RISK AND RESILIENCE FACED BY CHILDREN OF DEPLOYED SERVICE MEMBERS

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The purpose of this study was to examine the impact of military deployment on children, and the roles that risk and protective factors and parenting stress play in emotional symptoms and behaviors exhibited by children while their parents are deployed. A sample of 143 parents (recruited from all branches of the military) who remained at home while their spouses were deployed completed online self-report questionnaires measuring demographic and background information, child internalizing and externalizing behavior, parenting stress, child adaptability, valuing behavior, family cohesion/environment, and parenting behaviors. The sample primarily consisted of mothers (n = 141) and Caucasian individuals (n = 126), which may limit the generalizability of the findings. Results of the study suggest risk factors including parenting stress, corporal punishment, length of time a parent is deployed, and type of deployment (combat vs. non-combat) were predictive of poorer child outcomes. Protective factors including values consistent behavior, child adaptability, and family cohesion were predictive of better childhood outcomes. Parenting stress served as a mediating variable between the relationship of total risk and child outcomes, while values consistent behavior served as a mediating variable between the relationship of protective factors experienced by children and child outcomes. Military deployments not only impact the service members, but also their families at home. Further study and identification of risk and protective factors faced by military children and families are imperative. Implications of findings are discussed as well as suggestions for future research concerning deployment and impact on military families (e.g. identification and empirical validation of programs to support military families.
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CHAPTER 1
INTRODUCTION
Deployments in Support of OEF and OIF

On September 11, 2001, the United States was attacked when airplanes were hijacked and flown into the World Trade Center and Pentagon. Shortly thereafter President George W. Bush declared a war on terror. Since then, the United States has been engaged in conflicts in the Middle East, Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). The ten years that the U.S. military has been involved in these conflicts have presented unique problems related to single and multiple deployments of service men and women with children. The most recent statistical and demographic information of the U.S. military was reported in 2010. Based on this data, 2,226,056 members of the U.S. military have been deployed at least one time, and 941,743 have been deployed two or more times (Department of Defense, 2010). At the time the survey was taken there were 246,551 service members currently deployed (DOD, 2010).

With such a large percentage of service members deployed, increasing numbers of military spouses (i.e., adult living in the home raising children, whether biological, adoptive, or stepparent) and children have been impacted by deployments. These military families have been subjected to the stress and burden that comes along with military deployments and having their loved one away from the home for an extended period of time, and in potentially dangerous situations. Approximately 56% of the Active Duty military population and 49% of the Reserve military population are married. In addition there are 1,224,593 children of Active Duty service members and 734,593 children of Reserve service members (DOD, 2010). In short, this means over a million youth have had a parent deployed at least one time and nearly 2 million children are facing potential upcoming deployments (DOD, 2009). Many of these children have
experienced multiple deployments of one or both of their parents (DOD, 2010). Deployments have ranged from initial 1-4 month deployments in some branches of the military to 18-month deployments in other branches.

Research to date has offered mixed evidence on the effect military deployment has on the children of deployed service members. Most researchers agree children show some increase in internalizing symptoms and externalizing behavior, although this is not always pathological (Barker & Berry, 2009; Chandra, Burns, Tanielian, Jaycox, & Scott, 2008; Chartrand, Frank, White, & Shope, 2008; Chandra, Martin, Hawkins, & Richardson, 2010; Chandra et al., 2010b; Flake, Johnson, Middleton, & Davis, 2009; Hillebrand, 1976; Jensen Grogan, Xenakis, & Bain, 1989; Jensen, Martin, & Wantabe, 1996; Kelley et al., 2001; Rosen, Teitelbaum, & Westhius, 1993). Researchers also agree that deployment and the extended absence of a parent place an inordinate level of stress on the children and spouses of deployed service members (Barker & Berry, 2009; Faber, Willerton, Clymer, MacDermic, & Weiss, 2008; Gorman and Fitzgerald, 2007; Houston et al., 2009; Huebner & Mancini, 2005, Kelley et al., 2001; Pincus et al., 2001; Warner, Appenzeller, Warner, & Griefer, 2009). While previous research has demonstrated the effect deployment can have on young children and adolescents, little research has examined protective factors and evidenced based interventions that could increase the resilience of children and families faced with deployment (Lincoln, Swift, & Shorteno-Fraser, 2008; Park, 2011).

Deployment Stress and Process of Deployment

During the current conflicts, over half a million children may have one or more parents deployed at any given time (American Psychological Association, 2007). Deployment, including the weeks and months before a service member leaves, can be a particularly stressful time for the service members and their families. Families are facing stressors for increased lengths of times
as compared to previous wars and deployments. The length of deployment in the past has been relatively stable and predictable, but is now uncertain. Service members now face multiple, long deployments, as well as potential extensions (Lincoln et al., 2008).

Logan (1987) initially proposed a model to describe the process of deployment typically experienced by military families; Pincus, House, Christensen and Adler (2001) later refined Logan’s proposed process of deployment to include five distinct stages: pre-deployment, deployment, sustainment, re-deployment, and post-deployment. Each stage refers to a time of the deployment cycle during which family members face different stressors and challenges (Pincus et al., 2001). These stages are described in more detail below.

Pre-deployment. The onset of deployment is the pre-deployment phase, which begins at the time when the service member is notified of his/her impending deployment and ends when the soldier is eventually deployed. This phase may last for months, or with short-notice deployments, may last only 24-48 hours (Pincus et al., 2001; Robertson, 2008). During this time, service members and their families often experience anticipation and possibly some denial about the impending separation. This is also a time during which families attempt to get affairs in order and seek to accomplish certain tasks prior to the departure of the service member. As a result of these pressures, family members can experience an increase in the number of arguments. Spouses often experience increased fear and anxiety about coping with household stressors and the task of childrearing while the service member is away (Pincus et al., 2001). Spouses and children begin to emotionally and physically detach from the service member as they begin to separate for deployment. In addition, children may begin to sense the increased stress/tension in the home. Young children may begin to display behaviors such as crying, apathy, and tantrums (Pincus et al., 2001; Robertson, 2008). One study revealed that fifteen percent of families
reported that they felt the greatest level of stress during the pre-deployment phase, after notification of the impending departure (National Military Family Association; NMFA, 2005).

Deployment. The next phase in the deployment cycle, the deployment phase, refers to the first month in which the service member is actually away from the home. The parents who are “at home” often feel stressed, overwhelmed, worried, sad, lonely, helpless, and lost (Chandra et al., 2008; Huebner & Mancini, 2005; Warner et al., 2009). They may experience feelings of abandonment and anger regarding things that were left undone by their deployed spouses (Pincus et al., 2001). Due to the increased feelings of stress and coping difficulties experienced by the at-home parents, they may also have decreased ability to effectively comfort and attend to children’s needs. Difficulties in communication with the service member during these initial months can further complicate adjustment during this phase and lead to increased feelings of stress experienced by the service member’s family (Pincus et al., 2001). Children also begin to adjust to the absence of the parent but may experience increased stress-related behaviors (e.g., sleeplessness, anxiety, short-tempsers, acting-out, etc.; Robertson, 2008).

Sustainment. The sustainment phase refers to the middle of the deployment. The length of the sustainment phase can vary widely based on the length of the deployment. During this time families may establish new routines and find support from military, family, or other sources. However, families may also continue to experience fear, worry, and anxiety. In addition, if families have not developed new support systems or routines, the stress of deployment may be heightened during this time leading to impulsive behaviors, acting-out, and depression in children (Pincus et al., 2001; Robertson, 2008). When deployments occur over extended periods of time (i.e., 6 months or greater) children may experience increased internalizing symptoms and externalizing behaviors, (e.g., depression, sleep difficulties, anxiety, irritability, etc.) and
academic difficulties (Pincus et al., 2001). These internalizing symptoms and externalizing behaviors will be discussed in greater detail later.

A survey completed by the National Military Family Association (NMFA) in 2005 revealed that the majority of family members experience the highest levels of distress from the time of the initial departure through the beginning and middle of the deployment (NMFA, 2005). This may be in part due to the worry and concern about the harm that may come to the service member, even though it is a minority of service members who are injured or killed in action. As of March 2011, 5,938 service members have died in OIF and OEF, and 42,673 have been wounded (DOD, 2011).

Re-deployment and post deployment. The re-deployment phase is defined as the month before the service member is scheduled to return home. During this phase, there can be significant conflicting emotions from both parents and children who have remained at home. This time can be met with feelings of anticipation, excitement, and apprehension about the return of the service member (Pincus et al., 2001).

The final stage of the deployment cycle is the post-deployment phase. The post-deployment phase is defined as the first few months after a soldier returns home (Pincus et al., 2001). For many families this can be one of the most stressful times of the deployment, as children are worried about how they or their parents have changed, and spouses are worried about reintegrating the deployed parents back into the family (NMFA, 2005). The time spent in this phase varies depending on the individual family, but typically lasts between 3 and 6 months. Post-deployment begins with the homecoming of the soldier and is followed by a “honeymoon period” where families reunite physically but not necessarily emotionally. The emotions and experiences of the deployed service member can contribute to the ease or difficulty of their
reintegration into the family, as well as relationships with their spouse and children upon their return (Pincus et al., 2001; Robertson, 2008). For example, service members who return with PTSD after experiencing traumatic events may have trouble reforming relationships and connections with their family members.

For the purpose of this paper, deployment will be defined as the time the service member is away from the home. This time encompasses 3 phases of the deployment process: the deployment, sustainment, and redeployment phases.

Impact of Deployment

Present literature has shown deployment can have negative impacts on children and families. Children often display increased internalizing symptoms (e.g., depression) as well as externalizing symptoms (e.g., inappropriate acting-out behavior) (Barker & Berry, 2009; Chandra et al., 2010a; Chandra et al., 2010b; Chartrand et al., 2008; Flake et al., 2009; Gorman, Eide, & Gorman, 2010; Jensen et al., 1989). In addition, the deployment of a husband or wife can also have an impact on the at-home spouse (Chandra et al., 2008; Faber et al., 2008; Flake et al., 2009; Huebner & Mancini, 2005; Warner et al., 2009). For example, at-home spouses may experience increased levels of stress, have to take on new roles, and have to engage in child rearing as a “single parent.”

Children. Children are often negatively impacted when they are separated from one or both of their parents. As stated earlier, when children’s parents are deployed, children will often display increased internalizing symptoms and externalizing behaviors. While these symptoms often do not occur to a clinically significant degree, previous research has shown that for some children, separation from their parents can cause significant distress. Levai, Kaplan, Daly, and McIntosh (1994) examined admission rates for children of Navy personnel at a private
psychiatric hospital during the Persian Gulf Crisis. They discovered that during the 7 months of
the crisis, there was an increase in the number of psychiatric hospitalizations for Navy children
with deployed parents, regardless of their area of deployment. The majority of the children were
treated for Major Depressive Disorder or Dysthymia (Levai et al., 1994).

More recent research by Gorman et al. (2010) examined pediatric records for all children
3 to 8 years old for the years 2006 and 2007. They discovered an 11% increase in pediatric visits
for mental and behavioral complaints during a parent’s deployment. This number is even more
significant and notable considering there is typically an 11% decrease in all health care visits
when a parent is deployed (Gorman et al., 2010). Additionally, Gorman and colleagues noted an
18% increase in diagnosed behavioral disorders and a 19% increase in diagnosed stress
disorders. Many problems children experience while their parents are deployed are categorized
in terms of whether they are internalizing symptoms, externalizing behaviors, or school-related
problems.

*Internalizing symptoms.* Jensen and colleagues (1989) examined children’s behavior in
relation to military-related absences by the child’s father. They found that parental military
absence, not necessarily in relation to a deployment, resulted in increases in parental reports of
child depression and anxiety. Additional research has supported Jensen et al.’s (1989) findings in
that children and adolescents who have had a parent deployed display increased symptoms of
anxiety and depression, with most not occurring to a clinically significant degree (Chandra et al.,
2010a; Chandra et al., 2010b; Chandra et al., 2008; Chartrand et al., 2008; Flake et al., 2009;
Hillenbrand, 1976; Jensen et al., 1989; Jensen et al., 1996; Kelley et al., 2001; Rosen et al.,
1993). In a recent study, commissioned by the Department of Defense, qualitative interviews
were conducted with adolescents whose parents were currently or previously deployed during the
current conflict. Adolescents reported feelings of nervousness, anger, worry, fear, and shock. These feelings ranged from slight to severe, and some adolescents required professional intervention (Huebner & Mancini, 2005). In other qualitative studies children reported increased worry and feelings of loneliness. Additional internalizing behaviors that have previously been reported include difficulties with sleep, phobias, and emotional immaturity (Hillenbrand, 1976; Yeatman, 1981).

While most children do not require professional intervention during the time their parents are deployed (Rosen et al., 1993), parental deployment can increase the probability of clinically significant difficulties. A greater percentage of children with deployed parents score in clinically significant ranges on standardized reporting measures. Kelley and colleagues (2001) discovered that a greater number of Navy children with deployed mothers received Child Behavior Checklist scores (Achenbach, 1991) that placed them in the clinical ranges for internalizing behaviors. Navy mothers who experienced a deployment and those who did not experience a deployment completed a measure assessing their children’s internalizing behavior before and after deployment period. Results indicated no significant difference between groups at the initial baseline measure prior to deployment. However, when groups were compared during deployment, 12% of children of deployed Navy mothers were rated in the clinical range for internalizing behaviors while only 1% of children of non-deployed Navy mothers or civilian mothers scored in the clinical range (Kelley et al., 2001). These findings were similar to those in a recent study where at-home parents were asked to complete the Pediatric Symptoms Checklist (Jellinek & Murphy, 1988) regarding their child’s behavior while their spouse was deployed. Results indicated that 32% of children were classified in the “high risk” range, which is 2.5 times the national norm. In addition 39% of those classified in the “high risk range” exhibited clinical
levels of internalizing symptoms (Flake et al., 2009). Department of Defense data has also revealed that outpatient mental health visits for children of deployed parents doubled between 2003 and 2008. Inpatient hospitalizations also increased by 50%, with a 20% increase from 2007 to 2008 (Department of Defense Reaches Out to Children of Soldiers, 2009).

**Externalizing behaviors.** Just as research has shown that children experience increased internalizing symptoms while parents are deployed, evidence is also available indicating that children display increased externalizing behaviors (Jensen et al., 1989; Kelley et al., 2001). Early research found that boys have shown increased aggressiveness, irritability, and impulsiveness when one of their parents was deployed (Hillenbrand, 1976). Other studies have demonstrated that when parents are deployed, children display increased disciplinary and behavioral problems as well as increased rates of psychiatric admission for internalizing and externalizing symptoms (Kelley, 1994a; Levai et al., 1994; Yeatman, 1981).

Chartrand and colleagues (2008) found that children ages 3 and up with at least one deployed parent exhibited greater externalizing behaviors, as reported by parents and teachers, than those children without a deployed parent. However, children ages 1.5 to 3 years old displayed lower levels of externalizing behaviors. Chartrand and colleagues believed that the time between 18 and 35 months old is critical for the development of attachment relationships. They suggested that a father’s deployment gave the children more time with their “preferred attachment figure” thus providing a more secure foundation for them to cope with the stressors of their father’s deployment. Other externalizing behaviors that have been reported include increased eating and sleeping problems, conduct problems, fighting, peer difficulties, and attention problems (Chandra et al., 2010a; Chandra et al., 2008; Rosen et al., 1993).
School performance. Research has thus far produced inconsistent results in regard to children’s academic performance as it relates to parental military deployment. Early research from the 1960’s and 1970’s examined the effects on verbal and non-verbal abilities. Carlsmith (1964) suggested that early and long separations resulted in better verbal abilities while later and brief separations were correlated with elevations in math abilities. Hillenbrand (1976), on the other hand, found that father absence was associated with decreased quantitative abilities in female children, while it resulted in increased mathematical and analytical abilities in older male children.

