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Factors related to adaptation in the intimate relationships of OEF/OIF veterans with posttraumatic stress disorder

Nykeisha Nicole Moore  
*University of Iowa*

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FACTORS RELATED TO ADAPTATION IN THE INTIMATE RELATIONSHIPS OF  
OEF/OIF VETERANS WITH POSTTRAUMATIC STRESS DISORDER

by

Nykeisha Nicole Moore

An Abstract

Of a thesis submitted in partial fulfillment of the requirements  
for the Doctor of Philosophy degree in  
Rehabilitation and Counselor Education  
in the Graduate College of The University of Iowa

May 2011

Thesis Supervisors: Professor Vilia M. Tarvydas  
Assistant Professor Noel Estrada Hernandez

## ABSTRACT

Posttraumatic Stress Disorder (PTSD), the signature wound of the Iraq and Afghanistan wars, has caused veterans to face numerous and complex challenges within their intimate relationships post-deployment. Although other studies have explored the intimate relationships of veterans, the same level of research has not focused on OEF/OIF veterans from the standpoint of dyadic adaptation using the Dyadic Adaptation Scale (DAS). The purpose of this study was to explore the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not.

More specifically, this study identified the factors that were related to the level of dyadic adaptation for this population. Participants were 126 OEF/OIF veterans who were enrolled in colleges and universities throughout the state of Iowa; provided basic background information in response to a demographics questionnaire; and completed the DAS to yield scores of the participants' dyadic adaptation within their intimate relationships, the Family Crisis Oriented Personal Evaluation Scales (F-COPES) that highlighted their levels of coping, and the Family Inventory of Life Events (FILE) that measured their life stressors within the last 12 months.

The results of the correlation, MANOVA, ANOVA, and hierarchical regression analyses provided four major findings and implications. First, among participants with PTSD, DAS was correlated with tours of duty, FILE, F-COPES, and pharmacologic intervention, and among participants without PTSD, DAS was correlated with FILE. Second, the total dyadic adaptation scores for participating OEF/OIF veterans suggested an overall slight level of relationship dissatisfaction. Third, participants who self-reported PTSD had lower DAS total scores than participants who did not self-report PTSD. In addition, there was a significant difference on all four subscales (cohesion, satisfaction, consensus, and affectional expression) of the DAS between the two groups of participants. Fourth, in terms of participants who self-reported PTSD, tours of duty, types

of relationships, and life stressors were the only variables that positively affected dyadic adaptation. In contrast, for participants who did not self-report PTSD, FILE was the only variable that affected the dyadic adaptation. These findings have important implications that highlight areas in which clinicians, educators, and individuals within the helping professions can join the Department of Veterans Affairs' initiatives to improve the reintegration of OEF/OIF veterans into their familiar roles post-deployment. Future research should explore the relationship norms pre-deployment and across relationship statuses, the identity of military intimate partners within treatment facilities, and the perceptions of treatment and dyadic adaptation after OEF/OIF veterans receive treatment in the community by civilian providers as compared to treatment in VA facilities.

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Graduate College  
The University of Iowa  
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CERTIFICATE OF APPROVAL

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PH.D. THESIS

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To my Lord and Savior:  
But those who wait on the LORD  
Shall renew their strength;  
They shall mount up with wings like eagles,  
They shall run and not be weary,  
They shall walk and not faint.

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## CHAPTER I

### INTRODUCTION

Since 2001 and continuing to the present day, U.S. soldiers have been deployed to Afghanistan and Iraq to serve in Operation Enduring Freedom and Iraqi Freedom (OEF/OIF). Due to the soldiers' frequent deployments and prolonged exposure to combat-related stress, Posttraumatic Stress Disorder (PTSD) has become the signature wound of this war era (Tanielian et al., 2008). PTSD among military veterans is one of numerous contemporary issues impacting veterans' lives and affects their physical, emotional, mental, and vocational welfare. However, to fully understand PTSD, more needs to be known about how PTSD and major sources of stressors affect intimate relationships among OEF/OIF veterans. An intimate relationship may be understood as a committed relationship between two individuals such as spouses, partners, or couples whose union is based on emotional attachment, being in love, mutual commitment, and personal predilection (Flinck, Astedt-Kurki, & Paavilainen, 2008).

The purpose of this study was to explore the level of dyadic adaptation in the intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not, and to identify the factors related to the dyadic level of adaptation for this population. Chapter I provides an overview of PTSD with an emphasis on intimate relationships. A brief synopsis of the Resiliency Model of Family Stress, Adjustment, and Adaptation is presented, as well as how this model relates to the problem investigated in this study. Chapter I concludes with the purpose statement, guiding research questions, and definitions of relevant terms.

#### **Overview**

First identified as shell shock during World War I, PTSD is the only psychiatric condition whose manifestations are based solely on situational causes (Falvo, 2005). PTSD is an anxiety disorder resulting from a history of exposure to a traumatic event, such as domestic violence, rape, war, natural disasters, or plane or car accidents (Malker,

Sigal, Gelkorf, Kochbam, & Horeb, 1990; Wilson, Friedman & Lindy, 2004), and meeting two criteria from each of the following three symptom clusters: intrusive recollections, avoidant/numbing symptoms, and hyper-arousal symptoms (American Psychiatric Association, 2000). A history of participating in war and experiencing catastrophic stressors is often associated with an individual's symptoms of increased self-reported health problems, health-related functional impairments, morbidity, re-experiencing of trauma through nightmares and intrusive thoughts, avoidance, and dissociative experiences (Dalenberg, 1999; Ford et al., 1996; Morgan, 1997). Symptoms of PTSD may trigger maladaptive behaviors, avoidance of others, and attention difficulties (Irving, Telfer, & Blake, 1997). Southwick, Gilmartin, McDonough, and Morrissey (2006) reported that these symptoms may cause veterans to live isolated lives, misuse alcohol and substances, and show little emotion to family and friends. PTSD as a result of combat is often highly debilitating and affects nearly all areas of psychosocial functioning such as vocational, interpersonal, and social participation (Southwick et al., 2006).

Recovering from PTSD involves an ongoing, daily, gradual process of adjustment in which veterans need emotional and social support. Veterans may find that professionals and fellow troops understand the trauma and effects of PTSD better than their friends, spouses, and families (Irving et al., 1997; King, King, Fairbank, Keane, & Adams, 1998; Ruzek, 2007). Therefore, for counselors to more effectively serve the veteran population, it is essential that they receive training regarding the intimate relationships of OEF/OIF veterans and the sources of stressors that may influence the quality of adjustment in veterans' intimate relationships.

### **Theoretical Framework**

Even though there are many well-known models that analyze life stressors, the Resiliency Model of Family Stress, Adjustment, and Adaptation, developed by McCubbin and McCubbin (1993), was chosen to provide the conceptual framework for

the present study and to analyze the impact of stressors on intimate relationships of OEF/OIF veterans. The Resiliency Model of Family Stress, Adjustment, and Adaptation is a prominent model that provides an understanding of family structure. This model was selected because it builds on previous family stress models and can increase understanding of the capacity of individuals within intimate relationships to cope with stressors by analyzing their strengths, resources, and coping/problem-solving abilities.

The Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993) was created to answer the question: “What makes some families fall apart or deteriorate in the face of crises demanding changes, while other families negotiate these troubled times with relative ease by finding new patterns, and restoring and modifying old patterns of function?” (McCubbin & McCubbin, 1996, p. 3). The Resiliency Model of Family Stress is based on a family approach that provides a theoretical basis for understanding families’ adjustment to stressors (Lustig, 1999). Resiliency is defined as “the positive behavioral patterns and functional competence individuals and the family unit demonstrate under stressful or adverse circumstances which determine the family’s ability to recover by maintaining its integrity as a unit while insuring, and where necessary, restoring, the well-being of the family members and family unit as a whole” (McCubbin & McCubbin, 1996, p. 5).

Figley (1995) defined a family member as anyone who lives within a household. Specifically, a family may be composed of multiple subsystems (i.e., individual, dyadic, and triadic) that provide insight into the structure and functioning of a family. Research on subsystems has tended to focus on triadic subsystems (i.e., mother-father-child interaction) among families and has rarely analyzed stressors within dyadic subsystems, such as intimate relationships between spouses and significant others (Kitzmann, 2000). The researcher of this study will examine intimate relationships with significant others.

Essential components of the Resiliency Model are based on intimate relationships and how couples respond to life stressors. In the Resiliency Model, couples’ responses to

life stressors can be visualized as an interaction between the appraisal of stress within the intimate relationship, patterns of functioning, resources, and problem solving and coping skills, which are all variables that influence the management of stressors within intimate relationships. These variables are evident in both the adjustment and the adaptation phases (McCubbin & McCubbin, 1993). However, when couples experience a number of stressors concurrently or consecutively, they may become more vulnerable and unable to successfully transition from the adjustment phase to the adaptation phase (see Appendix B, Figure B1, which presents the adjustment phase on the left of the diagram and the adaptation phase on the right).

