al., 2011); The Army Comprehensive Soldier and Family Fitness program (CSF2, Gottman, Gottman, & Atkins, 2011); After Deployment, Adaptive Parenting Tools (ADAPT; Gewirtz & Davis, 2014); Strong Families Strong Forces (SFSF, Ross & DeVoe, 2014); and STRoNG Military Families (Rosenblum & Muzik, 2014).

#### **Families Overcoming Under Stress (FOCUS)**

To date, the most heavily researched military family intervention program involving children is Families OverComing Under Stress (FOCUS) (Saltzman et al., 2011; Lester et al., 2012; Beardslee et al., 2011). Grounded in family resilience theory (Luthar, 2006) and initially contracted by the United States Navy Bureau of Medicine and Surgery (BUMED), the program was developed using an iterative curriculum development process to support the urgent needs of service members and their diverse families (Beardslee et al., 2013). An iterative process means that the program was developed from an identified need and an idea to meet that need. The intervention was then delivered to participants, and the program was continuously updated and repeated with groups until the final curriculum was created. Continued program adaptations have expanded the reach to military families who have experienced multiple deployments, physical and psychological wounds, and for those in National Guard and Reserve components (Beardslee

et al., 2013). Over 500 families at more than 21 military installations have participated in FOCUS (Cozza, Lerner, & Haskins, 2014).

At present, FOCUS aims to increase family resilience through qualitative exploration and the creation of a shared family narrative to assist parents and children in making meaning of their military life and other stressful family experiences (Saltzman, Pynoos, Lester, Layne, & Beardslee, 2013). A shared family narrative includes children and parents sharing their timeline of experiences, such as a deployment. During the exercise, parents answer questions from children in an effort to bring together a family story and to clarify any misconceptions and areas of conflict. This allows parents to guide children in sharing their thoughts and experiences while improving family communication and moving forward from the experience. Creating meaning from adversity is a core aspect, particularly around the family perception of a stressor, as indicated in the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin & McCubbin, 1993, 1996). The FOCUS program uses developmentally appropriate child activities, but children only attend select sessions. Finally, the program has expanded to include the use of an online and mobile application that augments the teaching and skills covered in the child and parent sessions.

In a sample of 331 families, data were collected before and after the 8-session intervention (Lester et al., 2012). Measures to determine program effectiveness collected information from parents and children using validated measures including Brief Symptom Inventory, Family Assessment Device, Global Assessment of Functioning, Strengths and Difficulties Questionnaire-Parent Report, and the KidCope. Results have shown improvement in psychological distress, including post-traumatic stress, depression, anxiety, and emotional/behavioral problems for parent and child participants; furthermore, family members

reported high levels of satisfaction with the intervention (Lester et al., 2012). These results were also sustaining; up to 20 months after the intervention, participants continued to report significant improvements in levels of family functioning, communication, and problem solving (Lester et al., 2012). Unfortunately, the FOCUS intervention does not include children in all sessions of the intervention and has not been disseminated for use all military-connected families including National Guard and Reserve members.

### **Army Comprehensive Soldier and Family Fitness**

The United States Army and the Department of Defense (DOD) joined together to develop the resilience-promoting intervention Army Comprehensive Soldier and Family Fitness (CSF2). Part of the U. S. Army Ready and Resilient Campaign, the intervention and training were developed using key approaches from positive psychology and cognitive-behavioral theory (CBT). The Department of Defense has implemented these programs primarily for Active Duty service members and their families in hopes of reducing the psychological effects of war. Expanding upon the original strengths-based intervention for service members, the Family Skills Component sought to include the families of service members (Gottman, Gottman, & Atkins, 2011). The Family Skills Component was created to address the needs of the military family through the fostering of resilience (Saltzman et al., 2011). As a resilience-promoting intervention, this intervention has aimed to reduce the amount of adverse psychological effects, such as depression, post-traumatic stress disorder (PTSD), substance abuse, and family violence.

At present, the Comprehensive Soldier & Family Fitness (CSF2) program has three pillars including online individual assessment of psychological and physical health, resilience training, and evaluation of the program. Individual assessment is completed using the Global Assessment Tool (GAT), which measures levels of emotional, social, spiritual, and family

strength (Peterson, Park, & Castro, 2011). Questions on the GAT are derived from existing, validated measures such as the Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, & Williams, 2001), Life Orientation Scale (Scheier, Carver, & Bridges, 1994), and the Coping Strategy Scales (Carver, Scheier, & Weintraub, 1989). The GAT also assesses aspects of health including social, emotional, spiritual, family, and physical strengths and is used to measure improvement in the chosen aspects of resilience. An updated version of the GAT 2.0 includes aspects such as nutrition, physical activity, sleep, alcohol use, and tobacco use. Family members can access this confidential evaluation through a secure online server. The results of this assessment are used to provide areas of opportunity and growth when working through the program. The program offers an online website that includes interactive video modules and resources for family members. Participants can connect with other military families through this site and can view their progress in enhancing multiple areas of resilience.

Current program outcomes of CSF2 are aimed at measuring and reducing mental health symptoms after exposure to the resilience-promoting intervention, including anxiety, depression, post-traumatic stress disorder, and substance use disorders. Most recent findings have indicated that participants who completed the CSF2 program had no significant direct improvement in mental health symptoms; however, character traits such as optimism, adaptability, coping, and friendship have improved (Harms, Herian, Krasikova, Vanhove, & Lester, 2013). The long-term effectiveness of the program continues to be assessed, particularly with regard to family members.

Since the program development, the CSF2 program has received criticism. Particular concerns were related to the lack of a systematic program analysis before widespread distribution of the program occurred. Of note, the Department of Defense, clinicians, and researchers

identified the need to quickly develop and implement programs specific to the needs of service members and their families in order to address the surge in service member suicide rates (Martin, Ghahramanlou, Holloway, Lou, & Tucciarone, 2009) and significant levels of family stressors secondary to repeated deployment experiences (Slomski, 2014). In addition, the training and educational modules currently available are for service members and family members; however, the program does not have specific education and resources for children or adolescents. Recently, the Army National Guard has started to pilot a program for adolescents that is based on the original CSF2 program. This pilot consists of a curriculum for adolescents aged 11 to 18 and requires one year to complete the program (Salzer, 2015). Further assessment and evaluation of resilience and coping in National Guard adolescents is pending, including the possible development of an adolescent version of the GAT.

### **After Deployment, Adaptive Parenting Tools**

Designed to support parents in National Guard and Reserve component families, After Deployment, Adaptive Parenting Tools (ADAPT) is a 14- week parenting intervention that includes a child component (Gewirtz & Davis, 2014). ADAPT is grounded in the well-established Parent Management Training-Oregon Model (PMTO) and was adapted for use with military families with children ages 5 to 12 years old. The goals of the ADAPT intervention are to improve positive parenting practices, reduce child risk for behavioral and substance use problems, and improve parent adjustment during reintegration. ADAPT also provides online newsletters to provide additional information and support for military parents and families. Each week of the intervention includes content such as “Recognizing Emotions,” “Building Resilience,” “Communicating with Children,” and “Managing Conflict” (Gewirtz et al., 2010).

The randomized controlled effectiveness study of the ADAPT program is ongoing and has a goal to recruit over 400 military families to participate in the intervention (Gewirtz & Davis, 2014).

Families are enrolled in the intervention program and evaluation for two years and complete survey questionnaires every six months after completing the intervention. While results for parenting and child outcomes have improved, the focus of the program has not been to provide an intervention for the children, but to support the parents through education, training, and respite while they attend groups. In a sample of 89 individuals from 59 families, results indicated that emotional dysregulation in parents was related to greater parenting challenges after deployment (Gewirtz & Davis, 2014). These results suggest the general importance of parenting stress and mental health of parents in military families. The program continues to maintain feasibility and acceptability validation and has recently implemented a web-based training program to expand the program's reach (Gewirtz, Pinna, Hanson, & Brockberg, 2014). In a randomized controlled effectiveness trial of 42 families, findings indicated high parent satisfaction for the web-based component of the program (Gewirtz et al., 2014). Despite promising results, ADAPT has been specifically developed to support parents of young children and does not specifically include children in the session programming.

### **Strong Families Strong Forces (SFSF)**

Strong Families Strong Forces is a home-based intervention program for families that consists of eight-modules addressing deployment-related stressors such as parenting, mental health, and parent-child relationships (Ross & DeVoe, 2014). The intervention has primarily been implemented with National Guard families and has focused on families with children under the age of five who have experienced a deployment. For children under the age of five, parental deployment can affect the development and attachment patterns of children (Paris, DeVoe, Ross,



& Acker, 2010). To best support these families, interventions following a home visiting model have been suggested as a possible model for intervention.

SFSF was developed using a home visiting model with a grounding in resilience theory and currently includes a family-tailored needs assessment to determine what is important to include in an intervention for individual families (DeVoe, Ross, & Paris, 2012). The program consists of eight weekly sessions, or modules, that include topics such as “Your Child and You,” “Becoming a Military Family,” “Your Deployment Cycle,” “Your Child’s Deployment Experience,” “Catching Up with Your Child,” “Catching Up with Yourself and Your Partner,” “Parenting and Co-Parenting,” and “Saying Goodbye and Moving Forward.” Self-report measures, including parent mental health, parenting stress, parenting competence, child functioning, and relationship satisfaction, were assessed before, during, and three months after the program was completed (Ross, DeVoe, Holt, & Miranda-Julian, 2014).

Program evaluation for SFSF has included qualitative and quantitative approaches across three time points (pre-, post-, and three month follow-up). In a sample of 115 families, service member and partner mental health, including post-traumatic stress disorder, depression, and anxiety, significantly improved after the intervention (Ross, DeVoe, Holt, & Miranda-Julian, 2014). Levels of parenting stress and parenting attitudes also improved after the intervention (Ross, DeVoe, Holt, & Miranda-Julian, 2014). Longitudinal exploration into the sustainability of these effects, as well as a detailed analysis of the parent - child relationship, would increase understanding of the effect of the intervention on multiple aspects of parenting and family functioning. Future work would also continue dissemination of the intervention and address needs of families throughout the deployment cycle. A Phase III randomized clinical and effectiveness trial, including expansion of the program through military-civilian collaboration, is

currently underway (Ross, DeVoe, Holt, & Miranda-Julian, 2014). Additional robust analyses are required to determine adequate feasibility and effectiveness of this intervention before ongoing widespread dissemination. Further attention could also be placed upon the unique needs of the children of all ages, who are connected to military families.

### **STRoNG Military Families**

STRoNG (Support to Restore, Repair, Nurture and Grow) Military Families is a group-based, multi-family parenting intervention for military and veteran parents of children birth to 8 years old. At present, the intervention is delivered through a 10-week program, and includes both parent-focused sessions, while children are with a children's group, and family sessions with children and parents reunited for activities (Rosenblum & Muzik, 2014). The focus of STRoNG is to foster family resilience by improving the parent-child relationship, address separations and family reunions, connect with local resources and other military families, learn and practice self-care and coping strategies, and enhance positive, attachment-based parenting skills. The goal of the child group is to connect with other military children, learn developmentally appropriate coping skills, and strengthen child resilience. In joint parent-child sessions, families are reunited and have an opportunity to participate in set activities to practice newly learned skills.

The Phase I open trial of the program was conducted with 29 parents to determine the program feasibility, acceptability, and preliminary efficacy (Rosenblum, 2013). Assessments were completed by parents pre, post, and two months after the intervention. Measurements related to parenting, child and parent mental health, service utilization, family and marital relationships, and child outcomes were assessed. Preliminary data indicated that parents reported significant improvement in all domains assessed after program participation (Rosenblum, 2013).

Further program development has continued to validate the initial positive outcomes of the intervention with parenting and family functioning (Rosenblum & Muzik, 2014). In particular, qualitative analysis of participants in this intervention has explored the experience of fathering after a military deployment. Parenting challenges identified from fathers focused on emotions, improving the parent-child relationship, and the need for additional support from interventions such as this one (Walsh et al., 2014). The intervention is currently in randomized controlled trial effectiveness testing, which compares the group format to a written materials only condition, with a goal to enroll at least 80 families (Rosenblum, 2013). A weekend retreat model with the 10-weeks condensed into two days is also being tested. The intervention also aims to increase community capacity through partnerships, outreach and engagement (Rosenblum et al., 2015). Deficiencies in this program include the focus on parenting and young children, which limits applicability to older military children and adolescents.

### **Child Intervention Programs**

Published research on intervention programs exclusively for military children, and not embedded in a family or parenting program, is quite sparse. Two such interventions include Passport Toward Success (PTS; Wilson, Wilkum, Chernichky, MacDermid Wadsworth, & Broniarczyk, 2011) and Operation Purple Camp (Chawla & MacDermid Wadsworth, 2012; Chandra, Lara-Cinisomo, Burns, & Griffin, 2012).

#### **Passport Toward Success (PTS)**

The Military Family Research Institute (MFRI) at Purdue University developed the Passport Toward Success (PTS) resiliency promoting intervention for children at the request of the Indiana National Guard (Wilson et al., 2011). PTS has been offered to children ages 5 to 17 years old, as part of the Yellow Ribbon Program post-deployment reintegration weekend, which

is generally held 30-90 days following service member return from deployment; children in the program typically attend the weekend events with their parent(s). The goals of PTS are to enhance individual youth resilience through improved adjustment post-deployment and to increase knowledge of emotions and problem solving skills in order to respond to physical and mental health needs. PTS is based on the Family Resilience Model (Walsh, 1996, 2002, 2003) and the Cognitive-Social Learning Model (Choi & Kim, 2003). Participants in the program are grouped with peers in similar age groups and rotate through different “islands,” or interactive stations. Each “island” reviews aspects of resilience, including coping with stress, learning about emotions, and managing conflict. Each station allows children to learn how deployment experiences may affect emotions, stress, and communication.