More recent research has indicated deployment has a negative impact on children’s academic performance. Hiew (1992) found that for children whose fathers had been deployed for at least eight months, parental deployment was negatively correlated with the behavioral adjustment and academic performance of children, as measured by Classroom Adjustment Rating Scale (CARS; Lorion, Cowen, & Caldwell, 1975). Other studies have discovered a drop in grades, decrease in reading comprehension scores, and lower test scores across most academic subjects for children of deployed parents (Lyle 2006; Pisano, 1996; Rosen et al., 1993; Yeatman, 1981). In addition, young children and teachers have qualitatively reported more difficulty with schoolwork after one of their parents was deployed (Chandra et al., 2010a; Chandra et al., 2008; Houston et al, 2009).

Engel, Gallagher, and Lyle (2006) compared standardized test scores of children enrolled in Department of Defense schools with their parent’s Army personnel data to evaluate the effect of the soldier’s deployment on academic achievement. Results suggested parental deployment disrupts a child’s performance in the classroom and has modest adverse effects on standardized test scores, particularly if the deployment was during the months of test administration. Longer
deployments appear to have a similarly detrimental effect; however, these effects appear to diminish over time. Further exploration was conducted to examine the lasting effects of deployment. Data suggested that a small subset of children experience a decline in academic performance that can be observed over time (Engel et al., 2006). Engel and colleagues suggested that while the negative effects of deployment on academic performance may diminish over time, they do not ever fully disappear (Engel et al., 2006).

Engel’s findings were supported in an examination of completed standardized tests of 4th and 5th grade students whose parent was deployed (Phelps, Dunham, & Lyons, 2010). This study revealed that 4th graders who had a parent deployed during the 2006-2007 academic year scored 2 grade levels behind children who did not have a parent deployed during that time period, although the children still scored at the national average. Additionally, children who had a parent deployed during the 2005-2006 and 2006-2007 academic years scored lower on the standardized test than children whose parents were deployed during just the 2005-2006 academic year (Phelps, Dunham, & Lyons, 2010).

Parents. Research has shown children can be negatively affected by the deployment of at least one of their parents, and parallel research also demonstrates at-home parents can be similarly affected by the deployment of their spouses. Qualitative reports have shown that at-home parents while their spouse is deployed (in most cases, this is the wife/mother) often experience similar reactions to deployment as their children (Huebner & Mancini, 2005). Adolescents asked to report qualitatively about changes that they noticed in their caregiver reported noticing changes in their mother’s behaviors and emotions consistent with depression, including more sleeping, being “very emotional,” and being absent-minded. Adolescents also described their mothers as “stressed out” and reported that they were often angered more quickly
(Huebner & Mancini, 2005). Even young children endorsed engaging in behaviors in order to lessen the emotional response of the at-home parent (Chandra et al., 2010b). Caregivers described similar difficulties, stating that they had no downtime or time to recover, increased sadness, and emotional difficulties. Parents also reported strain on typical family roles (e.g., having to be both “father” and “mother”; Chandra et al., 2008).

Empirical studies have supported the qualitative reports of “at-home” parents. Flake et al. (2009) found that 42% of these parents reported clinically significant levels of parenting stress and 6% were at risk for neglect of their children. According to the Parenting Stress Index (PSI, Abidin, 1995), 15% of parents in a normative population of parents experience clinically significant levels of distress and 5% of parents are at risk for neglect of their children (Abidin, 1995). Warner et al. (2009) also found parents experienced increased perceived stress when their spouse was deployed. Parents who reported greater levels of internalizing and externalizing behaviors by their children have also been found to report experiencing greater levels of stress and depression (Jensen et al., 1996). These results may be attributed, in part, to at-home parents feeling as though there is a loss of social support with the deployment of their spouse. In particular, these parents tend to report increased feelings of loneliness, depression, emotional distress, and dysphoria (Faber et al., 2008; Frankel, Snowden, & Nelson, 1992; Hiew, 1992; Medway, Davis, Cafferty, Chappell, & Ohearn, 1995; Wood, Scarville, & Gravino, 1995). When administered the SF-12 (Ware, Kosinski, & Keller, 1996) to examine the physical and mental health of at-home caregivers, caregivers reported significantly poorer mental health when compared to the normative sample (Chandra et al., 2008).

Home and routine. When a parent is deployed there is often a change in the home environment, roles, and routines. Families learn to renegotiate boundaries and family roles in the
absence of the service member (Drummet, Coleman, & Cable, 2003). For example, the at-home parent often adopts the role of the deployed parent as well as their own role. Additionally, children (especially older children) are often asked to take on more responsibilities in the home (Chandra et al., 2010a; Houston et al., 2009; Huebner & Mancini, 2005). In qualitative surveys, adolescents reported taking on child-care responsibilities of younger siblings and engaging in more household chores. Some adolescents even reported feeling as though they were the new “parent,” as evidenced by their at-home parent confiding in them more and counting on them for increased responsibilities for younger siblings (Huebner and Mancini, 2005; Mmari, Roche, Sudhinaraset, & Blum, 2009). In another survey of 192 at-home caregivers, it was reported that between 63% and 77% of children have taken on more responsibilities at home, 58-66 % take additional responsibilities in the care of their siblings, and 75-90% act more independently and more mature (Chandra et al., 2008). In addition to taking on more responsibilities at home, children may experience a decrease in close supportive relationships within the family (Kelley, 1994b; Williams & Rose, 2007).

As a result of decreased access to transportation and increased financial burdens, children also reported missing more extracurricular activities (Chandra, 2008; Huebner & Mancini, 2005). Additionally, teachers reported decreased involvement of parents in school activities and helping with homework (Chandra et al., 2010a). Studies have also shown that while some children and adolescents enjoy the increased responsibilities and the new role, the increased responsibilities can add additional stress to their already busy schedules, leading many of them to feel overwhelmed (Huebner & Mancini, 2005; Mmari et al., 2009).

Parents who remain at home while their spouses are deployed also experience increased responsibilities. At-home caregivers qualitatively report that they experienced the challenges of
being single-parents, including assumption of the numerous roles of “mom, dad, disciplinarian, planner, and fun parent” (p.43), as well as having to deal with all financial concerns and household maintenance issues (Chandra et al., 2008; Rosen, Teitelbaum, & Westhius, 1993b).

Abuse. Increased rates of physical abuse occur at times when one parent is deployed with the military. Gibbs, Martin, Kupper, and Johnson (2007) examined the association between combat-related deployments and the rates of child maltreatment in families of enlisted U.S. soldiers where there was at least one substantiated report of child maltreatment. The overall rate of maltreatment was higher when one of the parents was deployed. Specifically, in female civilian spouses, the rates of maltreatment were 2-4 times greater than the typical rates. In addition, Rentz et al. (2007) examined child maltreatment data in the state of Texas from 2000 to 2003. Their goal was to compare the rates of child maltreatment between military and non-military populations before and during military operations in the Middle East. They found that the rate of child maltreatment remained stable from 2000 to 2003 for non-military families; however, the rates of child maltreatment in military families increased near the end of 2002 and the beginning of 2003, corresponding to intense combat operations in the Middle East (Rentz et al., 2007). In addition to parenting stress and parent psychopathology, increased rates of child maltreatment places children at increased risk for negative outcomes (Rentz et al., 2007).

Risk/Resilience

There are many factors that place children at increased risk for negative internalizing and externalizing outcomes when they are separated from a parent as a result of a military deployment. However, many of these children do not display symptoms to a clinically significant degree (Chartrand et al., 2008, Flake et al., 2009, Jensen et al., 1989, Jensen et al., 1996, Rosen et al., 1993). This is likely due to children’s overall resilience and the factors in place that protect
children from experiencing some of the negative outcomes experienced by many of the children of military parents. Several of these risk and protective factors will be discussed in more detail below, both in the military context and in terms of parent and child variables more generally.

Risk factors. Risk factors are generally defined as variables that contribute to and increase the odds of maladjustment (Luther, 2006). Within the context of military deployments, risk factors include the length and number of a parental deployment(s), area where a parent is deployed, maternal vs. paternal separation, and presence of abuse (Applewhite & Mays, 1996; Barker & Berry, 2009; Rohall, Segal, & Segal 2009; Pierce, Vinokur, & Buck, 1998). Each of these risk factors will be discussed in greater detail below. There are numerous identified risk factors, and it may be impossible to identify every factor that places children at greater risk for poor outcome. For instance, researchers have also identified other potential risk factors including: history of family problems, at-home parents who are foreign born, younger and less educated parents, families with younger children, lower SES families, and those families without unit affiliation (Park, 2011).

Specific military-related factors. There are a number of risk factors that are specific to the experience of military families undergoing a separation. When parents are deployed, the separation can be relatively long and the amount of contact with their families can be highly variable. In addition, the area or location in which the service member is deployed can determine very different levels of danger that are faced by the service member as well as different levels of worry and anxiety experienced by the at-home parent and children (e.g. Barker & Berry, 2009; Pierce et al., 1998; Rohall et al., 2009).

Length and number of deployments. Results from studies of families who were separated during previous wars show that the length of deployment can impact a family’s ability to cope
with - and adjust to the separation. For example, Rohall et al. (1999) conducted a study, which compared 2 different groups of Army soldiers. One group (high operational tempo) had been deployed 3 times and at the time of the survey had been deployed for a total of 19 months. This group was also given less warning prior to separation from their families. The second group (low operational tempo) had been deployed 2 times and had currently been deployed for a total of 7 months at the time of the survey. Soldiers from the “low operational tempo” group reported better family adjustment than those from the “high operational tempo” group (Rohall et al., 1999). In addition, several studies of previous wars have shown that total length of deployment of a child’s parents has been shown to be related to increased feelings of depression and anxiety, internalizing and externalizing behaviors, and lower math scores (Engel et al., 2005; Jensen et al., 1989; Kelley et al., 2001).

Total length and number of deployments has become an increasing concern for children and families. Within the context of the current conflicts in Iraq and Afghanistan, it is not uncommon for parents to experience multiple deployments as well as deployments of 12 months or more. In a survey of military families, it was reported that the increasing deployment length and frequency is taking a toll on military families. In fact, many National Guard and Army Reserve families expressed that their greatest stress with deployment had to do with the total length of deployment and concern about another deployment after the service member returns home (NMFA, 2005). Recent research has supported previous findings that increased length and number of deployments has been correlated with increased challenges and problem behaviors in children (Barker & Berry, 2009; Chandra et al., 2010b). To date, there are relatively few studies that have examined the impact of the long and frequent deployments on the families of service members during the current conflicts in Iraq and Afghanistan. Moreover, qualitative research
with teachers revealed that schoolteachers believe that children’s resilience “is not what it once was” (Chandra et al., 2010b). Authors suggest that the effect of the cumulative, long and multiple deployments, may account for the decreased resilience in children (Chandra et al., 2010a).

**Area of deployment.** There has been relatively little research conducted examining the differences in outcomes experienced by children as a result of the nature of the deployment of the service member. In a study of psychiatric hospitalizations, no differences were found between children of parents deployed to a conflict/combat zone and children of parents deployed to a non-conflict/non-combat zone (Levai et al., 1994). Other research, however, has demonstrated different results. Pierce et al. (1998) found that parents who were deployed “in the theatre of war” had children at home who experienced greater adjustment difficulties. Additionally, two other studies examined differences in family adjustment and child behavior when parents experienced peacetime versus wartime deployments. Children with parents who were deployed during wartime displayed less family cohesion and higher levels of internalizing and externalizing behaviors than children whose parents were deployed during peacetime (Pierce et al., 1998). At-home parents also reported greater feelings of dysphoria when their spouse was deployed during wartime versus peacetime (Kelley, 1994a; Kelley, 1994b).

**Maternal vs. paternal separation.** Many of the studies that have been previously conducted have not specified the gender of the deployed service member or included just mothers or fathers in their sample. Therefore comparisons cannot yet be made between mothers and fathers being deployed (Hillenbrand, 1976; Jensen et al., 1996; Kelley et al., 2001; Pierce et al., 1998; Rosen et al., 1993). Only one study to date that has examined the differences between maternal and paternal deployment. Applewhite and Mays (1996) found that children with
deployed mothers exhibited greater difficulties in the areas of peer relationships, emotional expression, physical health, and learning problems than children with deployed fathers. A more recent study of pediatric visits in children demonstrated increased mental and behavioral health care visits for children of male military parents who are deployed (Gorman et al., 2010). Authors suggest this may be attributable to mothers’ ability to recognize child issues during deployment and bring them to assistance. It was also hypothesized that these findings may be attributable to increased likelihood for at-home mothers to experience their own mental health care complaints and subsequently transfer them onto children (Gorman et al., 2010). The paucity of research in this area and the increase in the number of women/mothers serving in the military gives merit for further research in this area.

Resilience and protective factors. Resilience can be defined as a process of “positive adaptation despite experiences of significant adversity or trauma” (Luther, 2006, p. 742). Resilience thus contains two distinct components: significant adversity and positive adaptation. Positive adaptation is adaptation that is substantially better than would be expected given the exposure to risk - that is, despite the occurrences of stressful experiences (Luther, Cicchetti, & Becker, 2000). Traditionally, the goal of resilience research has been to identify the protective factors that can alter the outcome of the adverse life circumstances experienced by a child. Protective factors can be defined as those variables that modify the outcome of an adverse event in a positive direction (Luther, 2006).

For the purposes of this paper, significant adversity is being defined as the military deployment of a child’s parent. Little research has examined protective factors that promote resilience. Protective factors that may promote resilience in children with deployed parents include frequency of contact with the deployed parent, valuing behavior of the at-home parent,
age of the child at the time of deployment, and formal and informal support received from military, community, and family sources.

*Contact with deployed parent.* When a child’s parent is deployed, one of the greatest concerns and challenges that families experience is maintaining contact with the deployed service member. In fact, 17% of families reported that communication during deployment was their greatest source of distress. “Communication among service members, families, the unit/command, and family support providers is essential in dealing with both the separation of any deployment and the preparation for the reunion of the service member” (NMFA, 2005, p.5).

In another survey of children and caregivers, 35% of children and 28% of caregivers reported that they talked with their deployed parent/spouse periodically but not on a scheduled basis (Chandra et al., 2008). Bell, Schumm, Knott, and Ender (1999) interviewed spouses, family support group leaders, and family support service providers. They found that problems communicating with the deployed service member predicted the level of stress experienced during the deployment. On the other hand, Pincus et al. (2001) suggested that high levels of communication can also be problematic. They suggested that “bad phone calls” can exacerbate the stress felt by the at-home parent as well as the deployed service member.

*Values.* Values can be defined as “verbally construed global desired life consequences,” (Hayes, Strosahl, & Wilson, 1999, p. 206). That is to say, values are chosen life paths that a person desires to take in order to live a more meaningful life. It is important to distinguish values from goals. Goals are something that an individual can achieve whereas a value is something that must be “lived out” (Hayes et al. 1999). An example of this may be a parent, whose spouse is deployed, who values the health and well being of their children. As reported previously, these parents who remain at-home are under increased stress and have increased responsibilities.
However, in spite of this increased distress, a parent who behaves in a manner consistent with his or her values may choose to spend time with their children, talk with them, and seek help when needed for their children.

Research has demonstrated positive outcomes when individuals behave in ways that are consistent with what they value. Vowles and McCracken (2008) asked chronic pain patients to complete a questionnaire that measured values-based action, or behaving in ways that are consistent with what that individual values. Individuals were asked to come in again after an interval of 18 weeks and complete a group of questionnaires measuring physiological and psychological symptoms. Reports of values-based action were negatively correlated with pain-related distress, pain-related anxiety, depression, and depression-related interference with functioning (Vowles & McCracken, 2008). Additional research has demonstrated that when values and valued behavior are incorporated into treatment protocols, individuals show improvement in emotional and physical functioning, diabetes management, improved quality of life, and sobriety (Heffner, Eifert, Parker, Hernandez, & Sperry, 2003; Gregg, Callahan, Hayes, & Glenn-Lawson, 2007; Vowles, Wetherell, & Sorrell, 2009). Given that value-driven behavior has been correlated with positive outcomes, it could also be assumed that, for those spouses experiencing a separation from their spouse, behavior consistent with values would also be associated with positive outcomes. Furthermore, one may also predict that improved parental outcomes may improve child outcomes. However, research has not yet been conducted within military or deployed military populations, nor has research been conducted on the affect of parental valuing behavior on childhood outcomes.