The adjustment phase and the adaptation phase can be understood by examining the strengths, resources, and problem-solving abilities of intimate relationships (Beckett, 2000). Individuals within intimate relationships often encounter life changes, such as a significant other acquiring an illness that may impact the relationship. The adjustment phase can be understood as the significant other's ability to process the impact of stressors on the relationship with ease, resulting in only minor changes and functions within the intimate relationship. When ineffective changes are made to relationships, significant others experience a crisis, and major changes to their intimate relationships are necessary to restore stability. A crisis situation initiates the adaptation phase.

During the adaptation phase, significant others must make the necessary changes to deal with the crisis (Saied, 2006). The change of goals, rules, boundaries, and/or roles characterizes the adaptation phase. The adaptation phase can be understood as the outcome of significant others' efforts to achieve new satisfactory levels of balance, harmony, and coherence after the intimate relationship has been impacted by a pile-up of stressors (McCubbin, Thompson, & McCubbin, 1996). How a couple "responds to stressors varies along a continuum from optimal bonadjustment to maladjustment" (McCubbin et al., 1996, p. 43). Bonadjustment occurs when significant others have accepted changes within their intimate relationship and the relationship functioning has

become harmonious. Maladjustment is illustrated when significant others remain in the crisis situation and have to seek new ways to achieve balance and harmony within their relationship.

Although the Resiliency Model of Family Stress, Adjustment, and Adaptation consists of two phases, this study focused only on the adaptation phase. The adaptation phase was applicable to this study because it is the central concept in understanding veterans' resiliency in their intimate relationships and struggles to manage crisis. The researcher proposed that since veterans may have experienced stressors such as combat exposure in the past and are continuing to strive for balance, harmony, and coherence in their intimate relationships, the participants would no longer be in the adjustment phase. Therefore, analyzing the veterans' level of resiliency to stressors was related to their levels of adaptation in their current intimate relationships as they continued in the adjustment phase.

### **Veterans' Resiliency to Stressors**

The Resiliency Model of Family Stress, Adjustment, and Adaptation is helpful for its description of why and how some individuals and families are more successful than others in adapting to stress (Nichols & Roux, 2004). Veterans may experience a range of major life stressors in addition to the stressors encountered during combat; however, social support and hardiness have been identified as variables that enhance resiliency (King, King, Foy, Keane, & Fairbank, 1999). Veterans in intimate relationships are more resilient and are able to cope better with stress, manage relationships, and support each other (Health Promotions, 2006). However, individuals with PTSD have trouble attaining and maintaining close bonds, which may cause difficulty with their significant others (Young, 2002). The impact of PTSD on intimate relationships depends on the nature of the stressor event, the type of support, and the strength of the relationship (Denkers, 1999). Available research has focused on the negative consequences of veterans' stress due to combat exposure; however, little attention has been paid to understanding

responses to stress and why some veterans remain healthy when others do not (Bartone, 1999; King et al., 1999). Furthermore, given the prevalence rate of PTSD, research is still needed to determine why some veterans display remarkable resilience while others remain chronically debilitated.

### **Purpose of the Study**

The purpose of this study was to explore the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. More specifically, this study identified the factors that were related to the dyadic level of adaptation for this population. To date, no study has explored the nature of the adaptation level in intimate relationships of OEF/OIF veterans or investigated the types of stressors and other factors that may contribute to such adaptation. In addition, a review of literature on PTSD, as presented in Chapter II, suggests that there is a lack of evidence acknowledging the influence of PTSD acquired during combat on OEF/OIF veterans' intimate relationships with their significant others.

### **Importance of the Study**

With increasing numbers of veterans being diagnosed with PTSD, counselors are witnessing the impact of this disorder on veterans' vocational, social, and/or intimate relationships (King et al., 1998; Ruzek, 2007). The exploration and specific focus of this study will assist in developing a conceptual framework to guide veterans and the practitioners with whom they work in making appropriate decisions for effective treatment. Intimate relationships are often viewed as an avenue of support for veterans (Laffaye, Cavella, Drescher, & Rosen, 2008; Rabstejnek, 2008). Research has shown that having sources of support can be an important resource for dealing with stressors and promoting adjustment (Lustig, 1999) and that veterans often depend on their significant others or loved ones for support.

This study seeks to illuminate the potentially complex connection between intimate relationships and PTSD so that counselors can receive additional training

focusing on interventions that are adapted to the needs of significant others, especially spouses of veterans diagnosed with PTSD (Galovski & Lyons, 2004). The results may also demonstrate the need to recruit more qualified practitioners and diversify current treatment teams with individuals who are knowledgeable about stressors that influence intimate relationships of OEF/OIF veterans. This information can enhance professional education programs that prepare counselors to become more proficient in the field when assisting veterans who have served in Iraq and/or Afghanistan.

### **Rationale**

During the past century, four generations of men and women in the United States have been exposed to military combat and have been identified as being at risk for PTSD diagnoses (Athealth, 2003; Gimbel & Booth, 1994). In 2004, Kane and Gentilli reported that the number of U.S. troops serving in combat was holding steady at roughly 130,000. However, the RAND Corporation (2008) reported that 1.64 million service members had been deployed to Iraq or Afghanistan as of October 2007. About 30% of the men and women who have spent time in war zones experience PTSD, with an additional 20 to 25% having symptoms of PTSD at some other point in their lives (National Center for PTSD [NCPD], 2007). In 2003, Rosenheck and Fontana reported that nearly 200,000 veterans were diagnosed with PTSD and had received treatment at VA medical centers. More recently, the RAND Corporation (2008) reported that approximately 300,000 veterans suffered from PTSD or depression. Given the prevalence of PTSD and the fact that U.S. military members in Iraq and Afghanistan are serving for prolonged periods in hazardous combat environments, there continues to be a great need for mental health care for returning armed forces (Kang & Hyams, 2005).

With the increasing numbers of soldiers returning from war with combat-related PTSD, counselors may need to increase their knowledge of the possible impact of combat-related PTSD on the lives of veterans. Calhoun and Wampler (2002) expressed the need for clinicians to understand and be able to address the impact of PTSD on



intimate relationships and caregivers through effective interventions. Sandeen and Nye (2002) found that counselors were overwhelmed by the number of veterans returning from war with PTSD. The counselors in Sandeen and Nye's study indicated the need to better understand how to identify clients with trauma, match effective treatment resources, and provide interventions for better outcomes. There is a growing need for counselors to understand the influence of PTSD on intimate relationships and issues faced by partners of those with PTSD (Monson & Taft, 2005).

Although social support plays a vital role in everyone's quality of life (McNally & Newman, 1999), for veterans diagnosed with PTSD, having or developing intimate relationships is considered essential (Young, 2002). Veterans value persons such as a spouse or lover with whom they share a long-term sexual relationship, even though readjusting to family functioning and intimate relationships may be difficult (American Heritage Reference Dictionary, 2003; Price, 2007). PTSD symptoms rarely disappear on their own and often remain a continuing challenge for veterans and their partners; therefore, it is necessary to identify the effects of PTSD on veterans' relationships with their significant others (Ruzek, 2007).

Combat-related PTSD has been shown to have a detrimental effect on intimate relationships. Monson and Taft (2005) emphasized the importance of understanding the intimate relationships of individuals with characteristics of trauma in the military because over 50% of these persons are married and many more are in committed relationships. However, many veterans who are not diagnosed with PTSD have relationship issues as well, even though some of these relationship issues are due to other factors such as their inability to find employment, adjustment difficulty, financial burdens, and violence (Marshall, Panuzio, & Taft, 2005; Price, 2007). Veterans who are diagnosed with PTSD and those without the disorder value relationships with significant others. Therefore, it is important to understand the levels of dyadic adjustment in the intimate relationships of all

veterans and the role of PTSD as well as factors that may be related to adaptation to stress.

### **Research Questions**

Research questions emerged after reviewing the literature regarding PTSD diagnoses, the OEF/OIF war era, and intimate relationships. To examine the possible factors that may influence OEF/OIF veterans' level of adaptation in their intimate relationships, the following questions guided this study:

1. What is the level of dyadic adaptation in intimate relationships of all OEF/OIF veterans as measured by the Dyadic Adjustment Scale (Spanier, 1976)?
2. Is there a difference between the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not?
3. What factors (i.e., age, deployment tours, types of intimate relationships, pharmacologic interventions, life stressors, and level of coping) best predict the dyadic adaptation levels in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not?

### **Definition of Terms**

The following terms are used throughout the study and are defined in alphabetical order:

*Coping* refers to the abilities and skills to manage or eliminate stressors and related hardships (McCubbin et al., 1996).