Results have shown initial positive results from youth participants (Wilson et al., 2011). In a sample of 161 children from 88 families, the Positive and Negative Experiences Measure (PNEM) was used to determine the amount of difficulties reported by children before program participation. Parents completed the Strengths and Difficulties Questionnaire (SDQ) to determine the amount of child behavioral difficulties. When compared to a civilian sample of children from the National Health Interview Survey, results from the SDQ showed that parents from the military population reported greater difficulties than the civilian sample. These findings indicate a need for this program from those in the study population. However, the overall evaluation results of PTS were limited. More information is needed, including the child experience of the program, longer-term follow-up data, and data from parents about child outcomes. In addition, consistency of program delivery across Yellow Ribbon events was a concern, as program fidelity was higher in sessions with older children, aged 7 to 11 years, as compared to children aged 3 to 6 years (Wilson et al., 2011), which may also limit the feasibility of disseminating and further

evaluating this program. Regardless, this program has continued to be improved and has been implemented with over 400 children at over 25 community events.

### **Operation Purple Camp**

The National Military Family Association developed Operation Purple Camp, a one-week summer camp program for military children and adolescents aged 7 to 17 years old. Children and adolescents can participate if they have had or will have a parent deploy. The curriculum focuses on socialization with other military children and aims to improve aspects of physical and emotional health. During the intervention, children attend camp and participate in activities that focus on communication, feelings, understanding and appreciating military life, stewardship, and outdoor education. Community volunteers are involved with the program delivery. The activity is free, but is not available in all states, and participants need to apply for the program.

Pilot results of PTS showed that participation in one week of the program increased social acceptance, athletic competence, and global self-worth of participants (Chawla & MacDermid Wadsworth, 2012). However, when compared to a control group, the intervention only had slight improvements in desired outcomes, including coping-related activities and sense of service, and the results were not statistically significant (Chandra, Lara-Cinisomo, Burns, & Griffin, 2012). Further evaluation and expansion of the program would require systematic analysis of outcomes from a parent and child perspective. Longitudinal analysis is also needed to determine the possible lasting effects of brief interventions such as Operation Purple Camp.

### **Educational Resources and Materials**

In addition to specific interventions, government departments and agencies, including the Department of Defense, the Veterans Administration, and the White House Joining Forces

Initiative, have pledged to increase awareness and support for military members and their families. Additionally, numerous advocacy and private organizations have also pledged to improve the lives of military families. A collection of current programs and resources can be found at many websites of leading national child and family agencies (Appendix A). *Zero to Three- Babies on the Homefront* was a grant funded, theoretically developed mobile application that includes resources for parents to learn more about their young infant and child. Information on the website and through the organization is geared toward military parents and providing support for those families. Evaluation of the use of the program materials is ongoing.

National organizations, government agencies, educational institutions, and public foundations have joined together to pool resources and create high quality, evidence-based electronic resources for parents, children, clinicians, and educators. Educational websites such as *Home Base* have a specific parent guidance website for military parents called *Staying Strong*. The Military Support Programs and Networks (M-SPAN) at the University of Michigan has developed a resource, *Welcome Back Parenting*, which addresses the typical and red flag responses of children during post-deployment and across child developmental stages. The Veterans Administration has an interactive website and online course *Parenting for Service Members & Veterans*. Additional websites include the Department of Defense's *Military HOMEFRONT*, *Military Child Educational Coalition*, *Military One Source*, *Military Kids Connect* and *Military Child Initiative*, which are easily available resources for children, parents, and professionals interested in the unique needs of these family members and how best to support them.

*Sesame Street Talk-Listen-Connect* is an electronic resource developed for military parents that includes home-based study with young children age 2 to 8 years. The multimedia kit

includes a DVD of educational videos and related print materials of shared activities to do with children and resources related to helping the child adjust during deployment-related stressors. A companion mobile application has been developed to connect parents and caregivers with on-the-go resources. Children can interact with some of the included activities on the application. The development for tool was theoretically-based, with the aim of increasing resilience traits, including coping for parents and children, although the focus has been on military families with a service member that has experienced a physical injury (Walker, Cardin, Chawla, Topp, Burton, & MacDermid Wadsworth, 2014).

Findings from a randomized control study reported that caregivers who used the program reported a reduction in depressive symptoms and a reduction in child behavioral problems, such as aggression (Walker et al., 2014). These results were also consistent for caregivers who utilized a non-military focused educational tool. Programs such as this require additional assessment and evaluation, but they may be an option for military families, such as National Guard and Reserve families, that are often geographically dispersed from other types of intervention programs.

### **Conclusions**

Current intervention programs for military children and their families have variations in purpose, scope, and delivery modality. Researchers and clinicians alike realized there was an urgent need to develop programs to support military families; in response to that urgent need, some programs were adapted for military families to educate and support service members who struggled with adverse mental health effects. Indeed, emerging family-focused programs and parent-focused programs have been effective at helping families. However, to date, child-focused programs are virtually non-existent and have scant data to support them. Both interventions

identified in this review have been limited in fully exploring the effects of the intervention for children and would benefit from collecting child-report data and long-term follow up data.

There is also a need for adolescent intervention programs (Ali, Dwyer, Vanner, & Lopez, 2010). Considering the elevated rates of mental health concerns in military adolescents (Hosek, 2011; Chandra et al., 2010), developmentally appropriate- programs are well warranted. Analysis of substance use, the presence of existing psychiatric disorders, and measurement of other risky behaviors could allow for greater insight into the long-term effects of repeated stress, such as deployment, in military children and adolescents (Gilreath, 2016). With greater reliance on the National Guard and Reserves during the Iraq and Afghanistan wars, more of these families have experienced deployments. National Guard and Reserve family members encounter unique challenges during deployment, such as needing to balance a civilian and military life and being geographically dispersed from one another. Further exploration of the unique needs of parents and children in these families is necessary for the development, evaluation, and dissemination of effective intervention programs. Once key programs have been identified as effective, dissemination trials will be critical to increasing the reach of these programs (Murphy & Fairbank, 2013). Dissemination strategies that engage community providers and that monitor fidelity of the intervention as it is implemented in the community will be vital for sustained success.

### **Nursing Implications**

These findings have implications for nursing research, practice, and policy. With the increased emphasis on resilience-promoting interventions for military members and their families, more empirical research is needed to analyze the relationships of family stress, resilience, and mental health outcomes. Theoretical approaches to understanding the



phenomenon of family stress and resilience should be considered in the development of future interventions for military families. Paley, Lester, and Mogil (2013) have provided a compelling overview of the perspectives on family systems and socio-ecology and have encouraged the use of these theories in studying the impact of deployment and resilience in military families. Indeed, the use of more than one theoretical model may be needed to fully capture the complexities of the deployment and resilience and to determine the impact of different types of interventions for military children. Additionally, family stress and resilience are understood to be processes that change over time and this require longitudinal analysis.

Research has found that if intervention programs are not readily available for children with emotional or behavioral problems, particularly for children from military families, parents and families seek out assistance from community members and health care providers (Johnson & Ling, 2013). In fact, in nursing practices, parents often request assistance with emotional or behavioral problems for their children. Thus, an awareness of available supports and interventions would benefit nursing clinicians and the families they serve. Indeed, understanding how to connect unique populations to tailored intervention programs is one of the challenges clinicians face. On a broader scale, understanding the specific needs of military families and children allows nurses not only to help their patients, but to engage in public policy. Particular efforts would include advocating for the expansion of existing, effective interventions and engaging local and national stakeholders to provide practical and financial support for such interventions. Ensuring that efficacious interventions continue to be available requires the support, involvement, and interaction of many parties, in both formal and informal ways. In this vein, health care providers will need to work together with military service members and their families, helping to build relationships among the various stakeholders in order to allow for the

construction of the community capacity required to build and maintain quality intervention programs (Huebner, Mancini, Bowen, & Orthner, 2009).

In summary, children and families both struggle with challenges related to military life, particularly after experiencing deployment. Despite these challenges, many military families and children are able to adjust and thrive during such experiences. For those who struggle, a focus on strengths-based and resilience-promoting interventions specifically developed for these families may reduce adverse mental health effects related to deployment stress. Current intervention programs available for military families and children show promise, but require ongoing evaluation of effectiveness and sustainability.

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Figure 1.3

Method of Article Review

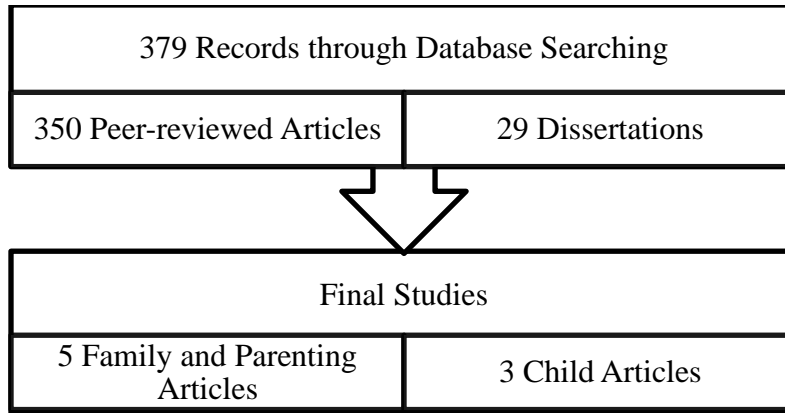


Table 1.3

Overview of Selected Studies

Author(s) Intervention Developers	Purpose	Methodology and Research Design	Sample and Setting	Results
<p>Saltzman et al 2011</p> <p>Families Over Coming Under Stress (FOCUS)</p> <p>Co-developed with UCLA and Harvard School of Medicine.</p>	<p>Describe the theoretical and empirical foundation and rationale for FOCUS</p>	<p>Prospective, descriptive evaluation study.</p> <p>The intervention focused on mapping risks such as incomplete understanding, impaired family communication, impaired parenting, impaired family organization, and lack of guiding belief systems to the FOCUS intervention components.</p> <p>Focus on the development of a shared family narrative, improving family communicating, and enhancing family awareness and understanding.</p> <p>Intervention delivered over six to eight sessions. First two with parents, second two with children, fifth session with parents, and series of one to three family sessions.</p>	<p>Navy, Marine, Navy Special Warfare, Army, Air Force families at 18 installations since 2008.</p> <p>Over 5000 children, spouses and service members. Over 200,000 family members, providers, and community members trained.</p> <p>For single and dual parent families exposed or at risk for impaired adaptation or psychological risk.</p> <p>Program adaptations available for preschool-aged children, families with wounded or ill parent, and for couples without children.</p> <p>N=488 Navy and Marine families. N=742 parents. N=873 children.</p>	<p>Measured psychological stress in parents and emotional and behavioral problems in children.</p> <p>After participation in FOCUS, pre-post score changes showed significant improvement in parental stress and child behavior outcomes. Family communication also improved.</p>

<b>Author(s) Intervention Developers</b>	<b>Purpose</b>	<b>Methodology and Research Design</b>	<b>Sample and Setting</b>	<b>Results</b>
<p>Beardslee et al 2011</p> <p>Families Over Coming Under Stress (FOCUS)</p> <p>Co-developed with UCLA and Harvard School of Medicine.</p>	<p>Describe development of the FOCUS intervention including description of range of activities.</p>	<p>Prospective evaluation study.</p> <p>Originally developed from Project Talk (Teens and Adults Learning to Communicate), a family-centered, preventative intervention.</p> <p>Theoretically grounded intervention development.</p>	<p>Evaluation of community outreach and education, participation in resiliency training, and referral sources to FOCUS.</p> <p>N=488 Navy and Marine families. N=742 parents. N=873 children.</p>	<p>Service member and civilian parent functioning and level of distress was reduced after program participation. Participation in FOCUS was associated with reduction in child self-report and parent-report of psychological symptoms, general family functioning, coping, and strengths.</p> <p>Participants were more likely to engage in the community educational workshops.</p> <p>Most participants were self-referred to the program.</p>
<p>Lester et al 2012</p> <p>Families Over Coming Under Stress (FOCUS)</p>	<p>To evaluate the FOCUS program, a resilience, strengths-based, trauma-informed family intervention.</p>	<p>Secondary data analysis of program evaluation data July 2008 to February 2010.</p>	<p>11 military installations. N=488 unique families (742 parents, 873 children) with pre-post outcomes for 331 families.</p> <p>Children age 3-7 years (61.1%), age 8-10 (19%), age 11 or older (19.9%)</p> <p>Both active duty and non active-duty families participated.</p>	<p>67.8% completed intervention. 18.2% did not complete because relocation or deployment. 2.7% did not need services anymore. 2.7% did not finish for other reasons.</p> <p>Comparisons made with community norms.</p> <p>Both parents and children who participated in FOCUS showed improvement in emotional and behavioral adjustment scores.</p>

<b>Author(s) Intervention Developers</b>	<b>Purpose</b>	<b>Methodology and Research Design</b>	<b>Sample and Setting</b>	<b>Results</b>
<p>Ross &amp; DeVoe 2014</p> <p>Strong Families Strong Forces (SFSF)</p>	<p>To evaluate the SFSF intervention using a three phase project including a community based participatory approach, feasibility descriptive study, and randomized control trial.</p>	<p>Three pronged. Community based participatory research, feasibility study, and randomized control trial.</p> <p>Self-report measures of mental health, parenting stress, parenting competence, child functioning, and relationship satisfaction were assessed during the feasibility and the RCT.</p> <p>Randomized controlled trial of SFSF vs. waitlist control, with current enrolment of n=115 families.</p>	<p>N=115 National Guard/Reserve families who have experienced a deployment in the last 12 months.</p> <p>Qualitative needs assessment of n=85 service members and at home parents was conducted.</p> <p>Feasibility study of n=9 completers was assessed.</p>	<p>11.8% of service member sample met criteria for PTSD at baseline.</p> <p>Significant differences between treatment and comparison groups had moderate effect sizes.</p>
<p>Rosenblum &amp; Muzik 2014</p> <p>STRoNG (Support to Restore, Repair, Nurture and Grow) Military Families</p>	<p>To describe the development of the STRoNG military families intervention.</p>	<p>Theoretical grounding and session information descriptive study.</p> <p>Phase 1 open trial for feasibility, acceptability, and efficacy.</p> <p>13 session intervention (3 individual family and 10 multifamily meetings).</p>	<p>N=29 parents.</p> <p>Assessments completed by parents pre, post, and two months after the intervention.</p> <p>Measurements related to parenting, child and parent mental health, service utilization, family and marital relationships, and child outcomes were assessed.</p>	<p>Parents reported significant improvement in all domains assessed after program participation.</p>



<b>Author(s) Intervention Developers</b>	<b>Purpose</b>	<b>Methodology and Research Design</b>	<b>Sample and Setting</b>	<b>Results</b>
Wilson et al 2011  Passport Toward Success (PTS)	To evaluate Passport Toward Success	Descriptive study of program effectiveness and fidelity  Program fidelity was greater in sessions with children age 7-11 compared to fidelity of sessions with children age 3-6.	N=161 children from 88 families of National Guard deployed 30-90 days before the PTS event.	When compared to a civilian sample of children from the National Health Interview Survey, results from the SDQ showed that parents from the military population reported greater difficulties than the civilian sample  Parents reported greater behavioral difficulties for military children compared to community norms/matched sample.
Chawla & MacDermid Wadsworth 2012  Operation Purple Camp	To test the effect of the camp on self- perceptions of social acceptance, athletic confidence, and global self- worth.	Descriptive pre- post intervention analysis and comparison of outcomes of interest.	N=44 adolescents and children.	Adolescents showed significant improvement in perceptions of social acceptance and athletic competence. Children showed improvement in perceptions of global self-worth.
Chandra et al 2012  Operation Purple Camp	To evaluate the Operation Purple Camp Program.	Open-ended survey responses from participants and parents.  Pre-post intervention t- tests.	Community children and adolescents were compared to program participants in summer of 2011 Operation Purple Camps.  Parents were also surveyed about their report of how their children are adjusting and functioning, and to assess program satisfaction.	Comfort and skill in communicating feelings, understanding and appreciation of military life, sense of service/stewardship, and outdoor education were key outcome measures that showed trends toward improvement after program participation.

