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# Hardiness, Social Support, Parental Stress, and Posttraumatic Stress Symptoms in Recent Service Members

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The University of Southern Mississippi

HARDINESS, SOCIAL SUPPORT, PARENTAL STRESS, AND POSTTRAUMATIC  
STRESS SYMPTOMS IN RECENT SERVICE MEMBERS

by

Victoria Jane Tomassetti-Long

Abstract of a Dissertation  
Submitted to the Graduate School  
of The University of Southern Mississippi  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy

August 2014

## ABSTRACT

### HARDINESS, SOCIAL SUPPORT, PARENTAL STRESS, AND POSTTRAUMATIC STRESS SYMPTOMS IN RECENT SERVICE MEMBERS

by Victoria Jane Tomassetti-Long

August 2014

Previous research has demonstrated a link between PTSD symptomatology (PTSS) and parenting stress in veterans. As the literature on veterans of the wars in Iraq and Afghanistan is increasing, there has been a call to identify variables which may contribute to positive outcomes in these service members (e.g., Cornum, Matthews, & Seligman, 2011). Hardiness is a personality variable that describes an individual's sense of commitment, control, and challenge in light of life stress and has been identified as a protective factor against the development of psychological symptoms and parenting stress in combat veterans. Social support also seems to have benefits related to trauma sequelae and parenting stress, but its role in the context of recent service members' post-deployment parenting stress has not yet been examined. The current study assessed the influence of PTSS, hardiness, and social support on parental stress among recent returnees of the operations in Iraq and Afghanistan. Results supported hypotheses predicting an inverse relationship between hardiness and parental stress. Social support was found to mediate the relationship between PTSS and parental stress.

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A Dissertation  
Submitted to the Graduate School  
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## CHAPTER I

### INTRODUCTION

With over 200,000 troops deploying to and returning from combat missions in and around Iraq and Afghanistan, a number of troops may be at risk for developing trauma-related stress reactions upon their return home (U.S. Department of Defense, 2011). Rates of combat-related PTSD as high as 13.8% have been reported (Tanielian & Jaycox, 2008). Posttraumatic stress symptomology (PTSS) is an inclusive term that accounts for sub-threshold PTSD, or a collection of symptoms that do not meet the criteria for a PTSD diagnosis (Sheppard, Malatras, & Israel, 2010). At least one study reported that up to 10% of veterans experienced PTSS (Milliken, Auchterlonie, & Hoge, 2007). Following a decade of missions in Iraq and Afghanistan, the implications for service members and their families are widespread. Given that more than half of all active duty and reserve/guard service members have one or more dependents (i.e., spouse, child, or dependent adult), veterans' postdeployment adjustment necessarily affects more than 400,000 family members each year (U.S. Department of Defense, 2010).

Risk factors for PTSS among modern military veterans include exposure to traumatic imagery, threat perception (Renshaw, 2010), engagement in combat (Hoge et al., 2004), and deployment-related physical injury (Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010) to name a few. Renshaw (2010) sought to identify potential moderators and mediators of the combat exposure- PTSD relationship. He surveyed over 200 National Guard and Reserve troops who had been deployed to the Middle East in support of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). Interestingly, Renshaw found no direct relationship between actual combat experience

and PTSD symptomology. Rather, this relationship was mediated by a service member's reported level of perceived threat during those combat experiences. Those who perceived greater threat were more likely to report current trauma symptoms. While threat perception mediated the relationship between active combat trauma and PTSD symptoms, post-combat traumatic imagery had a direct link to PTSD symptoms. Although the lack of a direct path from trauma exposure to PTSD symptoms may seem counterintuitive, Renshaw's (2010) study is just one example of research that suggests that the development of chronic psychopathology is dependent on a number of mitigating factors. Although an estimated 11 to 30% of troops experience PTSD, the majority of service members do not experience significant, chronic psychiatric difficulties as a result of combat (Erbes, Westermeyer, Engdahl, & Johnsen, 2007; Hoge et al., 2004; Lapierre, Schwegler, & LaBauve, 2007). The finding that many troops do not experience on-going difficulties has led a number of researchers to examine the protective factors which may moderate or mediate the relationships between trauma and mental illness.

Demographic variables such as age (Taft, Stern, King, & King, 1999), higher enlisted rank, and being an officer are inversely related to PTSD (Lapierre et al., 2007). Personality hardiness, social support, and greater preparedness have also garnered support for their protective role in the development or progression of PTSD/PTSS. In a sample of 272 OEF/OIF veterans, psychological hardiness, resilience, and postdeployment social support were among the strongest negative correlates of PTSS (Pietrzak, Goldstein, Malley, Rivers, & Southwick, 2010). Similarly, data from a national sample of Vietnam veterans demonstrated that for male veterans the direct effects of social support on PTSD were larger than the direct effects of combat exposure

on PTSD (Taft et al., 1999). Results of these studies provide some evidence that the relationship between combat and on-going psychological distress is likely influenced by postdeployment psychosocial factors.

In light of the evidence of a relationship between PTSS and postdeployment factors, together with the fact that more than half of all deployed service members will return to a family (U.S. Department of Defense, 2010), there is growing interest in understanding the effects of PTSD/PTSS on the family adjustment of modern veterans. However, much remains unknown about the total picture of PTSS, parenting stress, and protective factors among modern veterans. Therefore, the current study examined the roles of two protective factors, hardiness and perceived social support, as they influence the relationship between PTSS and parenting stress in a community sample of recent service members.

### Posttraumatic Stress

Among recent military veterans, PTSS is significantly correlated with alcohol use problems, suicidal ideation (Pietrzak, Goldstein et al., 2010), and impairments in social functioning and emotional well-being (Erbes et al., 2007). Results of large scale assessments of returning service members indicated that mental health problems, including PTSS, are more severe and reported at higher rates three to six months after redeployment (i.e., returning home) compared to rates immediately following redeployment (i.e., during debriefing), suggesting that symptoms may worsen over time (Milliken et al., 2007). In addition to the impact of PTSS on the service member as an individual, PTSS is associated with family adjustment difficulties.

Several studies have documented family difficulties among veterans with PTSS. Veterans with PTSS report less family cohesion and expressiveness (Sutker, Davis, Uddo, & Ditta, 1995), decreased marital satisfaction (Khaylis, Polusny, Erbes, Gewirtz, & Rath, 2011), and more family difficulties (Pietrzak, Goldstein et al., 2010). In a study by Jordan et al. (1992), nearly 50% of Vietnam veterans meeting PTSD criteria scored *high* on an index of marital problems compared to 8.7% of veterans without PTSD scoring in the high range. These results were supported by spouse/partner reports; spouses/partners of veterans with PTSD reported more marital problems than those without PTSD. Similarly, both veterans and their spouses/partners reported higher levels of violence in the home of PTSD-diagnosed veterans, compared to the no-PTSD group. Additionally, spouses and partners of Vietnam veterans with PTSD experienced more personal difficulties, such as lower subjective wellbeing and higher demoralization when compared to spouses and partners in the no-PTSD group (Jordan et al., 1992).

Similar results have been described in more recent studies of military veterans. Utilizing a large sample of male and female Operation Desert Storm (ODS) veterans, Taft, Schumm, Panuzio, and Proctor (2008) gathered self-report data upon redeployment (i.e., within five days of returning to the U.S.; Time 1) and again approximately two years later (Time 2). Combat exposure and PTSS were assessed at Time 1 and family adjustment, defined as “flexibility in family roles” and “closeness among family members,” was assessed at Time 2 (Taft et al., 2008, p. 650). The researchers examined a number of hypothesized paths between combat exposure, total PTSS, PTSD symptom clusters, and family adjustment. Support was not found for the path from combat

exposure to total PTSS to family adjustment. Rather, the paths from combat exposure to the withdrawal/numbing ( $B = .40$ ) and hyperarousal ( $B = .28$ ) clusters to family adjustment ( $B = -.45$  from withdrawal/numbing;  $B = -.22$  from hyperarousal) were significant (Taft et al., 2008). It appeared that the effects of PTSS on family factors are best understood at the cluster level, rather than examining the absolute presence or absence of PTSD.

In light of recent reports that PTSD symptoms are likely to increase several months following redeployment (Milliken et al., 2007), one might expect the associations observed in Taft et al.'s (2008) study to be even stronger if PTSS was assessed again at Time 2. Unfortunately, PTSS affects not only marital and vaguely defined familial relationships, but it also negatively impacts veterans' parental roles. Because many veterans are also parents of young children, a number of researchers have examined the impact of combat-related trauma on parenting stress and practices, specifically.

#### Parenting Stress

Several factors have been linked to problematic parenting practices and negative child outcomes. One such factor, parental stress, is defined as parents' unhappiness, depression, dissatisfaction, and isolation in the parental role (Abidin, 1995). Parenting stress and family risk factors, such as a parent's psychopathology, low SES, and poor parenting practices (e.g., lack of supervision, inconsistent discipline) predict externalizing behavior problems in children (Prevatt, 2003).

Higher levels of parental stress have been associated with increased use of corporal punishment and negative child outcomes. A meta-analysis of 88 studies examining relations among physical punishment and child outcomes revealed that

corporal punishment is associated with several undesirable child outcomes such as increased aggression, decreased internalization of morals, and lower quality parent-child relationships (Gershoff, 2002). Results of a large scale, community-based study of fathers' parenting experiences demonstrated a link between fathers' parenting stress and their use of corporal punishment with their three-year-old children. Higher levels of paternal stress predicted both moderate and severe levels of corporal punishment (adjusted odds ratios = 1.22 and 1.53, respectively; Lee, Perron, Taylor, & Guterman, 2011). Deater-Deckard and Scarr (1996) reported a positive relationship between mothers' and fathers' reports of parental stress and their reported use of physical punishment. In another study, 307 parents of children ages two to six years who reported higher levels of parenting stress also reported greater use of discipline and less frequent nurturing behaviors (Anthony et al., 2005).

Taken together, it is reasonable to conclude that a link exists from parent stress to parent behavior to child outcomes. While it is expected that parents will experience some level of stress due to the demands of parenthood, it is important to identify factors that may contribute to higher than expected levels of parenting stress. Parentally experienced trauma is one variable that has been identified as a risk factor for increased parenting stress and engagement in problematic parenting strategies.

In a sample of intimate partner violence victims, there was a strong, positive relationship between parenting stress and mothers' self-reported ineffective parenting behavior, such as laxness and over-reactivity in discipline strategies (Huth-Bocks & Hughes, 2008). Other studies of parents who have experienced trauma have found higher reported rates of child externalizing behaviors (Gold et al., 2007) and parent-child

aggression (Cohen, Hien, & Batchelder, 2008; Lauterbach et al., 2007). Further, parents with a lifetime history of PTSD are more likely to use moderate or severe physical aggression towards their children when compared to people without PTSD (Leen-Feldner, Feldner, Bunaciu, & Blumenthal, 2011).

Although the majority of available studies have been conducted primarily with mothers, much of the available data reflects that mothers and fathers experience similar levels of parenting stress (e.g., Deater-Deckard & Scarr, 1996; Giallo & Gavidia-Payne, 2006). For example, Deater-Deckard and Scarr (1996) compared Parenting Stress Index-Short Form scores (PSI-SF; Abidin, 1995) of community-based mothers and fathers of children ages one to five years. Although significant differences were observed between mothers' and fathers' subscale scores, the effect sizes were marginal (i.e., between one-tenth and one-fifth of a standard deviation). Accordingly, the authors concluded that mothers and fathers within the same household report similar levels of parental stress.