*Dyadic Adaptation* refers to efforts within intimate relationships to achieve a new level of harmony, balance, and functioning (McCubbin et al., 1996) in response to the impact of stressors.

*Interventions* are professionally provided services that may be used to manage crises in intimate relationships. In this study, interventions are resources (e.g., family

counseling, pastoral counseling) used by OEF/OIF veterans to help them adjust to their disabilities over the last year.

*Intimate Relationship* is a union of at least 3 months that is based on emotional attachment, falling in love, personal predilection, and mutual engagement. This relationship may be defined as marriage, a common-law marriage, an engagement, or an exclusive dating relationship (Flinck et al., 2008). Therefore, in this study, this type of relationship does not include other family members and children.

*Operation Enduring Freedom (OEF) Veteran* is an individual who has served in combat in Afghanistan and surrounding areas who was discharged or released under conditions other than dishonorable (Code of Federal Regulation, 2001, Title 38; Department of Veterans Affairs, 2006a).

*Operation Iraqi Freedom (OIF) Veteran* is an individual who has served in combat in Iraq and surrounding areas who was discharged or released under conditions other than dishonorable (Code of Federal Regulation, 2001, Title 38; Department of Veterans Affairs, 2006a).

*Posttraumatic Stress Disorder (PTSD)* in this study is a self-reported anxiety disorder that can occur following the experiencing or witnessing of a traumatic event. A traumatic event is a life-threatening event such as military combat or war-related experiences (Wilson et al., 2004).

*Stressor* is a phenomenon that may occur in an intimate relationship that produces or has the potential of producing changes in the relationship that can be classified as minor, a set back, or catastrophic (McCubbin et al., 1996).

*Veteran* is an individual who served his or her full obligation of active duty service in the military or received an early honorable discharge due to a medical condition, hardship, or the convenience of the military (National Survey of Veterans, 2001).

## **Summary**

The purpose of this study was to explore the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. More specifically, this study identified the factors that were related to the dyadic level of adaptation for this population. Chapter I provided a discussion of the need for this study, the rationale, and the purpose. In addition, research questions and definition of terms were presented. Chapter II will summarize the review of relevant literature that provided a basis for this study.

## CHAPTER II

### REVIEW OF THE LITERATURE

Researchers have documented the prevalence of PTSD and confirmed the need to further investigate its impact on veterans' quality of life. Chapter II presents a detailed historical overview of PTSD and describes how this disorder may interfere with intimate relationships of OEF/OIF veterans. In addition, both life stressors and military stressors are reviewed to explore the possible impact of these stressors on veterans' quality of life. Included in this chapter is an examination of models used to describe individuals' responses to stressors, including why the Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993) was chosen as the conceptual framework to explore ways that veterans adapt or adjust to stressors. This chapter concludes with past research related to the conceptual model and an introduction to the research instruments used in this study.

#### **Veterans**

Veterans make a major contribution to their country's history and are honored for their patriotism, love of country, and willingness to sacrifice for the common good (Public and Intergovernmental Affairs, 2007). The National Survey of Veterans (NSV) (2001) defined veterans as individuals who have served their full obligation of active duty service in the military or received an early honorable discharge due to a medical condition, hardship, or the convenience of the military. The U.S. Census (2000) reported that approximately 24.6 million of the population were veterans. There were 1 million fewer veterans in the 20<sup>th</sup> century as compared to the 19<sup>th</sup> century, which represents a 3.9% decrease within the veteran population (Richardson & Waldrop, 2003). The NSV (2001) reported that most veterans were White, non-Hispanic, married males. Overall, the average age of a veteran was 58 years old, with the largest group of veterans between the ages of 45 and 64 years. The majority of veterans were male, with female veterans representing 6% of this population. Female veterans tended to be younger and have

higher levels of education compared to their male counterparts. The NSV (2001) also reported that 50% of all respondents served in the Army and 39% reported that they had served in combat or war-related zones. In addition, 13% of the 24 million respondents acquired a service-connected injury and were eligible to receive services through the Veterans Administration (VA).

The VA (2006) fulfills the government's obligation to provide care for those who have left the military injured or ill. Veterans who were injured during military service or who have injuries that were worsened by service receive monthly monetary disability compensation. Disability compensation is graduated according to the degree of the veteran's disability on a scale from 0% disabling to 100% disabling in increments of 10% (Veterans Benefits Administration [VBA], 2008). At the end of 2008, the VBA's annual fiscal year report indicated that almost 3 million veterans were receiving disability compensation. The most prevalent service-connected disabilities for veterans receiving compensation at the end of 2008 were tinnitus, hearing loss, and PTSD. Approximately 560,000 were being compensated for tinnitus, close to 520,000 for hearing loss, and almost 345,000 for PTSD. An array of diseases and injuries may be incurred or aggravated during veterans' active military service; however, PTSD is prevalent and the numbers continue to grow as soldiers return from war zones in Iraq and Afghanistan (VBA).

## **Overview of Posttraumatic Stress Disorder**

### **Evolution of PTSD**

PTSD is an anxiety disorder response to an overwhelming environmental stressor (Wilson et al., 2004), such as domestic violence, rape, natural disasters, car accidents, and/or war combat (Moore, Wadsworth, & James, 2009). Shell shock, Gulf War syndrome, battlefield fatigue, and PTSD are four terms that have been used to describe battlefield stress reactions (McCarroll, 2007). Medically unexplained psychological symptoms in war veterans prompted the introduction of PTSD as a diagnostic category in

the *Diagnostic and Statistical Manual of Mental Disorders* (Blackshear, 2006).

Researchers continue to debate which historical events influenced the evolution of PTSD diagnosis and treatment (McCarroll, 2007; Rae, 2007).

The first recorded incident of battlefield stress was reported in 1915. A soldier arrived at a casualty clearing station of the British Army in France crying, shivering, and afraid of becoming deaf due to the sound of shellfire, the upheaval of the ground, and acrid suffocating fumes, which minimized the likelihood of his returning to combat (Jones & Wessley, 2003; Sheppard, 2000). The experience of shell shock, the term used during this period, had a major influence on developments within psychiatry and psychology (Howorth, 2000). As a result of wartime experiences, many young men were returning home deeply traumatized. Therefore, the frequency and symptoms of wartime experiences needed to be further explored.

In 1952, the American Psychiatric Association (APA) published its own manual of mental disorders, *The Diagnostic and Statistical Manual (DSM-I)*. The *DSM-I* was developed to classify mental disorders as a result of increased psychiatric treatment of soldiers (Grob, 1991). During this time period, the *DSM-I* diagnosed individuals who showed symptoms of stress with Gross Stress Reaction (Anderson, 2004). Psychiatrists found that not only war veterans were experiencing trauma but that non-military individuals were facing the same or similar symptoms; therefore, the Gross Stress Reaction diagnostic term was dropped from the *DSM-II* (1968) for unclear reasons, leaving no category to describe reactions to trauma (Anderson, 2004; Spitzer, First, & Wakefield, 2007).

In 1980, the American Psychiatric Association added PTSD to the *DSM-III* nosologic classification scheme, which provided a conceptual definition of severe trauma, making almost everyone eligible for the criteria (Anderson, 2004; APA, 1994; Friedman, 2006). Trauma in the *DSM-III* included trauma beyond the range of normal that would be distressing for anyone; however, in the *DSM-IV*, trauma was described as an event that

could cause death, serious injury, or harm, but was not necessarily beyond the range of normal (DeLuca, 2009).

The *DSM-IV* was developed in 1994 after a substantial increase in research on the diagnoses described in the *DSM-III*. Trauma continued to be explored in the text revision of the *DSM-IV*, known as the *DSM-IV-TR*, which was published in 2000. In the *DSM-IV-TR*, the current manual in use, the majority of diagnostic criteria for trauma were unchanged. However, the *DSM-IV-TR* stipulated that reactions of individuals play more of a role than the event itself and added that individuals need not experience the event directly to qualify for a diagnosis associated with trauma (DeLuca, 2009). Clinicians and counselors use the *DSM-IV-TR* description of PTSD to qualify veterans for mental health services, establish eligibility for benefits, and find treatment modalities to assist veterans with ways to cope with the impacts of the disorder (Akaka, 2007; Goldzweig, Balekian, Rolon, Yano, & Shekelle, 2006).