*Age of child.* While there are many parent-related factors that impact a child’s experience of deployment, the age of a child can also impact the child’s experience when their parent is
deployed. Research has demonstrated differing results about the function of a child’s age on ultimate emotional and behavioral adjustment. A child’s age has been found to be negatively associated with internalizing and externalizing symptoms, with younger children being more susceptible to negative outcomes than older children when one of their parents is deployed (Jensen et al., 1996; Rosen et al., 1993). However, in a study by Chartrand and colleagues (2008), it was found that children who are three years or older have significantly more externalizing behaviors when compared to younger children. Still, other research has demonstrated that children’s responses to deployment are variable at each developmental stage with different emotional and behavioral symptoms presenting at each stage (e.g. older youth report more family and peer related difficulties) (Amen et al., 1988; Chandra et al., 2010b; Pincus et al., 2001; Stafford & Grady; 2003). Thus, an examination of age as a risk or protective factor needs to be conducted.

Support system. When military families have a member of their family preparing for deployment they may seek support from a variety of different sources. The military offers formal support programs for families and for children, including family readiness groups. Families may also seek support from church groups, family, friends, and other informal military and family support groups. Support groups, whether formal or informal, have been found to help families cope during the time of the soldier’s deployment (e.g. Chandra et al., 2008; Huebner & Mancini, 2005).

Military support groups and programs. The military offers many support programs and groups for family members when service members are deployed. One of the most important organizations is the Family Readiness Group (FRG). The FRG is an organization of family members, volunteers, and service members associated with a particular unit that has been
employed to provide activities and support, enhance the flow of information, increase the resiliency of service members and their families, and provide tools for adjusting to deployments. There is no current formal research examining the FRG impact on family resilience; however, research has found that formal and community supports contribute to children’s adjustment when their parents are absent (Amen et al., 1988). Military support groups have been shown to moderate distress levels when families are experiencing high levels of family disruption (i.e. deployment) (Medway et al., 1995). In interviews conducted with adolescents, they reported that Family Readiness Groups helped them to cope with the deployment of their parents. Adolescents also mentioned that summer camps designed for children of deployed parents were helpful (Huebner & Mancini, 2005). In a qualitative study, one spouse stated, “In regards to the (military) Family Support Group (FSG), I can’t talk to my family about what’s going on because they don’t understand. But everybody in the FSG’s…they know. They have been through the exact same thing,” (Faber et al., 2008). This comment suggests the important role military support groups and support form a service member’s unit can play during deployment.

Chandra et al. (2008) studied adolescents at Operation Purple Camp. Operation Purple Camp (OPC) is a free summer camp for children with a deployed parent. While attending OPC, children engage in fun activities, as well as activities aimed at teaching them how to cope with the stress associated with the deployment of their parents. The camp also provides children with support networks of peers. Children and parents reported satisfaction with OPC, reporting that it allowed them to create new support networks with other children who had similar experiences (Chandra et al., 2008). While parents and children reported an overall perceived benefit of OPC, there are no studies that examine the overall impact or relationship of camp attendance and children’s behavioral and emotional outcomes. In another qualitative study, children noted that it
was helpful to have friends to talk about the situation, particularly friends who have experienced similar situations (Houston et al., 2009). Many studies also suggest that National Guard and Reserve families may experience increased difficulties because they do not live near military installations, and thereby have limited access to and no benefit form military support (Houston et al., 2009; Williams & Rose, 2007).

*Outside support (church, family, etc.)*. In addition to the formal supports offered by the military, children and families also seek support outside the military through religious organizations, informal support groups, family, and friends (Huebner & Mancini, 2005; Ternus, 2010; Wiens & Boss, 2007). Children who were observed to exhibit more support seeking behaviors demonstrated less maladaptive “acting out” behaviors in the classroom (Hiew, 1992). In addition, feeling supported has been associated with minimized negative impact of deployment (Flake et al., 2009). Children and adolescents reported that support from family, friends, support groups, and other military families allowed them to release tension by talking and engaging in activities to divert their attention from worries associated with deployment (Huebner & Mancini, 2005).

**Parental Adjustment and Stress, and Parent-Child Relationship, as Moderators**

Earlier it was stated that deployment of a spouse could have a negative impact on the at-home parent. The deployment of a spouse can result in increased levels of stress, depression, and emotional distress for the at-home parent (Jensen, Bloedau, Degroot, Ussery, & Davis, 1990; Jensen et al., 1989; Jensen et al., 1996; Kelley, Herzog-Simmer, & Harris, 1994). Additional research has also demonstrated that the adjustment of at-home parents during a deployment is closely related to the adjustment of their children (Amen et al., 1988; Jensen et al., 1990; Medway et al., 1995).
In a recent study, Flake et al. (2009) found high levels of parental stress significantly predicted higher psychosocial morbidity in children. This is important to note because close to half of all parents in this study reported clinically significant levels of parenting stress. Other studies demonstrated similar outcomes in that parental stress was closely related to the children’s behavioral and emotional outcomes when parents are deployed (Barker & Berry, 2009; Chandra et al., 2010a; Jensen et al., 1990; Kelley, 1994b; Medway et al., 1995; Williams & Rose, 2007). Kelley and colleagues (1994) demonstrated that when one parent is deployed from an intact family, at-home parenting stress increased; as parenting stress increased, children demonstrated greater negative outcomes.

Parental psychopathology has also been demonstrated to be predictive of children’s behavioral and emotional outcomes. A study of 213 military children whose fathers had been absent for at least one month during the previous year found that children’s psychiatric symptoms were mediated by their mother’s (at-home parent’s) psychiatric symptoms. When maternal symptoms and stressors were controlled, no negative effects of paternal absence on children’s symptoms or behavior were found (Jensen et al., 1989). In an earlier research study, children referred for outpatient psychiatric evaluations (“emotionally disturbed” group) were compared to a group of children who received routine medical attention (“normal” group). Results indicated that mothers of children in the “emotionally disturbed” group reported more emotional disturbances themselves than children in the “normal” group (Pederson, 1966). More recent research has demonstrated similar outcomes in that the psychiatric symptoms of the at-home parent are significantly related to the psychiatric symptoms of their children (Rosen et al., 1993b). Kelley (1994a) found that military wives are prone to depression during stressful
separations from their spouses and that children’s adjustment mirrored the adjustment of their mothers.

Research has also demonstrated a link between the stress experienced by the at-home parent and the level of psychopathology reported in children (Jensen et al., 1990; Kelley, 1994b). Jensen et al. (1990) reported that parents who reported higher levels of stress also reported higher levels of psychopathology, and in turn higher levels of child symptomatology. This suggests that at-home parents who experience higher levels of stress as a result of a military separation will likely demonstrate higher levels of psychopathology, which ultimately correlates with increased levels of reported child internalizing and externalizing symptoms. In a qualitative research study of teacher’s perspectives of children’s social and emotional functioning, the authors suggested, “Children are little barometers. They pick up on however mom or dad is feeling and bring that to school. They’ll carry anger to school with them. Or sadness. If it is chaotic at home there’s a lot of hostility and impulsiveness that comes to school,” (Chandra et al., 2010a, pp. 221).

While much of the previous research has focused on the effects of parental stress, other research has found that there may be a couple of parent-child and family-related factors that protect children from potential negative outcomes. Previous literature has suggested that children have a better response to stress when they have a caring and supportive adult present (Chartrand, 2008). It could be assumed that as parental stress and psychopathology increases, parents’ abilities to demonstrate a caring and supportive attitude toward their children decreases (Kelley, 1994b). Canetti et al. (2000) found that when adolescents are separated from one of their parents, the quality of their relationship with the other parent can moderate the negative impact of the separation that they experience. This finding supports previous research, which has come to a similar conclusion, that positive relationships with parents are associated with the psychological
well-being of children (Hagan, Macmillan, & Wheaton, 1996). Kelley (1994b) further suggested that better overall family adjustment is correlated with better overall psychological well-being of children. Better family adjustment appears to be correlated with better behavioral and emotional outcomes of children as well (Medway et al., 1995, Finkel, Kelley, & Ashby, 2003).

Research has suggested parenting stress can impact child psychosocial and academic outcomes in a variety of ways, including directly predicting outcomes, mediating, and moderating the impact of risk and resilience factors on child outcomes. Much of the existing research on parenting stress and child outcomes has been purely correlational, demonstrating that higher levels of parenting stress are related to poorer psychosocial and behavioral outcomes in children (e.g., Eyberg, Boggs, & Rodriguez, 1992; Huth-Bocks & Hughes, 2008; Jensen et al., 1990; Medway et al., 1995). Palmer (2008) proposed a mediational model that describes the effect of parenting stress, psychopathology and parent-child interactions on child psychosocial and academic outcomes. The model describes a theoretical pathway, in which the effects of risk and resilience factors that children face as a result of military life are indirectly affected by parental factors (Palmer, 2008).

While some research and theory suggests that parenting stress mediates the impact of risk factors on child outcome, utilizing parenting stress as a moderator also has theoretical merit. Research has demonstrated that risk and protective factors have an impact on child psychosocial and behavioral outcomes. In addition, parenting stress has been shown to impact parenting behavior (Deater-Deckard, 2004), such that high levels of parenting stress may influence parenting behavior in a negative way and ultimately have a negative impact on children. The addition of poor parenting behavior or poor parent-child relationships or interactions to risk factors may magnify the impact of those risk factors on child outcomes.
Chartrand et al. (2008) surveyed 169 military families examining the impact on children of having one of their parents deployed. Results indicated that children with a deployed parent displayed higher levels of internalizing and externalizing behavior than those military children without a deployed parent. Children continued to display significantly higher internalizing and externalizing symptoms after parenting stress was controlled. The results of the Chartrand et al. (2008) study support the use of parenting stress as a moderator. When parenting stress was controlled, the risk factors associated with having a parent deployed continued to have some effect. Theoretically the intensity/level of parenting stress may interact with risk and protective factors to change the strength and direction of the relationship. In other words, higher levels of parenting stress may interact with higher levels of risk factors to produce negative outcomes (amplify the impact of risk factors), or, lower levels of parenting stress may interact with high levels of risk factors to produce better outcomes (lessen the impact of risk factors).

Purpose of This Study

The absence of a parent as a result of a military deployment often affects a child in negative ways. Children who have had parents deployed with the military show increased internalizing and externalizing behavior (e.g. Barker & Berry, 2009; Chandra et al., 2010a; Chandra et al., 2010b; Chartrand et al., 2008; Flake et al., 2009; Gorman, Eide, & Gorman, 2010; Jensen et al., 1989). In addition to the effect that deployment has on a child, the at-home parent often experiences increased feelings of depression, anxiety, and stress (e.g. Chandra et al., 2008; Faber et al., 2008; Flake et al., 2009; Huebner & Mancini, 2005; Warner et al., 2009). The adjustment of at-home parents has been demonstrated to have an effect on the outcome of their children. Given the ever-increasing number of families who experience deployment, it is of great importance to understand what factors place a child at increased or decreased risk for negative
outcomes. It is also important to find how parental adjustment can change the impact of those risks. Factors that place children at increased risk for negative outcomes may include the age of the child, length and number of deployments, area of deployment, abuse experienced by the child, and maternal vs. paternal separation. On the other hand, there may be some factors that protect children from negative outcomes including, family cohesion, frequency of contact with deployed parent, valuing behavior of at-home parent, and involvement in military and community support programs.

The purpose of the current study was to measure the above-proposed variables in a sample of parents who had a spouse deployed in support of OEF/OIF. Based on previous literature, it was proposed that:

Hypothesis 1:

a. Each risk factor (age of child, length of deployment, area of deployment, abuse, and maternal vs. paternal separation) would be negatively correlated with positive child outcomes.

b. The sum total of risk factors would be negatively correlated with child outcomes.

c. Parenting stress would moderate the effect that the sum total of risk factors had on child outcomes, such that higher levels of parenting stress would increase the likelihood of negative child outcomes in the presence of risk factors.

Hypothesis 2:

a. Each protective factor (family cohesion, frequency of contact with deployed parent, parent valuing behavior, involvement in military and community support programs) would be positively correlated with positive child outcomes.
b. The sum total of protective factors would be positively correlated with positive child outcomes.

c. Parenting stress would moderate the effect that the sum total of protective factors had on child outcomes, such that when higher levels of parenting stress were present children would have poorer outcomes.
CHAPTER 2

METHODS

Participants

Participants of this survey were at-home parents who had a military spouse/service member (The United States Army, Navy, Air Force, Coast Guard, Marines) that was absent from the home for a period of time as a result of a military deployment. The inclusion criteria were that the service member must have been deployed since 2001 when the current conflicts in Iraq and Afghanistan began. The participant also had to have a child between the ages of 4 and 17 years old living in the home at the time of the deployment. Participants were recruited for an online survey that included a number of self-report measures. It took an average of 30-45 minutes for each participant to complete the survey.

A total of 165 participants logged on to the survey website and completed at least some portion of the survey (e.g., demographics questionnaire). A total of 143 participants completed a sufficient portion (through the outcome measure) of the survey in order to be included in the majority of the analyses. Descriptive information was obtained including: gender, age of at-home parents and children, ethnic/racial identity, military branch and duty status, socioeconomic status, and education level (see Table 1). Mean age of at-home parents completing the survey was 33.96 years ($SD = 5.8$), mean age of child was 7.2 years ($SD = 4.98$), and with the exception of 2 participants, all at-home parents completing the survey were mothers. Gender of children was pre evenly distributed between male (47.9%) and female (52.1%) children. The following racial demographic characteristics were also observed in the sample, White ($n = 126$), African American ($n = 9$), others ($n = 8$). Military specific demographics were also gathered. Each branch of the military was represented: Army ($n = 51$), Air Force ($n = 24$), Navy ($n = 21$),
Marines ($n = 6$) and Coast Guard ($n = 36$). Five participants did not identify a branch of service. In addition, Active Duty ($n = 122$) and National Guard/Reserve ($n = 21$) service members were represented; one participant did not identify a duty status. Information on annual household income and education level of the at-home parent completing the survey was also gathered and is presented in Table 1.
Table 1

Sample Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Deployment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combat</td>
<td>60</td>
<td>42.3</td>
</tr>
<tr>
<td>Non-Combat</td>
<td>82</td>
<td>57.7</td>
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<td><strong>Child Gender</strong></td>
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<td></td>
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<tr>
<td>Male</td>
<td>68</td>
<td>47.9</td>
</tr>
<tr>
<td>Female</td>
<td>74</td>
<td>52.1</td>
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<tr>
<td><strong>Ethnicity</strong></td>
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<tr>
<td>White Non-Hispanic</td>
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<td>88.1</td>
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<tr>
<td>Hispanic</td>
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<td>6.3</td>
</tr>
<tr>
<td>Other</td>
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<tr>
<td><strong>Branch of Service</strong></td>
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<td></td>
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<tr>
<td>Army</td>
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<tr>
<td>Air Force</td>
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<tr>
<td>Navy</td>
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<td>National Guard/Reserves</td>
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<td><strong>Parent Deployed</strong></td>
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<td>Mother</td>
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<td>$15,001 - $30,000</td>
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</tr>
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<td>$30,001 - $50,000</td>
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<td>More than $75,000</td>
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<td><strong>Education</strong></td>
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<td>Graduate School</td>
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</table>
Measures

Participants completed a demographics questionnaire as well as 6 self-report instruments measuring specific variables including parenting practices, parenting stress, values, child behavior, child adaptability, and family variables using online data collection through surveymonkey.com. Descriptive statistics for each variable of interest in included in Table 2 and will be further discussed further in the results section. The informed consent is included in the Appendix.
Table 2

*Descriptive Statistics for Variables of Interest*

<table>
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<tr>
<th>Scale</th>
<th>N</th>
<th>Min.</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
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<td>Y-OQ- Total</td>
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<td>0.00</td>
<td>92.00</td>
<td>17.00</td>
<td>13.93</td>
</tr>
<tr>
<td>PSI- Total Stress</td>
<td>139</td>
<td>45.00</td>
<td>143.00</td>
<td>79.26</td>
<td>22.10</td>
</tr>
<tr>
<td>PSI- Parental Distress</td>
<td>139</td>
<td>12.00</td>
<td>55.00</td>
<td>27.02</td>
<td>10.28</td>
</tr>
<tr>
<td>PSI- Parent-Child Dysfunctional Interaction</td>
<td>139</td>
<td>14.00</td>
<td>46.00</td>
<td>22.62</td>
<td>7.20</td>
</tr>
<tr>
<td>PSI- Difficult Child</td>
<td>139</td>
<td>17.00</td>
<td>51.00</td>
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*Note.* Y-OQ = Youth Outcome Questionnaire. PSI = Parenting Stress Index. SFI = Self-report Family Inventory. APQ = Alabama Parenting Questionnaire. CAWS = Child Adolescent and Wellness Scale.
Demographics questionnaire. The parents completed a brief demographics questionnaire which asked them to report age, gender, ethnicity, education and income levels of the family, number and ages of children in the home, marital status, as well as other variables relating specifically to military service of the child’s parent (e.g., length of deployment, number of years of military service, number of deployments, etc.). Additionally, the questionnaire included questions about the individual’s social and military support network.