Utilizing data from the National Comorbidity Survey-Replication, Leen-Feldner et al. (2011) compared reports of parents with and without a lifetime history of PTSD, accounting for the possible influence of comorbid disorders on parenting and child outcome variables. The authors found that the influence of PTSD on child outcome and parent behavior variables was significant, over and above the effects of comorbid major depressive disorder and substance dependence. Specifically, compared to parents without a lifetime history of PTSD, those with PTSD were more likely to report use of physical aggression as a parenting practice and were more likely to report that their children experienced anxiety or depression.

### *Military Personnel*

Consistent with the reported relationship between civilian parent trauma and negative parenting experiences, military parents with PTSS seem to experience similar difficulties in their parental role. Only one known study has systematically examined predictors of parenting stress in a sample of recent combat returnees. Tomassetti (2009) assessed demographic variables (e.g., parent and child characteristics such as age and sex, family income, number of parental deployments), PTSS, and parenting stress in a sample of primarily male OEF/OIF returnees. Child gender and annual family income were the only demographic variables significantly related to parenting stress; female focus children and higher income were associated with lower levels of parenting stress. Beyond the effects of these demographic variables, the author found that PTSS predicted parenting stress in the sample of OEF/OIF returnees. As predicted, numbing emerged as a unique predictor of the parenting stress criterion ( $\beta = .613, p < .001$ ; Tomassetti, 2009). Unfortunately, there remains a lack of research on parenting stress, specifically, in returning veterans. Thus, the following sections will review research on other aspects of parenting among service members.

In a small sample of male Vietnam veterans, emotional numbing, a symptom cluster of PTSD, was found to explain 11 to 29% of the variance in fathers' reports of children's misbehavior, positive sharing, disagreement, contact, and overall relationship quality (Ruscio, Weathers, King, & King, 2002). Notably, although not all participants with numbing symptoms met full PTSD criteria, the authors suggested that the presence of a single symptom cluster (numbing) is predictive of parenting problems, irrespective of PTSD diagnosis (Ruscio et al., 2002).

Compared to veterans without PTSD, a large sample of fathers with PTSD reported significantly more parenting problems, such as lower satisfaction with their role as a parent. Measures of child behavior, completed by the veteran's spouse/partner, indicated that those in the PTSD group displayed more behavior problems than children in the no-PTSD group (Jordan et al., 1992). Samper, Taft, King, and King's (2004) results were consistent with both Ruscio et al. (2002) and Jordan et al. (1992): Vietnam veterans with PTSD had lower satisfaction with their parental role, and numbing was uniquely predictive of such problems, accounting for 7% of the variance in parenting satisfaction.

In a small sample of modern veterans, participants reported that parenting was more stressful after deployment, compared to before deployment (Khaylis et al., 2011). Gewirtz et al. (2010) surveyed a larger sample of National Guard soldiers in theatre (one month prior to their return home from Iraq; Time 1), and again one year post-deployment (Time 2). The authors found that increases in PTSS were associated with decreases in positive parenting behavior. Contrary to one hypothesis, the direct link from PTSS to parenting behavior remained significant after the addition of the potential mediating variable (couple adjustment), suggesting that the effects of PTSS on parenting were not fully explained by maladjustment in the co-parent/marital relationship. Overall, Time 2 PTSS had stronger correlations with parenting outcomes, although significant relationships were noted with Time 1 data as well. Bivariate analyses indicated that Time 2 avoidance/numbing ( $r = -.39$ ) and hyperarousal ( $r = -.40$ ) had the strongest associations with parent-child involvement. Of the PTSS indicators, Time 2 avoidance/numbing was the only variable to correlate with positive parenting ( $r = -.17, p < .01$ ). Consistent with

previous studies, the data indicate that avoidance/numbing is particularly important in the parent-child context of military veterans.

While on-going readjustment is expected and necessary, for the parent with PTSS, resulting difficult child behaviors or marital conflict may be overwhelming. Given the apparent relationships among PTSS, parenting stress, parent behavior, and child outcomes, the effects of veterans' PTSS can have a far-reaching impact on family and child development. Because it seems that particular symptom clusters (rather than diagnostic status) are the most predictive factors of parenting variables, it is important to understand both predictors and outcomes of subthreshold PTSD, or PTSS. While it is clear that PTSS affects parenting in veterans, less is known about the factors that might mitigate the path from trauma symptoms to parental stress. In light of evidence that suggests a progression of symptoms long after redeployment, it is important to identify possible buffers or protective factors that may lessen the burden of transition. The available data consistently point to a link between veterans' ongoing trauma-related symptomology and family adjustment problems, and parenting problems in particular. However, only one known study has used an established scale to assess parenting stress, specifically, in a sample of recent veterans (Tomassetti, 2009).

There are also data to suggest that veterans espouse a number of resources that protect or buffer against the effects of combat exposure on psychological maladjustment. Another important question involves the buffering between psychological maladjustment (e.g., PTSS) and parenting difficulties, and this issue warrants further investigation. However, very little data are available that addresses each of these factors—parenting stress, PTSS, and protective factors—simultaneously in a sample of modern veterans.

Finally, while it is important to understand the unique challenges faced by veterans and their families, it is equally important to examine positive and protective factors in this population (Cornum et al., 2011). Therefore, in addition to seeking data from a community-based sample of modern veterans, a major aim of the current study was to identify the utility of personal resources—social support and hardiness—utilized by service members as they readjust to the stressful demands of parenting and cope with potentially traumatic experiences from combat.

#### Protective Factors

Although a significant number of troops experience persisting difficulties related to or following their combat experience, the majority of service members do not experience chronic psychological distress as a result of combat deployment (Milliken et al., 2007). Researchers, clinicians, and military leaders have a valid interest in identifying the constructs and mechanisms that seem to determine whether an individual will experience chronic psychological difficulties following a combat deployment. Factors such as threat perception (Renshaw, 2010), cognitive appraisal (Carston & Gardner, 2009), pre-deployment preparation and training (Renshaw, 2010), hardiness (Bartone, 1999), and perceived and received social support (Sutker et al., 1995), have all gained the attention of researchers and clinicians for their protective or buffering effects against stress in combat-deployed military personnel, but have not yet been examined with respect to parenting stress in this population. Results of studies conducted with non-military, at-risk parenting populations have identified factors such as hardiness and social support in protecting against the development of clinical levels of parental stress (Giallo & Gavidia-Payne, 2006; Macias, Saylor, Haire, & Bell, 2007). Because few studies have

examined hardiness or social support as primary predictors of parenting stress among modern veteran parents, the current study aimed to identify the utility of social support and hardiness in promoting psychological health in modern service members, evidenced by self-reported levels of parental stress.

### *Hardiness*

Personality hardiness has been described in terms of an individual's sense of commitment, control, and challenge in light of life stress (Kobasa, Maddi, & Kahn, 1982; Maddi et al., 2006). Hardiness is associated with active problem solving and a tendency to approach, rather than avoid, difficulties. Hardy individuals have "the courage and motivation to cope effectively with stressful experiences" (Maddi et al., 2006, p. 576) and experience a sense of control or influence over their lives and environments (Kobasa et al., 1982). In a sample of New Zealand Army soldiers, hardiness was positively correlated with challenge appraisal, a perception that one has the resources to succeed in the face of stress or adversity and negatively associated with avoidance coping and negative affect (Carston & Gardner, 2009). Hardiness is theorized to be a dispositional component of personality and seems to have beneficial health effects in a number of populations including business professionals, military personnel, and parents of chronically ill children (Britt, Adler, & Bartone, 2001; Dolbier, Smith, & Steinhardt, 2007; Mednick et al., 2007).

*Hardiness in military personnel.* Hardiness has been examined in both peacetime and combat veterans. King, King, Foy, Keane, and Fairbank (1999) found that levels of post-war hardiness, a component of resiliency, was significantly and negatively related to PTSS in a national survey of male and female Vietnam veterans. Using a more recent

cohort of military veterans, Bartone (1999) examined stressful life events, combat stress, hardiness, and physical and mental health symptoms in Army Reservists deployed to the Persian Gulf. Veterans with higher levels of hardiness reported fewer health problems and lower symptom severity. Further, hardiness had differential effects on symptoms depending on the level of combat exposure and total life stress. Hardiness had a greater influence in those reporting higher levels of combat exposure. The hardiness-by-combat stress exposure interaction was a large and significant predictor of symptom severity ( $\beta = -.51$ ), as was the hardiness-by-total life stress interaction ( $\beta = -.38$ ; Bartone, 1999). Thus, it appears that the benefits of hardiness were greater for those who experienced higher levels of stress, both at war and across their lifetime (Bartone, 1999).

Others have reported similar relationships among hardiness and deployment stressors on post-deployment health outcomes. In a sample of non-combat deployed Army personnel, Adler and Dolan (2006) found that post-deployment depression scores were similar for high and low hardy individuals that experienced low deployment stress, but depression scores for high and low hardy individuals were dissimilar for those who experienced high deployment stress. Soldiers reporting high deployment stress and high hardiness had lower depression scores than those with high stress and low hardiness. However, given the authors' caution about the relatively small effect size of this interaction, ( $\beta = -.081$ ), other factors likely contributed to psychological outcomes observed in the study (Adler & Dolan, 2006).

To examine temporal relationships among variables and determine whether hardiness is susceptible to change, Vogt, Rizvi, Shipherd, and Resick (2008) measured military recruits' self-reported hardiness, social support, and military-specific stress

reactions, such as cognitive and physical challenges related to training at two time points: during the first week of training (T1) and 13 weeks later, just prior to graduation (T2). Among male participants, those who were hardier at T1 reported less stress at T2. Contrary to their hypothesis, this effect was similar for men reporting both high and low social support (i.e., social support was not a moderator of the hardiness to stress effect). Interestingly, social support did moderate the T1 stress to T2 hardiness effect: those who reported low social support also reported a decrease in T2 hardiness that corresponded to T1 stress. Thus, while hardiness had a beneficial main effect on stress outcomes, it seems that hardiness is susceptible to depletion, evidenced by the moderating effect of social support in the relationship between T1 stress and T2 hardiness (Vogt, Rizvi et al., 2008). In light of the variable outcomes reported in the hardiness literature, the current study adds to growing knowledge about the relationships among protective factors and mental health outcomes. In addition to examining the main effect of hardiness on parenting stress, the current study attempts to determine whether the relationship between combat-related PTSS and parenting stress is moderated by veterans' level of hardiness.

*Hardiness in relation to parenting.* Although several researchers have examined the role of hardiness in military personnel and a limited number of authors have reported on hardiness among parents, only one study has examined the role of hardiness in modern military parents. Tomassetti (2009) assessed individual hardiness, PTSS, and parenting stress in a sample of 117 veterans of the wars in Iraq and Afghanistan. The author found that hardiness was a significant, negative predictor of parenting stress ( $R^2 = .321$ ).

Similar to the paucity of literature examining hardiness and parenting in military families,

only three known studies have examined individual hardiness and parenting in non-military populations.

Ben-Zur, Duvdevany, and Lury (2005) assessed mental health, defined as lack of general distress and presence of subjective well-being, in a sample of 100 mothers of adult children with an intellectual disability. Participants also completed measures assessing social support, individual hardiness, and stress related to parenting a child with a disability. The authors reported that hardiness was negatively associated with mothers' stress ( $r = -.47$ ). In a hierarchical analysis, when entered after demographic variables, stress, and social support, hardiness still emerged as a large predictor of mental health ( $R^2 = .64$ ,  $\beta = .39$ ,  $p < .01$ ), indicating that hardiness was beneficial, above and beyond the effects of other significant predictors (Ben-Zur et al., 2005).