### **Diagnostic Criteria**

According to the *Diagnostic and Statistical Manual-Text Revision* (2000), the following are the diagnostic criteria for PTSD:

- A. The person has been exposed to a traumatic event in which both of the following have been present: (1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others and (2) the person's response involved intense fear, helplessness, or horror.
- B. The traumatic event is persistently re-experienced in one (or more) of the following ways: (1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions, (2) recurrent distressing dreams of the event, (3) acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur upon awakening or when intoxicated), (4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event, and/or (5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
- C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following: (1) efforts to avoid thoughts, feelings, or conversations associated with the trauma, (2) efforts to avoid activities, places, or people that



arouse recollections of the trauma, (3) inability to recall an important aspect of the trauma, (4) markedly diminished interest or participation in significant activities, (5) feeling of detachment or estrangement from others, (6) restricted range of affect (e.g., unable to have loving feelings), and/or (7) sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span).

D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following: (1) difficulty falling or staying asleep, (2) irritability or outbursts of anger, (3) difficulty concentrating, (4) hypervigilance, and/or (5) exaggerated startle response.

E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than one month.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning. (American Psychiatric Association, 2000, *DSM-IV-TR*, pp. 467-468)

Because of both the severity of PTSD symptoms and the current prevalence of traumatic exposure, the counseling profession has been encouraged to increase its understanding of this disorder. Diagnoses of PTSD continue to identify individuals' impairments in the areas of social, occupational, and physical function; therefore, researchers have reported the importance of early detection (Gore, Engel, Freed, Liu, & Armstrong, 2008). According to Gore et al. (2008), at least 7% of adults in the general population will be diagnosed with PTSD and the prevalence of deployed military population is expected to rise. As a result of the wars in Iraq (2001) and Afghanistan (2003), increases in PTSD diagnoses are expected among the veteran population (Kang & Hyams, 2005; Kremen et al., 2007; Smith, Schnurr, & Rosenbeck, 2005).

### **Prevalence**

PTSD is prevalent among veterans receiving services in Veterans Affairs (VA) Medical Centers, which are federal agencies committed to serving soldiers and veterans with medical and psychological needs (Turner, Beidel, & Frueh, 2005). The VA is the world's largest provider of treatment for PTSD, which is common in individuals who have been exposed to war zones (Monson, Rodriguez & Warner, 2004). Due to lower levels of combat exposure, PTSD was less prevalent in Gulf War veterans as compared to previous wars (Sloan, Arsenault, & Hilsenroth, 2005; Wolfe & Proctor, 1996). The 1997

Iowa Persian Gulf Study Group (as cited in Price, 2007) found a 2% rate of PTSD among a large sample of veterans who served in the Gulf War. However, Wolfe, Erickson, Sharkansky, King, and King (1999) found that rates of PTSD in Gulf War veterans increased significantly over time. Wolfe et al. (1999) reported that upon their return from the Gulf War, veterans represented a 3% PTSD rate as compared to an 18- to 24-month follow-up in which they represented an 8% PTSD rate. The fact that veterans' PTSD rate increased after their return from war indicated a need for ongoing professional services.

The VA has attempted to research these ongoing service needs for veterans. In 2001, approximately 20,000 veterans were interviewed to obtain information for planning and allocating resources for programs and services for veterans (National Survey of Veterans, 2001). The participants in the study represented periods of service from World War II to the Gulf War; the highest period of service represented was the Gulf War at 22% of the overall participants. During data collection, researchers found that 39% of the veteran population served in combat or war zones, while 36% were exposed to dead, dying, or wounded people during active duty. In addition, 46% of the male veteran participants served in combat or war zones as compared to 12% of female veteran participants. Of the surveyed veterans, about 4% reported symptoms of PTSD.

Further research on post-2001 military operations in Iraq and Afghanistan, which involve the first sustained ground combat undertaken by the United States since the Vietnam War, has indicated increases in the prevalence of PTSD among veterans (Hodge et al., 2004; Seal, Bertenthal, Miner, Sunak, & Marmar, 2007). Paddock (2007) reported that 25% of nearly 104,000 veterans who returned from Iraq or Afghanistan to be treated by the VA had received at least one mental health diagnosis. PTSD was the most common mental health problem, affecting approximately 13,000 veterans. Furthermore, younger veterans (18 to 24 years) were five times more likely to have symptoms of PTSD than older veterans (40 years and over); this phenomenon was thought to be caused by younger veterans having lower ranks and more combat exposure (Paddock, 2007).

In February 2007, when President Bush sent 48,000 additional combat and support troops to Iraq (Wheeler, 2007), many soldiers were entering Iraq combat for the second time. U.S. soldiers serving repeated Iraq deployments were found to be 50% more likely than those with one tour of duty to suffer from acute combat stress, raising their risk of PTSD (Tyson, 2006). As of June 2008, almost 330,000 veterans were being compensated for PTSD as a service-connected disability (National Center, 2008). Approximately 1.6 million U.S. troops have been deployed to the theaters of Operations Enduring Freedom and Iraqi Freedom (OEF/OIF) in Afghanistan and Iraq and approximately 18.5% who have returned currently have symptoms of PTSD or depression (RAND Corporation, 2008).

These statistics show that the prevalence of PTSD is high and is likely to grow as the conflicts in Afghanistan and Iraq continue; therefore, practitioners will benefit from increased understanding of how this disorder evolves over time and impacts the lives of veterans (Calhoun & Wampler, 2002). The effects of PTSD inevitably extend beyond the injured veteran. As veterans return home, their impairments may impact those with whom they interact, and those closest to the veteran are more likely to be the most severely affected (Karney, Ramchand, Osilla, Caldarone, & Burns, 2008). Research has identified PTSD as a challenge for veterans and their significant others due to veterans' difficulty adjusting after returning from war (Ruzek, 2007). Veterans with support systems such as relationships with others were found to have fewer PTSD symptoms and an increased sense of hope (Irving et al., 1997; King et al., 1998). Thus, when working with veterans, particularly those with PTSD, counselors must understand the role of intimate relationships in these individuals' lives.

### **The Importance of Relationships with Significant Others**

Past research has established the importance of a strong relationship with significant others to an individual's well-being. Barelds and Barelds-Dijkstra (2007) reported that individuals find intimate relationships reassuring and comforting because

they have someone to validate their beliefs about the world and themselves. Demir (2008) added that involvement in and the quality of romantic relationships is an essential correlate of well-being. Diener, Gohm, Suh, and Oishi (2000) conducted an empirical study on the relationship between marital status and subjective well-being across cultures using data from the World Values Survey. The data of approximately 59,000 participants were collected between 1990 and 1993 in 42 cultures, which represented almost 70% of the world's population.

The results of the Diener et al. (2000) study were as follows: (a) Subjective norms and attitudes toward marriage, divorce, and living with a significant other may influence the ways in which persons evaluate their lives, but not the way in which they experience emotions; (b) overall, married persons were more satisfied with their lives than those who were living with a significant other, but this difference was larger in collectivist nations than in individualist nations; (c) in terms of life satisfaction, the benefit of marriage over cohabitation was greater in collectivist than in individualist nations; and (d) the relationship between marital status, culture, and subjective well-being did not differ by gender (Diener et al., 2000). Therefore, intimate relationships with significant others were shown to be a key component of an individual's well-being.

Many individuals search for significant others to fill voids, create bonds, and fulfill a sense of hope (Strong, Devalut, Sayad, & Cohen, 2001). Individuals in a person's immediate surroundings can be the direct source of both positive and negative experiences (Heuveline & Timberlake, 2004). Beyond sexual and reproductive activities, adults expect a significant other or romantic partner to be their closest emotional connection (Dollinger, 2002). Many individuals find having a significant other or partner provides consistent emotional support, affection, and everyday assistance (Previti & Amato, 2003). Friendship, happiness, commitment to the spouse (as opposed to commitment to the institution of marriage), and sex are benefits of an intimate relationship (Hirschl, Altobelli, & Rank, 2003). Researchers found that marriage grants

partners' individual support, intimacy, companionship, and the financial advantages that come from pooling resources (Lamb, Lee, & DeMaris, 2003). The connection between partners' feelings about each other and their intimacy adds to the strength of the partners' relationship (Scott & Sprecher, 2000). In addition, partners find it beneficial when their significant others make time for the two of them to be alone and enjoy one another (Marks, Huston, Johnson, & MacDermid, 2001). Good communication is a key factor in healthy relationships. Couples with satisfied relationships with significant others tend to accept conflict but deal with it in a healthy way; spend as little time as possible dwelling on problems; have the ability to disclose or reveal private thoughts and feelings; show expression through words, love, and touch; and spend time talking, discussing personal issues, and expressing positive feelings (Gottman, 1994; Strong et al., 2001).

The research discussed above defines the quality of average relationships; however, conditions such as PTSD may dramatically affect relationships with significant others (Jerskey, 2007; Monson & Taft, 2005). The impact of PTSD on relationships depends on the nature of the stressor event, the necessity of support, and the strength of the relationship (Denkers, 1999). Clinical observations and empirical studies have indicated that the consequences of traumatic events are not limited to the individual, often affecting significant others in the individual's environment (Dekel, Goldblatt, Keider, Solomon, & Polliack, 2005). PTSD has been found to cause extreme difficulties in veterans' relationships with their significant others (Monson & Taft, 2005).