Youth Outcome Questionnaire, 30.2 (Y-OQ). The Youth Outcome Questionnaire (Y-OQ; Burlingame et al., 2004) is a 30-item self-report or parent-report measure designed for use in children between 4 and 17 years old to assess a child’s general functioning and occurrence of observed behavior relative to normative populations. A child’s functioning and behavior is assessed across six domains including Somatic, Social Isolation, Conduct Problems, Aggression, Hyperactivity/Distractibility, and Depression/Anxiety. The items are rated on a 5-point Likert-type scale ranging from never or almost never true to almost always or always true. The questionnaire takes on average 4 minutes to complete. Only parent reports were utilized in this study. The total youth outcome score was utilized in analyses to measure total level of internalizing and externalizing behavior in children.

The parent-report of the Y-OQ was normed on a sample of 1,091 individuals collected from a community sample. The manual for the Y-OQ reports satisfactory internal consistency for the total score (α = .92) (Burlingame et al., 2004). In another community sample of 217 subjects, internal consistency values were reported and found to be acceptable for the Somatic (α = .67), Social Isolation (α = .74), Conduct Problems (α = .82), Hyperactivity/Distractibility (α = .78) and Depression/Anxiety (α = .77) subscales, as well as the Total Score (α = .92). However, the internal consistency was low for the Aggression (α = .50) subscale (Burlingame et al., 2004).
Test-retest reliabilities were conducted on a community sample of 105 subjects with a three-week interval. Test-retest reliabilities ranged from .64 to .88 for all subscales except the social interaction subscale ($R = .58$). Test-retest reliability was also found to acceptable for the total score ($R = .80$) (Burlingame et al., 2004). Satisfactory concurrent validity was also reported by comparing the total score of the Y-OQ to the total score on the Child Behavior Checklist (Achenbach, 1991) in community samples, where a moderately high correlation ($R = .76$) was found indicating sufficient convergent validity (Burlingame et al., 2004). Satisfactory internal consistency was also found for the total score in the current sample ($! = .93$).

Parenting Stress Index, Short Form (PSI-SF). The Parenting Stress Index (PSI-SF; Abidin, 1995) is a 36-item self-report measure used to examine levels of parenting stress. The PSI measure yields an overall parenting stress score as well as parenting stress scores across three domains, Parental Distress (PD), Parent–Child Dysfunctional Interaction (P-CDI), and Difficult Child (DC). Parents of children age 12 and younger answer items on a 5-point scale ranging from strongly agree (1) to strongly disagree (5). Higher T-scores are indicative of elevated levels of parenting stress for the overall scale as well as each of the subscales. For this study, the Total Stress score was utilized to examine overall levels of parenting stress.

The PSI was validated on a sample of 800 subjects (Abidin, 1995). The PSI manual reports satisfactory internal consistency for the subscales: the Parental Distress subscale ($! = .87$) as well as for the subscale of the Parent-Child Dysfunctional Interaction ($! = .80$), and the Difficult Child subscale (.85). The internal consistency was also acceptable for the Total Stress scale ($! = .91$). Test-retest reliabilities at a 6-month interval were also acceptable for the each of the subscales ranging from .68 to .85 as well as Total Stress scale ($R = .84$). While there are no current studies that independently support its validity, the PSI-SF is derived from the full-length
version, and therefore support of the validity of the PSI-SF can be found in the correlation ($R = .94$) between PSI-SF and full-length version total scores (Abidin, 1995). There have been numerous validation studies for the full-length version of the PSI. Total PSI scores have been shown to be elevated for parents with children who have behavioral problems, developmental issues, and other disabilities and illness (Abidin, 1995). The internal consistencies were acceptable for the Total Stress scale and each subscale completed by the current sample: Parental Distress subscale ($! = .91$), Parent-Child Dysfunctional Interaction ($! = .85$), Difficult Child subscale ($! = .86$), and Total Stress scale ($! = .94$).

Valued Living Questionnaire (VLQ). The Valued Living Questionnaire (VLQ; Wilson, Sandoz, Kitchens, & Robertson, 2009) is a 20-item self-report measure designed in two parts to systematically assess valued living across 10 domains. The domains include: 1) family (other than parenting and intimate relations), 2) marriage/couples/intimate relations, 3) parenting, 4) friendship, 5) work, 6) education, 7) recreation, 8) spirituality, 9) citizenship, and 10) physical self-care. In the first part, participants are asked to rank the importance of 10 different domains of living on a 10-point Likert-type scale ranging from not at all important to extremely important. The second part of the VLQ asks the client to rate, using a 10-point Likert-type scale, how consistently they have behaved in accordance with their identified values in each domain over the past week. Responses from both parts of the measure are used to calculate a Valued Living composite score. The composite score represents the degree to which an individual identifies valued life domains and behaves in accordance with identified values (Wilson et al., 2009). The composite score was utilized in the current analysis to measure valued living in the participants.
The VLQ was normed on two samples of undergraduate students ($n = 76$ and $n = 253$). Internal consistency for the VLQ was adequate across all 3 samples ($\alpha = .65 - .77$). Test-retest reliabilities were conducted with the first 76 participants over a 2-week interval and found to be acceptable (ICC = .75) (Wilson et al., 2009). Validity studies have demonstrated negative correlations between were also found valued living and depression, anxiety, somatization, hostile attitude, negative psychosocial environment, relationship difficulties, general pathology, and treatment difficulty on the Short Form-36 (Brazier et al., 1992; Wilson et al., 2009). Adequate internal consistency was also found for the current measure ($\alpha = .78-.84$).

Child Adaptability and Wellness Scale (CAWS). The CAWS, is a 150-item self-report measure designed to measure positive psychological factors related to health in children and adolescents. The CAWS employs a Likert-type response scale. Respondents are required to circle either: strongly disagree/not at all like me (scored 1 point); disagree/unlike me (2 points); agree/like me (3 points); or strongly agree/very much like me (4 points). It measures 10 separate dimensions of child well-being: Adaptability, Connectedness, Conscientiousness, Emotional Self-Regulation, Empathy, Initiative, Mindfulness, Optimism, Self-Efficacy, and Social Competence. Each dimension is theorized or has been shown through research to be uniquely associated with healthy outcomes experienced by children (Copeland, Nelson, & Traughber, in press). For the purposes of this study only the Adaptability subscale (15 items) was utilized. Items on this subscale examine the ability to negotiate difficult situations, preparedness for change, flexibility and acceptance (Copeland et al., in press). The adaptability subscale was utilized in analyses to examine overall resilience in children.

The CAWS was normed on a sample of 266 students, ages 6-12 years old. The CAWS manual reported satisfactory internal consistency coefficients were above .74 for all subscales
and .97 for the entire scale. The internal consistency on the adaptability scale alone was acceptable at .75. (Copeland et al., in press). No test-retest reliabilities were reported in previous validation studies. The CAWS also demonstrated appropriate criterion-related validity with an overall correlation with the Multidimensional Student Life Satisfaction Scale (MSLSS) of \( r = .71 \) and the adaptability correlated with the overall MSLSS scale at a satisfactory level as well \( (R = .52; \text{Copeland et al.}, \text{in press}) \). The current study demonstrated an acceptable internal consistency \( (! = .86) \).

Self-Report of Family Inventory (SFI). The Self-Report of Family Inventory is a 36-item self-report scale designed to assess an individual’s perception of his/her family. This assessment is conducted across 5 areas: Family Health/Competence, Conflict, Cohesion, Expressiveness, and Directive Leadership. The SFI is administered in an interview format for children under 14-years old, and as a typical self-report measure for persons over 14 years old. Participants are asked to rate each statement on a 5-point scale ranging from 1-“fits our household very well” to 5-“doesn’t fit our household at all” (Beavers, Hampson, & Hulgus, 1990). Specifically the cohesion subscale was used in analyses to examine overall family environment and family cohesion.

The SFI was normed on a sample of 903 individuals. Researchers have found satisfactory internal consistency reliability for the entire scale \( (! = .84 \text{ to } .88) \). Test-retest reliabilities were conducted at 30- and 90-day follow-ups (Beavers, Hampson, & Hulgus, 1990). Test-retest reliabilities were reported for each scale: Health/Competence \( (R = .84 \text{ to } .87) \), Conflict \( (R = .50 \text{ to } .59) \), Cohesion \( (R = .50 \text{ to } .70) \), Expressiveness \( (.79 \text{ to } .89) \) and Directive Leadership \( (R = .41 \text{ to } .49) \) (Beavers, Hampson, & Hulgus, 1990). Validation studies of the SFI have demonstrated correlations with other assessments of family functioning (e.g. FACES III) (Hampson, Hulgus, &
Beavers, 1990) and the McMaster Family Assessment Device (Epstein, Baldwin, & Bishop, 1983). Satisfactory internal consistency reliability was found in the current sample for each scale: Health Competence ($\alpha = .89$), Conflict ($\alpha = .67$), Cohesion ($\alpha = .63$), and Expressiveness ($\alpha = .76$). The internal consistency for the Directive Leadership subscale was less than satisfactory ($\alpha = .25$).

Alabama Parenting Questionnaire (APQ). The Alabama Parenting Questionnaire is a 42-item self-report measure that examines parenting practices across 5 domains: parental involvement, positive parenting, poor monitoring/supervision, inconsistent discipline, and corporal punishment. Ratings on items are made on a 5-point Likert scale (never, almost never, sometimes, often, always) (Frick, 1991). The corporal punishment scale was specifically utilized in analyses to examine physical punishment as a risk factor.

A number of studies have examined the reliability and validity of the APQ. Shelton et al. (1996; $n = 124$) reported that the APQ scale maintained adequate internal consistency reliability for all subscales with the exception of corporal punishment. Dadds, Maujean, and Fraser (2003) ($n = 802$) also demonstrated adequate internal consistency for the Parental Involvement, Positive Parenting, and Inconsistent Discipline subscales (.73 to .77) and moderate internal consistency for Poor Monitoring/Supervision and Corporal Punishment (.55 to .59). The low internal consistency of the corporal punishment scale has been attributed to the low number of items (3-items) on the scale. The current sample demonstrated adequate internal consistency for: Parental Involvement ($\alpha = .83$), Positive Parenting ($\alpha = .75$), Inconsistent Discipline ($\alpha = .73$), and Poor Monitoring/Supervision ($\alpha = .64$). Internal consistency for the Corporal Punishment subscale was less than satisfactory ($\alpha = .26$) for the current sample. The low internal consistency is likely due to the low number of items (3-items) on this scale.
Procedure

Participants were recruited from a variety of online support groups, social networks, military support WebPages, etc (e.g. Facebook, blue star mothers, militarywives.com). The moderator/leader of each of these groups was contacted and a request was made to post a recruitment flyer or short recruitment paragraph on their website or internet page. Over 2000 e-mails were sent to different group leaders or moderators.

Participants were required to e-mail a free Gmail account in order to receive a password to log onto the Survey Monkey website where the survey was administered. A password protected website was necessary in administration of the survey as some of the measures utilized were copyrighted. Measure developers and copyright holders required that the surveymonkey.com website be password protected as a condition of permission to use their measure. Participants who desired to participate in a raffle for a $200 gift card were requested to email the free Gmail account and provide their contact information. The raffle was completed upon the completion of the study, and the e-mail account was closed and all information with participant identification was destroyed. Many individuals and group leaders expressed some hesitancy about e-mailing a free e-mail account due to concerns about receiving spam mail in return, and additionally participants and group leaders were concerned about persons attempting to get information from military families in order to exploit them. The administrator addressed concerns individually to the extent that was possible.

When participants logged on to the website they were initially presented with the Informed Consent form and asked to read and consent to their participation in the study. Consent was assumed if the participant clicked “yes” on the consent form and continued with the survey. Upon completion of the Informed Consent form, the participants were given the following
instructions. “Please answer each of these questionnaires thinking about what it was like while your spouse was deployed (most recent deployment). When answering questions that ask about children please think about the child who caused you the most trouble while your spouse was deployed.” The demographics questionnaire was then presented followed by the other 6 questionnaires in the following order: Y-OQ, PSI, CAWS, VLQ, SFI, and APQ. The total time required for participation was approximately 30-45 minutes.
CHAPTER 4

RESULTS

Preliminary Data Analysis

Following screening procedures outlined by Tabachnick & Fidell (1996), distribution and pattern of any missing data was initially evaluated. There were 165 individuals who completed some portion of the measures; however, numerous cases were discovered that represented individuals who did not complete the entirety of the survey. A total of 22 cases were removed prior to the analyses being conducted due to the participants not completing the outcome measure. Among the resultant cases missing data appeared to be random in nature, with the exception of a few individuals who completed the outcome measure, but did not complete the entirety of the survey (likely as a result of the length of the survey). These individuals were used in analyses, where appropriate, when they had completed data on the measure being utilized in the analysis; however, they were excluded from analyses requiring data that they had not completed. While there were individual cases with some incomplete measures after the initial removal of 22 cases, there was no more than 10% missing on any individual variable, which is considered to be an acceptable level of missing data (Center for Disease Control, 2010).

Remaining missing data was subsequently treated using mean substitution based on the individual’s mean response for the completed items on the measure (Tabachnik & Fidell, 1996).

Additionally, standardized scores and frequency histograms were examined for univariate outliers on variables relevant to hypothesis testing: SFI-Cohesion, age of child, frequency of contact, length of deployment, total months ever deployed, area of deployment (Combat vs. Non-combat), abuse (APQ-corporal punishment), maternal vs. paternal separation, parenting stress (PSI-total stress score), resilience (CAWS adaptability score), child outcome
(Y-OQ total score), and parent’s valuing behavior (VLQ-Composite). A total of six cases were identified as univariate outliers, each on a different measure. The univariate outliers were subsequently not removed from the dataset, as it was determined that one extreme value on each measure did not have a large impact on the overall mean of each measure. Multivariate outliers, for each measure or scale relevant to hypothesis testing, were additionally analyzed through the computation of Mahalanobis distance. Data revealed no multivariate outliers using a conservative value of $p<.001$ suggested by Tabachnik and Fidell (1996).

In order to determine distributions of variables that deviated from a normal distribution, skewness and kurtosis data were examined for variables relevant to hypothesis testing. Excessive skewness and/or kurtosis were determined by the following calculations suggested by Tabachnik and Fidell (skewness divided by the standard error of skewness and kurtosis divided by the standard error of kurtosis). Skewness or kurtosis values were determined to be significant if the absolute values were greater than 3.3 (Tabachnik and Fidell, 1996). Three variables were discovered that were in need of transformation due to excessive skewness and/or kurtosis. The three variables transformed were: total months deployed, cohesion (SFI- Cohesion scale), and Y-OQ (total score), which all demonstrated moderate positive skewness. The three variables were normalized through the use of the square root data transformation.