Johnson and McMahon (2008) sought to determine whether parents' level of hardiness influenced their child's sleep behavior. Participants were primarily mothers of children aged two to five years. Hardiness was conceptualized as being related to "psychological maturity" (Johnson & McMahon, 2008, p. 766), reasoning that more hardy parents would be better able to enforce bedtime rules and limit setting, due to their understanding of the importance of healthy bedtime behavior and an ability to cope with the inherent stressors of establishing bedtime rituals in young children. Citing research documenting the relationship between parental beliefs and behaviors surrounding bedtime, measures of parents' sleep-specific cognitions (e.g., doubts regarding competence) and behaviors (e.g., maintaining limits by allowing child to self-soothe) were assessed. The researchers hypothesized that parents' hardiness would predict sleep-specific cognitions, which would predict parents' bedtime behavior, which should predict

child bedtime behavior (Johnson & McMahon, 2008). The authors found support for their model, with hardiness accounting for 8% of the variance in parents' self-reported cognitions. The negative relationship between parent hardiness and cognitions ( $\beta = -.29$ ) indicated that parents with higher levels of hardiness had fewer negative cognitions, which predicted fewer negative parent behaviors, and better reported sleep patterns in children (Johnson & McMahon, 2008).

Lang, Goulet, and Amsel (2004) examined predictors of fathers' and mothers' overall health in a sample of perinatally bereaved parents. Data were collected from fathers and mothers individually, and as a couple. Overall health was assessed by a composite of scores of grief, marital satisfaction, and family adjustment. Fathers' hardiness, measured two months after death, was a large and significant predictor of health, measured at two, six, and 13 months following the death of their fetus or infant. A similar pattern was found among mothers, with hardiness having the largest unique contribution to health.

Although very few studies of individual hardiness in the parenting literature are available, research related to the role of family hardiness (which differs from individual hardiness only in that it refers to a collective sense of control, commitment, and challenge among family members), also warrant mention. For example, Jovanovic, Aleksandric, Dunjic, and Todorovic (2004) found that levels of family hardiness correctly classified individuals with and without PTSD following war exposure in Serbia. Giallo and Gavidia-Payne (2006) examined parent (primarily mothers) and child reports of stress, coping, and family hardiness in a small sample of families having one child with a disability and one child without a disability. The authors found that family hardiness

(reported by the parent only), as measured by the Family Hardiness Index (FHI; McCubbin, Thompson, & McCubbin, 1996) was correlated with sibling adjustment difficulties ( $r = -.42$ ). However, family hardiness was not a unique predictor of adjustment difficulties when entered into a regression equation with other variables, suggesting that the effects of family hardiness on sibling adjustment may be mediated by other protective factors, such as positive communication or family routines (Giallo & Gavidia-Payne, 2006).

Although family hardiness has been evaluated in the parent-child context and there appears to be a good deal of evidence for the benefits of personality hardiness in military veterans, individual hardiness remains under-studied in the military parenting literature. Because the goal of the current study was to examine strengths of the individual veteran, an examination of personality, or individual, rather than family hardiness is appropriate. Further, individual hardiness has been assessed in numerous samples of military personnel, specifically (see Bartone 1995, 1999, 2007). Therefore, a major aim of the current study was to increase understanding of the role of individual hardiness in protecting modern veterans from parenting stress. In addition to hardiness, social support is another factor that has been lauded for its inverse relationship with both PTSS and parenting stress.

### *Social Support*

Although researchers and theorists have yet to agree on a single, precise definition of this protective factor, social support has been associated with cardiovascular health (Uchino & Garvey, 1997), subjective reports of happiness and overall life satisfaction (Quevedo & Abella, 2011), and lower anxiety following trauma exposure (Grills-

Taquechel, Littleton, & Axsom, 2011). The majority of studies evaluating social support can be categorized into one of three “types” of social support: sociological, which addresses the “interconnectedness of people’s social relationships;” communication, which examines “verbal and nonverbal [exchanges] between the providers and recipients of support;” and psychological, which deals with individuals’ reported perceptions and receipt of social support from others (Vangelisti, 2009, p. 40). The current study examined social support as an individual’s perception and receipt of available resources (e.g., emotional, financial, or instrumental) from others. For example, emotional social support may take the form of understanding or compassion, while instrumental support refers to tangible forms of assistance such as monetary or task aid.

Results of a recent meta-analysis indicate that a lack social support is an important risk factor for the development of PTSD in both civilian (weighted average  $r = .30$ ) and military (weight average  $r = .43$ ) samples (Brewin, Andrews, & Valentine, 2000). In a large study of 2,752 individuals exposed to the September 11<sup>th</sup> attacks, researchers examined potential predictors of PTSD or resilience by surveying participants approximately six months after the attacks (Bonanno, Galea, Bucciarelli, & Vlahov, 2007). When social support was polytomized as high, medium, and low, participants with *medium social support* were 30% less likely than those with *high social support* to be categorized in the *resilient* group, defined as having one or zero PTSD symptoms (Bonanno et al., 2007). This effect was observed when other predictors were controlled (e.g., demographic variables, depression). Thus, it seems that social support is an essential factor in the investigation of personal resources among those exposed to potentially traumatic imagery.

*Social support in military personnel.* Given that the military may be considered a subculture in which members are likely to experience major challenges as a group, it is not surprising that a number of researchers have examined the role of social support in a military context. Although it remains unclear whether social support is better classified as a mediator or moderator in a number of stress-outcome relationships, it has been consistently shown to relate to positive outcomes, including decreased suicide risk (Jakupcak et al., 2010), decreased PTSS (Pietrzak, Goldstein et al., 2010), and military training stress reactions (Vogt, Rizvi et al., 2008). Only one published report exists on the role of social support in the context of parenting among military personnel, however (Gewirtz et al., 2010). Thus, expanding this niche of the literature was a primary goal of the present study.

In one study, social support was assessed as a coping method (i.e., seeking social support) and as a resource (i.e., number of sources and satisfaction with social support) in a large sample of Gulf War Veterans within one year of redeployment. PTSD, as measured by the Posttraumatic Stress Disorder Checklist-Military Version (PCL-M; Weathers, Litz, Herman, Huska, & Keane, 1993), was an outcome measure and a number of variables (e.g., hardiness, various coping styles) were analyzed for their utility in distinguishing the PTSD and no-PTSD groups. Interestingly, although participants in the PTSD and no-PTSD groups had similar levels of social support seeking, the PTSD group reported significantly fewer sources of and lower satisfaction with their available social support (Sutker et al., 1995). As noted in the discussion, it is unknown whether PTSD affected social support post-deployment or if, instead, pre-deployment deficits in social support may have increased troops' susceptibility to developing PTSD.

In their longitudinal investigation of a sample of National Guard soldiers deployed to Iraq, Gewirtz et al. (2010) found that social support was negatively related to PTSD both in-theatre and at one year follow up. King, Taft, King, Hammond, and Stone (2006) sought to determine whether PTSD predicted social support (i.e., an *erosion* hypothesis) or if social support predicted PTSD. Using structural equation modeling, the authors found greater support for PTSD-to-social support effect; that is, PTSD at Time 1 (one to two years following a Gulf War deployment) was a better predictor of social support at Time 2 (five years after Time 1) than Time 1 social support as a predictor of PTSD at Time 2. Thus, it seems that PTSD may erode or interfere with interpersonal relationships (King et al., 2006). Conversely, this relationship could be explained by some third variable that would predict both ability to foster social support and likelihood of developing PTSD.

Consistent with King et al.'s (2006) conclusions, Pietrzak, Johnson et al. (2010) examined a number of potential pathways between various psychological and psychosocial factors in a sample of predominantly National Guard/Reserve OEF/OIF veterans. In addition to being positively related to resilience, postdeployment social support was an important negative predictor of psychosocial difficulties, as it was a partial mediator of the relationship between PTSD symptoms and problems related to family, peer, work, or financial issues. Laffaye, Cavella, Drescher, and Rosen (2008) examined the impact of four distinct sources of social support (spouse, relatives, veteran friends, and non-veteran friends) in a sample of male treatment completers in a VA PTSD program. Data were collected six months to two years following treatment completion (Time 1) and again six months later (Time 2). It should be noted that although

participants had completed the treatment program for chronic PTSD, their mean scores exceeded the clinical cutoff indicative of PTSD (PCL-M scores:  $M = 61.4$ ; clinical cutoff = 50) at both times of measurement. The researchers evaluated both positive and negative interpersonal resources, as each person could be both a source of support and also a source of distress. Overall, veteran friends and non-veteran friends were rated by participants as more of a resource than a stressor, while spouses and relatives were rated as providing equal amounts of support and stress. Further, compared to relatives and non-veteran friends, participants reported having significantly more veteran friends from whom they could and actually did gain emotional and instrumental support. The authors highlighted this important finding in their discussion, as it lends support to the idea that veteran peers are a particularly important and low stress source of support for treatment-seeking chronic PTSD patients (Laffaye et al., 2008).

An additional aim of the Laffaye et al. (2008) study was to examine temporal relationships between social support and PTSD. Due to too few participants having spouses, path analyses were only conducted for three sources of interpersonal support and distress (relatives, veteran friends, and non-veteran friends). When paths were examined to determine whether Time 1 social support predicted Time 2 PTSD or vice versa, only one significant pathway was found: Time 1 PTSD predicted a decrease in Time 2 social support from non-veteran friends only, suggesting the other sources of support remained relatively stable. Further, Time 1 social support was not a significant predictor of Time 2 PTSD, lending support to an erosion theory of social support. Finally, a number of bivariate relationships were also noteworthy. At Time 2, of the four potential support sources at Time 1, only spouses ( $r = -.39$ ) and relatives ( $r = -.22$ ) were significantly,

negatively correlated with PTSD. Thus, having support from a spouse and other relatives six to 24 months following treatment was associated with lower PTSD scores six months later (i.e., six months after initial assessment). Of the four potential sources of Time 1 interpersonal stress, spouses ( $r = .27$ ) and veteran friends ( $r = .25$ ) had significant relationships with Time 2 PTSD. Thus, although Time 1 spouse support had the strongest, negative bivariate relationship with Time 2 PTSD, spouse-related stress also had the largest, positive bivariate relationship with Time 2 PTSD (Laffaye et al., 2008). The finding that social support seemed to exhibit both positive and negative effects on PTSD in this study is consistent with others (e.g., Andrews, Brewin, & Rose, 2003), and indicates that the effects of social support are not yet fully understood. Further, because the sample was composed primarily of Vietnam-era veterans, it is unclear whether similar results would be obtained in a more contemporary sample of veterans. One goal of the current study was to examine whether PTSS is negatively related to social support in a sample of modern veterans.

In a sample of 431 OEF/OIF veterans classified as being at various levels of risk for suicide, Jakupcak et al. (2010) examined the potential moderating effects of social support. They hypothesized that social support would differentially impact suicide risk for those with and without PTSD. Veterans with PTSD reported less satisfaction with their available social support, and while social support was associated with decreases in suicide risk for both groups, it was a better predictor of decreased suicide risk for veterans without PTSD. The authors suggested that this finding lends support to theories that state PTSD affects the ways in which individuals utilize and experience social

support. That is, PTSD may inhibit social interactions and impact the veteran's perceptions of those interactions that do occur.