## CHAPTER 4

### **Feasibility and Acceptability of a Resiliency Intervention for Military Children**

In the United States, the military is an all-volunteer force, with over two million personnel deployed since September 11, 2001 (Department of Defense [DoD], 2015). More than half of all service members are married, and approximately 850,000 are parents (Institute of Medicine [IOM], 2010). Currently, almost two million children under the age of 18 have at least one Active Duty parent (DoD, 2015). Many service members struggle with significant psychological issues, such as post-traumatic stress, depression, anxiety, and alcohol abuse, while also managing civilian-military transitions and ensuring that their families are safe, healthy, and financially secure (Mansfield, Kaufman, Marshall, Gaynes, Morrissey, & Engel, 2010).

#### **Challenges for Military Families**

Military families are not immune to those stressors. Families of service members often face a host of challenges associated with military life and deployment, including adjustment post-deployment, navigating between a civilian and military lifestyle, and managing parenting challenges. For spouses, the stress associated with a partner's deployment can lead to mental health issues such as depression, anxiety, and substance use (Blow et al., 2013; Chandra et al., 2011; Lester et al., 2010). Spouses with children also face the often daunting challenge of single parenting during deployment periods, which can significantly increase parenting stress in military families. In civilian populations, parenting stress has been linked to a myriad of negative outcomes in children, including emotional and behavioral problems (Deater-Deckard, 2004).

While some amount of parenting stress is expected when raising children in military families, stress that is too high or overwhelming has been found to negatively impact parenting behaviors (Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010) and child adjustment may be compromised (Kelley, Herzog-Simmer, & Harris, 1994). In addition to parenting-specific stress, research has found that the household environment—such as increased noise, confusion, clutter, and lack of routine—may contribute to disorganization and stress (Matheny, Wachs, Ludwig, and Phillips, 1995). In turn, environment with numerous sources of chaos can affect parent and child functioning. For example, if parents are in an environment that does not allow for sufficient attention to parenting and fostering the parent-child relationship, children may struggle. A recent qualitative analysis recorded the amount of household “hassles” experienced by military spouses and found increased levels of daily household chaos (Lara-Cinisomo et al., 2012). The unique effects of stress for military families and children is an area of further interest for nurses, who provide care to those individuals and families who may be experiencing the physical and mental health challenges secondary to stress.

### **Adjustment in Military Children**

In addition to being impacted by the stress and challenges faced by their non-deployed parent, military children may experience negative outcomes as a result of parental deployment. Compared to their civilian counterparts, military children have shown elevated rates of psychological and behavioral concerns, including symptoms of anxiety and depression (Chandra et al., 2011; Hosek, 2011; Gorman, Eide, & Hisle-Gorman, 2010; Miller, Rostker, Burns, Barnes-Proby, Lara-Cinisomo, & West., 2011; Richardson et al., 2011). Aranda, Middleton, Flake, and Davis (2011) measured the psychosocial effects of military deployment on children and youth through parent and child reports. Their findings showed that both parents and youth

with a deployed parent reported more psychosocial difficulties than did youth without a currently deployed parent. Lester and colleagues (2010) interviewed children and their at-home civilian or recently returned Active Duty parent to explore the impact of parental stress and parental combat deployment on the prevalence and severity of child emotional and behavioral adjustment problems. They concluded that both at-home civilian and Active Duty parents had elevated symptoms of distress, anxiety, and depression compared to community norms (Lester et al., 2010). Moreover, they found that parents' psychological distress predicted child-adjustment difficulties, even after the deployed parent had returned home (Lester et al., 2010). The effects of deployment on military children are an area for both further research and clinical need.

### **Resilience**

Even though military parents can face significant challenges in child rearing, many parents have successfully adjusted to these challenges (Russo & Fallon, 2015). Likewise, military children have been shown to exhibit traits of resilience, despite undergoing stressful experiences during critical years of development (Arcuri, 2015). Resilience is defined as the ability to “bounce back” to healthy functioning when faced with significant stressors and challenging life events (Masten & Obradovic, 2006). Some family members have demonstrated the ability to cope with deployment and other military related stressors, such as frequent relocations, better than others, even when controlling for factors such as age, rank, and ethnicity (Willerton, Schwartz, MacDermid Wadsworth, & Olglesby, 2011; Lara-Cinisomo et al., 2012). The presence of resilience has been linked with reductions in depression and alcohol use in military families (Gottman, Gottman, & Atkins, 2011; Chapin, 2011). As such, research has increasingly focused on working to better understand how to help military families and children cope with and adapt to deployment and military life. Early interventions, in particular, may

benefit from further research into avenues that promote strengths and resilience. Health promotion, a hallmark of nursing practice, is one such type of early intervention, and thus, this kind of research has implications for nurses and nursing practice.

### **Need for Intervention**

The Department of Defense has identified research involving military families as vital to the successful mission of the armed forces and to the overall national security of the country (Institute of Medicine [IOM], 2013). Of particular importance is the development of theoretically based family interventions to promote resilience and decrease adverse mental health outcomes. As noted above, the use of resilience-promoting activities, in particular, may help military parents and children better cope with and adapt to deployment and military life and thus reduce adverse mental health outcomes (IOM, 2013). Despite an emerging body of literature that explores resilience and positive mental health in this population, there has been little research into effective, evidence-based interventions to promote resilience in military children. Several interventions focusing primarily on changes in parenting (Gewirtz et al., 2010; Ross, Devoe, Holt, & Miranda-Julian, 2014) or family (Lester et al., 2012; Rosenblum & Muzik, 2014) have emerged that may positively impact children as a secondary outcome. Only two programs specifically for children have been identified in the literature: Operation Purple Camp (Chandra, Lara-Cinisomo, Burns, & Griffin, 2012; Chawla & MacDermid Wadsworth, 2012) and Passport Toward Success (Wilson, Wilkum, Chernichky, MacDermid Wadsworth, & Broniarczyk, 2011). While these two interventions seem promising, they are quite brief (single time point of interaction), with minimal follow-up, and may not offer the ample intervention time necessary for ongoing support and the development of sustainable resilience skills. Thus, the development of a theoretically-based intervention specifically for military children is essential.

## **Theoretical Foundation**

McCubbin and McCubbin's Resiliency Model of Family Stress, Adjustment, and Adaptation (1993; 1996) is a well-supported theory of resilience that has recently been applied to military families (Kees & Rosenbum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015). As seen in Figure 1, this Model poses a process where a stressor (A) is linked to a pile-up of demands, and adaptation (X) to that stressor and its resulting demands is influenced by protective and recovery factors, including the presence of resources (B), problem solving and coping skills, and cognitive perceptions (C). Applying this model to military families, a stressor such as military deployment is often associated with a pile-up of demands (e.g., additional household and childcare responsibilities for the non-deployed spouse/partner, single parenting, economic instability, changes in primary social support, and heightened anxiety about the safety of the deployed spouse). The influence of protective and recovery factors, such as resources (e.g., monetary, positive and supportive relationships with family and community), problem solving and coping (e.g., health promotion, conflict resolution, mindfulness, communication, self-esteem), and cognitive perceptions (e.g., positive appraisal, meaning making, values), influence how a family adapts to deployment and may lead either to resilience or to mental health challenges. As Kees and colleagues have described (Kees & Rosenbum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015), an intervention grounded in this model may target the protective and recovery factors of resources, problem solving and coping, and cognitive perceptions in order to promote a resilient adaptation to military deployment.

## **Current Study**

The objective of the current study was to pilot an evidence-informed resiliency intervention for military children, co-developed by the first author and delivered as part of a

larger Phase I clinical trial of HomeFront Strong, a military spouse intervention (HFS; Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015). Designed as a group intervention specifically for military spouses at any stage of the deployment cycle, the overall goals of HFS have been to enhance resiliency and to reduce adverse psychological health symptoms in military and veteran spouses/partners.

HFS-Kids was developed in tandem with HFS. HFS-Kids was designed specifically as an intervention to support military children and was offered as an optional program to children of parents participating in HFS. To date, HFS-Kids has been delivered in three pilot groups, with parent-report data collected prior to and following the group on a variety of adjustment variables, including parenting stress, household chaos, and child adjustment. HFS-Kids is currently in expansion for a Phase 2 trial.

The purpose of the current prospective case series study was to determine the feasibility and acceptability of a military child resiliency intervention and to explore parent and child outcomes associated with participation in HFS-Kids. It was hypothesized that 1) HFS- Kids would be feasible and acceptable for military children and families, and 2) Participation in HFS-Kids would be associated with reductions in parent-reported levels of parenting stress and household chaos, reductions in child adjustment difficulties, and increased levels of child prosocial behavior.

### **Intervention Development**

HomeFront Strong-Kids (HFS-Kids) was developed based on an existing resiliency intervention for military spouses/partners, HomeFront Strong (HFS). HFS is an evidence-informed intervention program designed to boost resilience and reduce psychological health symptoms in military and veteran spouses/partners (Kees & Rosenblum, 2015; Kees, Nerenberg,

Bachrach, & Sommer, 2015). In its present form, HFS includes an 8-week manualized curriculum grounded in cognitive behavioral theory (Ellis, 1975; Hayes, Villatte, Levin, & Hildebrandt, 2011), positive psychology (Seligman, 1998; Seligman, Steen, Park, & Peterson, 2005), and dialectical behavior theory (Linehan & Dimeff, 2001). HFS-Kids was designed to be co-delivered with HFS such that military spouses/partners attend HFS while their children simultaneously attend HFS-Kids. To date, HFS-Kids has been delivered in concert with the adult HFS group, but could also function as a stand-alone intervention for military children.

The HFS-Kids curriculum (Table 1) was developed parallel to the HFS curriculum using an iterative process that included collaboration between key stakeholders, intervention researchers, and clinicians with expertise in psychology, social work, and nursing (Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015). An iterative process means that the program was developed from an identified need: in this case, a paucity of interventions for military children. In its initial development, HFS-Kids was delivered to a pilot sample of participants, and the program was continuously updated and repeated across three group cycles until the final curriculum was created. After each group session, the group leaders reviewed how the session progressed and made modifications to the curriculum. The curriculum was updated to include developmentally appropriate activities for children aged 0 to 5, 6 to 12, and 13 to 17, with the thematic focus of each session matching the HFS adult curriculum. The first author co-developed the HFS-Kids curriculum and co-led two of the three group cycles. The HFS-Kids curriculum contains modules with content directly related to the theoretical aspects of building resilience including developing resources, increasing problem solving and coping, and modifying cognitive perceptions (Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015).



At present, the HFS-Kids curriculum is available in a manual for group facilitators and includes objectives for each weekly session and activities to achieve the stated objectives. Each session follows a similar structure, starting with Shared Meal and a Joining Activity to expand social support. Then, Didactic Content portion begins, including the introduction and discussion of an emotions, followed by a Grounding and Self-Care activity related to the emotion and behavior chosen during Didactic Content (Table 1). The session concludes with Separating between the team members and child participants. The Facilitator Manual includes additional topic-specific resources, templates for group handouts and activities, and weekly parent letters that describe the session activities.

## **Methods**

The Phase 1 development and evaluation of HFS was reviewed and approved by the University of Michigan Institutional Review Board (IRB). The current study, which focused on HFS-Kids, utilized a subset of data gathered from the larger HFS study and includes only HFS participants whose children also participated in HFS-Kids.

### **Participants**

**HFS Recruitment.** HFS adult participants were recruited into the larger Phase 1 study using a variety of techniques, including advertising on social media, posting of flyers at community events for military and veterans, and word of mouth from key military and civilian stakeholders. Interested participants could call the study team, who provided a brief overview of the study and answered any questions. Inclusion criteria for adult participants in HFS was intentionally broad and required only that the participant was the spouse or partner of a service member or veteran who has served in the post-9/11 conflicts and that the participant could commit to attending a minimum of the six (out of eight) HFS group sessions. Participants who

met the inclusion criteria were scheduled for an in-person, pre-group assessment. Twenty-six women were initially enrolled into HFS. Four participants withdrew prior to the group starting because of schedule conflicts. Two participants withdrew from the group for reasons unrelated to the program (i.e., unexpected onset of a severe medical illness and transportation issues), resulting in a total of 20 participants in the larger HFS study. See Kees & Rosenbum (2015) and Kees, Nerenberg, Bachrach, & Sommer (2015) for further description of the study design and participants.