### **Impact of PTSD on Relationships with Significant Others**

The National Center for Posttraumatic Stress Disorder (2007) reported that about 30% of the men and women who had spent time in war zones experienced PTSD, with an additional 20 to 25% experiencing symptoms of PTSD at some point in their lives. Research has indicated that achieving and maintaining relationships with significant others is important; however, due to the nature and complexity of PTSD, maintaining relationships can be a highly problematic area of adjustment (Dekel, Goldblatt, et al.,

2005; Galovski & Lyons, 2004). PTSD effects come in many forms that are not understood fully by others who may think soldiers are “crazy” when they display symptoms, such as confrontation, anxiety, chronic pain, grief, guilt, and low self-esteem, that may interfere with relationship dynamics (Barber, 2006; Strong et al., 2001). Individuals with PTSD have trouble obtaining and maintaining close bonds, which may cause difficulty with significant others (Young, 2002).

Compared to control groups, individuals with PTSD experience a myriad of intimate relationship problems, including up to three times greater perpetration of intimate aggression, inability to disclose or lack of expressiveness, and diminished intimacy (Chryso, Taft, King, & King, 2005; Foy, Resnick, Sippelle, & Carroll, 1987; Monson et al., 2004). Intimate relationships play an important role in veterans’ recovery from traumatic events; therefore, clinicians have recognized the need to understand factors that may influence relationship dynamics (Riggs, 2000). The remainder of this section will describe risk factors researchers have reported in the PTSD literature.

### **Emotional Distress**

A few published studies have attempted to clearly or fully describe the impact of emotional distress in the intimate relationships of veterans and their significant others. Dekel, Goldblatt, et al. (2005) conducted a qualitative study examining the marital perception of nine wives of veterans diagnosed with PTSD. Through semi-structured in-depth focus group interviewing, the wives reported that it was an ongoing struggle to maintain distance from their husbands to preserve sanity, autonomy, and independence. As one wife stated,

I hear everyone here talking about their husbands and in some way we have all disappeared—our dreams are over, our desires erased. We are constantly apologizing for what our husbands are going through—but only God knows what we are going through. We've been taught to be so understanding, so humane, and in reality, where are we? Where are we ourselves? (Dekel, Goldblatt, et al., 2005, p. 30)

In this study, setting clear boundaries and reducing ambiguity were the central themes that characterized the experiences of women whose husbands had PTSD. The women faced constant tension between being drawn into a fusion with the husband and his needs, and a struggle to lead an independent life. Another wife stated,

His dependence and his need for me to be by his side all the time prevents me from going places. Sometimes I can't go to work, and when I do, I often have to leave early or return home promptly...I have talked to him...I have presented him with the fact that I am not going to leave work. We will find some kind of arrangement; we will deal with it as much as we can. I will go to work and be back on time. I won't be delayed, I won't go for a walk afterwards, I'll speak to you on the phone. But please, don't demand that I leave work or take time off or watch the clock. (Dekel, Goldblatt, et al., 2005, p. 28)

Dekel, Goldblatt, et al. illustrated the importance of practitioners learning more about how spouses cope and stay resilient when continuous stress is an inseparable part of their lives. In addition, findings of this study emphasized that the key is to establish the strengths of these complex marriages in which one partner has PTSD. The strengths of the relationship lend significance to the marriage and enable the partners to continue sharing their lives.

Using self-report questionnaires and a series of clinical interviews with 215 veterans with PTSD and their wives, Dekel, Solomon, and Bleich (2005) examined the relative contribution of both the husbands' impairments and the wives' sense of burden to the wives' level of emotional distress and marital adjustment. The findings of this study were consistent with the literature describing the burden placed on wives of husbands who are impaired and veterans who are traumatized. Dekel, Solomon, and Bleich reported that these wives had little time for themselves, were constantly busy and exhausted, and felt they had missed out on opportunities for pleasure or advancement. The wives of veterans with PTSD tended to become caught in a "compassion trap" in which they sacrificed many of their own needs for their spouses and family (Dekel, Solomon, & Bleich, 2005, p. 78). The authors highlighted the importance of helping the wives of veterans who often suffer from emotional distress, poor marital adjustment, and

high levels of burden. Other researchers have found that female partners of war veterans were emotionally distressed by their caretaking because of taking on the major responsibility for household tasks and maintenance of the relationship (Calhoun, Beckham, & Bosworth, 2002; Nelson & Wright, 1996).

A more recent study on returning war soldiers and intimate relationship satisfaction was conducted by Nelson Goff, Crow, Reisbig, and Hamilton (2007). The researchers conducted a study of 45 male Army soldiers who recently returned from military deployment to Iraq (Operation Iraqi Freedom) or Afghanistan (Operation Enduring Freedom) and their female spouses/partners. The 45 male participants were recruited by publicly posted flyers and newspaper announcements; referral from Army Family Readiness Groups, chaplains, and other local military sources; and referral by other research participants. Participants were not recruited by contacting staff or soldiers directly through military bases. All recruitment occurred through contacts in the surrounding communities or through contacts to the researchers.

Nelson Goff et al. (2007) found that soldiers' trauma symptoms significantly predicted their own and their partners' marital satisfaction. In addition, high levels of trauma symptoms contributed to the soldiers' emotional distress, thus decreasing their level of relationship satisfaction. Soldiers found it difficult to set aside or ignore their physical and emotional problems, which increased emotional distance within the relationship. Female partners reported lower relationship satisfaction, which may allude to female partners being more sensitive to and aware of their impact. Nelson Goff et al. (2007) emphasized the need for clinicians to understand that trauma is not only an individual experience but leads to systemic repercussions that may influence the soldiers, their partners, and their couple relationships.

### **Aggressive Behavior**

Research has indicated that veterans with PTSD may be more likely to resort to aggressive behavior. Taft, Vogt, Marshall, Panuzio, and Niles (2007) conducted



empirical research with 265 male combat veterans who sought diagnostic assessment for PTSD at the VA Boston Healthcare System between September 1999 and September 2003. The veterans' combat experiences occurred across various war cohorts. The results of this study were similar to those of Calhoun et al. (2002) in which veterans with combat-related PTSD were found to be significantly angrier than both veterans without PTSD and the general population. Taft et al.'s (2007) findings were also consistent with previous research demonstrating that veterans with PTSD had higher rates of violent outbursts and aggressive behavior, exhibited more hostile expression, and had poorer anger control than those without PTSD.

Taft et al. (2009) also found aggressive behavior to be a concern in the relationships of veterans diagnosed with PTSD. Taft et al. (2009) surveyed 236 male combat veterans who were drawn from a pool of 510 eligible participants seeking services in a Veteran's Affairs posttraumatic stress disorder clinic. Of the veterans with partners, 78% received a diagnosis of PTSD, and 78% of veterans without partners were diagnosed with PTSD. Findings of the study highlighted that among the 161 combat veterans involved in an intimate relationship, 33% had engaged in physical aggression toward their partners and 91% had engaged in psychological aggression toward their partners in the previous year. These rates are three times the rate for males who perpetrated partner aggression in nationally representative community samples. Consistent with the researcher's hypothesis, PTSD symptoms were a strong predictor of aggression outcomes; however, depressive symptoms did not evidence a unique association with aggressive outcomes. Based on the level of aggressive behaviors among military veterans, there is a need for thorough assessments that can provide clinical interventions to address aggression and maintain safety for veterans and their significant others.

### **Diminished Intimacy and Lack of Communication**

Another important area of research regarding veterans with PTSD and the impact on intimate relationships is the potential for diminished intimacy. A landmark study by Riggs, Byrne, Weathers, and Litz (1998) is important given the scarcity of literature on intimate relationships and OEF/OIF veterans. Through a quantitative approach, Riggs et al. (1998) examined the quality of the intimate relationships of 50 male veterans and their intimate partners. Twenty-six Vietnam veterans who were diagnosed with PTSD and 24 Vietnam veterans without the disorder were recruited through newspaper ads and flyers placed in a Department of Veterans Affairs Medical Center in a large Northeastern city. The results of this study illustrated that over 70% of the PTSD couples reported relationship distress compared to 30% of the non-PTSD couples. In addition, veterans with PTSD and their partners, as compared to veterans without PTSD and their partners, reported more relationship distress, intimacy difficulties, and problems in their relationships. The PTSD couples also took more steps toward separation than non-PTSD couples, and they reported a greater sense of anxiety regarding intimacy with their partners than couples in which PTSD was not evident in their relationship. The greater fear of intimacy was found to be induced by the avoidance and numbing symptoms of PTSD which also affected relationship satisfaction.