*Social support in parenting populations.* Although social support has not been widely studied in relation to parenting in military families, reports from the broader parenting literature consistently demonstrate that increased social support is related to lower levels of parental stress (e.g., Guralnick, Hammond, Neville, & Connor, 2008; Macias et al., 2007). Family cohesion and perceived social support were among the protective factors that predicted adaptive child behavior in a study of mothers with a child between six and 12 years of age. In bivariate analyses, mothers' perceived social support was negatively related to family conflict, stress, and symptoms of psychological disorders (Prevatt, 2003). Drawing from the general population of Sweden, Sepa, Frodi, and Ludvigsson (2004) found that mothers who reported their social support was inadequate had significantly higher reported levels of parenting stress, compared to mothers who reported having adequate social support.

Given the apparent benefits of social support in community samples, a number of researchers have examined social support in at-risk parenting populations. Quittner, Jackson, and Glueckauf (1990) tested two potential models (moderation and mediation) concerning the role of social support in the relationship between parenting stress and maternal psychological adjustment in a sample of mothers with a hearing-impaired child. The authors examined parenting stress due to child-related stressors (e.g., child behaviors) and maternal-related stressors (e.g., parent's sense of competence and attachment to child) separately. The authors found that perceived social support was a partial mediator of the relationship between child-related stressors and mothers' reported

symptoms of anxiety, depression, and hostility. Network support, defined by the number and duration of supportive relationships, was a large mediator of the relationship between maternal-related stressors and symptoms of anxiety, depression, and hostility. In their discussion, the authors suggested that mothers' perceptions of their own incompetence may have resulted in withdrawing from social relationships and contacts (*network support*), whereas having a child with difficult behaviors may result in perceptions that their available support is unhelpful. In any case, it was apparent that social support, both perceived and received (i.e., *network*), were important, negative predictors of parenting stress (Quittner et al., 1990).

In contrast to the Quittner et al. (1990) results, Åsberg, Vogel, and Bowers (2008) did not find the receipt of social support to be an important predictor of outcome. They assessed perceived and received social support separately in a sample primarily comprised of mothers of children with hearing impairments. The researchers found that the perception, but not the actual receipt of social support, was an important negative predictor of parenting stress in their sample ( $\beta = -.391$ ). In explaining their results, the authors noted that the different outcome measures between their study and the Quittner et al. (1990) study may account for the different findings.

In another study, Macias et al. (2007) measured parenting stress and social support, utilizing a measure that assesses perceived adequacy of the degree to which people and agencies have assisted parents with childrearing, in a sample of 71 mother-father dyads of children diagnosed with spina bifida. Children were between four and 18 years old and both parents from each household completed all study measures, allowing for the direct comparison of mothers' and fathers' reported stress levels and social

support. Mean parenting stress scores were similar to those reported in community samples. The authors found that parents had similar levels of parenting stress overall, with fathers reporting higher levels of Parent-Child Dysfunctional Interaction than mothers. With regard to the relationships among the four types of parenting stress and social support, fathers, compared to mothers, had a stronger relationship between social support and Total Stress (fathers'  $r = -.46$ ; mothers'  $r = -.27$ ; Macias et al., 2007). Further, social support was an important, negative correlate for all four types of parenting stress for fathers, while it was only significantly related to the Total Stress and Parental Distress domains for mothers. Thus, social support may be more widely beneficial for fathers than for mothers of children with a physical disability.

Only one known study has examined social support and parenting in a sample of modern veterans. Results of a longitudinal study of 468 National Guardsmen revealed significant relationships between perceived support from at-home family members and friends, reported one month prior to leaving Iraq, and parenting outcomes, reported one year following redeployment (i.e., when soldiers had been home for one year) (Gewirtz et al., 2010). Researchers assessed soldiers' perceived social support while deployed and a number of self-reported parenting behaviors at the one year follow-up. Bivariate analyses revealed that in-theatre social support was related to veterans' reports of positive parenting ( $r = .18$ ), involvement with child ( $r = .15$ ), and poor supervision ( $r = -.11$ ) one year later (Gewirtz et al., 2010). Results of structural equation analyses indicated that social support had both direct and indirect effects on parenting outcomes. Consistent with research connecting PTSD and parenting, as well as PTSD and social support, the authors found that in-theatre social support predicted in-theatre PTSD, which predicted

follow-up (Time 2) PTSD, which predicted self-reported parenting behaviors (Gewirtz et al., 2010). It seems that social support, perhaps co-occurring with combat-related trauma, is an important negative predictor of the development of PTSD and subsequent parenting problems. The current study sought to expand this relationship by evaluating the role of post-deployment social support in relation to PTSS and parenting stress in a sample of modern veterans.

Taken together, results of studies with civilian and military samples suggest that social support is important as both an outcome and a predictor in adjustment. However, its role in the parent-child context of modern veterans remains unclear. Consistent with a main effects model, high social support may predict decreases in parenting stress. Conversely, social support might be one mechanism through which PTSS affects parenting stress. PTSS has been inversely associated with social support (e.g., Pietrzak, Johnson et al., 2010) and positively associated with parenting stress (e.g., Khaylis et al., 2011). Social support has also been associated with parenting stress (e.g., Macias et al., 2007). One goal of the current study was to evaluate whether a causal link can be inferred between PTSS and social support and parenting stress.

Existing evidence suggests that social support is important in both parenting and trauma-exposed populations. However, more research is needed to determine whether social support exerts a similar influence on military veterans who are also parents. Although it seems to have protective benefits prior to troops' redeployment (e.g., Gewirtz et al., 2010), it seems that social support is susceptible to depletion among those with PTSD after redeployment (Jakupcak et al., 2010). Using a cross sectional design, the current study contributes to the growing body of literature by examining a partial

mediation hypothesis of PTSS and parenting stress by veterans' currently perceived social support. In addition to expanding our knowledge of potential mitigating factors in postdeployment adjustment, the study elucidates one pathway through which PTSS affects parenting stress among a sample of modern veterans.

#### Purpose of the Study

Considering that more than 43% of today's active duty and 41% of reserve service members are parents of children under the age of 18 (U.S. Department of Defense, 2010), efforts to understand the process by which posttraumatic stress impacts the families of returning veterans and to identify potential mitigating factors are vital to improving the adjustment of military families. The current study had several aims. First, the current study examined the relative influence of PTSS on parenting stress, with particular interest in the avoidance/numbing component of PTSD. Further, the current study examined the potential benefits of social support and personality hardiness on parenting stress in a sample of contemporary military veterans. In light of the inconsistencies regarding whether hardiness is best classified as having a main or moderating effect on the PTSS to parenting stress relationship, this study also adds to the existing data regarding the nature of this relationship. Finally, the researcher tested a partial mediation hypothesis for the role of social support in the relationship between PTSS and parenting stress. Results of this study add to growing literature on characteristics and strengths of modern veterans and may also shed light on potential needs of our service members following deployment to a combat zone. Because participants were recruited primarily from non-treatment related sources, this study provides information about non-clinical characteristics of modern veterans.

## Research Questions

Three primary questions were evaluated in the current study:

1. Do higher levels of combat-related PTSS, particularly symptoms of numbing, social support, and/or hardiness predict levels of reported parenting stress?
2. Does hardiness moderate the relationship between combat-related PTSS and parenting stress?
3. Is social support a partial mediator of the relationship between PTSS and parenting stress?

## CHAPTER II

### METHOD

#### Participants

The online survey was viewed 950 times. One hundred seventy-four participants completed at least the consent form and demographic questionnaire, which were always displayed before the remaining measures. Of the  $N = 174$  cases that were at least partially completed, 11 cases were deleted based on responding “no” to the question which asked whether the participant was a caregiver to at least one child under age 18; an additional four cases were deleted based on responding “0” to the number of children currently residing in the home. Of the remaining  $N = 159$  cases, 135 participants completed at least one of the study measures. Because the order of the four study measures was randomized, missing data occurred at random (i.e., the 16 participants who completed three or fewer measures exited the survey before completing the next survey in the random order). Thus, data was retained from  $N = 119$  respondents who met the study criteria and who completed all study measures.

Participants were 119 male and female veterans of the operations in Iraq and Afghanistan who had participated in combat/support operations since 2001. Participants were custodial parents (living in the same household) of at least one child under the age of 18 years. Participants were 83 fathers or stepfathers, 33 mothers, and three unspecified parental figures of young children and veterans of the current and recent conflicts in Iraq and Afghanistan who had participated in combat or support operations within the previous 11 years. Demographic characteristics are presented in Table 1. The sample was predominantly Caucasian (80.9%) and had a mean age of 33.52 years.

Seventy-four (62.2%) participants had completed up to three years of college, 23 (19.3%) had college degrees, and 22 (18.5%) reported having graduate or professional training. One hundred one participants (84.9%) were married or living with a partner at the time of the survey. Participants had completed an average 2.18 deployments since the year 2001 and had been home from their most recent deployment for 50.25 months on average, with a range of zero to 148 months. The majority of respondents ( $N = 76$ , 63.9%) were active duty service members; 42 respondents (35.3%) reported their status as guard/reserve. Service members from all military branches participated in the survey. Parents were asked to select one child to consider when completing the parenting questionnaire. Participants' selected focus child gender was 52.1% male and the average child age was 7.71 years with a range of zero to 18 years.

Table 1

*Demographic Characteristics of the Sample*

Characteristic (Range)	<i>M</i>	<i>SD</i>
Parent age (20- 49)	33.52	6.90
Parent education in years (12- 17)	14.66	1.72
No. children in household (1- 6)	1.92	1.03
Focus child age in months (1- 216)	92.27	64.57
No. deployments since 2001 (1-15)	2.18	1.77
No. active combat events during most recent deployment (0- 300) <sup>†</sup>	17.99	43.62
No. months home since most recent deployment (0- 148)	50.25	34.93
Duration of most recent deployment in months (2- 36)	10.80	6.01

Table 1 (continued).

Characteristic	<i>N</i>	%
Location of most recent deployment		
Afghanistan	33	27.7
Iraq	71	59.7
Other/ Unspecified	17	12.6
Child Sex		
Male	62	52.1
Female	57	47.9
Relationship to child		
Father	77	66.4
Stepfather	6	5.2
Mother	33	28.4
Marital status (current)		
Married or living with partner	101	84.9
Single or living alone	5	4.2
Divorced or Separated	13	10.9
Parent race/ethnicity		
Caucasian	93	80.9
Hispanic	6	5.2
African American	3	2.6
Native American	2	1.7
Pacific Islander	1	0.9
Asian	5	4.3
Other	5	4.3
Service branch		
Air Force	12	10.1
Army	68	57.1
Coast Guard	1	0.8
Marine Corps	27	22.7
Navy	11	9.2

Table 1 (continued).

Characteristic	<i>N</i>	%
Current Status		
Active (including current Guard/Reserve)	56	47.1
Retired	25	21.0
Separated	38	31.9
Regular Status		
Active Duty	76	63.9
Reserve/Guard	42	35.3
Military grade and rank <sup>‡</sup>		
E3- E4	29	24.4
E5- E9	69	58.0
O3- O7	20	16.8

Note: <sup>†</sup> This value is based on the *N* = 95 responses given as whole-number integers. This value does not include the *N* = 24 responses that contained words and/or ranges of values (e.g., “100-200”).

<sup>‡</sup> E = enlisted personnel, O = commissioned officer

In light of the available literature reporting effect sizes between  $\beta = -.25$  (Samper et al., 2004) and  $\beta = -.86$  (Ruscio et al., 2002) for the relationship between PTSD and parenting variables, a desired medium effect size of  $f^2 = .15$  was entered into G-power analysis software (Faul, Erdfelder, Lang, & Buchner, 2007). Based on five predictors (three subscales in the PTSS measure, one full scale for the hardiness measure, and one full scale for the social support measure), a total sample size of *N* = 102 was needed to achieve a desired power of .85.