**Assessment.** As part of the larger HFS Phase 1 study, adult HFS participants completed an assessment protocol at three time points (pre-group, post-group, and at three-month follow-up, 3MFU). During the pre-group assessment, participants completed a written informed consent, a semi-structured interview about their military life experiences, and a battery of self-report measures assessing psychological health and resilience. After completion of the 8-week group, HFS adult participants completed a post-group assessment with the same survey measures, plus a program satisfaction questionnaire. Three months later, HFS adult participants completed the 3MFU assessment with an in-person interview and the same survey measures. Participants received a \$30 gift card and \$10 gas card for completing the pre-group assessment, no remuneration for the post-group assessment, and \$30 gift card and \$10 gas card for completing the 3MFU.

**Sample Reduction.** For HFS adult participants who had children, their children were also invited to participate in the HFS-Kids program. Of the 20 women who participated in the HFS adult group, 12 women (60%) had a total of 21 children in the following age ranges: ( $n=8$  children ages 0 to 3 years old,  $n=10$  children ages 4 to 12 years old, and  $n=3$  adolescents ages 13

to 17 years old). All parents who participated in HFS elected to have at least one of their children participate in HFS-Kids.

Child participants in HFS-Kids were not research participants and did not complete survey measures. Quantitative data for the current study focused on parent-report measures collected at the pre-group and 3-month follow up (3MFU) surveys and on children in the age range of 4 to 17 years old, as limited by age norms on the study measures of choice (e.g., Strengths Difficulties Questionnaire). Of the 12 HFS adult participants who had children participating in HFS-Kids, one participant only had young children and thus was not eligible for this portion of the study. Four participants failed to complete the 3MFU data and thus were also excluded from analyses, resulting in a sample of seven participants who had at least one child in the age range and completed both waves of the assessment battery. However, one of those respondents did not complete the program satisfaction measures during the post-deployment data collection, so the final sample for the case series analysis was six participants. To limit the influence of multiple parent-report for one family, the child outcome scores were analyzed from the oldest school-aged child that participated in the HFS-Kids program.

**Participants in HFS-Kids.** The average number of sessions attended by children was 6, with a range of 3 to 8 sessions. Ages of participants were predominately in the school-aged range of 8 to 12 years (n=3), with equal proportions of male and female participants.

## **Measures**

### **Demographic Questionnaire**

Adult participants provided information on deployment history, age, gender, marital status, ethnicity, education, income, and ages and gender of their children.

## **Program Satisfaction Questionnaire**

During the post-group assessment, adult participants provided written responses to a series of open-ended questions assessing their satisfaction with the HFS-Kids program (e.g. What are your thoughts about the child program? What should we add/change about the child program? We have a choice about this program: we could do “just childcare” or we could also offer therapeutic activities—what should we do? What were your thoughts about the child team?). Participants provided written answers to these responses that were then transcribed into the overall dataset as text responses.

## **Child Adjustment**

Child adjustment was measured using the parent-report of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). This 25-item questionnaire measures parent perceptions of psychological adjustment in children, with a Total Difficulties score representing four subscales (Emotional, Conduct, Hyperactivity/Attention, and Peer Relationship Problems) and a fifth subscale of Prosocial Behavior. For this study, the Total Difficulties was used as a measure of children’s emotional and behavioral difficulties. The Prosocial Behavior Scale was also used as an indicator of children’s prosocial and adaptive peer behaviors. The SDQ has been used in numerous studies of child adjustment and specifically with military children (Chandra et al., 2010; Flake, Davis, Johnson, & Middleton, 2009; Lester et al., 2013). The SDQ has a published Cronbach alpha coefficient of .73 (Goodman, 2001). The Cronbach alpha coefficient on the SDQ for this study was .77, indicating acceptable internal consistency (Nunnally, 1978).

## **Parenting Stress**

Parenting stress was measured using the Parental Stress Scale (PSS; Berry & Jones, 1995). The Parental Stress Scale is an 18-item self-report scale that asks respondents about

positive (emotional benefits, self-enrichment, and personal development) and negative (parental strains, lack of control, and demands on resources) aspects of parenthood. Items are scored using a five-point Likert-type scale to create a total score between 18 and 90. Higher scores on the scale indicate higher levels of parental stress. Total scores over 36 are considered to indicate that the respondent is experiencing greater than average levels of parenting stress. The scale has acceptable levels of reliability with a Cronbach alpha coefficient of .83 (Berry & Jones, 1995) and .78 in the current study. The PSS has been used in studies with military families (Everson, Darling, & Herzog, 2013). In the current study, the Total PSS score was used to measure levels of parenting stress as reported by mothers.

### **Household Chaos**

Household chaos was measured using the Confusion, Hubbub, and Order Scale (CHAOS; Matheny, Wachs, Ludwig, & Phillips, 1995). The CHAOS is a 15-item self-report questionnaire designed to measure characteristics of disorganization, noise, confusion, clutter, and frantic activities in the household. Of the 15 items, seven represent routines and organization while the remaining eight items represent disorganization and are reverse-coded. Each item is rated on a four-point Likert-type scale. The CHAOS has good internal consistency, with a Cronbach alpha reported of .79 (Matheny & Phillips, 2001) and .76 in the current study. The CHAOS has been used in a military family sample (Blow et al., 2013) and demonstrated adequate internal consistency. In the current study, the total CHAOS score was calculated, with higher scores indicating more disorganized, confused, and noisy home environments.

## Data Analyses

A case series approach was used to help generate detailed observational data from HFS participants. All open-ended and quantitative survey responses were analyzed for each participant and descriptive analyses were performed for each survey measure.

## Results

Table 2 presents demographic information for the sample, with pre- and 3MFU data on six participants in HFS-Kids.

### Program Satisfaction

To assess program feasibility and acceptability, text answers from the Program Satisfaction Questionnaire administered at the post-assessment were reviewed. Three thematic topics emerged, including Satisfaction with HFS-Kids, Impact on Children, and Building a Community. Table 4.3 details the thematic content and corresponding participant data.

**Satisfaction with HFS-Kids.** Parents were asked, “What are your thoughts about the child program?” All responses from parents were positive and indicated a high degree of satisfaction with the program. A mother shared, *“The [HFS-Kids] program was vital and such an experience for growth for each of my children. Also, it gave them such a positive attachment to the deployment.”* One parent commented on the change she noticed in her children, *“I was very surprised and extremely happy. My kids did not want to go to the first week [of HFS-Kids], but then they could not wait to go and were sad when they missed.”* Other mothers commented, *“Very beneficial at all ages. Military children definitely need therapy/support too,”* and *“She [my daughter] needed this, especially as we phase through this deployment.”* Another parent addressed a specific component of the intervention, which was about enhancing parent-child

communication, *“Great that my daughter and I could share on our way home to/from session what we learned.”*

**Impact on Children.** Adult participants were asked, “What should we add/change about the child program?” One parent wrote, *“My beliefs about deployment and relationships have changed in such a positive way. My children now have this beautiful experience to associate with the deployment instead of it just being about their Daddy being away. It has given them pride.”* Another parent noted, *“The kids talk more about deployment & ask questions.”* Opportunities for improving the program included: *“Maybe a 30 minute parent to parent session at the end of the 8 weeks. I would like to hear the buddy’s observations.”* In addition, she added, *“Always encourage open communication with questions and concerns. I cannot think of necessary changes.”*

**Building a Community.** HFS adult participants were asked, “What were your thoughts about the child team?” All parents who responded reported positive experiences with the group, such as, *“...being around other military kids made her [my daughter] feel less alone, and having the one on one buddy made her feel special.”* Another mother responded *“The whole team was great and I am glad they took the time to talk with her [my daughter] and understand where she is coming from.”* Some parents commented on positive changes associated with participating in HFS-Kids, *“[He has more] pride in military, relationships with other children going through it, confidence,”* and *“She is not as angry at her dad,”* and *“They [the children] have a voice and it was heard. They got ideas on how to cope and express their feelings”.* Another parent noted *“...we talked about what we learned together. She enjoyed being with other kids going through the same thing.”*

## **Parenting Stress and Household Chaos**

Parenting stress scores showed a reduction over time, with lower scores on the 3MFU (M=32.57, SD=5.12) in comparison to scores before the intervention (M=36.57, SD=4.82). Household chaos also showed a reduction following the intervention (Pre-intervention M= 14.43, SD=6.53; 3MFU M=11.67, SD= 3.26). Taken together, these results show a trend in this small sample toward reductions both in parenting stress and household chaos, indicating less stressful home environments post-intervention.

## **Child Adjustment**

Child adjustment improved over time. Specifically, parent-report of children's Total Difficulties showed a reduction from pre-intervention (M=13.57, SD=2.07) to 3MFU (M=7.43, SD=4.79). However, levels of prosocial behavior in children showed no meaningful changes over time (Pre M=9.15, SD=1.46; 3MFU M=9.43, SD=1.13).

## **Case Series**

A case series approach was applied based on recommendations from Kooistra, Dijkman, Einhorn, & Bhandari (2009). Data from all six participants were examined individually. Trends and patterns of each variable of interest are outlined below. Aggregate data of all study variables from each participant during pre and 3MFU are described in Table 4.4

## **Parenting Stress**

Parenting Stress for all participants was analyzed and compared from pre-intervention to post-intervention. Figure 2.4 reviews the changes in scores from pre- to 3MFU for all cases. Four participants reported a reduction in parenting stress scores during the 3MFU compared to before the intervention. Two participants reported a slight increase of parenting stress 3MFU after the intervention. Since HFS was open to all spouses and partners at any stage of the deployment



cycle, it may be possible that additional household chaos occurred for participant 2 when her spouse returned home from a military deployment, which led to an increase in her report of parenting stress scores. In addition, participant 2 was in the first wave of program dissemination and participant 6 was in the third wave of program dissemination. This requires additional analysis into each case to determine possible causes for unexpected score changes.

### **Household Chaos**

The level of household chaos was compared from pre-intervention to 3MFU. Figure 3.4 presents the changes in scores from pre- to 3MFU for all cases. Again, participant 2 and participant 6 reported increased levels of household chaos during the 3MFU after the intervention. However, all other participants reported a reduction in amount of household chaos during the 3MFU assessment period compared to the pre-intervention stage.

### **Child Adjustment**

Figure 4.4 presents the changes in scores of Child adjustment total difficulties from pre- to 3MFU for all cases. All participants reported a reduction in level of child adjustment difficulties during the 3MFU compared to before the intervention. This indicates that child adjustment, as reported by parents, was reduced after participation in HFS-Kids intervention. In addition Figure 5.4 contains score changes from pre- to 3MFU Child Prosocial behaviors. Three participants reported high levels of child pro-social behaviors during both pre-intervention and 3MFU assessment periods. Participant 4 reported an increase in child prosocial behaviors during the 3MFU. Participants 2 and 5 reported a decrease in child prosocial behaviors.

### **Case 1**

Figure 6.4 provides variables of parenting stress, household chaos, and child adjustment scores from pre to 3MFU. Participant 1 is a 41-50 year old, married, female with one 10 year old

daughter and who has experienced one deployment. In all domains measured, her scores improved during the 3MFU compared to the pre-intervention assessment period.

### **Case 2**

Figure 7.4 provides variables of parenting stress, household chaos, and child adjustment scores from pre to 3MFU. Participant 2 is a 25-30 year old, married, female with three children age 5, 3, and 1. All of her children participated in HFS-Kids during the first wave of the intervention. Participant 1 reported increases levels of parenting stress and household stress during the 3MFU assessment compared to the pre-intervention period. However, levels of child adjustment difficulties reduced during the 3MFU.

### **Case 3**

Figure 8.4 provides variables of parenting stress, household chaos, and child adjustment scores from pre to 3MFU. Participant 3 is a 41-50 year old, married, female, with three children age 12, 11, and 9. She participated in the first wave of the HFS intervention. All scores during the 3MFU were reduced during the 3MFU.

### **Case 4**

Figure 9.4 provides variables of parenting stress, household chaos, and child adjustment scores from pre to 3MFU. Participant 4 is a 25-30 year old female who is unmarried, has experienced four deployments, and has one 4 year old son. She participated in the second wave of the HFS intervention. All scores improved during the 3MFU, including the level of prosocial behaviors.

### **Case 5**

Figure 10.14 provides variables of parenting stress, household chaos, and child adjustment scores from pre to 3MFU. Participant 5 is a 41-50 year old, married, female, who has

experienced four deployments, and has one 15 year old daughter. She participated in the second wave of the HFS intervention. All scores showed improvement during the 3MFU except child prosocial behaviors, which reduced slightly after the HFS-Kids intervention.

### **Case 6**

Figure 11.4 provides variables of parenting stress, household chaos, and child adjustment scores from pre to 3MFU. She participated in the second wave of the HFS intervention. Participant 6 reported an increase of parental stress and household chaos during the 3MFU; however, levels of child adjustment difficulties reduced and level of child prosocial behaviors was maintained.

### **Discussion**

The purpose of this study was 1) to determine the feasibility and acceptability of a military child resiliency program, 2) to review changes in parenting stress and household chaos, and 3) to review child adjustment after participation in a resiliency intervention for military children. As a pilot intervention, HFS-Kids is grounded in resilience theory and evidence-based practices to address the mental health needs of military children. To our knowledge, this is the first description of a resilience-promoting, group-based intervention specifically for military children conducted in tandem with a resilience intervention for military spouses/partners. The case series analytic approach was chosen to report on this novel therapeutic intervention and to provide detailed information to inform future detailed hypothesis testing.

Hypothesis 1 (HFS-Kids will be feasible and acceptable for military children and families) was fully supported. The data from parents who participated in HFS-Kids indicated that the HFS-Kids program was a positive experience for their children. When delivered as a parallel program with the HFS adult group, parents were able to participate in the programming while

also involving their children in similar resilience-promoting activities. This intervention structure allowed parents and children the opportunity for a shared family experience. This effect also extended to siblings in military families, particularly those who had an opportunity to participate in HFS-Kids together. Both groups, children and adults, were able to develop a community of peers, specifically for military-connected family members. Indeed, expanding upon resources and supports and deriving meaning from shared experiences is a robust characteristic of resilience, as indicated in the theoretical grounding for this intervention (McCubbin and McCubbin, 1993; 1996; Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015).