Hypothesis Testing

Prior to conducting statistical analyses, assumptions corresponding to each statistical test was assessed through graphic exploration of the data and/or through statistical analysis. All dependent and independent variables were examined to determine if the assumption of normality was met for regression analyses.
Preliminary analyses were conducted in order to ensure that no violations of the assumptions of normality, linearity, multicollinearity, homoscedasticity, and homogeneity of error variance had occurred. The assumption of multicollinearity was examined, first with a series of correlations (see Table 3). No variables to be utilized in analyses were found to contain bivariate correlations greater than .70. Collinearity coefficients of Tolerance and Variance Inflation Factor (VIF) were examined. Tolerance coefficients were found to be greater than .10 and VIF coefficients were found to be less than 10, thereby indicating that the multicollinearity assumption was not violated (Tabachnik and Fidell, 1996). Outliers were examined as univariate and multivariate outliers as noted above; outliers were also examined utilizing scatterplots and Casewise Diagnostics provided as part of the regression outcomes. While there were a number of cases identified as outliers, it was determined that univariate outliers did not have any undue influence on any of the regression models through the use of Cook’s distance. The assumptions of linearity, homoscedasticity, and homogeneity of error variance were further examined for each regression equation with a series of scatterplots. Normal probability plots and standardized residual scatterplots were visually examined to determine if assumptions of linearity, homoscedasticity, and homogeneity of error variance were met. Plots were distributed as expected and no violations were noted.
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<td>.15</td>
<td>.22**</td>
<td>.30**</td>
<td>-.01</td>
<td>.22**</td>
<td>-.21*</td>
<td>-.00</td>
<td>.048</td>
<td>.06</td>
<td>-.01</td>
<td>-.04</td>
<td>.16</td>
<td>.06</td>
<td>.17*</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Contact</td>
<td>.074</td>
<td>.07</td>
<td>.10</td>
<td>.01</td>
<td>.06</td>
<td>-.04</td>
<td>-.08</td>
<td>-.005</td>
<td>-.01</td>
<td>-.10</td>
<td>-.04</td>
<td>-.06</td>
<td>.07</td>
<td>.12</td>
<td>.17</td>
<td>-.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05. **p < .01
Hypothesis 1. The hypothesis that parenting stress would moderate the effect that risk factors have on child outcome was analyzed through a series of regression analyses.

_Hypothesis 1a._ Linear regression analyses were conducted utilizing each risk variable, (age of child, length of deployment, area of deployment, abuse, and maternal vs. paternal separation) reported on the demographics questionnaire, as the independent variables and child outcome (internalizing symptoms and externalizing behaviors) as measured by the total score on the Youth Outcome Questionnaire (Y-OQ) as the dependent variable. Increases in the Y-OQ represent increased internalizing symptoms and externalizing behaviors; see Table 4 for a summary of all regression equations. Age of the child was entered into the linear regression with Y-OQ as the dependent variable. The age of the child did not predict child behavior and thereby did not account for a significant proportion of the variance in child behavior ($R^2 = .022, b^* = .149, p = .077$). Length of deployment (measured by total number of months last deployed and total number of months ever deployed) was entered into the linear regression with Y-OQ as the dependent variable. The length of the last deployment predicted child behavior. Length of the parents last deployment accounted for a significant proportion of the variance in child behavior ($R^2 = .034, b^* = .185, p = .03$). The total length of time ever deployed also predicted child behavior. Total time ever deployed accounted for a significant proportion of the variance in child behavior ($R^2 = .028, b^* = .166, p<.05$). Area of deployment, combat vs. non-combat zone was entered into the linear regression with Y-OQ as the dependent variable. The area in which a service member was deployed also predicted child behavior. Area of deployment also accounted for a significant proportion of the variance in child behavior, ($R^2 = .052, b^* = .229, p<.01$).
Abuse was originally suggested as a risk variable, however, no parent endorsed being reported to child protective services for abusive behavior. Therefore corporal punishment as reported on the Alabama Parenting Questionnaire (APQ) was utilized as the “abuse” variable. Physical punishment was entered into the linear regression with Y-OQ as the dependent variable. The physical punishment of the child predicted child behavior. Physical punishment accounted for a significant proportion of the variance in child behavior \((R^2 = .056, b* = .236, p<.01)\).

Maternal vs. paternal separation was also proposed as another potential risk variable; however, there were only 2 cases where the mother was deployed. Therefore, maternal vs. paternal separation was not included as a variable in the quantitative analyses.

Parenting stress was also examined in regression equations to determine the impact of parenting stress on child outcomes. The Parenting Stress Index (PSI) was utilized and yields scores on various dimension of parenting stress. Regression analyses were conducted utilizing

### Table 4

**Summary of Linear Regressions for Each Risk Factor as Independent Variables and Youth Outcome as the Dependent Variable**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>(B)</th>
<th>(SE\ B)</th>
<th>(\beta)</th>
<th>(R^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Time Deployed</td>
<td>.228</td>
<td>.116</td>
<td>.166</td>
<td>.028*</td>
</tr>
<tr>
<td>Length Last Deployment</td>
<td>.072</td>
<td>.033</td>
<td>.185</td>
<td>.034*</td>
</tr>
<tr>
<td>Combat vs. Noncombat Deployment</td>
<td>.771</td>
<td>.278</td>
<td>.229</td>
<td>.052**</td>
</tr>
<tr>
<td>Age of Child</td>
<td>.053</td>
<td>.029</td>
<td>.149</td>
<td>.022</td>
</tr>
<tr>
<td>Corporal Punishment</td>
<td>.278</td>
<td>.100</td>
<td>.236</td>
<td>.056**</td>
</tr>
</tbody>
</table>

*Note.* \(*p < .05. **p < .01.*
each of these parenting stress dimensions as individual predictors and total Y-OQ score as the outcome/dependent variable. Each of the dimensions of parenting stress accounted for a significant proportion of the variance in child outcome (see Table 5) including: Parental Distress \( (R^2 = .187, b^* = .433, p < .001) \), Parent-Child Dysfunctional Interaction \( (R^2 = .334, b^* = .578, p < .001) \), Difficult-Child \( (R^2 = .375, b^* = .612, p < .001) \), and Total Parenting Stress Score \( (R^2 = .392, b^* = .626, p < .001) \). All variables measured by the PSI were found to be highly correlated with the Total Parenting Stress Score \( (R = .85-.86; \text{See Table 3}) \). The Total Parenting Stress Score was therefore utilized as the parenting stress in all analyses.

Table 5

**Summary of Linear Regressions for Parenting Stress as a Predictor of Child Outcome**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>( B )</th>
<th>( SE \ B )</th>
<th>( \beta )</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Parenting Stress</td>
<td>.047</td>
<td>.005</td>
<td>.626</td>
<td>.392***</td>
</tr>
<tr>
<td>Parental Distress</td>
<td>.070</td>
<td>.013</td>
<td>.433</td>
<td>.187***</td>
</tr>
<tr>
<td>Parent-Child Dysfunctional Interaction</td>
<td>7.56</td>
<td>.911</td>
<td>.578</td>
<td>.334***</td>
</tr>
<tr>
<td>Difficult Child</td>
<td>.121</td>
<td>.013</td>
<td>.612</td>
<td>.375***</td>
</tr>
</tbody>
</table>

*Note.*** \( p < .001 \).*

_Hypothesis 1b._ Each continuous variable (age of child, deployment length, physical punishment) were standardized and z-scores were calculated. The one categorical risk factor (area of deployment) was coded as either 0-absent (non-combat area) or 1-present (combat area). A total risk score was calculated by summing all z-scores and categorical risk factors present for each individual.
A simple linear regression was conducted with the total risk score as the independent variable and the Y-OQ total score as the independent variable. The total risk score was entered into the linear regression with Y-OQ. The total risk score for each child predicted child behavior, such that as the total number of risk factors faced by a child increased, children displayed increased internalizing and externalizing behaviors. Total risk accounted for a significant proportion of the variance in child behavior ($R^2 = .209, b^* = .457, p < .001$; See Table 6.

Table 6

Summary Regression Moderation Analysis for Parental Stress as a Moderator for Impact of Risk Factors on Child Outcome

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE$ $B$</td>
<td>$\beta$</td>
<td>$B$</td>
<td>$SE$ $B$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Total Risk</td>
<td>.402</td>
<td>.070</td>
<td>.457***</td>
<td>.313</td>
<td>.056</td>
<td>.355***</td>
</tr>
<tr>
<td>Total Parent Stress</td>
<td></td>
<td></td>
<td></td>
<td>.041</td>
<td>.005</td>
<td>.560***</td>
</tr>
<tr>
<td>Total Risk x Total Parent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.457</td>
<td></td>
<td>.715</td>
<td></td>
<td>.716</td>
<td></td>
</tr>
<tr>
<td>$F$ for change in $R^2$</td>
<td>33.22***</td>
<td></td>
<td>77.67***</td>
<td></td>
<td>.011</td>
<td></td>
</tr>
</tbody>
</table>

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

Hypothesis 1c. Moderation analysis was conducted as outlined in Frazier, Tix, and Barron (2004). In the first step of the analysis each predictor variable, total risk score as previously calculated and parenting stress score as measured by the PSI, was centered, by subtracting the sample means to produce revised sample means of zero. After centering each
variable, a product term was created to represent the interaction between the independent variable (total risk score) and the moderator variable (parenting stress score). The product term was created by multiplying the centered risk score variable and the centered parenting stress score variable (Frazier et al., 2004).

The final step of the moderation analysis was a hierarchical multiple regression examining total risk score, parenting stress (PSI total stress score), with the product term as independent predictor variables and child behavior (internalizing symptoms and externalizing behavior) as measured by the Y-OQ as the dependent variable (see Table 6). Total risk score was entered into step 1 and explained 21% of the variance in child behavior ($R^2 = .209, b^* = .457, p<.001$). After the entry of the parenting stress at Step 2 the total variance explained by the model as a whole was 50% ($R^2$ change = .303, $b^* = .715, p<.001$). Parenting stress alone explained 30% of the variance in Y-OQ total scores. The final step of the analysis the interaction/product term was entered. After entry of the product term the variance explained by the model as a whole was 51% ($R^2$ change = .00, $R^2 = .512, b^* = .716$). While the model as a whole was significant, there was not a significant proportion of variance explained by the interaction of parenting stress and total risk. Parenting stress did not moderate the interaction between risk factors faced by children and child behavior, as the interaction term did not contribute significantly to the variance in total Y-OQ scores. Therefore, the hypothesis that parenting stress would moderate the impact of risk factors on child outcome was not supported (for a graphical analysis see Figure 1).
Figure 1. Parenting stress analyzed as a moderator of the impact of risk factors on child outcome.

Hypothesis 2. The hypothesis that parenting stress would moderate the effect that protective factors have on child outcome will be analyzed through a series of regression analyses.

Hypothesis 2a. Linear regression analyses were conducted utilizing each protective factor. More specifically, family cohesion as measured by the SFI Cohesion score, frequency of contact as reported on the demographics questionnaire, consistency in valuing behavior as measured by the VLQ composite score, resilience as measured by the CAWS adaptability score, and child and parental involvement in military and community support programs were entered as independent variables, with the dependent measure being the total score of the Youth Outcome Questionnaire (Y-OQ) - utilized to measure the child's internalizing symptoms and externalizing...
behavior (see Table 7 for summary of all regression equations with protective factors). Family cohesion was entered into the linear regression with Y-OQ. Family cohesion predicted child behavior, in that greater scores of family cohesion were correlated with decreased internalizing symptoms and externalizing behavior reported on the Y-OQ. Family cohesion accounted for a significant proportion of the variance in child behavior ($R^2 = .060$, $b_\beta = -.245$, $p < .01$). Frequency of contact with the deployed parent was also entered into the linear regression with Y-OQ. The frequency of contact with the deployed parent during the last deployment did not predict child behavior nor account for a significant proportion of the variance in child behavior, ($R^2 = .005$, $b_\beta = .074$, $p > .05$).

Table 7

*Summary of Linear Regressions for Each Protective Factor as Independent Variables and Youth Outcome as the Dependent Variable*

<table>
<thead>
<tr>
<th>Protective Factor</th>
<th>$B$</th>
<th>$SE B$</th>
<th>$\beta$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Cohesion</td>
<td>-.875</td>
<td>.301</td>
<td>-.245</td>
<td>.060**</td>
</tr>
<tr>
<td>Frequency of Contact</td>
<td>.189</td>
<td>.216</td>
<td>.074</td>
<td>.005</td>
</tr>
<tr>
<td>Adaptability</td>
<td>-.112</td>
<td>.020</td>
<td>-.441</td>
<td>.194***</td>
</tr>
<tr>
<td>Parent Valuing Behavior</td>
<td>-.040</td>
<td>.009</td>
<td>-.361</td>
<td>.131***</td>
</tr>
<tr>
<td>Parent Sources of Support-Military</td>
<td>.285</td>
<td>.152</td>
<td>.157</td>
<td>.025</td>
</tr>
<tr>
<td>Parent Sources of Support-Non-Military</td>
<td>-.126</td>
<td>.112</td>
<td>-.095</td>
<td>.009</td>
</tr>
<tr>
<td>Child Sources of Support-Military</td>
<td>.037</td>
<td>.179</td>
<td>.017</td>
<td>.000</td>
</tr>
<tr>
<td>Child Sources of Support-Non-Military</td>
<td>-.033</td>
<td>.092</td>
<td>-.030</td>
<td>.001</td>
</tr>
</tbody>
</table>

*Note.* $^* p < .05$. $^{***} p < .001$. 
The valuing behavior of the at-home parent was also entered into the linear regression with Y-OQ. Parent’s valuing behavior predicted child behavior and accounted for a significant proportion of the variance in child internalizing symptoms and externalizing behavior ($R^2 = .131, b^* = -.361, p<.001$). Parents who reported engaging in behaviors more consistent with their values, also reported lower levels of maladaptive behaviors for children. The child’s resilience score on the CAWS adaptability scale was entered into the linear regression with Y-OQ. Child’s resilience also predicted child behavior. Greater resilience and adaptability was correlated with lower levels of reported child maladaptive behaviors. Child resilience accounted for a significant proportion of the variance in child behavior ($R^2 = .194, b^* = -.441, p<.001$).

Involvement in support programs was measured for both at-home children and parents. Participants were asked separately about involvement in military driven support programs and groups as well as civilian support programs and groups. Child’s involvement in military and civilian support programs/groups (number of programs and groups involved in) were entered into 2 separate linear regressions. Child’s involvement in neither military support nor civilian support programs accounted for a significant proportion of the variance in child behavior ($R^2 = .000, b^* = .017, p>.05$ for military; $R^2 = .001, b^* = .030, p>.05$ for civilian). The at-home parents’ involvement in military and civilian support programs/groups (number of programs and groups involved in) were also entered into 2 separate linear regressions with child behavior as the dependent variable. Parents’ involvement in military support programs did not account for a significant proportion of the variance in child behavior ($R^2 = .058, b^* = .157, p = .06$), additionally parents’ involvement in civilian support programs/groups did not account for a significant proportion of the variance in child behavior ($R^2 = .009, b^* = .095, p>.05$).
**Hypothesis 2b.** Each continuous variable (family cohesion, frequency of contact, valuing behavior, resilience) that accounted for a significant proportion of the variance in child outcome, was standardized and z-scores for each were calculated. A total protective score was then calculated by summing all z-scores for each individual. A simple linear regression was then conducted with the total protective score as the independent variable and the Y-OQ total score as the dependent variable. The total protective score was entered into the linear regression with Y-OQ. The total protective score for each child predicted child behavior, accounting for a significant proportion of the variance in child behavior ($R^2 = .250, b^* = -.50, p<.001$). The higher number of protective factors, the lower the level of exhibited maladaptive behaviors.

**Hypothesis 2c.** A moderation analysis was again conducted as outlined in Frazier et al. (2004). In the first step of the analysis, each predictor variable: total protective score as previously calculated, and parenting stress score as measured by the PSI, was centered by subtracting the sample means to produce revised sample means of zero. After centering each variable, a product term was created to represent the interaction between the independent variable (total protective score) and the moderator variable (parenting stress score). The product term was created by multiplying the centered risk score variable and the centered parenting stress score variable (Frazier et al., 2004).