### Measures

Participants completed a general demographic questionnaire (see Appendix A) to include the gender and age of the parent and focus child, income, marital status, education level, race/ethnicity, number of children, duration and location of deployment,

length of deployment, number of deployments, current military status (i.e. active, reserve, separated, or retired), and branch of military service.

### *Parenting Stress*

The Parental Stress Scale (PSS; Berry & Jones, 1995) is an 18-item self-report scale used to assess both positive (i.e., rewarding) and negative (i.e., stressful) components of the parental role. Parents rate their level of agreement with each statement using a five-point Likert system from *Strongly Disagree* (1) to *Strongly Agree* (5); eight items are reverse scored and total scores are then calculated by summing the items. Possible scores range from 18 to 90 with higher scores indicating greater stress.

The PSS demonstrated adequate internal consistency ( $\alpha = .83$ ) in a sample of 233 mothers and fathers, 61 of whom completed the PSS a second time after six weeks (test-retest reliability  $\alpha = .81$ ) (Berry & Jones, 1995). Comparisons between subsets of mothers of children with and without behavioral problems yielded significant differences, with mothers of children with behavioral problems reporting higher levels of stress ( $M = 43.2$ ) compared to the non-clinical group ( $M = 37.1$ ). Convergent validity with the second edition of the PSI (Abidin, 1986, as cited in Berry & Jones, 1995) was reported as .75.

In a sample of 103 mothers of children with Attention-Deficit/Hyperactivity Disorder, Huber (2011) reported Chronbach's alpha as .87. The scale demonstrated convergent validity, as it was significantly correlated with measures of parenting hassles ( $r = .476$ ), quality of life ( $r = -.351$ ), and sibling conflict ( $r = .370$ ) (Huber, 2011). For the current sample, Cronbach's alpha was .89.

### *Hardiness*

Hardiness was assessed using the Dispositional Resilience Scale (DRS-15R), a 15-item self-report measure developed by Bartone (1995). The measure contains both positively and negatively scored items reported on a Likert scale from *Not At All True* (0) to *Completely True* (3). The measure includes three subscales to assess challenge, control, and commitment to life events. Subscales are combined to yield a total hardiness score; only the total score was used in the study. Total scores can range from 0 to 45 with higher scores indicating a more hardy personality type. Bartone (2007) reported the three week test-retest reliability in a sample of 104 undergraduate students in a military academy. The total scale yielded a coefficient of .78, and the commitment, control, and challenge subscales yielded coefficients of .75, .58, and .81, respectively. Due to the relatively low coefficient found for the control subscale, the author discourages interpretation based on individual subscales, in favor of the total score (Bartone, 2007). In the current sample, Cronbach's alpha coefficients were .79 (commitment), .65 (control), .76 (challenge), and .84 (total score).

Bartone (1995) reported the Cronbach's alpha for the total measure as .83 in a large sample of Army reservists deployed to Gulf War zones. Predictive validity was also reported using a sample of 125 deployed Army medical personnel. Scores on the measure predicted 17% of the variance in depression scores; hardiness interacted with work stress to predict 19% of the variance in depression scores and interacted with family stress to explain 24% of the variance in reported health symptoms (Bartone, 1995).

### *Social Support*

The Deployment Risk and Resilience Inventory –Section L: Post-Deployment Support (DRRI-L; King, King, & Vogt, 2003) was used to assess participants' perceived level of emotional and instrumental social support from friends, relatives, or coworkers following redeployment. The DRRI-L is a 15-item self-report measure of veterans' perceived social support following deployment. Items are rated using a five-point Likert-type scale with possible responses ranging from *Strongly Disagree* (1) to *Strongly Agree* (5); total scores range from 15 to 75, with higher scores being indicative of more perceived support. King et al. (2003) reported the internal consistency for the DRRI-L to be .87 in the initial validation sample of 320 male and female Gulf War veterans. The scale was correlated with PCL-M scores ( $r = -.45$ ) and a measure of life satisfaction ( $r = .56$ ). The scale authors reported that male veterans ( $M = 60.76$ ) in the validation study had significantly higher scores on the measure when compared to female veterans ( $M = 57.46$ ), but reported no significant differences between active duty and reserve personnel (King et al., 2003). A subsequent validation study using male and female OIF veterans revealed no significant differences between male and female veterans (Vogt, Proctor, King, King, & Vasterling, 2008). Cronbach's alpha coefficient for the current sample was .88.

### *Combat-Related PTSD*

To examine combat-related PTSS, participants completed the Posttraumatic Stress Disorder Checklist –Military Version (PCL-M; Weathers et al., 1993). The PCL-M is a 17-item self-report measure of PTSD symptoms. The items were designed using current DSM criteria for posttraumatic stress disorder (Cook et al., 2005) and rated using a five-

point Likert-type scale with possible responses ranging from *Not At All* (1) to *Extremely* (5), with higher scores indicating a greater severity or prevalence of symptoms. Total scores may range from 17 to 85, with a total score of 50 or greater indicating positive PTSD status (Hoge et al., 2004). Each of the items represents one of the three identified symptom clusters outlined in the DSM-IV: cluster B (re-experiencing), cluster C (avoidance/numbing), and cluster D (hyperarousal) (Cook et al., 2005). The PCL-M has been utilized by researchers evaluating PTSD in veterans of the wars in Iraq and Afghanistan (Erbes et al., 2007; Jakupcak et al., 2010). Weathers et al. (1993) reported the test-retest reliability to be .96 over a 2-3 day interval. Keen, Kutter, Niles, and Krinsley (2008) reported internal consistency for the PCL to be .94; alpha coefficients for the subscales of cluster B, C, and D symptoms were .91, .92, and .96, respectively.

The Clinician-Administered PTSD Scale (CAPS) is a structured diagnostic interview, also based on DSM-IV criteria, and is considered the gold standard of PTSD assessment (Keen et al., 2008). Convergent validity between the PCL and the CAPS has been demonstrated with correlations ranging from .79 to .93 (Blanchard & Jones-Alexander, 1996; Keen et al., 2008). Alpha coefficients in the study sample for the re-experiencing, avoidance/numbing, and hyperarousal subscales were .96, .93, and .94, respectively, and .97 for the total score.

### Procedure

The University of Southern Mississippi's Institutional Review Board approved the current study (see Appendix B). Participants were recruited through various methods, including publically available e-mail, postings on public online support groups and listservs, and through personal contacts of the primary investigator. The researcher also

posted a brief description of the study, researcher contact information, and a link to survey materials on online support groups and online social networking sites for veterans and families. A fixed link to the study was available on a webpage devoted to research in this area. Those who had already completed the study were encouraged to refer other appropriate families to the researcher or to the online survey materials directly.

Surveys were developed through PsychSurveys, a secure online service provider ([www.psychsurveys.org](http://www.psychsurveys.org)). Privacy was ensured so that obtained data was accessible by the researcher with a secure password. The online survey included an informed consent (see Appendix C) and demographic information form. The following measures were then displayed in random order, determined by the online survey system: the PSS, DRS-15R, DRRI-L, and PCL-M. A link to the resource list (see Appendix D) was also provided at the top and bottom of each page. Families with more than one child chose a focus child and completed the parenting measure in reference to that child. Total time to complete the measures was approximately 10 to 25 minutes.

#### Research Questions and Hypotheses

1. Do higher levels of combat-related PTSS, particularly symptoms of numbing, social support, and/or hardiness predict levels of reported parenting stress?
  - a. Higher reported levels of combat-related PTSS, as measured by the subscale scores on the PCL-M, will be predictive of higher levels of total parenting stress on the PSS, with numbing emerging as a significant, unique predictor.
  - b. Higher reported levels of social support, as measured by the DRRI-L, will be predictive of lower levels of parenting stress on the PSS.

c. Higher reported levels of hardiness, as measured by the total score on the DRS-15R, will be predictive of lower levels of parenting stress on the PSS.

2. Does hardiness moderate the relationship between combat-related PTSS and parenting stress?

a. The effect of combat-related PTSS on parenting stress will vary as a function of veterans' level of hardiness, as measured by the DRS-15R total score.

3. Is social support a partial mediator of the relationship between PTSS and parenting stress?

a. The effect of PTSS on parenting stress will be attenuated after the addition of social support in the regression model.

## CHAPTER III

## RESULTS

Means, standard deviations, and sample sizes for each measure are presented in Table 2. For this sample, the average hardiness score, as measured by the DRS-15R total score, was consistent with previous samples of military veterans (Bartone et al., 2006) and was just below the 50<sup>th</sup> percentile. Using the most conservative method to classify clinically significant PCL-M scores (i.e., clinical cutoff > 49 and at least one *Moderately* [or above] endorsement for cluster B, three *Moderately* [or above] endorsements on cluster C, and two *Moderately* [or above] endorsements on cluster D), 52 (43.7%) participants' total scores on the PCL-M exceeded the clinical cutoff indicative of PTSD. The percentage of participants whose score exceeded the clinical cutoff on the PCL-M was higher than recent estimates of PTSD rates among modern veterans (Hoge et al., 2004). Overall, participants reported a relatively low level of parental stress, as evidenced by the mean score on the PSS.

Table 2

*Means and Standard Deviations for Study Measures (N = 119)*

Measure	<i>M</i>	<i>SD</i>
DRS-15R (Hardiness)	26.25	6.96
DRRI-L (Social Support)	53.45	11.21
PCL-M (PTSD)	46.38	20.89
PSS (Parental Stress)	36.61	10.15

*Note.* DRS-15-R = Dispositional Resilience Scale- Revised; PCL-M = Posttraumatic Stress Disorder Checklist- Military Version; DRRI-L = Dispositional Risk and Resilience Inventory, Section L, Post-deployment Social Support; PSS = Parental Stress Scale.

To determine whether the assumptions of regression were met in the study sample, a series of visual and statistical analyses were performed. Regressions using squared predictor values and matrix scatterplots were examined to determine whether linearity assumptions were met; neither indicated a violation of this assumption. To determine whether the homoscedasticity assumption was met, unstandardized predicted and residual values were plotted for the dependent measure. Visual inspection of the graph did not suggest heteroscedasticity. All collinearity statistics were within the acceptable range (tolerance values ranged from .199 to .497, variance inflation factors ranged from 1.84 to 6.74, and condition indices ranged from 1.00 to 26.40). Thus, it does not appear that the assumptions of regression were violated in the current sample.

A series of bivariate correlations were calculated to determine the relationships among the study variables (see Table 3). Hardiness, as measured by the DRS-15R, and social support, as measured by the DRRI-L, were negatively correlated with all PCL-M symptom subscales and parenting stress as measured by the PSS. Each of the PCL-M subscales was positively correlated with parenting stress.

Table 3

*Correlation Coefficients for Study Measures*

Variable	1	2	3	4	5	6	7
1. DRS-15R	-	.61**	-.53**	-.62**	-.51**	-.59**	-.42**
2. DRRI-L		-	-.54**	-.66**	-.55**	-.62**	-.33**
3. PCL-M – Reexperiencing			-	.88**	.84**	.95**	.06
4. PCL-M – Avoidance/numbing				-	.85**	.96**	.33**

Table 3 (continued).

Variable	1	2	3	4	5	6	7
5. PCL-M – Hyperarousal					-	.94**	.26**
6. PCL-M Total Score						-	.28**
7. PSS							-

*Note.* DRS-15R = Dispositional Resilience Scale; DRRI-L = Deployment Risk and Resiliency Scale Section L; PCL-M = Posttraumatic Stress Disorder Checklist- Military Version; PSS = Parental Stress Scale

\*\*  $p < .01$

As child gender and annual family income were associated with parenting stress in a previous sample of military veterans (Tomassetti, 2009), bivariate analyses between these demographic variables and the parenting stress criterion were computed. The point-biserial relationship between child gender and parental stress was not significant ( $r = -.16, ns$ ). The biserial relationship between family income and parental stress was not significant ( $r = -.08, ns$ ). Therefore, no control variables were used in the statistical analyses.