Taken together, the open-ended responses indicated that participants were universally positive on the HFS-Kids program and believed that their children benefited from participating in the intervention. Parents shared that HFS-Kids allowed their children to connect with other military children and allowed for a discussion of otherwise difficult topics, such as emotions and behaviors. Moreover, since both mother and child(ren) attended HFS, there was a unique opportunity for communication between parent and child. All feedback from participants was positive and indicated that HFS-Kids was feasible and acceptable for participants. No parents refused group participation for their child(ren). In addition, since HFS-Kids was developed for use in any community where military-connected children reside, there is further possibility for the availability and reach of this intervention in the future.

Hypothesis 2 (Levels of parenting stress and household chaos will be reduced after participation in HFS) was also supported; levels of stress and chaos both showed a reduction from pre-group to the three-month follow-up. Due to the study design of a case series analysis, only descriptive statistics can be included in the analysis. As indicated in the Resiliency Model

guiding this intervention (Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015), it is important to consider the influence of the pile-up of these factors when expanding upon aspects of the intervention for children. In clinical practice, household chaos and parenting stress can be systematically evaluated and addressed, as both likely have an effect on child outcomes. Thus, the reduction in parenting stress after participation in the intervention is an important finding for this study, due to the overall importance of the impact of parenting stress on child outcomes in military families (Gewirtz et al., 2010).

Hypothesis 3 (Participation in HFS-Kids will be associated with a reduction in child behavioral difficulties and improvements in child prosocial behavior, as reported by parents) was partially supported. Results showed a trend toward reduction in Total Difficulties at three-months following the completion of HFS-Kids in comparison to scores collected prior to the group. Parents reported fewer problem child behaviors after participating in the intervention. This effect was sustained 3 months after the intervention, suggesting that skills learned in the intervention may have lasting positive effects on children. On the other hand, child prosocial behaviors showed no change between pre-group and 3MFU, likely because the pre-group scores were already at a near ceiling for the measure.

Of note, the Phase 1 evaluation of the HFS adult program showed significant improvements in the spouse's level of stress, anxiety, and depression, with parallel improvements in characteristics of resilience (Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015). In the current study, it is difficult to disentangle the effects of HFS-Kids itself from the improvements in parent mental health, given the bi-directional relationship among paternal and child health. Positive changes in parent mental health may also contribute to the findings of positive changes in child mental health—either as an artifact of data reporting

(e.g., happier parents reported happier children) or because having a happier parent positively impacted the child's adjustment. Research with military parents demonstrates that the functioning of parents is strongly correlated to the functioning of their children and is an important aspect overall for promoting resilience in children (Sumner, Boisvert, & Anderson, 2016). Thus, results from the case series analysis indicate that further program analysis may clarify the influence of parent and child relationships in the intervention.

### **Limitations and Future Directions**

While these findings are very promising, there are a number of study limitations to consider. As a pilot study, the small sample size limits the robustness of the analyses conducted. Additionally, the reliance on a single-reporter for outcome variables limits the generalizability of the findings. While HFS welcomes both female and male spouses to participate, this sample was all female, primarily Caucasian and highly educated, potentially limiting the applicability of the study results beyond this sample. In addition, actual ages of participants was not available. As a case series analysis, this study was descriptive, with no comparison group available; as such, casual inferences about the HFS-Kids Intervention cannot yet be made. In addition, the results may be influenced by selection and measurement bias, since only participants that had complete survey results from both the pre- and 3MFU waves and from the open-ended, post-assessment program satisfaction data were included in the case series analysis. However, all data were collected in a standardized process, and the robustness of each case allows for a better application of the results to clinical practice and future intervention development. A larger, more diverse sample, with data from children as well as other family members, would strengthen the study design considerably. Despite these limitations, these findings—of improvement in scores of child adjustment and parental outcomes linked with participation in HFS-Kids—are promising

and worthy of further investigation and hypothesis testing. Similarly, the trend toward reduction in household chaos is interesting and may be significant in a larger sample size and statistical analysis.

In sum, the findings of the current study address the current literature gap on evidence-based, resilience-promoting interventions specifically for military children. As noted at the beginning of this paper, data for the current study was gleaned from the larger Phase 1 trial of HFS, which was designed for adult participants; as such, children were not enrolled as participants in the current study, and data was not collected from children. However, the findings of this study provide an opportunity to improve and expand upon the HFS-Kids program. Due to the overwhelmingly positive responses from the adults and the anecdotal responses from children who participated in the program, HFS-Kids is currently in expansion for a Phase 2 trial. Additional HFS-Kids-focused questions have been added to the evaluation, along with a child-report battery of measures, including child coping, optimism, and stress; qualities of the parent-child relationship; and child depression and anxiety. Qualitative questions have also been added to the battery of pre, post, and 3-month follow-up assessments to further analyze the effect of the intervention on family adjustment and adaptation. Detailed quantitative and qualitative analyses of the effectiveness of the intervention are vital to justify and ensure the expansion of this promising intervention.

### **Nursing Implications**

As clinicians, educators, and researchers, nurses may encounter service members, veterans, and their families in all practice settings and locations for both medical and mental health concerns. As nurses and other providers are trained to provide psychosocial support to individuals, families, and communities, a greater understanding parenting stress and its effect on

children in military families allows the practitioner to develop clinical interventions to address family stress (Ahern, 2006). Nursing clinicians, in particular, are encouraged to be aware of the needs and concerns of the family as a unit, a point that is of even greater concern when addressing the needs of military children (Chawla & Solinas-Saunders, 2011). Thus, it is imperative for nurses to evaluate children for any connection to the military as part of their first assessment. As the first step of the nursing process is assessment, including questions about connections to the military can help identify children who may be struggling with the particular stresses of military life.

In this vein, professional nurses would benefit from understanding the unique variables that contribute to improvement in individual and family functioning after exposure to a resilience-promoting intervention. Thus, this intervention is a promising addition not only for military families, but for improving evidence-based practice. Nursing interventions focused on mental health education, including resilience-promoting activities, can potentially decrease the incidence of mental health and behavioral concerns in the military family population. In addition, community and public health nurses play a particularly important role in the community dissemination of such interventions, thereby serving as vital partners for building the community capacity necessary to adequately support military children and families (Huebner, Mancini, Bowen, & Orthner, 2009).

### **Policy Implications**

The findings of the current study have implications for future intervention work with military families and children. President Obama and the current Federal Administration have declared military families a national priority. In August 2012, an executive order was released, *Improving Access to Mental Health Services for Veterans, Service Members, and Military*



*Families* (Executive Order No. 13625, 2012). In response to unprecedented reports of stress experienced and reported by military families, the order expanded the call to raise awareness about the needs of military families and to urge lawmakers and community members to engage in research, pass legislation, and increase support for military families.

The most important implications for policy include the expansion of mental health care services, including resilience-promoting interventions. For example, veterans are able to seek care and therapy at the Veterans Administration (VA) hospitals and care centers, but family members must often seek services elsewhere. In addition, it is difficult to get approval for research with families and children due to current VA policies (Pemberton, Kramer, Borrego, & Owen, 2013). Through involvement in professional nursing organizations and national initiatives, such as the White House's Joining Forces program, nurses can advance their understanding of the unique needs of parents and military children. This latter point is crucial for policy and advocacy, since nurses are the largest and most trusted body of health care professionals. Thus, with greater understanding of the unique needs of military families, nurses can more competently and convincingly help to raise awareness of the needs of military children and advance the dialogue among legislators, community members, and clients in the communities where they live and work. This kind of advocacy—for increased mental health services, evidence-informed parenting and family interventions, and a better overall understanding of the needs of military families—is essential to the function health care providers serve in their communities (Johnson & Ling, 2013).

In 2013, the Institute of Medicine released a comprehensive report on the needs of veterans, service members, and their families after the Iraq and Afghanistan wars (IOM, 2013). The report highlighted the importance of developing evidence-based interventions to support the

psychological and physical health needs of military families. Despite these advances, there are few age-appropriate, structured interventions designed to support children in military and veteran families. While HFS-Kids has only preliminary data, the results are promising, and the need to address the variety of mental health effects on military children is a great; thus this intervention should be considered for further study.

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Table 1.4

HomeFront Strong-Kids Curriculum

Session	Title	Main Content
1	We are Military Families	Group and Member Introductions Normalization of Military Experiences Happy and Grateful Feelings
2	Stress and Breathing	Feelings Thermometer Breathing Techniques Mad Feelings
3	Looking on the Bright Side: Coping, Thoughts, Feelings	Building Positive Coping Skills Affirmations Sad Feelings
4	Calming and Relaxation	Progressive Muscle Relaxation Calm Feelings
5	Positive Thinking	Optimism and Relaxation Sources of Support Scared Feelings
6	Worries and Wellness	Mindfulness Self- Soothing Worried Feelings
7	Building Resilience	Resilience and Growth Surprised and Excited Feelings
8	Learning and Growing Together	Sharing my Story Closure and Wishes Proud feelings

Table 2.4

## Family Demographic Variables

Adult HFS Participants (n=6)	<i>n</i> (%)
<b>Age</b>	
25-30	2 (33.3)
31-40	1 (16.7)
41-50	3 (50)
<b>Gender</b>	
Female	6 (100)
<b>Marital Status</b>	
Married	5 (83.3)
Unmarried/cohabiting	1 (16.7)
<b>Ethnicity</b>	
Caucasian	6 (100)
<b>Level of Education</b>	
Some college	1 (16.6)
Technical or Associate Degree	1 (16.6)
Bachelor Degree	3 (50)
Graduate Degree	1 (16.6)
<b>Annual Family Income</b>	
\$50,001 to \$75,000	4 (66.6)
\$75,001 to \$100,000	1 (16.7)
Over \$100,000	1 (16.7)
<b>Number of Children</b>	
One	3 (50)
Two	1 (16.7)
Three	2 (33.3)
<b>Child HFS Participants (n=6) *</b>	
<b>Age</b>	
0-3 years	0 (0)
4-7 years	2 (33.3)
8-12 years	3 (50)
13-17 years	1 (16.7)
<b>Gender</b>	
Male	3 (50)
Female	3 (50)

*Note:* \* Oldest child of each participating adult was selected as target child for analyses

Table 3.4

HFS-Kids Program Satisfaction

Participant #	Demographics	Target Child	Thematic Topics		
			Satisfaction with HFS-Kids	Impact on Children	Building a Community
1	41-50 year old female, married. One deployment. One child.	10 year old daughter	“[Child team member] was very approachable, my daughter looked forward to seeing her every week”		“Special Buddy made my child feel special connected to someone else that can support him/her”
2	25-30 year old female, married. One deployment. Three children age 5, 3, and 1	5 year old son	<p>“I would have liked more personal/specific observations (weekly activity letter) &amp; EXTREMELY IMPORTANT/VITAL (special buddy)”</p> <p>“I cannot think of anything that was missing. Oh, maybe a 30 min. parent to buddy session at the end of the 8 wks.? Would like to hear the buddy's observations.”</p> <p>“All of them brought a positive element by their unique personalities. the commitment and caring they showed for each child in their own way will always be impressed upon me.”</p>	<p>“NOT JUST CHILDCARE! They thrived because of the attentiveness to their specific needs. I would not have them participate if it was just childcare-they need a program too.”</p> <p>“The program was vital and such an experience for growth for each of my children. Also it gave them such a positive attachment to the deployment”</p>	<p>“It was fantastic (underlined). Always encourage open communication with questions/concerns. I cannot think of necessary changes other than providing a way for the children to continue some kind of communication with buddy. They miss them!”</p>
3	41-50 year old female, married. One deployment. Three children age 12, 11, 9	12 year old son	“I was very surprised and extremely happy. My kids did not want to go to the first week but then they could not wait to go and were sad when they missed.”	“The military has offered nothing for my kids except "color books & crayons" kids are part of the deployment too!”	
4	25-30 year old female, Unmarried/	4 year old son	“All so wonderful with the kids!”	“[The group] should be therapeutic	“Very beneficial at all ages. Military children

	cohabitating. Four deployments. One child			(underlined) for the children! Very important”	definitely need therapy/support too.”
5	41-50 year old female , married. Four deployments. One child	15 year old daughter	“I think the therapeutic activities are extremely important.”	“[special buddy] helped her stay focused”	“She [my daughter] needed this especially as we phase through this deployment.”
6	31-40 year old female, married. One deployment. Two children, age 17 and 12	12 year old daughter	“Keep it therapeutic and don’t change a thing.”		“Great that my daughter and I could share on our way home to/from session what we learned and valued most”