The final step of the moderation analysis was a hierarchical multiple regression measuring protective factors score, parenting stress score, and the product term as independent variables and child behavior as measured by the Y-OQ as the dependent variable (see Table 8 summary of moderation model). Total protective score was entered into step 1 explaining 25% of the variance in child behavior ($R^2 = .250, b^* = -.05, p<.001$). After the entry of the parenting stress at Step 2 the total variance explained by the model as a whole was 41% ($R^2$ change = .167, $b^* =$
Parenting stress alone explained 17% of the variance. The final step of the analysis the interaction/product term was entered. After entry of the product term the total variance explained by the model as a whole was 41% ($R^2$ change = .004, $b^* = -.237, p>.05$). While the model as a whole was significant, there was not a significant proportion of the variance explained by the interaction of parenting stress and total protective factors score. Parenting stress, therefore, did not moderate the interaction between risk factors faced by children and child behavior as the interaction term did/did not contribute significantly to the variance in total Y-OQ scores. The hypothesis that parenting stress would moderate the impact of protective factors on child outcome was not supported (for a graphical analysis see Figure 2).

Table 8

*Summary Regression Moderation Analysis for Parental Stress as a Moderator for Impact of Protective Factors (Resilience) on Child Outcome*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Total Resilience</td>
<td>-.381</td>
<td>.058</td>
<td>-.500***</td>
</tr>
<tr>
<td>Total Parent Stress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Resilience x Total Parent Stress</td>
<td>.036</td>
<td>.006</td>
<td>.495**</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$ for change in $R^2$</td>
<td>42.58***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. *$p < .05$. **$p < .01$. ***$p < .001$*
Figure 2. Parenting stress analyzed as a moderator of the impact of protective factors on child outcome.

Exploratory analysis. Two variables (parenting stress and valuing behavior) were examined for a possible mediating effect on the relationship between risk or resilience and child outcomes (See Figure 1 for a graphic representation of the mediational models).

*Parenting stress mediator.* Parenting stress was examined as a mediator between risk and child outcomes. The mediation analysis was conducted in 4 steps using a series of regression analyses and a final modified Sobel’s test calculation as suggested by Frazier et al. (2004). First, a simple linear regression was conducted (to test path c in the mediational chain; See Figure 1) utilizing the total risk score as the independent or predictor variable and Y-OQ as the dependent variable. Total risk accounted for a significant portion of the variance in child outcomes ($R^2 = .202, b = .402, b^* = .457, p<.001$). Next, a simple linear regression was performed (to test path a
in the mediational chain; See Figure 3) utilizing the total risk score as the predictor and parenting stress as the outcome variable. The risk faced by a child as represented by the total risk score accounted for a significant portion of the variance in total parenting stress \( (R^2 = .033, b = 2.202, b^* = .181, p < .05) \). The final regression analysis conducted was a hierarchical multiple regression utilizing parenting stress and total risk as the predictor variables (parenting stress was entered into the regression first) and total Y-OQ score as the dependent variable. This next step would provide a test of whether the mediator (total parenting stress) is related to the outcome (path b of the mediational chain), as well as an estimate of the relationship between the total risk score and Y-OQ, while controlling for the mediator (path c’ of the mediational chain; See Figure 3). The final regression analysis demonstrated that parenting stress accounted for a significant proportion of the variance in a child’s outcome \( (R^2 = .314, b = .041, b^* = .560, p < .001) \). Total risk continued to account for a significant portion of the variance in child outcome even when parenting stress was controlled \( (R^2 = .126, b = .313, b^* = .355, p < .001) \). However, it appeared to account for a smaller proportion of the variance when parenting stress was controlled (see difference is reported unstandardized regression coefficients).
The final step to determine whether parenting stress had significant mediational effect on the relationship between total risk and children’s outcome was to conduct a modified Sobel’s test as suggested by Frazier et al. (2004). Frazier and colleagues suggested that the difference between the total effect of the predictor and the effect of the predictor on the outcome when controlling for parenting stress is equal to the products of path a and b (See Figure 3). The product of these paths was then divided by an error term, square root of $a^2b^2 + b^2s^2 + sa^2sb^2$ (Frazier et al., 2004). The mediation or partial mediation was determined to be significant if the variance in child outcome accounted for by total risk was lessened when parenting stress was controlled for and the outcome of the modified Sobel’s test was above 1.96. Results suggested that parenting stress is a significant partial mediator of the relationship between total risk and child outcome ($z = 1.98$).

The same four-step procedure was conducted to examine parenting stress as a mediator between resilience/protective factors and child outcome. In the first step, a simple linear
regression was conducted utilizing total resilience score as the independent/predictor variable and total Y-OQ scores. Total resilience accounted for a significant proportion of the variance in child outcome ($R^2 = .250, b = -.500, b^* = -.381, p<.001; \text{path c})$. In the second step, a simple linear regression was performed utilizing the total resilience score as the predictor and total parenting stress score as the dependent/outcome variable. Total resilience or protective factors faced by a child accounted for a significant proportion of the variance in parenting stress ($R^2 = .314, b = -.5.964, b^* = -.565, p<.001; \text{path a})$. In the third step, the final regression analysis performed and was a multiple regression with resilience and parenting stress as the predictor variables (parenting stress was entered into the regression equation first to control) and total Y-OQ score was entered as the dependent variable. The regression demonstrated that parenting stress accounted for a significant proportion of the variance in child outcome ($R^2 = .245, b = .036, b^* = .495, p<.001; \text{path b})$, and total resilience continued to account for a significant portion of the variance in child outcome even when parenting stress was controlled ($R^2 = .048, b = -.168, b^* = -.220, p<.01; \text{path c’} \text{)}, however, it appeared to account for a smaller proportion of the variance when parenting stress was controlled (see difference in reported unstandardized regression coefficients). In the fourth and final step, a modified Sobel’s test was then conducted. Results suggested that total resilience did not account for a significantly less proportion of the variance in child outcome when parenting stress was controlled ($z = .570$). Therefore, parenting stress did not serve as a significant mediator or partial mediator of the relationship between child resilience/protective factors and child outcome.

*Valuing behavior mediator.* To examine Valuing behavior as a mediator of the same relationship, the same four-step procedure was utilized to examine parenting stress as a mediator of the relationship of risk or resilience and child outcomes.
Valuing behavior was first analyzed as a mediator for the relationship between risk factors and child outcome. In the first step, a simple linear regression was conducted utilizing total risk score as the independent/predictor variable and total Y-OQ scores. As noted earlier the risk factors accounted for a significant proportion of the variance in child outcome (path c). In the second step a simple linear regression was performed utilizing the total risk score as the predictor and valuing behavior score as the dependent/outcome variable. Total risk factors faced by a child did not account for a significant proportion of the variance in valuing behavior ($R^2 = .027, b = 1.296, b^* = .163, p<.001; \text{path a}$). The mediation analysis was terminated, as the second step of the analysis was not supported. Therefore, valuing behavior does not serve as a significant mediator or partial mediator of the relationship between child risk factors and child outcome.

Valuing behavior was then analyzed as a mediator for the relationship between resilience factors and child outcome. A new total resilience variable was created by removing the VLQ composite score from the existing total resilience variable. In the first step, a simple linear regression was conducted utilizing total resilience score as the independent/predictor variable and total Y-OQ scores. The new total resilience/protective factors variable accounted for a significant proportion of the variance in child outcome ($R^2 = .194, b = -.461, b^* = -.448, p<.001; \text{path c}$). In the second step, a simple linear regression was performed utilizing the total resilience/protective factors score as the predictor and valuing behavior score as the dependent/outcome variable. Total protective factors faced by a child accounted for a significant proportion of the variance in valuing behavior ($R^2 = .113, b = -3.027, b^* = -.337, p<.001; \text{path a}$). The final regression analysis was a multiple regression with resilience/protective factors and valuing behavior as the predictor variables (valuing behavior was entered into the regression equation first to control) and total Y-OQ score was entered as the dependent variable. The
regression demonstrated that valuing behavior accounted for a significant proportion of the variance in child outcome ($R^2 = .054$, $b = .207$, $b^* = .233$, $p < .01$; path b), and total resilience/protective factors continued to account for a significant portion of the variance in child outcome even when parenting stress was controlled ($R^2 = .137$, $b = -.381$, $b^* = -.370$, $p < .001$; path c’), however, it appeared to account for a smaller proportion of the variance when parenting stress was controlled (see difference in reported unstandardized regression coefficients). A modified Sobel’s test was then conducted and results suggested that total resilience/protective factors accounted for a significantly less proportion of the variance in child outcome when valuing was controlled ($z = 2.42$). Therefore, valuing behavior serves as a significant mediator or partial mediator of the relationship between child resilience/protective factors and child outcome.
CHAPTER 4

DISCUSSION

Hypothesis 1

The first hypothesis that parenting stress would moderate the impact of risk factors (total risk) on child behavioral outcome was not supported. While the overall moderation hypothesis was not supported, a number of variables within the hypothesis accounted for a significant proportion of the variance in child outcome and therefore merit further discussion. Additionally, further discussion is warranted as to why moderation was not detected in this sample.

Age of child. The age of a child did not account for a significant proportion of the variance in child outcome. To date, literature has been mixed as to the differential impact of a parent’s deployment on a child based on the age of the child (Chartrand et al., 2008; Jensen et al., 1996; Rosen et al., 1993a). Some studies have found that younger children display a greater degree of internalizing or externalizing symptoms, while other studies have demonstrated that older children display these behaviors to a greater degree (Chandra, 2010b; Chartrand et al., 2008). Given the current disparity in research findings, it is not completely surprising that age did not account for a significant proportion of the variance in child outcomes. Another explanation for the lack of a significant finding may be the measure of child outcome itself. The Y-OQ total score does not account for differences in internalizing and externalizing symptoms (Burlingame et al., 2004). If children display increases in different areas of maladaptive behaviors or symptoms, it would be important to utilize a measure specifically designed to measure internalizing symptoms and another specifically designed to tap into externalizing symptoms and examine the differential scores on those measures as a result of child age. It is
reasonable to believe that children at different developmental level would react to the absence of a parent in different ways (Pincus, 2001).

Further research could also examine different types of internalizing symptoms and/or externalizing behaviors as a function of age or developmental level. For example, it could be the case that both older and younger children display increased externalizing behaviors when a parent is absent from the home, younger children may talk back more to parents or fight with siblings, while older children may experiment with drugs or alcohol or get into legal trouble. All of these behaviors would be classified as externalizing behaviors, but in actuality, the type of externalizing behavior is quite different.

Length of deployment. The amount of time a child’s parent is away as a result of a military deployment contributed significantly to the variance child outcomes. Length of deployment was measured in two ways: 1) the length of time that the parent was most recently away from the home as a result of a military deployment and 2) the total length of time that the parent has been deployed with the military. Both the length of the most recent deployment as well as the total amount of time that a parent has been deployed were significant predictors of child outcomes. This further confirms the finding of previous literature and legitimizes the qualitative research that has reported that children and families experience increasing problems related to the longer and increasing number of deployments evident in the OIF/OEF conflicts (Barker & Berry, 2009; Chandra et al., 2010a; Chandra et al., 2010b; Engel et al., 2006; Jensen et al., 1989; NMFA, 2005; Rohall et al., 1999). Previous literature noted that families in which a parent had been deployed more times for greater lengths of time displayed poorer family adjustment compared to families whose parents were deployed a lesser number and length of time (Rohall et al., 1999). Studies have demonstrated that length of deployment of a child’s
parents have been correlated with increased depressive and anxious feelings as well as increased externalizing behavior (Jensen et al., 1989, Kelley et al., 2001). Recent qualitative research also suggests there may be a cumulative effect of long and multiple deployments that may decrease the resilience in children and thereby increase the number of internalizing and externalizing behaviors displayed by children (Chandra et al., 2010b). Further research should be done in this area, considering the continued long and multiple deployments experienced by many military families. Research should examine the differential impact of absence of a parent as a result of military deployment vs. absence as a result of other work-related reasons. Additionally, research should examine the interaction of other variables, with the increasing length and number of deployments, which may amplify or diminish the impact of the total length of parental absence.

Area of deployment. There has been little previous research regarding the impact of the area or type of deployment experienced by the deployed service member and that impact on child outcomes. The current study demonstrated that children who had parents deployed to predominantly combat areas were at increased risk for negative outcomes as compared to children whose parents were deployed to non-combat areas.

When considering a military deployment, one often thinks of deploying in combat-type missions (i.e. going on convoys, out on patrol, engaged in firefight with the enemy, etc.). While there are many of those kinds of deployments, there are also numerous deployments that are primarily in support of those missions. These deployments may be medical personnel, supply personnel, legal, and many others who, while in Afghanistan or Iraq, are at much larger and safer military installations. Given this distinction and the vast differences in experiences of deployed service members, it would not be unreasonable to assume that at-home families may also have different experiences, feelings, behaviors, and outcomes as a result of where their parent or
spouse is deployed. Previous literature supports current findings in that, when parents are deployed to combat areas or “in the theatre of war” families and children display greater adjustment difficulties (Levai et al., 1994; Pierce et al., 1998). It has also been found that children and at-home parents experience increased internalizing and externalizing symptoms when parents are deployed during wartime versus peacetime (Kelley, 1994a; Kelley, 1994b). Researchers should continue to examine the differential impact of type of and area of deployment, particularly as a function of their family’s perceptions of the deployments and the danger that the service member faces. Research should also examine ways in which this impact may be mitigated (e.g. increased or decreased contact, family education regarding nature of deployment, etc.).

Abuse/corporal punishment. No parents in the current study reported being referred to any child protective service agency for abuse or neglect while a spouse was deployed. Previous research had demonstrated an increased in the number of substantiated maltreatment reports when a parent was deployed (Gibbs et al., 2007; Rentz et al., 2007). It may be the case that parents who responded to the survey were more resilient overall and displayed better parenting practices overall than parents who may be more prone to abuse or neglect of their children. Another explanation may be that parents, especially those charged with abuse or who engage in abusive behavior, may have responded in a defensive manner. Responding in a defensive manner could lead parents to minimize their own personal distress and maladaptive parenting behavior as well as their child’s maladaptive behavior.

While parents did not report any referrals to a child protective services agency, physical maltreatment was examined in this study utilizing the corporal punishment scale of the APQ. While this scale does not examine parenting practices that may be classified as maltreatment, it
does identify parents who utilize corporal punishment as a means of discipline for their child (Frick, 1991). Results indicated that parents who utilized corporal punishment as a means of discipline while their spouse was deployed also endorsed higher levels of internalizing and externalizing symptoms in their children. Previous literature on parents who utilize corporal punishment as a disciplinary procedure has demonstrated inconsistent results in relation to child emotional and behavioral outcomes (Gershoff, 2002). Some studies have found no correlation between corporal punishment and child outcomes, while other studies have demonstrated increased aggressive and externalizing behaviors in some children. Additionally, researchers also caution against using corporal punishment for discipline as it can often escalate into physical maltreatment or abuse (Gershoff, 2002).

Further research should further examine parenting practices of at-home parents while a spouse is deployed. Longitudinal research should also be done to determine if parenting and discipline practices utilized by the at-home parent change when their spouse is deployed, if those practices change, and how that may impact the children who remain at home.

Total risk. The total risk score was calculated by summing standardized scores of all risk factors that had accounted for a significant proportion of the variance in child outcomes. The sum total of risk factors accounted for a significant proportion of the variance in child outcomes, and accounted for a greater proportion of the variance in child outcomes than any one risk factor alone. This suggests a cumulative effect of risk factors faced by children. Previous research on cumulative risk is consistent with current findings and has demonstrated that the number of risks in early childhood is predictive of behavioral problems in adolescence. The more risk factors that are present, the worse the child’s behavioral and emotional outcomes (Appleyard, Egeland, Van Dulmen, & Sroufe, 2005; & Deater-Deckard, Dodge, Bates, & Pettit, 1998). Given that children
who experience a greater number of risk factors experience overall poorer outcomes, future research should examine ways to target and lessen the cumulative impact of risk (e.g. empirically validate programs that increase the resilience of military children, programs that first identify children with risk factors and at increased risk for poor outcomes).