### Hypothesis 1

To test the first hypothesis, that combat-related PTSS, particularly symptoms of avoidance/numbing, social support, and hardiness are predictive of parenting stress, scores from each of the three PCL-M subscales (re-experiencing, avoidance/numbing, and hyperarousal), DRRI-L Total Score, and DRS-15R Total Score were entered simultaneously as individual predictors, and the total parental stress score was measured as the criterion in a multiple regression. A linear multiple regression with each of the three PCL-M subscales (re-experiencing, avoidance/numbing, and hyperarousal), DRRI-L Total, and DRS-15R Total entered in the first step, and PSS Total Score entered as the

criterion, revealed that the total model was significant and explained 23.4% of the variance in the parenting stress criterion,  $R^2 = .234$ ,  $F(5, 113) = 6.916$ ,  $p < .001$ , with both re-experiencing ( $\beta = -.483$ ,  $p = .010$ ) and hardiness ( $\beta = -.321$ ,  $p = .005$ ) emerging as unique predictors of parenting stress. The unique effects of avoidance/numbing ( $\beta = .416$ ,  $p = .053$ ) approached significance (see Table 4).

Table 4

*Summary of Multiple Regression for PTSD Symptom Clusters, Social Support, and Hardiness Predicting Parenting Stress*

Variable	$\beta$	$R^2$
Step 1		.234**
PCL-M Reexperiencing	-.483**	
PCL-M Avoidance/numbing	.416	
PCL-M Hyperarousal	.010	
DRRI-L	-.063	
DRS-15R	-.321**	

*Note.* PCL-M = Posttraumatic Stress Disorder Checklist- Military Version; DRRI-L = Deployment Risk and Resiliency Inventory Section L; DRS-15R = Dispositional Resilience Scale

\*\* $p < .01$

### Hypothesis 2

Next, hierarchical multiple regression was used to test the hypothesis that hardiness, as measured by the DRS-15R total score, moderates the relationship between PTSS, as measured by the PCL-M total score, and parenting stress, as measured by the PSS total score. Scores on the PCL-M and DRS-15R were centered based on recommendations by Frazier, Tix, and Barron (2004) before the product terms of the PCL-M (predictor) and DRS-15R (moderator) scores were calculated. A hierarchical multiple regression was performed with centered PCL-M and DRS-15R total scores

entered in the first step, and the interaction of PCL-M and DRS-15R centered scores entered in the second step. Note that a significant  $R^2$  change at the final step is indicative of a significant moderation effect (Frazier et al., 2004). Although the total model accounted for 18.0% of the variance in the parenting stress criterion, the second step was not significant ( $\Delta R^2 = .003$ ,  $\beta = .062$ ,  $p = .513$ ), indicating that the effects of hardiness on parenting stress are consistent across levels of concurrent PTSD symptomatology (see Table 5).

Table 5

*Summary of Moderated Multiple Regression for PTSS and Hardiness Predicting Parenting Stress*

Variable	$\beta$	$R^2$	
Step 1 (Main Effects)		.177**	
DRS-15R Total	-.394**		
PCL-M Total	.043		
	B	$R^2$	$\Delta R^2$
Step 2 (Interaction)		.180 <sup>ns</sup>	.003
DRS-15R X PCL-M	.004 <sup>a</sup>		

*Note.* DRS-15R = Dispositional Resilience Scale; PCL-M = Posttraumatic Stress Disorder Checklist- Military Version. Beta-weights reported for main effects.

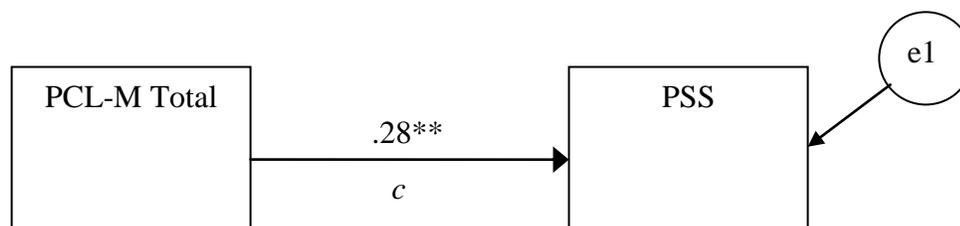
<sup>a</sup>Unstandardized regression coefficient reported for the interaction

\*\* $p < .01$ . *ns* = not significant.

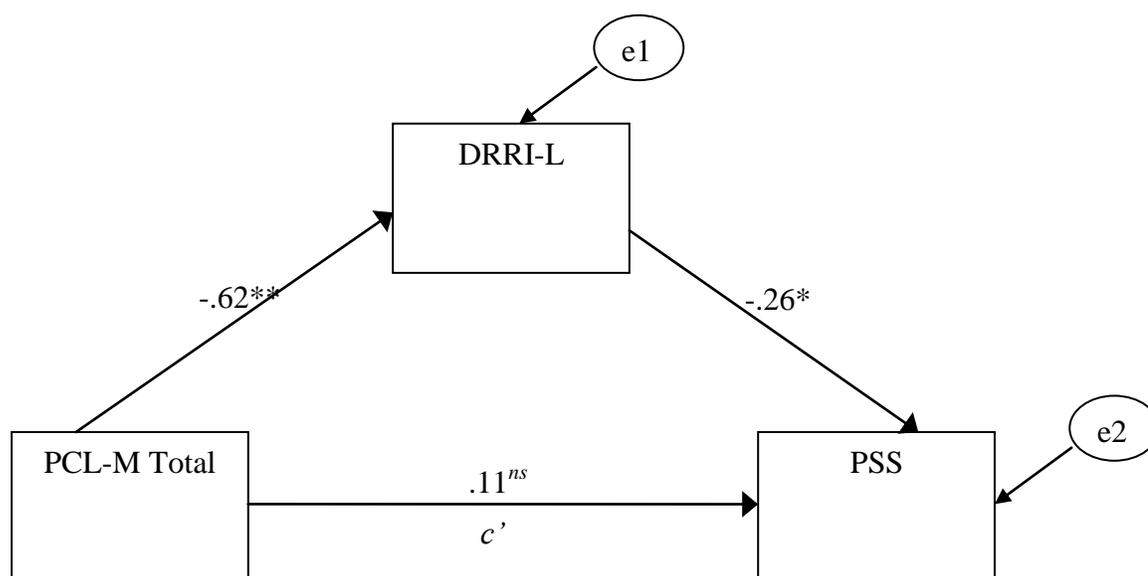
### Hypothesis 3

Path analysis was utilized to test the third hypothesis, which stated that social support would partially mediate the relationship between PTSS and parental stress. The significant, unmediated relationship between PTSS and parental stress ( $\beta = .275$ ,  $p = .002$ ) is presented in Figure 1a. To test for partial mediation, a bootstrapping method, as

recommended by Hayes (2009), was conducted with the 119 complete data sets. Bootstrapping is a resampling technique, whereby the collected data are repeatedly sampled and estimates are calculated for the paths from the predictor (PTSS) to the mediator (social support) (path *a*) and from the mediator to the criterion (parental stress) (path *b*). As recommended by Hayes, the data was resampled 5,000 times, producing a 95% confidence interval containing path estimates for paths *a* and *b*. If zero is not contained within this confidence interval, it is inferred that mediation is present. The standardized indirect effect of PTSS on parental stress is between  $\beta = .031$  and  $\beta = .305$ ,  $p = .035$ , indicating that post-deployment social support is a mediator of the relationship between PTSS and parental stress. Results of the mediation model, which included post-deployment social support, are depicted in Figure 1b. The change from a significant path *c* in Figure 1a to a non-significant path *c'* in Figure 1b is demonstrated as support for partial mediation.



a). Direct (unmediated) effects of PTSS on Parental Stress.



b). Mediated Pathway

*Figure 1.* Pathways between PTSS, Social Support, and Parental Stress. Direct and mediated pathways demonstrate the role of post-deployment social support as a significant mediator of the relationship between PTSS and parental stress. PCL-M = Posttraumatic Stress Disorder Checklist- Military Version; DRRI-L = Dispositional Risk and Resilience Inventory, Section L, Post-deployment Social Support; PSS = Parental Stress Scale. \* $p < .05$ . \*\*  $p < .01$

## CHAPTER IV

### DISCUSSION

The purpose of this study was to examine the relationships among PTSS, hardiness, post-deployment social support, and parental stress in a sample of OEF/OIF/OND veterans with children under the age of 18. It was hypothesized that PTSS, particularly symptoms of avoidance/numbing, would predict increased parental stress, while hardiness and post-deployment social support would be inversely related to parental stress. Although the full model accounted for 23% of the variance in the parental stress criterion, only partial support was found for Hypothesis 1, with hardiness emerging as a unique predictor in the anticipated direction. Contrary to Hypothesis 1, avoidance/numbing did not reach statistical significance in the prediction of parental stress. Re-experiencing did emerge as a unique predictor in this relationship, as it was negatively associated with parental stress in the sample (see discussion below).

Hypothesis 2 stated that hardiness would act as a moderator in the relationship between PTSS and parental stress. Although the full model accounted for a significant portion of variance, the interaction of hardiness with PTSS was not a unique predictor, indicating that hardiness was not a moderator of this relationship. The third and final Hypothesis stated that post-deployment social support would be a partial mediator of the relationship between PTSS and parental stress. Results indicated that post-deployment social support is a significant mediator of the relationship, supporting Hypothesis 3.

#### Predictors of Parenting Stress

The aim of the first hypothesis was to determine the unique influences of PTSS, hardiness, and social support on parental stress in the current sample of OEF/OIF/OND

veterans. Only partial support was found for Hypothesis 1, with hardiness emerging as a unique predictor in the anticipated direction. Contrary to Hypothesis 1, avoidance/numbing did not reach statistical significance in the prediction of parental stress. Re-experiencing did emerge as a unique predictor in this relationship, as it was negatively associated with parental stress in the sample. The finding that hardiness inversely predicted parental stress is consistent with previous studies assessing relationships among individual hardiness and parenting stress (Ben-Zur et al., 2005; Johnson & McMahon, 2008; Lang et al., 2004). When faced with life stressors, hardy persons rely on a sense of efficacy and tend to actively approach challenges (Kobasa et al., 1982; Maddi et al., 2006). For the hardy parent, the inherent challenges of childrearing may be viewed as opportunities for personal growth and meaning-making. As an authority figure, hardy parents may feel a sense of control in determining child outcomes, viewing themselves as competent and committed to their parental tasks.

Inherent to the definition of hardiness is the presence of an external challenge or stressor. Upon recognizing an external stressor, the hardy individual may activate related skills, such as cognitive coping (Johnson & McMahon, 2008). As recent veterans have reported parenting to be more stressful after a deployment (Khaylis et al., 2011), an increase in perceived parental stress post-deployment may have led to an activation or increased utilization of hardy traits. Over the course of two or more years (the average time home since most recent deployment in the current study), this hardy disposition may have resulted in a net decrease in parental stress. Future studies should examine this hypothesis using a longitudinal design.