Table 4.4

Study Variables and Participant scores

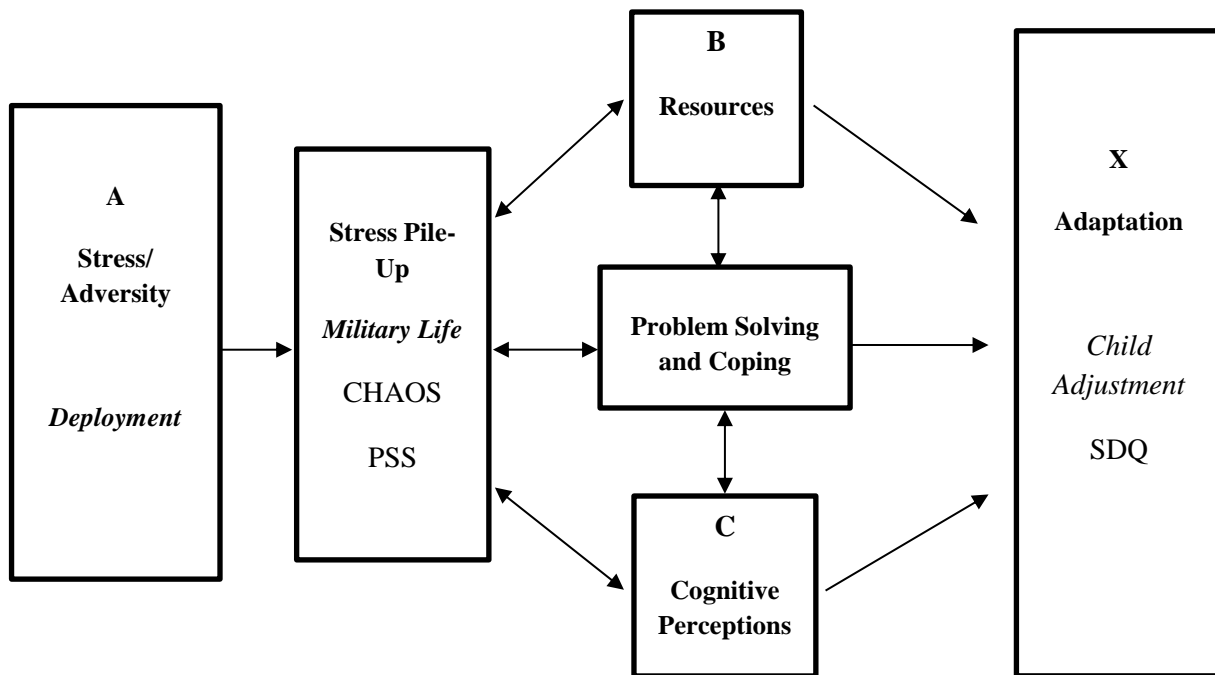
Subject	PSS Pre	PSS 3MFU	CHAOS Pre	CHAOS 3MFU	SDQ Total Difficulties Pre	SDQ Total Difficulties 3MFU	Prosocial Behavior Pre	Prosocial Behavior 3MFU
1	45	35	18	12	14	7	10	10
2	36	37	10	17	18	15	9	7
3	31	23	24	16	12	2	10	10
4	41	32	18	11	12	11	6	10
5	33	25	17	12	13	10	10	9
6	35	36	8	13	13	4	10	10

*Note:*

PSS=Parental Stress Scale; CHAOS= Confusion, Hubbub, and Order Scale; SDQ= Strengths and Difficulties Questionnaire; 3MFU= 3 month-follow up

Figure 1.4

Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin & McCubbin, 1993, 1996) modified for military families (Kees & Rosenblum, 2015; Kees, Nerenberg, Bachrach, & Sommer, 2015).

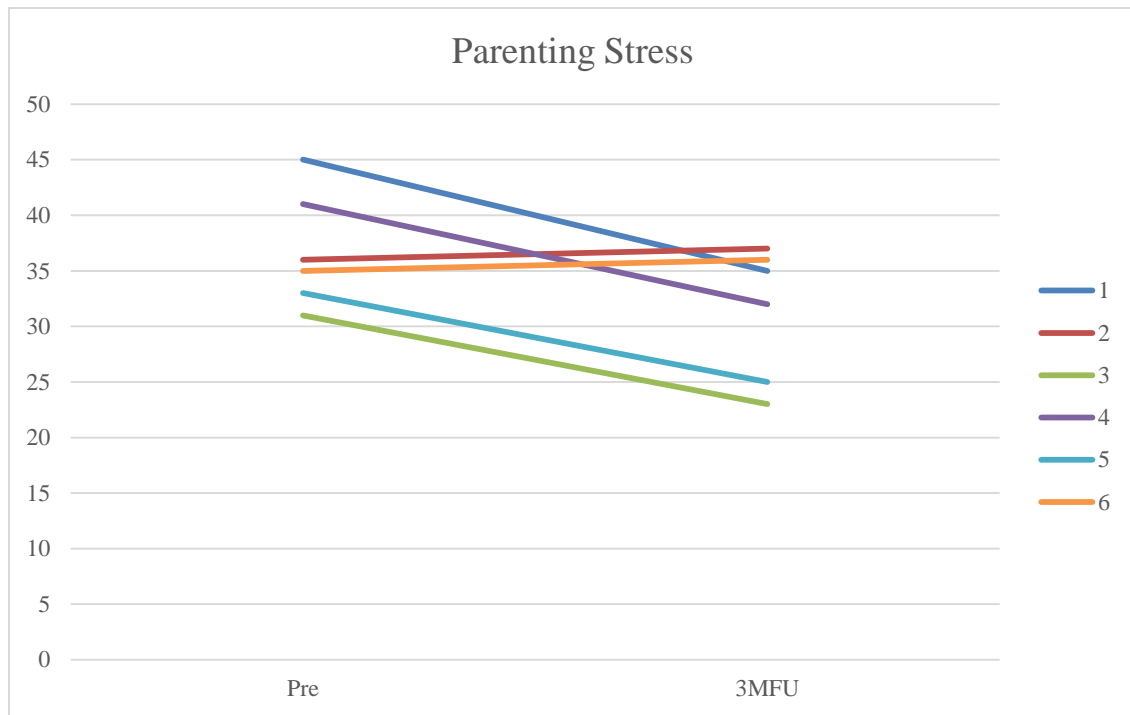


Note:

CHAOS= Confusion, Hubbub, and Order Scale; PSS=Parental Stress Scale; SDQ= Strengths and Difficulties Questionnaire

Figure 2.4

Parenting Stress Composite Data



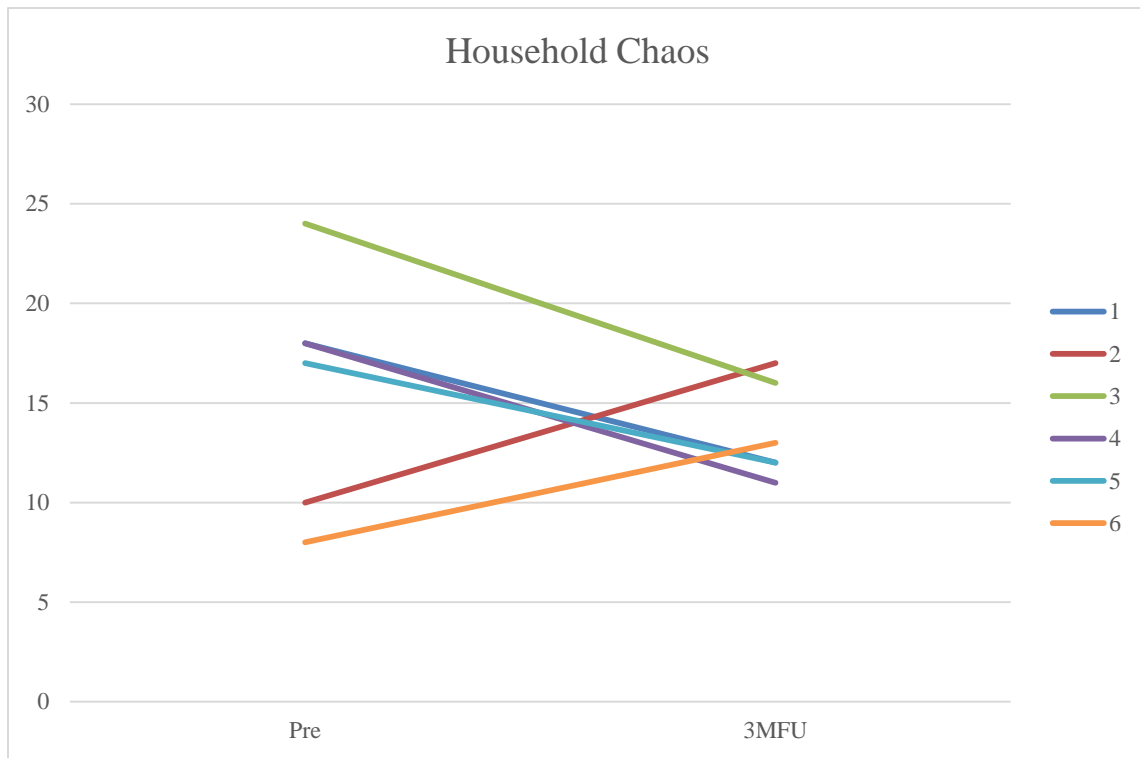
Parenting Stress as measured by the Parental Stress Scale

*Note:* 3MFU=3 month follow-up



Figure 3.4

Household Chaos Composite Data

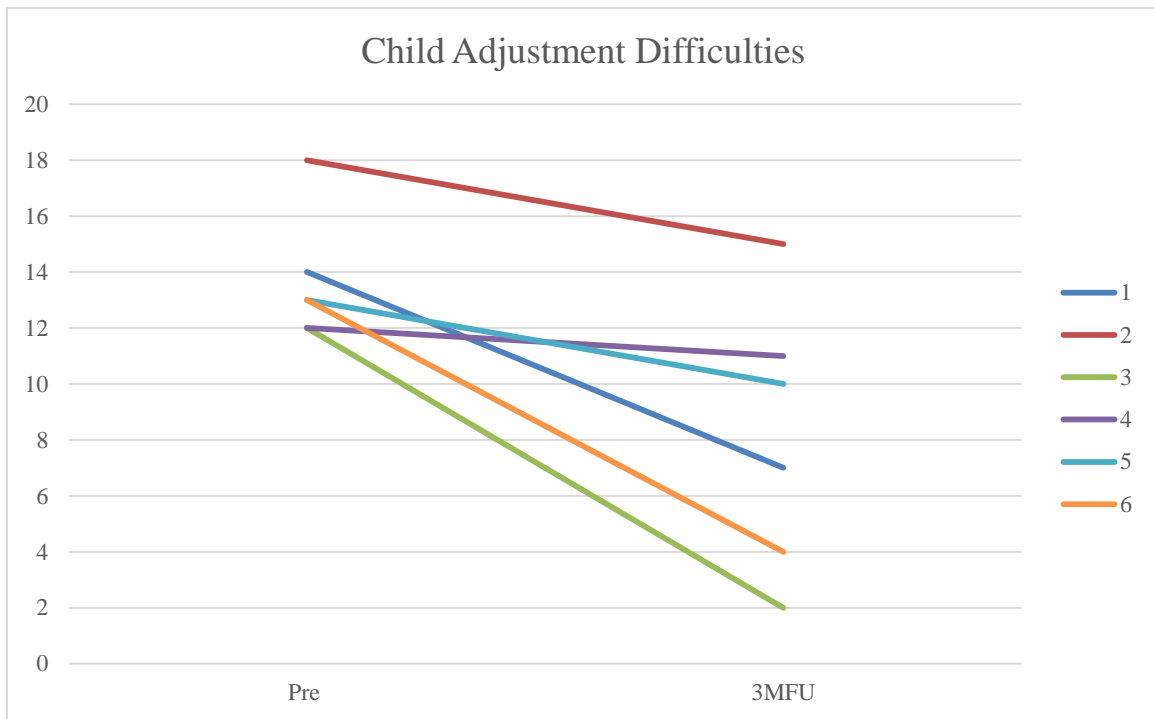


Household Chaos as measured by the Confusion, Hubbub and Order Scale

*Note:* 3MFU=3 month follow-up

Figure 4.4

Child Adjustment Difficulties Composite Data

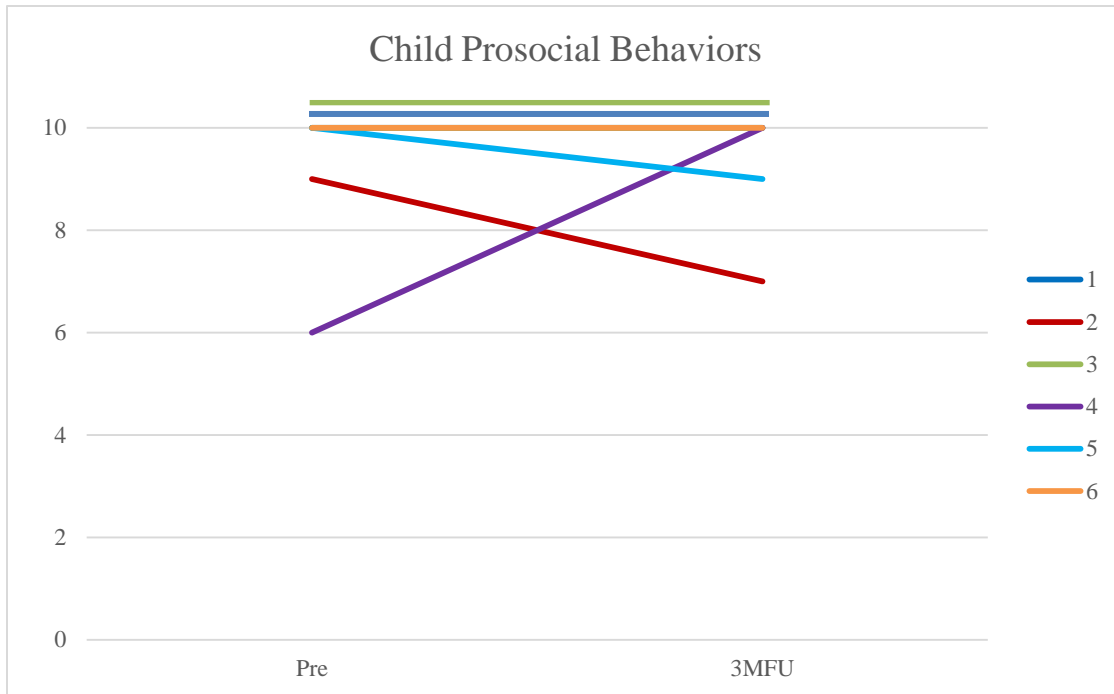


Child Adjustment Difficulties measured by the Total Difficulties Scale on the Strengths and Difficulties Questionnaire