Cook, Riggs, Thompson, Coyne, and Sheikh (2004) replicated the Riggs et al. 1998 study by examining a sample of World War II ex-prisoners of war (POWs). The study involved comparing 125 ex-POWs who had PTSD to 206 ex-POWs without PTSD. Over 30% of those with PTSD reported relationship problems compared with only 11% of those without PTSD. Cook et al. (2004) found that ex-POWs with PTSD reported poorer adjustment and communication with their partners and more difficulties with intimacy. Ex-POWs with PTSD were also three times more likely to display marital distress and experience more problems in intimate functioning. Riggs et al. (1998) suggested that given the complex interaction between individuals' PTSD symptoms and

difficulties in their relationships, further research is necessary to determine whether individual or relationship problems should be addressed first in treatment.

In a study that focused on both PTSD and marital intimacy, Solomon, Dekel, and Zerach (2008) studied 219 Israeli war veterans. The participants were 125 ex-POWs, and the comparison group was 94 veterans who fought in the same war but were not held in captivity. In this study, the researchers examined (a) the relationships between PTSD symptom clusters and marital intimacy among Israeli war veterans, and (b) the role of self-disclosure and verbal violence in mediating the effects of PTSD avoidance and hyperarousal symptoms on marital intimacy. The results indicated that former POWs with PTSD, as opposed to POWs without PTSD, had poorer marital relationships attributable to their mental state and not to their traumatic event. In addition, “from a salutogenic perspective, it was found that POWs without PTSD reported that they learned to appreciate their relationships with their partners more than before their ordeal and subsequently enjoyed more support and intimacy in their marriage” (Solomon et al., 2008, p. 664). The results also indicated that the more ex-POWs suffered from both posttraumatic avoidance and hyperarousal, the more they reported intimacy difficulties. The spouse’s apprehension was reinforced and the veteran became further withdrawn as the veteran’s avoidance strengthened feelings of uncertainty and loneliness through ongoing cycles of withdrawal and reluctance. Solomon et al. (2008) encouraged clinicians to teach spouses and veterans skills that would help them to manage irritability, anger, and conflict disengagement to reduce flooding and outburst during emotional, tense arguments. The aforementioned studies indicated that emotional distress, aggressive behavior, diminished intimacy, and a lack of communication are factors that may influence the quality of intimate relationships.

Research has shown that relationship distress among veterans is not limited to those diagnosed with PTSD. Veterans diagnosed with PTSD exemplify a range of problems that cause relationship distress; however, veterans who are not diagnosed with

PTSD demonstrate similar problems. Aggressive behavior, financial issues, deployment difficulties, and taking care of injured spouses are just a few areas described below as continuing struggles for both PTSD and non-PTSD military couples.

Sherman, Sautter, Jackson, Lyons, and Han (2006) conducted a study of 179 couples seeking relationship therapy at the Family Mental Health Program, an outpatient family therapy clinic in a Midwestern Veterans Affairs (VA) Medical Center. All veterans were male, had a committed relationship with a cohabiting female partner, and were diagnosed with one of the following primary diagnoses: PTSD, major depression, adjustment disorder, or partner relational problem.

The results of Sherman et al. (2006) indicated that percentages of veterans who were depressed and had perpetrated violence mirrored those of PTSD veterans. Depressed veterans engaged in significantly more violent acts than did the comparison veterans; this finding is consistent with previous research on couples therapy in which violent husbands reported higher levels of depressive symptoms than did nonviolent husbands. The results also showed that at least 81% of non-PTSD participants engaged in at least one act of violence toward their partners in the past year. These rates are more than six times higher than rates in the general population. Sherman et al. (2006) suggested that clinicians address domestic violence in relationships, especially with couples seeking relationship therapy, because domestic violence in military relationships is a growing trend in both PTSD and non-PTSD couples.

Another recent study focused on marital outcomes of Vietnam veterans in the 20 years since repatriation. Cohan, Cole, and Davila (2005) surveyed participants who were drawn from a sample of 138 U.S. Navy aviators who were prisoners during the Vietnam War and 138 matched controls who participated in the Repatriated Prisoner of War Health Study. Cohan et al. (2005) examined whether marital outcomes for 98 former Vietnam War POWs differed from a matched comparison group of 98 Vietnam-era Navy

aviators who did not experience captivity and reported individual differences that contributed to vulnerability for divorce among the POWs and 56 of their wives.

Cohan et al. (2005) reported financial strains as an issue that was faced by PTSD couples and non-PTSD couples. It was found that financial strains during the husbands' absence were associated with higher risk of potential divorce, and the long-term stability of military families was facilitated by greater financial assistance for the non-deployed spouse when the partner was deployed for long periods. Cohen et al. (2005) also emphasized that most research illustrates the plight of the POW as the sole cause of marital issues; however, the researchers challenged clinicians to investigate the mechanisms whereby stress erodes a marriage, including decrements in support, mental health problems, and financial difficulties.

As military operations continue in the Global War on Terror (GWOT), an estimated 1.6 million soldiers have been deployed at least once since 2001 (Kudler & Straits-Troster, 2009). Military deployment has been found to impact relationship dyads by impacting family cohesion and nurturance and increasing spousal emotional distress and depression (Taft, Schumm, Panuzio, & Proctor, 2008). Whealin and Pivar (2007) reported that when a family member goes to war, the impact of the deployment upon those left home can be daunting. In addition, Whealin and Pivar (2007) found that family members left behind face the fear of not knowing when and if the spouse will return, responsibility for work tasks that s/he may not be familiar with (e.g., juggling finances, taking care of children, mowing the lawn), and financial hardships. Research has found that wives often are forced to become household managers and tend to be in charge of finances, time, and child care. With all of these demands, it is common for partners to become overwhelmed with the relationship (Nelson & Wright, 1996).

Taking care of spouses injured or with a disability, such as a war-related injury, also may cause relationship distress (Falvo, 2005). Arzi, Solomon, and Dekel (2000) conducted a study on the following three groups of women: 20 women married to war-

induced PTSD casualties who were treated in an outpatient mental health clinic, 20 women married to veterans suffering from combat-related post concussion (PC) who were treated in outpatient rehabilitation clinics, and 20 women married to veterans without any known psychological or physical injury who served as a control group. This study highlighted how veterans' injuries may impact the quality of their relationships. Arzi et al. (2000) found that wives of both PTSD and PC casualties demonstrated higher levels of emotional distress than the wives of veterans without any injuries. The wives with the highest level of emotional distress also showed more psychiatric symptoms, obsessive compulsive problems, anxiety, and depression. Arzi et al. (2000) pointed out that the wives' experiences were induced by their tendency to identify with their husbands or by prolonged contact with the injured spouse, which can lead to chronic stress. As spouses continue to play the roles of caregiver and supportive partner, interventions need to be designed that will allow the spouses to play dual roles without being overwhelmed or sacrificing their autonomy or identity. Although spouses of injured veterans are faced with stressors, research indicates that relationships of non-injured veterans also experience stressors. Cardozo et al. (2004) confirmed that veterans without PTSD had problems with social functioning and at times were withdrawn from their significant others, family, and friends, and that withdrawal negatively affected the veterans' relationships when their partners wished to be supportive. Erbes, Polusny, MacDermid, and Compton (2008) noted that soldiers and their significant others have to work on their relationships upon return from deployment. In their review of literature, Erbes et al. suggested that soldiers and their partners must reconstruct their relationship because of prolonged periods of stress and uncertainty. Soldiers and their partners may feel overwhelmed and isolated as they deal with stressors such as renegotiating how to communicate with one another, making decisions, dividing responsibilities, managing finances, raising children, and relying on one another. A review of the literature on the

relationships of both injured and non-injured veterans reveals that stressors play a role in their marital discord.

Stressors represent a common theme in the lives of many individuals. For the purpose of this study, stressors are a phenomenon in an intimate relationship that produces, or has the potential of producing, changes in the relationship that can be classified as minor, a setback, or catastrophic (McCubbin et al., 1996). Individuals aim to minimize the impact of stressors on their daily lives, and if impacted by stressors, individuals try to restore order, harmony, and balance (McCubbin & McCubbin, 1993). If stressors are not minimized, the excessive demands of multiple stressors for an individual or couple create a sense of loss of control over one's own life (Murry et al., 2008). Therefore, when people's lives are impacted by stressors, it is essential that individuals and couples learn how to adapt.