The failure of avoidance/numbing to reach statistical significance in the prediction of parental stress is surprising, as this symptom cluster has been reported as having unique effects in several other samples of military veterans (e.g., Ruscio et al., 2002; Taft et al., 2008; Tomassetti, 2009). In contrast, a large scale study of persons with lifetime histories of PTSD revealed that, relative to previous studies of veterans, the relationship between avoidance/numbing and parent-child relationship factors was small (Lauterbach et al., 2007). In explaining possible causes of the relatively weaker relationship, the authors noted that only participants with severe to very severe PTSD symptoms were included in their study, essentially restricting the range of possible results. Given the high inter-correlations of PTSS symptom clusters and the high prevalence of symptom endorsement in the current sample, a lack of variability is one explanation for the failure to find unique effects of avoidance/numbing in the regression analysis. Every participant who exceeded the clinical cutoff of 50 on the PCL-M also endorsed sufficient criteria on each subscale to support a potential PTSD diagnosis. Thus, there may not have been sufficient variability between clusters of symptom distress to elucidate meaningful differences in connections between individual clusters and parental stress.

Although re-experiencing was positively correlated with parental stress, when placed in the regression model with avoidance/numbing (and other predictors), re-experiencing acted as a net suppressor of the shared variance with avoidance/numbing in the prediction of parental stress. In addition to restricting the available variance in avoidance/numbing, as the comparatively smaller predictor, the beta-weight for re-experiencing was reversed, as expected, from that observed in the bivariate condition (Wuensch, 2012). Thus, the change in direction is a statistical artifact; conceptually, re-

experiencing should be understood as positively related to parental stress in the current sample, with its primary utility in the multiple regression understood to be its consumption of error variance in the avoidance/numbing variable. Still, the relationship between re-experiencing and parental stress should be interpreted with caution, as the bivariate relationship was small. A similar statistical phenomenon was observed in Tomassetti's (2009) study; however, avoidance/numbing achieved statistical significance in that sample.

Although social support had a bivariate relationship with parental stress, it did not emerge as a unique predictor in the regression model. This was surprising, given that social support has been associated with positive outcomes in previous research of military veterans (Jakupcak et al., 2010; Pietrzak, Goldstein et al., 2010; Vogt, Rizvi et al., 2008). Given the strong, negative correlation between social support and PTSS, when entered in the regression with other variables, social support may not have sufficient variability to stand alone in the prediction of parental stress, as its relative variance was less than that of PTSS. Similarly, with a large proportion of parental stress variance explained by hardiness, there may not have been sufficient variability remaining in the criterion to be explained by social support. The overlap between PTSS and social support, while problematic in terms of finding unique variance explained, is conceptually intuitive: if a person is avoiding/numbing, they are likely withdrawing from social relationships and this pattern is likely reciprocal.

#### Hardiness

In light of available data regarding the relationship between hardiness and outcomes such as physical and psychological health among military veterans (e.g., Adler

& Dolan, 2006; Bartone, 1999), the aim of the second hypothesis was to evaluate whether hardiness is a moderator of the relationship between PTSS and parental stress in a recent sample of OEF/OIF/OND veterans. Although the total model was significant, hardiness did not act as a moderator of the relationship between PTSS and parental stress in the current study. This is in contrast to Adler and Dolan's (2006) findings, where hardiness was a significant moderator of the relationship between deployment stress and depression, and Bartone's (1999) findings, where hardiness interacted with combat stress to predict physical and psychiatric symptoms. However, the current findings are consistent with Tomassetti's (2009) findings, where hardiness demonstrated main, but not moderating, effects in the relationship between PTSS and parental stress. Unlike previous research with veterans (e.g., Adler & Dolan, 2006; Bartone, 1999), the current study assessed the interaction of hardiness with psychiatric symptoms (i.e., PTSS) to predict a non-clinical outcome (i.e., parental stress), rather than assessing the interaction of hardiness with non-clinical symptoms (i.e., deployment stress) to predict specific psychiatric symptoms. Thus, while hardiness has demonstrated buffering effects when predicting clinical/diagnostic features, it may be best understood as having overall, or main effects when predicting outcomes that are more general, such as diffuse stress, thus acting consistently across levels of PTSS.

Although hardiness has been described as a moderator in veteran samples, (e.g., Adler & Dolan, 2006; Bartone, 1999), the available literature addressing hardiness in civilian parents indicates that hardiness has main effects when predicting parenting variables (e.g., Ben-Zur et al., 2005; Johnson & McMahon, 2008). Thus, the main effect observed in the first step of the hierarchical regression in the current sample is consistent

with the broader parenting research. Moreover, the finding that hardiness has any effect is encouraging. As hardiness has been shown to be susceptible to depletion over time, (e.g., Vogt, Rizvi et al., 2008), programs designed to increase troops' resilience pre-deployment, such as a recent Army initiative (Casey, 2011), may be particularly useful in establishing a hardy mindset for troops. For example, compared to a similar sample of veterans, surveyed in 2009 (i.e., Tomassetti, 2009), PCL-M scores exceeding the clinical cutoff indicative of PTSD were observed at higher rates in the current sample (current sample = 43.7% exceeded cutoff; 2009 sample = 9.3% exceeded clinical cutoff). It may follow that the symptoms reported by participants in the current sample are more chronic, yet the apparent benefits of hardiness are similarly present. This suggests that hardiness may remain relatively stable among OEF/OIF veterans who are also parents. However, this interpretation is provided with caution, as it is unknown how many (if any) participants from the 2009 study also participated in the current study. Thus, the comparison made herein is offered for speculation only.

### Social Support

Previous research has demonstrated a relationship between PTSS and parenting problems in military and veteran populations (e.g., Ruscio et al., 2002; Sutker et al., 2005; Taft et al., 2008; Tomassetti, 2009). Social support has been associated with PTSD (e.g., Brewin et al., 2000) and parenting issues (e.g., Macias et al., 2007). Consistent with an erosion theory of the effect of PTSD on social support (e.g., King et al., 2006) support was found for the third hypothesis, which posited that post-deployment social support would be a partial mediator of the relationship between PTSS and parental stress. When post-deployment social support was added to the PTSS-to-parental stress model,

the path from PTSS to parental stress was reduced from significance to non-significance, suggesting that social support was found to mediate the relationship between PTSS and parental stress. In other words, rather than impacting parental stress directly, PTSS affects parental stress through decrements in social support. That is, PTSS is related to decreases in social support, which in turn, leads to increases in parental stress. The current findings are consistent with Pietrzak, Johnson et al. (2010), who found that social support was a partial mediator of the relationship between PTSD and psychosocial difficulties in a sample of OEF/OIF veterans. As King et al. (2006) noted, the interpersonal difficulties (e.g., detachment, aggression) often associated with PTSD, may lead to the deterioration of social contacts and relationship quality over time. In the current sample, participants had been home from their most recent deployment more than four years on average; one might infer that significant detriments to interpersonal functioning could occur in this time, particularly if PTSS has been untreated. For example, notwithstanding the correlations among subscales of the PCL-M, the bivariate correlations between avoidance/numbing and social support ( $r = -.65$ ) and between hyperarousal and social support ( $r = -.62$ ) were the largest among the study measures. While the symptoms of emotional detachment may prevent the passive receipt or perception of social support, efforts to avoid social situations with a high probability of evoking arousal symptoms may further impede the development of interpersonal relationships and related feelings of support from others. Even when social interactions do occur, the veteran's hypervigilance may have a reciprocal relationship in the receipt and perception of social support. That is, others may view the hypervigilant veteran as unapproachable, and the veteran may consequently view others as unsupportive.

In their comparison of the relationships between parenting-specific stress and child oppositionality, reported separately by parents and teachers, Theule, Wiener, Rogers, and Marton (2011), suggested that general distress experienced by the parent (i.e., the parent's psychiatric symptoms) may act to sensitize the parent to the child's behaviors, leading to higher ratings of reported child behavior problems. Consistent with Hobfoll's conservation of resources theory (Hobfoll, 1989; Hobfoll, Vinokur, Pierce, & Lewandowski-Romps, 2012) the depletion of coping resources (i.e., social support), may sensitize the veteran to various sources of distress. In the current study, the veteran's loss of social support, due to symptoms of PTSS, may act to sensitize veterans' to the stressors associated with parenting.

In discussing the connection between social support and parenting outcomes, Quittner et al. (1990) suggested that social contacts (e.g., friends) may feel ill-equipped to offer meaningful social support and, therefore, are reluctant to offer. While a deployment itself could prevent the development of relationships with other parents (due to access), subsequent PTSS may make it even more difficult for veterans to connect with the parents of their children's friends, resulting in missed opportunities for normalizing or problem-solving. In addition to lacking the opportunity to observe other parents' behaviors and reactions to child behaviors, the veteran with PTSD and low perceived social support may feel qualitatively different from other parents, in turn perceiving their parental stress differently than might be reported by veterans with adequate social support.

In their study of OEF/OIF veterans' suicide risk, Jakupcak et al. (2010) suggested that PTSD symptoms might influence opportunities for and perceptions of social support.

In the current study, veterans' PTSS may have interfered with their ability to engage socially with others, or with their ability to perceive that support is available.

Considering a recent cohort of veterans reported that parenting was more stressful following deployment (Khaylis et al., 2011), decreases in social support may be particularly burdensome for the already-distressed parent.

While the mechanisms that underlie the relationship from PTSS to social support to parental stress warrant further investigation, the finding that such a relationship exists is a major contribution of the current study. There is a long-standing empirical foundation suggesting a link between PTSS and parenting problems (including parental stress); this study is among the first to demonstrate a significant link between predictor and outcome. That is, the current study begins to address the *how* PTSS affects parental stress in a sample of recent service members—via the affect of PTSS on post-deployment social support.

#### Limitations

Because participants were recruited from a community setting and current/past mental health treatment was not assessed, it is unknown whether study participants were engaged in any form of mental health treatment prior to or at the time of participation. It is possible that participants' experiences (or lack thereof) with treatment could have influenced not only their reported PTSS, but also their satisfaction with post-deployment social support. Given the relatively high rates of PTSD symptom endorsement, self-selection bias may have played a large role in participants' decisions to respond to the survey; veterans experiencing dissatisfaction with outlets to express distress may have been drawn to an opportunity to *share their experience as a service member and parent*.

As mentioned above, the somewhat limited variability in PTSD symptom endorsement may have obscured meaningful differences in the effect of symptom clusters on parenting outcomes. Moreover, the high rate of symptom endorsement may limit the degree to which the current results can be generalized to those with mild to moderate symptoms.

Partly in an effort to improve the likelihood of survey completion, a number of potentially interesting questions were not included in the demographic questionnaire or other surveys. For example, how/which child was selected as the focus child was not standardized or assessed. Some parents may have chosen the most (or least) stressful child, while others may have considered their overall experience as a parent (i.e., although participants were asked to provide the sex and age of a focus child, PSS items were worded in a manner conducive to focusing on “child(ren)”). In any case, results of the current study should be viewed in terms of the relatively low level of parental stress reported by study participants.

#### Suggestions for Future Research

The current study utilized a cross-sectional design to assess relationships among PTSS, hardiness, social support, and parental stress. Although cross-sectional designs cannot indicate causality, the current mediation results suggest that post-deployment social support is one underlying mechanism through which PTSS affects parental stress. A longitudinal investigation of these variables may elucidate with more certainty the directional nature of these relationships. Given the likely changes in family dynamics and parental stress over the course of child development, assessment at multiple time points may reveal a more complete picture of these relationships. For example, it is unknown whether the level of social support reported by study participants had changed

over the course of deployment or their subsequent time at home. Knowing whether the impact of PTSS on social support occurs gradually or rapidly could have important implications for both intervention and combat readiness (for personnel facing additional deployments). It might also be interesting to examine changes in social support and parental stress as a function of treatment seeking and outcome in recent veterans. It would be important to know whether social support, and subsequently parental stress, could be improved with PTSS treatment.