*Note:* 3MFU= 3 month follow-up

Figure 5.4

Child Prosocial Behaviors Composite Data

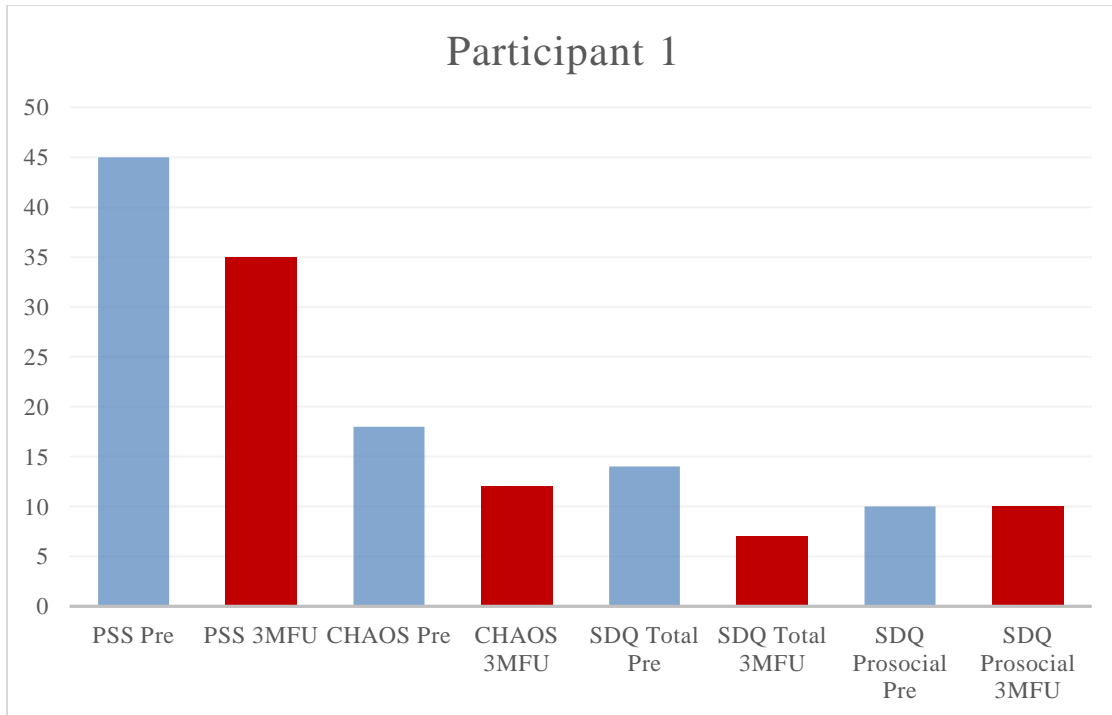


Child Prosocial behaviors measured by the Strengths and Difficulties Questionnaire

*Note:* 3MFU=3 month follow-up

Figure 6.4

Case Series Analysis of Study Variables: Participant 1

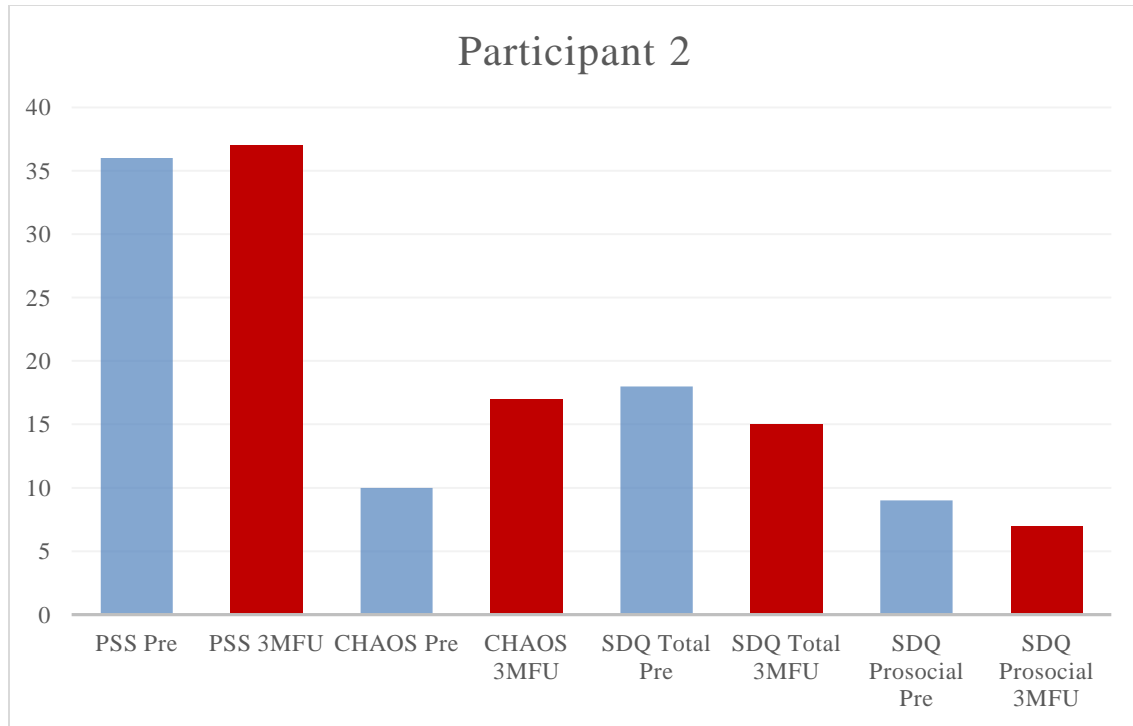


*Note:*

PSS=Parental Stress Scale; CHAOS= Confusion, Hubbub, and Order Scale; SDQ= Strengths and Difficulties Questionnaire; 3MFU= 3 month follow-up

Figure 7.4

Case Series Analysis of Study Variables: Participant 2

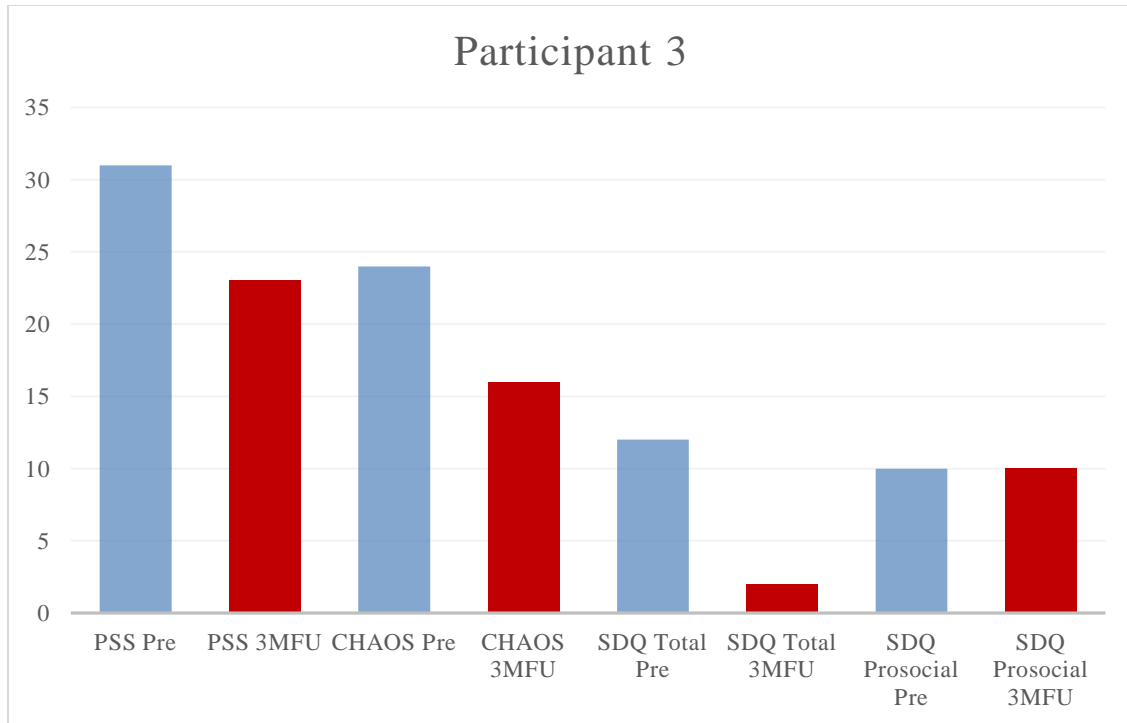


*Note:*

PSS=Parental Stress Scale; CHAOS= Confusion, Hubbub, and Order Scale; SDQ= Strengths and Difficulties Questionnaire; 3MFU= 3 month follow-up

Figure 8.4

Case Series Analysis of Study Variables: Participant 3

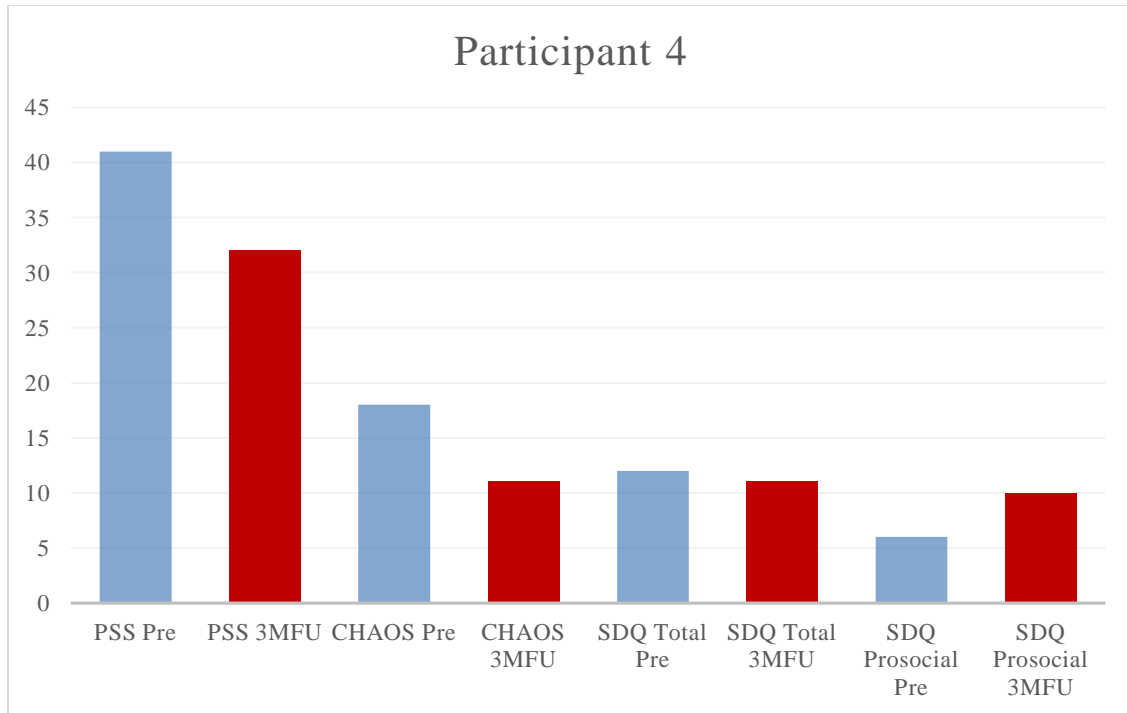


*Note:*

PSS=Parental Stress Scale; CHAOS= Confusion, Hubbub, and Order Scale; SDQ= Strengths and Difficulties Questionnaire; 3MFU= 3 month follow-up

Figure 9.4

Case Series Analysis of Study Variables: Participant 4

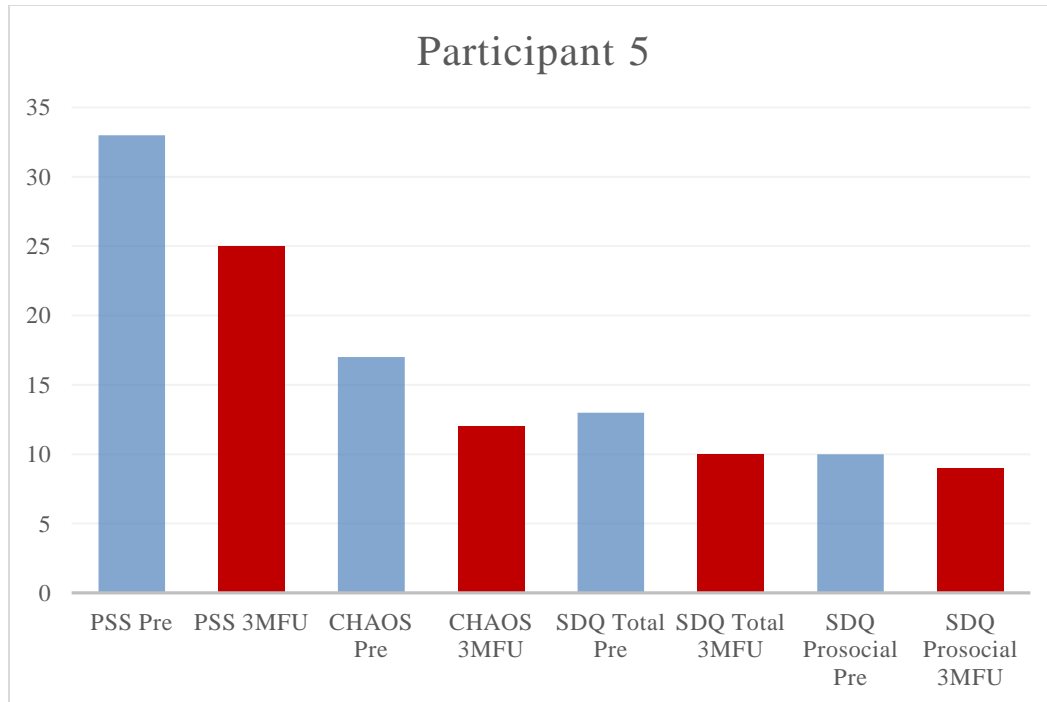


*Note:*

PSS=Parental Stress Scale; CHAOS= Confusion, Hubbub, and Order Scale; SDQ= Strengths and Difficulties Questionnaire; 3MFU= 3 month follow-up