### **Adaptation**

Both soldiers and their spouses may accept that they cannot simply go back to life as it was before the soldier left for war (Faber, Willerton, Clymer, MacDermid, & Weiss, 2008) or the injury occurred (Arzi et al., 2000). Given the above perception, many couples allow maladjustment within their relationship. Maladjustment occurs when couples allow stressors to change their roles, rules, responsibilities, and boundaries, which may cause imbalance and disharmony. Given that maladjustment causes crisis within intimate relationships, researchers encourage strategies that can facilitate adaptation (McCubbin & McCubbin, 1993). Adaptation refers to efforts to bring back a level of harmony, balance, and functioning (McCubbin et al., 1996) to an intimate relationship after the impact of stressors. Existing literature suggests that several factors may influence adaptation within intimate relationships of OEF/OIF veterans. These factors include PTSD and other service-connected disabilities, military and life stressors, the quality of intimate relationships, access to and use of interventions, and social support. The previous sections have described PTSD and the importance of intimate

relationships; the remaining literature review will explore the scholarship on identified factors that may influence adaptation within intimate relationships. This section describes the following factors: (a) an overview of stressors (b) types and involvement of interventions, (c) types of social support, and (d) levels of support.

### **Overview of Stressors**

Stressors are demands that are placed on a family unit that produce or have the potential to produce change in a family system. Stressors may affect all areas of an individual's life including child-parent relationships, sibling relationships, the family system boundaries, or dyadic functioning within an intimate relationship (McCubbin & McCubbin, 1993). Both civilian and military populations experience daily life stressors. Daily life stressors can range from minor stressors, such as unpleasant social encounters or unexpected work deadlines (Charles & Almeida, 2007), to major stressors, such as having a baby or the death of a family member (Hung, 2007); or general life stressors such as loneliness, financial insecurities, or discipline of children (Edwin, 2007). Soldiers' general life stressors are usually complicated by additional stressors that are related to their military experience or combat exposure (Di Nola, 2008; Edwin, 2007).

There is evidence that military deployment causes stress to soldiers and their families (Di Nola, 2008; Faber et al., 2008; King, King, Vogt, Knight, 2006; Nisenbaum, Barrett, Reyes, & Reeves, 2000). Stressors can range from emotional (e.g., missing the soldier or being concerned about the soldier's safety) to deployment-related types of stressors (e.g. increased child care, worries about serving the country correctly). The National Military Family Association [NMFA] (2005) surveyed 1,592 respondents to gain input from uniformed services families regarding the effects of multiple deployments. Spouses represented 77% of the respondents and the additional 33% were parents of soldiers. Based on the respondents' completion of the Cycles of Deployment Survey and several open-ended questions, researchers found that spouses of soldiers experienced varying levels of stress.



The NMFA study (2005) found that 29% of the participants experienced the greatest stress during the middle of the soldier's deployment and 15% upon notification of impending deployment. An Army National Guard spouse reported, "People are not realizing that the National Guard and Reserves make up half of our Nation's military. It is an awful feeling and we were not prepared for 18 months of deployment" (NMFA, 2005, p. 7). Respondents reported that deployment is a stress-inducing time due to lack of communication. A Marine Duty spouse stated, "[We need] consistent communication from the leadership of my husband, telling us what is going on. So often the service member downplays situations and doesn't get the real truth so we have a false picture and the media does not help" (NFMA, 2005, p. 6). In addition, a Coast Guard spouse indicated, "[Families need] contact with other families who are deployed with your service member. I know we have our own life but even a phone call is helpful" (NMFA, 2005, p. 7). Communication and support are essential in dealing with deployment stressors.

Spouses may experience unresolved anxieties and expectations when their husbands or wives enter deployment, especially during the second or third deployment (Di Nola, 2008). Stressors in military families associated with deployment can vary based on the nature of deployment, which can be for combat operations, peacekeeping missions, or routine duty. Across all wars, soldiers and their spouses, especially wives, are inclined to be impacted by this type of stress (Edwin, 2007). Even though stressors play a role in everyone's lives, soldiers experienced stressors throughout their military careers, even after retirement (Riddle, Sanders, Jones, & Webb, 2008). Therefore, practitioners are challenged to look for innovative ways to help families deal with stressors and prepare for the challenges of reintegration.

### **Types and Involvement of Interventions**

Given the large numbers of individuals returning from war with PTSD and other combat-related injuries, it is critical for effective treatment modalities to be in place. The

Department of Veteran Affairs (VA) has shown increasing concern with the development of PTSD and its symptoms (Creamer & Forbes, 2004). The VA has established over 300 inpatient and outpatient specialty treatment programs to address mental health issues; however, service provision in the VA has not kept pace with the demand for PTSD services (Spoont, Murdoch, Hodges, & Nugent, 2010). Therefore, there is a need for more comprehensive and multidisciplinary interventions for PTSD (Ramaswamy et al., 2005) and expansion of current specialized services to improve service provision (Spoont et al., 2010). Effective treatments for PTSD exist, and the disorder can be effectively treated with both psychotherapy and pharmacotherapy. Based on the various treatment modalities, clinicians can develop individualized treatment plans to meet the diverse needs of individuals diagnosed with PTSD. It is not feasible to summarize the entire literature base on PTSD treatment modalities and interventions. Rather, this section identifies prominent treatments and interventions related to PTSD and veterans. Creamer and Forbes (2004) highlighted cognitive behavior therapy (CBT), psychoeducation, symptom management, and group treatments as interventions applicable to veterans diagnosed with PTSD. Most clinicians identify treatment modalities as psychotherapy, pharmacology, or a combination of both.

### **Psychotherapy**

Cognitive-behavior treatment modalities appear to be the leading psychotherapy for PTSD. “Cognitive behavior therapy usually includes education regarding the stress response and relaxation techniques in an effort to enable the individual to exercise control over the extreme physical reaction to PTSD triggers and engage completely in therapy, overcoming avoidance symptoms” (Burke, Degeneffe, Olney, 2009, p. 8). Cognitive behavior treatment can be used to stabilize veterans if they are actively suicidal or homicidal in the midst of a crisis (Creamer & Forbes, 2004). Monson et al. (2006) conducted a study of 60 veterans with chronic military-related PTSD who participated in a wait-list control trial of Cognitive Processing Therapy (CPT). Using random regression

analyses, Monson et al. (2006) found the intention-to-treat sample revealed significant improvements in PTSD and comorbid symptoms in the CPT condition compared with the wait-list condition. Furthermore, 40% of the intention-to-treat sample receiving CPT did not meet criteria for a PTSD diagnosis, and 50% had a reliable change in their PTSD symptoms at post-treatment assessment. This trial provides some of the most encouraging results of PTSD treatment for veterans with chronic PTSD and supports the increased usage of cognitive-behavioral therapy (Monson et al., 2006).

Virtual reality exposure [VRE] therapy is another promising treatment modality for PTSD. Prolonged exposure is based on emotional processing theory and becomes effective when there is activation of pathological fear structure and disconfirming information. The literature has reported that repeated exposure to elements of fear structure in the absence of danger allows new learning to take place and anxiety to be reduced (Reger & Gahm, 2008). However, VRE therapy adds another layer with a variety of technologies (e.g., simulated smells, naturalistic navigation devices, three dimensional visual stimuli). Reger and Gahm (2008) conducted a study on an active duty Army soldier diagnosed with combat-related PTSD. The participant was provided with six sessions of VRE using simulation of a military convoy in Iraq. After the treatment, the participant reported fewer PTSD symptoms and less psychological distress as compared to pretest reports. This treatment appears to be timely for the OEF/OIF population of mostly young men who are seeking technological solutions for day-to-day challenges (Reger & Gahm, 2008).

Group therapy is considered to offer several advantages over other treatment modalities because it is not monolithic and is cost effective (Greene et al., 2004). Veterans who participate in groups may benefit from informal gatherings where they can talk about their experiences, gain a sense of belonging, and receive social support from others (Creamer & Forbes, 2004). Group therapy and couples therapy allow individuals

and/or their spouses to cope with multiple stressors and relational dysfunction within intimate relationships.

Fals-Stewart and Kelley (2005) indicated that support treatments based on marital and family models are very important for veterans and their caregivers. Support treatments are designed to enhance familial and other social support of veterans because the treatment is structured to teach supporters about PTSD and coping mechanisms. Fals-Stewart and Kelley (2005) advocated for veterans to take advantage of this intervention to address problems that plague intimate relationships. Dekel, Goldblatt, et al. (2005) found that wives of war veterans with PTSD had high rates of emotional problems accompanied by marital problems. Therefore, wives should be included in the treatment of their spouses by being taught stress-reducing techniques and attending support groups where the wives can process their feelings (Dekel, Goldblatt, et al., 2005). Sherman, Zanotti, and Jones (2005) stated that couples therapy for veterans and their spouses is also a powerful intervention due to the usefulness of the partner's support in the veteran's recovery. Sherman et al. (2005) maintained that couples therapy can foster interdependence and balanced intimate relationships and reduce the intensity of PTSD symptoms.