Although hardiness did not emerge as a moderator, it was an important and unique predictor of parental stress in the current study. As hardiness has been examined as a moderator between combat or other situational stressors and subsequent PTSS, future researchers may utilize path analytic models to examine the role of hardiness in buffering against PTSS, which may in turn minimize social support losses and subsequent parenting problems. Alternatively, hardiness might be examined for its buffering role between PTSS and social support.

Given the relatively greater proportion of fathers, compared to mothers, in the current sample, a number of potentially interesting comparisons were not possible, but may be important in future explorations of these variables; mothers who are also veterans constitute a unique subset of the parenting population and should be the focus of continued study. For example, results from one study indicated a relatively stronger relationship in the social support-to-parental stress relationship for fathers, compared to mothers (Macias et al., 2007). Future researchers might investigate a moderated mediation, whereby the relationship between social support (mediator) and parental stress is moderated by parent sex.

For practical purposes, potentially important constructs were not assessed in the current sample. For example, there were no measures of child behavior or temperament in the current study; only subjective reports of parental stress were collected. While the relationship between parental stress and child behavior is likely reciprocal, a measure of child behavior could provide additional context for understanding the current findings. Future researchers should also attempt to corroborate veterans' self-report with clinician- and partner-reported symptoms.

In light of the military's warrior culture (e.g., Bryan & Morrow, 2011), veterans may rely heavily on the dysfunctional coping strategy of avoiding situations with the potential for producing strong affect (Ehlers & Clark, 2000), such as interactions with their young children. Assessing the value that the service member places on stoicism, combined with a desire to instill this value in his children, may reveal another mechanism through which PTSS affects parental stress in military veterans. Researchers and clinicians alike should consider the vital role of military culture and values during assessment and intervention.

### Clinical Implications

Inverse bivariate relationships between parental stress and social support and hardiness are encouraging. These protective factors may be targets of clinical intervention, both pre- and post-deployment. Across analyses, the most robust finding in the current sample was the inverse relationship between PTSS and post-deployment social support. Consistent with an erosion hypothesis that PTSS temporally precedes social support decrements, clinicians may work to help veterans find supportive persons and facilitate the appropriate seeking of social support (Laffaye et al., 2008). From a

cognitive perspective, this might include reframing the veteran's perception of the meaning behind support-seeking (e.g., challenging the idea that support seeking is indicative of weakness), or facilitating alternative interpretations of others' behavior (e.g., others might refrain from asking the veteran about his/her combat experience as a display of respect, rather than a lack of concern). Consistent with a recent program to destigmatize mental health seeking among active service members (Bryan & Morrow, 2011), simply changing the way in which clinicians describe interventions may be an important aspect in the effective treatment and prevention of mental health distress. For example, discussing ways to utilize "controlled breathing" (which is essentially diaphragmatic breathing taught in firearms training) to "manage adrenaline" may be a more acceptable way to intervene with members of a warrior culture (Bryan & Morrow, 2011, p. 19).

In light of evidence that PTSD symptom endorsement, and presumably diagnostic certainty, increases over time, the current generation of combat veterans may benefit from on-going symptom assessment at regular intervals following redeployment and separation from the military (Milliken et al., 2007). One recent study reported that veterans who are also parents expressed a preference for family based, rather than individual, interventions (Khaylis et al., 2011). Psychoeducation at the family level could facilitate co-parents' understanding of post-combat adjustment, which may benefit veterans' perceptions of social support and parental stress. Given the salubrious main effects of hardiness on parental stress and its bivariate relationship with PTSS, programs designed to increase troops' resilience pre-deployment may be particularly useful. The

Army has recently implemented one such prevention program that is specifically designed to increase soldiers' resilience (Casey, 2011).

### Conclusions

The purpose of the current study was to examine relationships among PTSS, personality hardiness, post-deployment social support, and parental stress in a sample of OEF/OIF/OND veterans who are parents of children under the age of 18. The diversity of participants in the current study is viewed as a strength. While similar studies have utilized rather homogenous groups of services members (e.g., all participants coming from a single military branch and unit), the current study offers a cross section, representing all branches of the U.S. armed forces. Such diversity lends to the generalizability of the current findings to veterans of various branches, ranks, and deployment-specific variables, such as duration, location, and total number of deployments. Results indicated that personality hardiness had a beneficial main effect on parental stress, while the relationship between PTSS and parental stress was mediated by post-deployment social support. Particular strengths of this study include the diverse demographic characteristics of study participants, which improve the generalizability of the overall findings. The finding that post-deployment social support is one mechanism through which PTSS may affect parental stress is a significant contribution to the literature on parenting among current and recent service members.

## APPENDIX A

## GENERAL INFORMATION FORM

The person completing this form is:

Mother    Father    Stepfather    Stepmother    Other: (please specify) \_\_\_\_\_

Your Age: \_\_\_\_\_

Race/Ethnicity: White/Caucasian    Black/African American    Hispanic

Native American (Indian)    Asian    Other: (specify) \_\_\_\_\_

Number of years of education: (please select last grade completed)

12                    13                    14                    15                    16                    17+

Graduated High School

Graduated College    Graduate/Professional School

Current military status: Active    Reserve/Guard    Retired    Separated

Regular military status: Active    Reserve/Guard

Branch of service: Army    Air Force    Coast Guard    Marine Corps

Rank: E\_\_\_\_                    O\_\_\_\_

Current Marital Status: Single/living alone    Divorced/separated    Married/living with partner    Widowed    If divorced, are you the child(ren)'s primary guardian? Yes  
No

Annual Income: < \$10,000    \$10-\$20,000    \$21 - \$30,000    \$31-\$40,000    \$41-\$50,000    \$51,000+

Number of children who reside with you: \_\_\_\_\_

Approximate start and end dates of most recent deployment:

\_\_\_\_\_

Location of most recent deployment: \_\_\_\_\_

Total number of deployments since 2001: \_\_\_\_\_

Please indicate the approximate number of times you engaged in active combat during your most recent deployment. Examples of active combat include, but are not limited to: being attacked or ambushed; receiving artillery, rocket, or small arms fire; shooting at the

enemy; seeing or handling dead or injured bodies; or engaging in hand to hand combat:

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## APPENDIX B

## INSTITUTIONAL REVIEW BOARD APPROVAL

**INSTITUTIONAL REVIEW BOARD**

118 College Drive #5147 | Hattiesburg, MS 39406-0001  
 Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

**NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **12021409**

PROJECT TITLE: **Resilience and Parenting Experiences  
of Recent Service Members**

PROJECT TYPE: **Dissertation**

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COLLEGE/DIVISION: **College of Education & Psychology**

DEPARTMENT: **Psychology**

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**Lawrence A. Hosman, Ph.D.**  
**Institutional Review Board Chair**

## APPENDIX C

## CONSENT FORM

## THE UNIVERSITY OF SOUTHERN MISSISSIPPI

**AUTHORIZATION TO PARTICIPATE IN RESEARCH PROJECT titled:****Resilience and Parenting Experiences of Recent Service Members**

**Purpose:** The purpose of this study is to examine recent service members' experiences related to their roles as parents and combat veterans.

**Description of Study:** Participating individuals will be asked to complete anonymous, online questionnaires related to their military combat experience and parenting. The survey will take an estimated 10 to 25 minutes to complete. Participation in this project is completely voluntary and anonymous. Information related to your participation in this study will NOT be shared with military officials, members of your command, or any other agency.

**Benefits to the Participant:** Participation in this study may lead to increased insight into the protective factors that buffer against the negative effects of combat experiences in veterans of the wars in Iraq and Afghanistan.

**Risks:** Foreseeable risks associated with the proposed project may include an increase in stress, but it is unlikely that this will be more than would be expected in daily interactions. While participants are encouraged to complete the survey, there is no penalty for withdrawing from this project at any time. A resource list will be made available to all participants at the end of the survey. A link to the resource list will also be located at the top of each survey page.

**Confidentiality:** No personally identifiable information will be collected. All efforts will be made to protect participants' privacy and to maintain the confidentiality of the data acquired through this project. Questionnaires will be completed through a secure, protected website. Individual participants will not be identified by name. The computerized data will be maintained numerically with no identifying information. Researchers will have access to all data obtained during this study.

**Subject's Assurance:** Whereas no assurance can be made concerning results that may be obtained (because results from investigational studies cannot be predicted), the researcher will take every precaution consistent with the best scientific practice. Participation in this project is completely voluntary, and subjects may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to Dr. Bonnie C. Nicholson (601-266-4598). This project and

this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406, (601) 266-6820.

**Consent:** Consent to participate is indicated by the completion of the measures.

## APPENDIX D

## RESOURCE LIST

*If you are experiencing distress and would like assistance, please contact one of the resources below.*

<p><b>Defense Centers of Excellence for Psychological Health Outreach Call Center</b></p> <p><i>The DCoE Outreach Center is open 24 hours a day, seven days a week to answer questions related to psychological health. Services are available by telephone or email.</i></p>	<p>1-866-966-1020</p> <p><a href="mailto:resources@dcoeoutreach.org">resources@dcoeoutreach.org</a></p> <p><a href="http://www.dcoe.health.mil/Default.asp">http://www.dcoe.health.mil/Default.asp</a></p> <p>x</p>
<p><b>American Psychological Association Psychologist Locator</b></p> <p><i>The Psychologist Locator makes it easy for you to find practicing psychologists in your local area. Psychologists are trained to help people deal effectively with many of life's problems and can help improve physical and mental health for you and your family. The Psychologist Locator lets you consider many factors in searching for psychologists, including their areas of specialization, gender, insurance accepted, languages spoken and much more.</i></p>	<p><a href="http://locator.apa.org/">http://locator.apa.org/</a></p>
<p><b>Military OneSource</b></p> <p><i>Military OneSource is provided by DoD at no cost to active duty, Guard, and Reserve (regardless of activation status) and their families. Counseling services are provided</i></p>	<p>1-800-342-9647</p> <p><a href="http://www.militaryonesource.com/">http://www.militaryonesource.com/</a></p>

<p><i>face-to-face, online, or by telephone. The service is private and confidential; however, your identity must be verified for their internal records only.</i></p>	
<p><b>National Suicide Prevention Lifeline</b></p> <p><i>The National Suicide Prevention Lifeline is a nationwide network of crisis centers. Calls are routed to the nearest available crisis center. The hotline is staffed by trained counselors and is available 24 hours a day, seven days a week. The service is free and confidential.</i></p>	<p>1-800-273-TALK (8255)</p> <p><a href="http://suicidepreventionlifeline.org/">http://suicidepreventionlifeline.org/</a></p>
<p><b>Deployment Health Clinic</b></p> <p><i>The core mission of the Deployment Health Clinic is to improve deployment-related health by providing caring assistance and medical advocacy for military personnel and families with deployment-related health concerns.</i></p>	<p>1-800-796-9699</p> <p><a href="http://www.pdhealth.mil/">http://www.pdhealth.mil/</a></p>
<p><b>Vet Centers</b></p> <p><i>Vet Centers provide readjustment counseling and outreach services to men, women, and families of those who served in the military. The Vet Centers are staffed by small multi-disciplinary teams of dedicated providers, many of which are combat veterans themselves.</i></p>	<p>1-800-905-4675 (Eastern Time Zone)</p> <p>1-866-496-8838 (Pacific Time Zone).</p> <p><a href="http://www.vetcenter.va.gov/">http://www.vetcenter.va.gov/</a></p>

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