Parenting stress. Parenting stress reported by at-home parents predicted child outcomes (internalizing and externalizing behaviors), in that as the total level of the at home parent’s stress increased so did the report of their children’s maladaptive behaviors. These findings coincide with previous research that has been done. Previous qualitative and quantitative research has suggested that when a service-member is deployed the at-home parent experiences increased levels of stress and emotional distress (Jensen et al., 1990; Jensen, et al., 1989; Kelley 1994a). Additionally studies have shown that parental stress is closely related to a child’s emotional and behavioral outcomes when a parent is deployed (Barker & Berry, 2009; Flake et al., 2009; Chandra et al., 2010a). Flake et al. (2009) discovered that parenting stress significantly predicted higher psychosocial morbidity in children. Furthermore a higher percentage of at-home parents endorsed clinically significant levels of parenting stress, when their spouse was deployed, as compared to national norms (Flake et al., 2009).

Military deployments naturally result in an increased level of distress experienced by the at-home parent (Warner, 2009). As stated previously, at-home parents often have to take on new and increase roles, including: single parent, household maintenance, financial planner and disciplinarian (Huebner & Mancini, 2005; Rosen et al., 1993b), in addition to missing their loved one and worrying about their safety. Given that parents are going to experience increased stressors and increased levels of distress, and that research has shown time and time again that parental stress and distress and a negative impact on child outcomes, it would be important to
create programs targeted to assist at-home parents navigate the new roles and stresses of a deployment. These programs would be the most beneficial if researched for their efficacy and empirically validated. Research on the types of stressors experienced by at-home parents and those that contribute the most to subjective distress experienced by the parent and to poor child outcomes, should precede program development.

Risk – parenting stress moderation. It was hypothesized that parenting stress would moderate the impact that risk factors had on childhood outcomes, in that increased levels of parenting stress would amplify the level of distress experienced by the child, and decreased levels of parenting stress would diminish the impact that risk factors had on child outcomes. This hypothesis was not supported, in that parenting stress did not moderate the impact of risk on childhood outcomes. The lack of parenting stress acting as a moderating variable may be attributed to a number of factors. Moderator effects are traditionally very small and subsequently can be difficulty to detect without a very large sample size (Frazier et al., 2003). The sample size of the current study may not have provided sufficient power to detect the presence of a small moderator effect. Further research should be done with larger sample sizes before ruling out parenting stress as a moderator variable for child outcome when service members are deployed. While parenting stress was not found to be a moderator, results from the current study suggest that parenting stress could be conceptualized as an additional risk factor contributing to child outcomes and thereby increasing the total risk score and increase the risk of negative child outcomes. Parenting stress may also be conceptualized as a mediator of the relationship between risk factors and child outcomes when a parent is deployed (Palmer, 2008). For further discussion of parenting stress as a mediating variable see exploratory analysis below.
Hypothesis 2

The second hypothesis that parenting stress would moderate the impact of protective factors (total resilience) on child behavioral outcome was not supported. While the overall moderation hypothesis was not supported, a number of variables within the hypothesis accounted for a significant proportion of the variance in child outcome and therefore merit further discussion. Additionally, further discussion is warranted as to why moderation was not detected.

Family cohesion. Overall family cohesion accounted for a significant proportion of the variance in child behaviors when a parent is deployed. Family cohesion as measured by the SFI refers to happiness in the home, family togetherness, satisfaction received from inside versus outside the home, and spending time together (Beavers & Hampson, 2000).

This finding is consistent with previous literature in this domain. Families who have a parent deployed during wartime display lower family cohesion than families who do not have a parent deployed during wartime or have a parent deployed during peacetime (Pierce et al., 1998). Additionally, research has demonstrated that better overall family adjustment is correlated with better overall psychological health and well-being of children (Kelley, 1994b). Research to date has shown better family adjustment is related to better behavioral and emotional outcomes in children (Medaway et al., 1995; Finkel et al., 2003). Research has also suggested that a supportive home environment can help children cope adaptively with stressors as they present themselves (Chartrand et al., 1995).

Frequency of contact. To date, there has been little to no quantitative research examining the impact of the frequency of contact with a deployed parent on child outcomes. For this reason, the current study attempted to examine whether frequency of contact was related to child outcomes. The hypothesis that increased frequency of contact would serve as a protective factor
against poor child outcomes was not supported. As previously stated research thus far has been primarily qualitative in nature. A study conducted by the NMFA (2005) at-home parents reported that one of the greatest sources of distress associated with deployment was related to communication with the service member. Other research has discovered correlations between problems communicating with a service member during a deployment and stress experienced by the at-home caregiver (Bell et al., 1999).

The current study conceptualized difficulties in communication as difficulties in establishing frequent and consistent communication. This may not be the aspect of communication that is the most distressing to families of service members. Pincus (2001) suggests that “bad phone calls,” perhaps arguing with the spouse or being informed about dangerous aspects of the deployment can exacerbate the stress felt by the at-home parent. Additionally, communication ability has gotten better as the war has progressed and as military facilities in Iraq and Afghanistan have been established. Difficulties in establishing consistent and frequent communication may have more prevalent when the conflicts first began. In addition, this issue may change as the deployment progresses, while families may initially experience some difficulty in establishing communication with the service members; this can often get better as the deployment progresses.

Future research should be longitudinal in nature and examine communication across the deployment cycle. Child behavior should be examined across the deployment cycle in order to detect if there are any differences in behavior during the deployment as a function of communication difficulties. Research should also examine the nuances of problematic communication with the deployed service member, whether it is the communication method,
frequency of communication, or information transmitted when service members get in contact with their families.

Adaptability/resilience. As was previously defined, resilience is the process of “positive adaptation despite experiences of significant adversity or trauma” (Luther, 2006, p. 742). Significant adversity was conceptualized in this study as the deployment of a child’s parent. Research has traditionally examined resilience by attempting to identify protective factors, which was done in the current study, but inherent resilience or adaptability to adverse was also examined as an additional protective factor utilizing the Adaptability scale of the CAWS. This scale measures a child or adolescent’s ability to work through difficult circumstances, preparedness for change, flexibility and acceptance (Copeland et al., 2006). “Adaptability has emerged as a critical predictor of resilience in children,” (Copeland et al., 2006, pp.7).

The current study found that children who were rated higher in adaptability displayed lower levels internalizing symptoms and externalizing behaviors. Therefore, children who are more easily able to adapt to adverse situations (e.g. deployment, moving, military lifestyle) are better able to adjust and cope with the deployment of one of their parents. Future research should further examine aspects of adaptability that are most beneficial to dealing with and appropriately coping with the deployment of a parent. Research should also examine whether skill development programs could help children to learn and increase their adaptability to adverse situations.

Valued living. As previously described, values are considered to be chosen life paths that a person desires to take in order to live a more meaningful life (Hayes et al., 1999). Valued living could further be described as living in a manner consistent with those desires and thereby living a more meaningful life. It was hypothesized that at-home parents who behave in values consistent
ways will have children who demonstrate better outcomes. The current study supported this hypothesis, in that a parent whose scores on the VLQ were indicative of values consistent behavior predicted lower scores on the Y-OQ. Valued living thereby acted as a protective factor against negative child outcomes.

No previous research has demonstrated the impact of a parent’s valued living on children. However, previous research has demonstrated positive outcomes when individuals behave in ways consistent with what they value (Vowles & McCracken, 2008; Gregg et al., 2007). Children may have been affected by the values-based action of their parents in two ways. One, previous research has demonstrated that values based action has been negatively correlated with distress, anxiety, depression, and interference with functioning (Vowles & McCracken, 2008). The current study demonstrated that increased parental distress was also correlated with increased internalizing symptoms and externalizing behaviors in children. This data gives further credence to the validity of the current findings of parental value-driven behavior as a predictor of child outcomes. Two, through another pathway, parental valued driven/values consistent behavior may have an indirect effect on child outcomes. This is supported by the current results in which parental valuing behavior served as a mediator for the relationship of protective factors faced by children and child outcomes, although, current results do not suggest that parental valuing behavior mediates the impact of risk factors on child outcome. The mediational pathway in which parental value-driven behavior may influence child outcomes is through the examples set for their children and social learning. As children see their parents engage in values-based action, they may be more likely to engage in values based action, which is predictive of positive outcomes, however this level of analysis of the mediational pathway was beyond the scope of the current study. Future research should further examine the pathways in which values-based action
by parents influences children’s outcomes. Whether it is through learned behavior and example or whether values-based action influences distress levels, which ultimately influence child outcomes.

Child and parent support. One of the most surprising findings of the current study was that the amount of support received by the child or at-home parent, either military or non-military, did not predict overall child outcomes. Much of the previous research had been qualitative in nature, with parents and children reporting that feeling supported, military summer camps, and having family and friends who were supportive was helpful (Chandra et al., 2008; Faber et al., 2008; Houston et al., 2009; Ternus, 2010). Quantitative research has also demonstrated similar findings in that feeling supported by others moderates the negative impact of deployment (Flake et al., 2009; Medway et al., 1995). On the other hand, a recent qualitative research was consistent with current findings. In a study by Budash (2009) a significant correlation between parental stress and social support or satisfaction with social support was not found.

The current findings may be explained by the manner in which individuals were recruited for the survey. Participants were recruited primarily online, through support groups. These individuals may be those who more actively seek out support, even if it is not readily available. The manner in which individuals were recruited resulted in a restricted range, in that most families in the current reported receiving high levels of support, parents reported a mean of 3.5 different sources of support for themselves and 3.3 different sources of support for their children, while relatively few participants reported receiving little or no support while the service-member was deployed. While the current study did not demonstrate a significant effect of child outcomes as a result of the level of support received by the at-home parent or child, it would be premature
to conclude that social support does not have an impact on parental or child outcomes. Further research should be conducted ensuring the inclusion of families who receive little or no support as well as those families who identify numerous sources of social support. Future research could also examine differences in outcome as a function of the type of support received.

Resilience parenting stress moderation. It was hypothesized that parenting stress would moderate the impact protective factors had on childhood outcomes, in that increased levels of parenting stress would diminish the impact that protective factors had on child outcomes. This hypothesis was not supported, in that parenting stress did not moderate the impact of resilience/protective factors on childhood outcomes. Like the lack of the moderation finding reported earlier, this may be attributed to small sample size (insufficient power), and difficulty detecting a very small interaction effect (Frazier et al., 2003) This may also be due to the possibility that parenting stress does not function as a moderating variables, functions as a mediating variable, or functions simply as an additional risk factor. Further research should be done with larger sample sizes before ruling out parenting stress as a moderator variable for child outcome when service members are deployed. While parenting stress was not found to be a moderator, results from the current study suggest that parenting stress could be conceptualized as an additional risk factor that contributes to child outcomes and thereby detract or counteract the protective factors that are present.

Exploratory analysis. Parenting stress was not found to serve as a moderating variable amplifying or diminishing the impact of risk or protective factors on child outcome; therefore, parenting stress was analyzed as a mediator as proposed by Palmer (2008). Results suggested that parenting stress partially mediated the impact of total risk factors faced by children on child outcome, although it was not shown to mediate the relationship between protective factors and
child outcomes. The partial mediational finding for parenting stress in the relationship between risk and child outcomes, suggests that if parenting stress were completely removed or decreased, the resultant impact of risk factors on child outcome would be reduced. This is an important finding in that it provides another target for intervention and focus with military families. It would be impossible to completely eliminate all risk factors faced by children when a parent (service-member) is deployed, but programs or interventions that would serve to reduce parenting stress and parental distress experienced by the at-home parent would subsequently serve to reduce the impact that risk factors have on child outcomes. Furthermore, the lack of a mediational finding for parenting stress in the relationship between protective factors/resilience suggests protective factors will contribute positively to a child’s outcome despite the presence or level of parental distress. Palmer (2008) suggested that risk and protective factors might interact and predict child outcomes. He further suggests that the impact of this interaction on child outcome may subsequently be mediated by parenting stress/distress. This model should be further tested in future research suggests.

Additional analysis could also be conducted to determine whether parental distress serves as a moderated mediator in the interaction between risk factors faced by a child and child outcome when a parent is deployed (Muller, Judd & Yzerbyt, 2005). That is, the interaction between risk and parental stress/distress may be moderated by another variable. An additional variable may amplify or diminish the impact that risk factors have on parenting stress (path a; see Figure 3). Additional variables (e.g. frequency and quality contact with deployed parent, pre-morbid parent-child relationship, etc.) should be further examined.
Implications

Current research findings add to the growing body of research evaluating the impact of deployment on military families. The current study identifies potential risk (e.g., at-home parent stress, length of deployment, area of deployment, physical punishment) and protective factors (parent value-driven behavior, family cohesion, child adaptability) that influence and predict children’s adjustment when a parent is deployed. Risk and protective factors also appear to have a cumulative effect in that, as risk increases, so does the likelihood of poorer outcomes in military children. On the contrary, as the number of protective factors increase, so does the likelihood of better child/adolescent outcomes. While there are numerous factors that contribute to increases in internalizing and externalizing symptoms, parent reports are indicative of overall resilient military children, as indicated by Y-OQ scores largely below pathological levels (See Table 2). This is a promising and important finding to note given the long and numerous deployments experienced by military families.

Previous research has suggested certain variables help to ameliorate the impact of stress on children. These include: personality dispositions, parent support, and community support (Barker & Berry, 2009). The current study identified additional variables including: increased values-consistent behavior, adaptability, and family cohesion that can help to further bolster children and families as they deal with the increased stressors that come with having a parent or spouse deployed.

It is unlikely that all risk will be eliminated in children facing the deployment of a parent, as deployment is a risk factor itself. Perhaps a better approach than attempting to alleviate risk would be to develop a comprehensive program to identify risk factors that could be ameliorated while simultaneously identifying areas in which resilience could be promoted so that additional
protections could be implemented. One such program is the Comprehensive Soldier Fitness (CSF) Program.

Comprehensive Soldier Fitness program. The CSF program, developed by the Army in consultation with behavioral health experts, is an educational training program with a holistic approach targeted to develop resilience in soldiers in five dimensions: physical, social, emotional, spiritual and family (Casey, 2011). The program, while in its infancy, has demonstrated initial promise in building soldier resilience (Lester, Mcbride, Bliese, & Adler, 2011).

An extension of this program, The CSF Program for Military Family Members, is currently under development. This program focuses on tailoring specific assessment, training, and interventions for military family members. Assessment and training program modules are being constructed from a “strength-based approach.” First, the Global Assessment Tool (GAT) for families assesses a person’s strengths and vulnerabilities in 4 problem areas: emotional, social, familial, and spiritual (Park, 2011). Assessment and training are designed to address common personal and family related issues, particularly unique challenges encountered by military families. After the assessment is completed, individuals receive feedback on strengths and vulnerabilities in each domain, and training will be tailored to promote and build strengths and strengthen vulnerabilities. Online programs involving group and personal interventions will be made available to military families (Park, 2011). Developers of the CSF for military family members should also consider emerging research that continues to identify protective factors (e.g. adaptability, family cohesion, and value-drive behavior) that further promote resilience in family members while the service-member is deployed. These programs should implement assessment and training modules that identify these additional areas of resilience. Although
research on the CSF program is in its infancy and the program specifically for family members is still being developed, the holistic strength based approach is a promising look forward into to the future.

Limitations

While the current study offered important insight, findings, and valuable implications for caring for military families while service members are deployed, there are a number of limitations inherent in the study design that may limit the generalizability of the results. First, limits to generalizability as a result of the recruitment efforts and participant characteristics will be discussed, and then limitations will be discussed as related to the design of the study. Finally, limitations as related to the statistical analyses conducted will be discussed.