Figure 10.4

Case Series Analysis of Study Variables: Participant 5



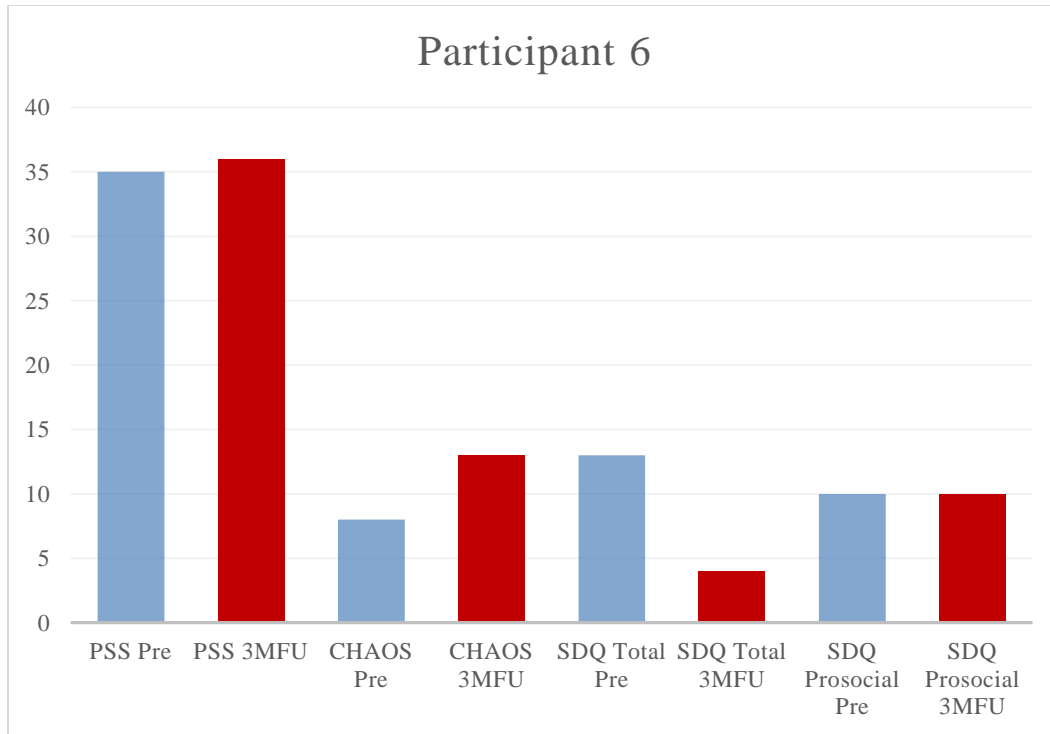
*Note:*

PSS=Parental Stress Scale; CHAOS= Confusion, Hubbub, and Order Scale; SDQ= Strengths and Difficulties Questionnaire; 3MFU= 3 month follow-up



Figure 11.4

Case Series Analysis of Study Variables: Participant 6



*Note:*

PSS=Parental Stress Scale; CHAOS= Confusion, Hubbub, and Order Scale; SDQ= Strengths and Difficulties Questionnaire; 3MFU= 3 month follow-up

## CHAPTER 5

### Summary of the Three Papers

The purpose of this chapter is to synthesize and discuss all three papers, bringing them into a broader focus. The objective of this dissertation was to examine the effect of deployment on military children, to determine the extent of currently available interventions to improve the mental health of military children using resilience-based techniques, and to review the findings from a pilot intervention for military children.

Chapter 1, the introduction, described the effect of a deployment on children in military families, specifically related to mental health. Existing evidence and gaps in the literature were reviewed, and the role of professional nurses to address the needs of military children was introduced. The concept of resilience and theoretical frameworks were introduced as an avenue for addressing these challenges. Resilience has application to nursing clinical work such that nurses can assist parents and children in utilizing social support resources to decrease the amount of stress experienced by family members, thereby preventing or reducing the impact of a family crisis or maladaptive response. The Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin & McCubbin, 1993; 1996) can be used as a guide for concepts to measure and analyze sources of stress and strength from all family members, including children. Taken together, these theories help to guide further exploration into the relationships among family and child outcomes in military families (Kees & Rosenblum, 2015).

Chapter 2, the first paper manuscript, entitled *Longitudinal Effects of Deployment on National Guard Military Children*, explored the relationships among maternal stress and child

outcomes in a sample of National Guard family members before and after a deployment. Results showed that the level of maternal parenting stress during the deployment period was a significant predictor of post-deployment child adaptation, even when controlling for pre-deployment variables of maternal depression and anxiety. As indicated in the Resiliency Model, the pile-up of demands and stress, such as household disorganization, was also correlated with family stress and child problem behaviors. Future analysis would include the impact of resources, family strengths, and cognitive perceptions on the mental health and adjustment outcomes of children. Of particular need is the child-report of adjustment strengths and difficulties.

Chapter 3, the second paper manuscript, entitled *A Review of Evidence-Based Interventions to Promote Resilience in Military Children*, expanded on the Introduction to describe the effects of deployment and military life, with a specific focus on how, despite challenges, many military children are able to thrive. This manuscript also reviewed the literature on current intervention programs available to address the mental health needs of military families and children. Unfortunately, only two current programs have been identified as specifically for military children. Each existing program for parents, families, and children has focused on resilience concepts to reduce the adverse effects of deployment and military life. Indeed, resilience and strengths-based intervention programs are an important option for reducing long-lasting adverse effects on children. However, more programs need to be developed and systematically evaluated, particularly programs designed specifically for the military child.

Chapter 4, the final paper manuscript, *Feasibility and Acceptability of a Resiliency Intervention for Military Children*, aimed to evaluate a pilot resilience-promoting intervention for military children. Parents reported adequate program feasibility and acceptability for the HomeFront Strong-Kids intervention, and participation was associated with a reduction in levels

of parenting stress and household chaos. In addition, parents reported a trend toward a reduction of child total difficulties and parenting stress after program participation. The HFS-Kids intervention was grounded in a modified version of the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin & McCubbin, 1993; 1996; Kees & Rosenblum, 2015), in addition to other evidence-based theories. A case series approach was conducted to analyze the impact of chosen variables upon child adjustment outcomes. The interconnection among theory, intervention, and outcomes is promising and requires additional program expansion and further hypothesis testing on the relationship between child outcomes and parent outcomes.

### **Synthesis**

Each paper took a different approach to exploring and understanding the phenomenon of military and family life stressors as related to child mental health outcomes. The concept of resilience was introduced as a possible avenue for further exploration toward reducing the effect of stress experienced by military families and children. The effect of deployment on military children and parents is an area of clinical concern due to potentially adverse mental health adjustments, as indicated in each of the quantitative papers in this dissertation. As noted already, the pile-up of household chaos and parenting stress can have a negative or positive effect on children and parents. Possible avenues for reducing the negative effects of stress include the promotion of health and strength behaviors in order to develop resilience. In this vein, interventions specific to military children and parents provide an opportunity to address the particular effects of military life and stress on children.

Preliminary reports on intervention programs that focus on military families and children have shown that parents need additional education and support during difficult periods such as deployment, relocation, and adjusting to civilian life after military service (Cozza, Lerner, &

Haskins, 2014). However, the long-term outcomes of these programs with parents and children has only just begun to be systematically analyzed (Lester, Stein, Saltzman, Woodward, K., & MacDermid, 2013; Lester et al., 2016). Nurses and other clinicians who provide interventions and care to military families must be aware of the importance of addressing the needs and concerns of the family as a unit, including parents and children (Chawla & Solinas-Saunders, 2011). In this context, a holistic approach to assessing and treating family stress allows the clinician and family to consider together the causes and consequences of stress. For example, as Chapter 2 demonstrates, the impact of parenting stress has been found to be a significant predictor of child functioning after a deployment experience.

With larger sample sizes and additional variables, structural equation models may further add to our knowledge of pathways of resilience and child mental health outcomes. The challenges of developing interventions specifically for military families were identified in the review of current programs (Chapter 3) and in the pilot study (Chapter 4), and Chapter 2 noted the challenges for National Guard families, in particular, where geographic limitations continue to be a barrier for involvement in specific interventions. These challenges require novel approaches for disseminating interventions, such as through schools, telehealth, or online methods (Esposito Brendel, Maynard, Albright, & Bellomo, 2014; Garcia, De Pedro, Astor, Lester, & Benbenishty, 2015; Mogil et al., 2015). For military children, the continued advances and comfort with technology may offer novel approaches for reaching these military family members. Indeed, some organizations have already started to explore and pilot online support groups, interactive websites, and mobile applications to improve connectedness with other military children and to help reinforce resilience skills (Blasko, 2015). Additional online resources for military children and families are included in Appendix A.

## **Future Research and Nursing Implications**

Nurses are clinicians, educators, and researchers; as such, they may encounter military children and family members in all practice settings and locations. While nurses are always encouraged to query about a military or veteran connection, this encouragement is particularly important for non-military clinicians, since most service members and their families may not otherwise seek mental health or family counseling services from military providers (Johnson & Ling, 2013). In fact, the American Academy of Nursing has developed the “Have You Ever Served” campaign with this precise issue in mind; this campaign is intended for use in clinical settings to identify and raise awareness of the unique needs of service members and veterans (American Academy of Nursing, 2013; Collins, Wilmoth, & Schwartz, 2013). This campaign may be expanded to “Has Anyone in your Family Ever Served?” in order to identify family members possibly needing assistance. For school nurses, it is imperative to be aware of children who are in military or veteran families, as school functioning and overall health can be affected by military related stress, such as a deployment (Arnold, Lucier-Green, Mancini, Ford, & Wickrama, 2015). Particular attention should be paid to assessing for children for any signs of maltreatment or domestic abuse in all practice settings.

In sum, the findings of this dissertation indicate that the unique needs of military children deserve further detailed exploration. The clinical implications of this dissertation for nursing professionals include the need to assess for military connections in all patients, and as indicated to assess further the effects of deployment and other military-related stressors on children and families. Additional avenues for exploration into the phenomenon of resilience and mental health in military families emerge with a consideration of the biopsychosocial spiritual model of health. Issues of future interest include work related to the biological indicators of distress, such as

hypertension, cortisol levels, obesity, and other physical health concerns, that are related to psychological distress. Although assessing, exploring, and promoting resilience is an important area for intervention, as this dissertation has demonstrated, nurses care for the whole person, which includes biological indicators of health. Thus further exploration of the connections between biological and psychological distress is salient for nursing clinical practices designed to promote health.

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## APPENDIX A

### Resources for Military Families

ADAPT Newsletters [www.cehd.umn.edu/fsos/projects/adapt/newsletters.asp](http://www.cehd.umn.edu/fsos/projects/adapt/newsletters.asp)  
After Deployment [afterdeployment.dcoe.mil/](http://afterdeployment.dcoe.mil/)  
Beyond the Yellow Ribbon [www.btyr.org](http://www.btyr.org)  
Blue Star Families [bluestarfam.org/](http://bluestarfam.org/)  
Department of Defense Educational Opportunities [www.dodea.edu/](http://www.dodea.edu/)  
Department of Defense Military HOMEFRONT [www.militaryhomefront.dod.mil/](http://www.militaryhomefront.dod.mil/)  
Deployment Kids [www.deploymentkids.com/index.html](http://www.deploymentkids.com/index.html)  
Every One Serves [www.everyoneservesbook.com/](http://www.everyoneservesbook.com/)  
FOCUS: Family Resiliency Training for Military Families [www.focusproject.org/](http://www.focusproject.org/)  
Home Base website [www.homebaseprogram.org/general-information.aspx](http://www.homebaseprogram.org/general-information.aspx)  
Joint Services Support [www.jointservicesupport.org/Default.aspx](http://www.jointservicesupport.org/Default.aspx)  
Johns Hopkins Military Child Initiative [www.jhsph.edu/mci/](http://www.jhsph.edu/mci/)  
Military Child Educational Coalition [www.militarychild.org/](http://www.militarychild.org/)  
Military Families Near and Far [www.familiesnearandfar.org/resources/](http://www.familiesnearandfar.org/resources/)  
Military One Source [www.militaryonesource.mil/](http://www.militaryonesource.mil/)  
Military Kids Connect [militarykidsconnect.dcoe.mil/](http://militarykidsconnect.dcoe.mil/)  
Military Kids' Life Magazine [www.chameleonkids.com/magazine/](http://www.chameleonkids.com/magazine/)  
Military Support Programs and Networks (M-SPAN) [m-span.org/](http://m-span.org/)  
National Child Traumatic Stress Network  
[www.nctsnet.org/resources/topics/military-children-and-families](http://www.nctsnet.org/resources/topics/military-children-and-families)  
National Military Family Association [www.militaryfamily.org/](http://www.militaryfamily.org/)  
Operation Enduring Families [www.ouhsc.edu/OEF/](http://www.ouhsc.edu/OEF/)  
Operation Purple Camps [www.militaryfamily.org/kids-operation-purple/](http://www.militaryfamily.org/kids-operation-purple/)  
Our Military Kids [www.ourmilitarykids.org/](http://www.ourmilitarykids.org/)  
Purdue Military Family Research Institute [www.mfri.purdue.edu/](http://www.mfri.purdue.edu/)  
Sesame Street for Military Families mobile application for iPhone, Google, and Amazon  
Sesame Street Talk-Listen-Connect [www.sesamestreet.org/parents/topicsandactivities/toolkits/tlc](http://www.sesamestreet.org/parents/topicsandactivities/toolkits/tlc)  
Staying Strong [www.stayingstrong.org](http://www.stayingstrong.org)  
Strategic Outreach to Families of All Reservists  
[support.militaryfamily.org/site/DocServer/SOFAR\\_Children\\_Pamphlet.pdf?docID=6661](http://support.militaryfamily.org/site/DocServer/SOFAR_Children_Pamphlet.pdf?docID=6661)  
The Military Family Research Institute at Purdue University [www.mfri.purdue.edu/](http://www.mfri.purdue.edu/)  
White House Joining Forces [www.whitehouse.gov/joiningforces](http://www.whitehouse.gov/joiningforces)  
VA/ DOD Parenting for Service Members & Veterans [militaryparenting.dcoe.mil/](http://militaryparenting.dcoe.mil/)  
Veteran Parenting Toolkit [www.ouhsc.edu/vetparenting/](http://www.ouhsc.edu/vetparenting/)  
Zero to Three [www.zerotothree.org](http://www.zerotothree.org)  
Zero to Three- Babies on the Homefront [babiesonthehomefront.org/](http://babiesonthehomefront.org/)