Participants and participant characteristics limitations. There was an extremely low response rate to the recruitment efforts. Over 2000 e-mails sent to group leaders and moderators resulted in only 181 individuals logging on to the survey. Of those, only 143 completed sufficient items/ measures for data analyses. This low response rate may be explained by a number of factors: (a) participants were required to send an e-mail to a Gmail account to obtain the password and many individuals were concerned about being put on junk-mail e-mail lists; (b) due to previous experience, many group leaders were concerned about individuals in their groups being exploited, marketed to, etc, and were therefore hesitant to post the flier on their website or help with recruitment in any way. (It should be noted that, even though they were hesitant, they still acknowledged the importance and necessity of the survey being done.); (c) military families have been bombarded with surveys over the past few years and many of them, already dealing with the stress of deployment and reintegration, may have been unwilling to participate in another survey. Additionally, generalizability is limited by the fact that participants were
primarily recruited from support groups (online or otherwise) and those who self-selected to
complete the survey, may have been highly motivated and thereby more resilient.

Historically, it has been difficult to get in contact with military families for research
purposes, without the full support of the DOD or a branch of the military service. Much of the
current research has been completed in cooperation with one or more branches of the military.
Future research should attempt to gain the support of the military, as a study can often gain more
traction and credibility if families know it has been vetted by the military command structure
first. Additionally, it would be beneficial to gain information on families who experience very
little or no support while the service member is deployed.

The recruitment difficulties and overall low number of individuals who participated in the
survey limits the generalizability of the results in a number of ways. The overall sample was not
representative of the overall military population as indicated by: number of officer’s vs. enlisted
spouses, number of individuals from each branch of service, active duty vs. reserves, number of
women vs. men who participated, and racial/ethnic makeup of the sample population. There were
a disproportionate number of officer’s spouses versus enlisted spouses that participated in the
survey. This is an important distinction to make, given that officer’s must have college degrees
and consequently have a higher socioeconomic status. Higher SES often serves as a protective
factor for future child outcomes (Park, 2011). The small number of individuals from each branch
of service, although providing a good view of the military population as a whole, limits the
applicability of the results to any given branch. In addition to the small number of members from
each branch of service, there were fewer participants with National Guard or Reserve Duty status
family members as compared to those with Active Duty family members. This is another
important distinction to make, given the unique stressors experienced by National Guard and
Reserve families and service members. National Guardsman and Reservists typically work full-time civilian jobs and may not be affiliated with a military unit, outside of their guard unit. These service members often do not live close to military installations or other members of their unit. Consequently, these service members may not have much of the military and unit support that many Active Duty members enjoy. Additionally, community support is often hampered by a lack of knowledge about military lifestyle and military deployment, as most civilians have not had similar experiences. This may be contrasted with Active Duty service members who often live on or near military installations, or in military housing, where they are surrounded by other families and service members who have experienced similar stressors and challenges. Further investigation into the differences in challenges, risk, and resilience of Active Duty families vs. National Guard and Reserve families is warranted. There were only two men who participated in the current study as the at-home parent, which is non-representative of the military population, given that 14-17% of the entirety of the military population is female (DOD, 2009). Given the ever-increasing number of females in the military that are being deployed, it is extremely important to examine the differential impact of deploying mothers on behavioral and emotional outcomes of children. Additionally the ethnic make-up of the current sample was primarily White/Caucasian (88%), which also is not representative of the military population or the general U.S. population. Future studies should focus on gathering a more representative sample of the U.S. military.

Study limitations. There are a number of limitations in the design of the study that may also limit the generalizability of the findings, yet provide some important direction for future research. Some limitations inherent in the design are considered acceptable, and were carefully considered prior to the start of the research. It is essentially impossible to address every single
limitation that a survey design may present as doing so may make the survey impractical and further limit the participation.

The survey attempted to maximize the amount of information gathered, while minimizing the time required for participants to complete the survey. Inherent in this design is that only a limited number of risk and resilience variables were possible to examine. There are likely many additional protective factors that promote resilience in families as well as many additional factors that place families and children at increased risk for negative outcomes. This study sought to identify a number of those risk factors relevant to military families and military children. As a result, a number of the variables were exploratory in nature and not based on previous established risk and resilience research.

The research was cross-sectional in nature and was thus a “snapshot” of how children and spouses were coping during the deployment (which was defined as the spouse being gone from the home with the military). Spouses are away from the home and separated from their family at 3 different phases of the deployment cycle: deployment, sustainment, and redeployment. Differences between these phases were not defined or measured during the current study; parents were simply asked to respond regarding their child’s behavior while their spouse was away. It is likely that child’s internalizing symptoms and externalizing behavior, as well as the behavior of the at-home parent, may differ, change, and adapt throughout the deployment cycle. Future research would benefit from longitudinal examination of behavioral and emotional reactions and outcomes at each phase of the deployment cycle throughout the deployment process.

A final limitation inherent in the design of the current study is in regard to the manner in which the data was collected. One large limitation was the order in which the questionnaires were presented to the participants (demographics, Y-OQ, PSI-SF, CAWS, VLQ, SFI, APQ).
There were a number of individuals \((n = 20)\) who stopped prior to finishing the entirety of the survey and thereby left entire questionnaires incomplete. The survey was constructed in a format and questionnaires were placed in the specified order, to increase the likelihood that those questionnaires that were included in the majority of the major analyses (parenting stress and the outcome variable gained from the youth outcome questionnaire) were completed. The subsequent questionnaires were subsequently presented in an order that theoretically would produce emotional reactivity at increasing levels, with questionnaires examining family environment, and specific parenting and discipline practices near the end. Reasoning for participants discontinuing their participation in the survey is unknown. Possible reasons may be the overall length of the survey, emotional reactivity to certain questions or questionnaires early in the survey, and/or a lack of understanding of the importance and potential benefit gained from completing the entirety of the survey. This limitation could be addressed in future research in a three ways: (a) randomize the order in which all questionnaires are completed; (b) only utilize the subscales of questionnaires necessary to gain the information necessary to the analyses, thereby decreasing the overall length of the survey; (c) address the length of the survey in the informed consent and provide a statement on the importance and a justification for completing the entirety of the survey.

Parents who remained at home were asked to provide retrospective reports of children’s behavior and emotional difficulties, as well as a report of their own adjustment. This information relied solely on the memory and subjective report of the individual being surveyed, without any collateral data (e.g., from other parents, school teachers, etc.). The information gathered was therefore subject to potential biases of the parent responding, for example, if the parent had developed a negative view of the military as a result of the long and frequent deployments of
their spouse (e.g. Hoge, Castro, Messer, McGurk, Cotting, Koffman, 2007). Negative views of the military could lead at-home parents to subsequently report greater distress, more problem behaviors, etc. Alternatively, parents may have wished to portray themselves or their children in an overly positive light (see Low Y-OQ scores Table 2), which may have skewed the data. Although, the current sample, being mid- to upper-class with relatively few children and good support systems, may have reasonably low levels of pathology.

Statistical limitations. The small number of participants and the limited data gathered resulted in insufficient power necessary to detect a significant result, specifically with moderator analyses. Interaction effects in moderator research are typically very small and therefore hard to detect, as was the case with the current study. As was stated earlier, because interaction effects are small, a large number of participants are needed to detect a significant effect. Future research examining moderating effects, particularly with military families, should attempt to gain sufficient support to gather data on a large scale. In addition to the small number of participants, there was a significant amount of missing data. The missing data due to attrition necessitated the deletion of a significant number of individuals who did not complete the outcome measure. These individuals may have provided valuable additional data that was left out of analyses. One final statistical limitation existed regarding the presence of a restricted range, particularly in the areas of military and non-military support received by at-home parents and children. Most families reported some support present and there were very few families with little to no support. Restricted ranges may have existed with other variables too (e.g. large number of officers, middle to upper middle class income with few low income families). As a result the restricted range may have underestimated the effect of the restricted variable on child outcomes.
Future Directions

An APA presidential task force in 2007 suggested there are significant gaps in the knowledge and understanding of how deployment of military personnel in support of OEF/OIF affects military families. This study attempted to identify several ways in which deployments have impacted the children and spouses who remain at home while service members have been deployed. While a number of ways that deployments impact military families were identified, further research is required to further examine the impact of these deployments, as well as risk and resilience factors that could be identified and targeted for intervention. While several suggestions for future directions of the current research have been made this section will further elaborate on these recommendations and suggest additional areas where future research may be beneficial.

As with most psychological research, replication of the current study should be done with a larger, diversified population to increase the external validity and generalizability of findings. Future replications should seek to gain a large number of service members from each branch of the military, in order to represent each branch individually as well as the military as a whole. In order to represent the military as a whole, it would also be important to conduct research on service members in the National Guard and Reserves. The challenges faced by National Guard and Reserve families appear to be unique in comparison to Active Duty families. Thus, research should take into consideration the impact of deployment in support of OEF/OIF on those families and how that may be different across services.

Additional research should examine the differential impact of combat vs. non-combat deployments on children and spouses. Even more important than combat vs. non-combat deployments may be the level of danger the service member is perceived to be in by his/her
spouse and children. An additional area of research related to the characteristics of the recruited population relates to the gender of the service member and the at-home parent. The overwhelming majority of at-home parents that participated in the current study were mothers, with the deployed service members being fathers. Given that 14 – 19% of the total force (active duty and reserves is female, a larger number than existed in previous wars, it would be extremely important to examine the impact of deployment of mothers on children, and how at-home fathers cope with those deployments.

Researchers would also benefit from taking nested modes into consideration in considering service members, in different career fields, in different units, stationed at different bases, enlisted in different military services, and with different military status (Active Duty vs. National Guard/Reserve) may demonstrate different levels of overall resilience, as well as different risk and protective factors. Additionally service members in the same group may share variance in outcomes, risk, and protective factors. Researchers should obtain a wide variety of samples from units, duty status, and military branch as possible in order to obtain more generalizable results.

Longitudinal research is needed to assess families and children prior to deployment (for accurate of their premorbid functioning), follow the families through the 5 stages of the deployment process, and collect data months and years after the service member has returned home or separated from the military. This would allow for further identification of the differential impact of deployment through each of the phases of deployment. An additional benefit of this longitudinal research would be to examine the long-term effects of parental-separation and if there are impacts that persist into adulthood. Longitudinal research may also
help to identify a critical value in amount of time away from families, before many spouses and children demonstrate long-term negative outcomes.

Further research should also identify and recognize individual, family, and community supports that help to safeguard individuals against the potential negative impacts of deployment (Barker & Berry, 2009). This research may provide implications for further intervention and concrete/operational programs to further buffer families from the potential negative impacts. There are currently a number of programs available to assist military families. While these programs are available, most are not evidenced based and are therefore simply well intentioned interventions (Park, 2010). It would be beneficial to evaluate existing programs for their impact on and efficacy in providing the support needed to shield children and families from the potential negative impacts of military deployment. Additional research could also examine and seek to create programs that support military families differing needs during each phase of the deployment cycle (Paris, 2010).

Further research that helps to identify potential moderators and mediators of childhood and at-home spouse outcome as a result of deployment would also be beneficial. These moderator/mediator variables could then be used as the targets for change to diminish the intensity of the negative impact of deployment. As suggested in this study, parenting stress was hypothesized to be a moderator, but data did not support this hypothesis. It may also be beneficial to examine parenting stress/parent-child relationship as a mediator variable to childhood outcome with risk and resilience variables as the independent variables, as suggested by Palmer (2008). Additional variables that would be beneficial to examine as potential moderator/mediator variables may include caregiver mental health, type and amount of contact with deployed parent, living arrangements (i.e., near or far away from other supportive military
families), religious affiliation and activity, and other aspects of the families overall experience
while the service member is deployed.

One final area of research that may be crucial to examine is the extent to which families
are enriched by deployment experiences (Ternus, 2010). Some families describe their
relationships as closer and more meaningful, and some caregivers endorse increased closeness to
their children. The variables that differentiate these families from those who experience poorer
outcomes should be identified and targeted for intervention. These variables may include, but are
not limited to: family relationships and environment, personal strengths, and types of support
experienced. Identification of the unique family enrichment variables and individual/group
differences may be one of the greatest sources in shedding light on how we may best serve
military families.
CHAPTER 5

CONCLUSION

Research examining the impact of deployment on children and families has been occurring at an increasing rate over the past few years. This is likely a result of the millions of service members who have deployed and have left family members behind. Military spouses and children are facing ever-increasing risk factors as the length, number, and danger of deployments continue to escalate. Moreover, as the United States military continues to engage in the current conflicts (i.e. OEF and Operation New Dawn the new mission in Iraq) as well as new conflicts (i.e. Operation Odyssey Dawn in Libya) the impetus for this research continues to grow. While military families have previously demonstrated good overall resilience, more can be done in the area of research, skill building, and interventions to improve the likelihood of overall positive outcomes for military families.
APPENDIX

INFORMED CONSENT
University of North Texas Institutional Review Board

Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Risk and Resilience Factors faced by Children of Deployed Military Parents

Principal Investigator: Amy R. Murrell, University of North Texas (UNT) Department of Psychology.

Purpose of the Study: You are being asked to participate in a research study which involves better understanding the effects of military deployment on the children of service personnel. Children who have had parents deployed with the military show increased depression, anxiety, stress, and other behaviors. The way the parent who remains at home reacts to the deployment of their spouse has also been demonstrated to have an effect on the outcome of their children. Given the ever-increasing number of families who experience deployment, it is of great importance to understand what factors place a child at increased or decreased risk for negative outcomes.

Study Procedures: You will be asked to complete a series of questionnaires regarding your feelings and behaviors at the time that your spouse was most recently deployed. One questionnaire asks about general demographic information as well as information regarding your spouse’s military service. Two questionnaires ask questions about parenting behavior and methods of discipline. Another questionnaire asks questions regarding your values and a final questionnaire will be presenting asking you to respond to questions about your family environment. Additionally two questionnaires will be presenting asking you to respond to questions regarding your child’s ability to adapt and adjust to changes as well as questions about your child’s behavior while your spouse was deployed. This will take approximately an hour of your time.

Foreseeable Risks: It is possible that when answering questions about your spouse’s deployment and children’s behaviors may lead you to think about upsetting things. We do not expect the level of distress that you might feel from the completion of this study to be any greater than you would feel in your daily life. You may skip any questions that you prefer not to answer. If you find that answering the questions is upsetting, you may simply quit the study by exiting the website.

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you. However, identifying impact that different risk and resilience factors as well as the impact that the parent who remains at home has on child outcomes when parents are deployed is expected to increase our understanding of how to better help children and families when a parent or spouse is deployed.

Compensation for Participants: Upon completion of the study you will be given a participant
identification number as well as an e-mail address, by e-mailing your contact information along with the participant ID number to verify your participation you will be entered in a raffle. The raffle will be for one $200 Wal-Mart gift card for two to three hundred participants. The raffle will be conducted upon the completion of the study.

**Procedures for Maintaining Confidentiality of Research Records:** Your name will not be attached to any materials used except for the consent form. You will be assigned a subject number at the end of the experiment and this number will be utilized to conduct the raffle as well as identify your data. Upon completion of the study and the raffle all e-mails with any identifying information from the raffle will be deleted and the e-mail account will be closed. At that point there will be no way to connect your name to questionnaires or to the computer file. All of your materials will be attached to this number and not to your name. All materials attached to this number will be kept on a password-protected computer and locked in Dr. Amy Murrell’s lab in Terrill Hall. Your informed consent will be kept in a separate-file, also on a password-protected computer in Dr. Amy Murrell’s research lab. Your name will not be used in any research reports or publications from this study, nor will your participation be disclosed to any unauthorized person.

**Questions about the Study:** If you have any questions about the study, you may contact Dr. Amy Murrell at telephone number (XXX) XXX-XXXX.

**Review for the Protection of Participants:** This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

**Research Participants’ Rights:**
Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

- Dr. Amy Murrell or other study personnel has provided sufficient information to explain the study to you and answer your questions. You understand the possible benefits and the potential risks and/or discomforts of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You may print a copy of this form to keep.

_____ Yes, I agree to participate  Date: _____/_____/_________
(The yes button must be checked and the date must be entered in order to proceed with the study.)
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