Taft et al. (2008) found that veterans with PTSD had difficulty with family adjustment, increased problems with intimacy, and lower family cohesiveness as compared to those without the disorder; therefore, both veterans and their intimate partners may benefit from family-based interventions. Family-based interventions may reduce the steps veterans with PTSD take toward separation and divorce if the interventions target symptoms such as withdrawal and emotional numbing (Taft et al., 2008). Although psychotherapy modalities are very prominent in treating PTSD symptoms, pharmacological interventions for PTSD are also common.

## **Pharmacotherapy**

Pharmacotherapy, or treating disorders with medication, has become common in treatment of veterans with PTSD. Although pharmacotherapy is rarely used as a stand-alone treatment, it has been proven to reduce PTSD symptoms and improve resiliency and quality of life (Brady & Sinha, 2005). Selective serotonin reuptake inhibitors (SSRIs), venlafaxine, nefazadone, and mirtazapine, are the leading antidepressants agents used in PTSD pharmacotherapy, and SSRIs are usually the first-line medications for military-related PTSD (Ruzek et al., 2009). SSRIs are often chosen due to their effectiveness for all three PTSD symptom clusters in both men and women, and the side effects are mild compared to most psychotropic medications (Ruzek et al., 2009). Friedman (2008) listed more than 20 different medications that have been tested on different populations in approximately 50 studies; however, there have not been many replications of either positive or negative results. There are numerous treatment modalities for PTSD including an array of psychosocial and pharmacological approaches (Kilpatrick, 2008); therefore, clinicians are encouraged to evaluate each veteran and identify the most appropriate, individualized treatment. Both psychotherapy and pharmacotherapy are encouraged for returning war soldiers (Brady & Sinha, 2005; Ramaswamy et al., 2005).

Research has identified an array of treatment modalities for PTSD treatment. Despite available counseling services provided through VA hospitals and VA Vet Centers, all eligible veterans are not taking advantage of treatment opportunities. Renshaw, Rodrigues, and Jones (2009) reported that many veterans are uncertain of their eligibility for services. Due to their reserve status, National Guard soldiers are often unaware that they qualify for services through the VA. National Guard soldiers are less likely to seek services when compared to active duty soldiers, and when they do seek help, they are more likely to see private physicians and non-VA counselors for treatment. In contrast, many veterans are reluctant to seek help due to stigma. Owens, Herrera, and

Whitesell (2009) conducted a study of 50 female veterans of the wars in Iraq and Afghanistan who completed an Internet survey related to their mental health needs, service utilization, and barriers to seeking mental health care within the VA system. Owen et al. (2009) found that the most frequently endorsed reasons that female veterans sought services outside of the VA were because they did not want to be seen as weak, they were embarrassed, and they did not feel welcome at the local VA. Pietrzak, Johnson, Goldstein, Malley, and Southwick (2009) conducted a study of 272 predominantly reservist and National Guard OEF-OIF veterans in Connecticut who completed a needs assessment survey. Pietrzak et al. (2009) reported that OEF/OIF veterans identified embarrassment, being perceived as weak, not knowing where to get help, having difficulty scheduling an appointment, and negative beliefs about psychotherapy as barriers to care. Educating soldiers about the availability, nature, and effectiveness of interventions and encouraging unit support may help decrease stigma and barriers to mental health care.

McFall, Malte, Fontana, and Rosenheck (2000) found that veterans' underutilization of available services could be addressed through outreach. In their study of 594 veterans, McFall et al. (2000) discovered that veterans who received informational pamphlets describing PTSD treatment services available through a VA medical center and a letter from the director of the facility inviting them to receive care were more likely to schedule an initial appointment than those who did not receive the information. More than 75% of the veterans in the McFall et al. (2000) study sought services as a result of the outreach intervention because they felt this intervention provided direct access to care and diminished some of their unfavorable opinions of the VA and its atmosphere. It is evident that education and outreach are key components to reduce stigma and barriers to veterans' mental health care.

## **Types of Social Support**

Research has demonstrated that social support plays a significant role in an individual's adaptation (Faber et al., 2008). As Fals-Stewart and Kelley (2005) wrote, "war shakes us from a myopic view of self-in-isolation toward a greater understanding of how closely connected we are to each other and to the world around us" (p. 233). In the early 1960s, the term "social support" was used to describe attachment (Brewer, 2003) and often has been viewed as a moderator between stress and psychological well-being (McCubbin & McCubbin, 1993). Faber et al. (2008) stated that level of social support has been found to be a buffer for the effects of military-related stressors. Social support provides veterans with strength as they try to re-adapt to their normal roles and functions after war (Brody & Simmons, 2007). In their 2009 study, Renshaw et al. found that most National Guard soldiers who served in Operational Iraqi Freedom from 2005 to 2006 indicated most of their perceived support came from spouses, with significantly less perceived support from family and particularly from friends. This finding was despite the fact that many veterans were experiencing high levels of martial distress. Sherman et al. (2005) confirmed that spouses are a major support for veterans. The researchers found that higher levels of support were associated with decreased intensity of PTSD symptoms at 2 to 3 years post-combat exposure. Furthermore, Sherman et al. reported that when social support was absent, partners became critical and hurt, and mental health outcomes worsened.

During homecomings, veterans look forward to their loved ones and support systems being present. A homecoming is the reception that family, friends, and society offer to welcome returning soldiers. Individuals who have support systems in place experience better adaptation when returning home (Bolton, Litz, Glenn, Orsillo, & Roemer, 2002). Bolton et al. (2002) suggested that if a veteran does not have preexisting support system upon homecoming, he or she should be instructed to find others who are supportive within their military units to facilitate a more positive

homecoming. Negative homecomings have been found to discourage veterans from expressing thoughts and feelings, which is associated with maladaptation that may cause veterans to maintain stress (Bolton et al., 2002). King et al. (2006) added that post-deployment support is essential. Veterans often look to “family, friends, coworkers, employers, and community providers to provide emotional sustenance and instrumental assistance” (King et al., 2006, p. 66). Faber et al. (2008) discovered that families who have the most difficulty adapting to reunions are thought to be members who are young, newly married, and financially unstable. In summary, social support is essential for individuals coping with trauma.

### **Level of Coping**

Coping strategies are crucial for both individuals with PTSD and those without the disorder (Stein et al., 2006). Coping can be referred to as the abilities and skills to manage or eliminate a stressor and related hardship (McCubbin et al., 1996). It is not uncommon for veterans to have difficulty coping with common challenges such as career problems and financial, educational, and domestic problems upon their return from war (Laffaye, Cavella, Drescher, & Rosen, 2008). During the onset of a stressor, a person may be too emotionally overwhelmed to effectively cope with the stressor. Benotsch et al. (2000) conducted a study on 348 military reservists who completed psychological testing two separate times. The initial assessment was conducted 14 months after the official end of hostilities; follow-up assessments were completed an average of 13 months after the initial assessment. This study found that soldiers may be able to cope with military-related stressors; however, 30% of the participants of this study were unable to cope with combat-related stress. Individuals who are overwhelmed by multiple stressors may choose negative coping behaviors because their options are limited; therefore having effective coping mechanisms in place is essential (Benotsch et al., 2005). Stein et al. (2005) also illustrated the importance of coping mechanisms. One aspect of their study examined 120 Gulf War veterans to investigate the effects of coping



strategies on PTSD. The researchers used the Coping Strategies Inventory, a self-report assessment, to assess positive and negative coping strategies. The results of the study indicated that coping techniques appeared to have reduced PTSD symptoms and enhanced resiliency against disorder development. In addition, Stein et al. (2005) reported that interventions that develop positive coping skills can be a protective tool for this population.

Many families deal with their adaptation by finding coping strategies within their immediate environment. Faber et al. (2008) reported that veterans' support systems try coping with their stressors by using the Family Support Group [FSG], a military-sponsored group for family members within the unit. The FSG was found to provide individuals with emotional support and to assist with seeking new ways to cope with stressors and the absences of their love ones. In addition, Faber et al. (2008) pointed out that the participants in their study reported using coping mechanisms such as talking with others who understood their problems, seeking new information, and engaging in frequent contact with the FSG. In conclusion, coping is critically related to adjustment following a wide range of severe life stressors.

The abovementioned factors may all play an important role in the way veterans adapt to their disabilities and in the quality of their relationships. Past research has linked PTSD in veterans with relationship distress, regardless of geographic location, type of war, and length of combat. Some veterans without PTSD have shown similar distress (Evans, McHugh, Hopwood, & Warr, 2003). One area that warrants further investigation is the mechanism by which PTSD may affect relationships; it is possible that the reciprocal effects of numbness may cause reductions in the support available from partners (Cook et al., 2004). A theoretical model is utilized to further investigate the stressors that may impact veterans diagnosed with PTSD and those without the disorder.

## **Theoretical Models**

There are numerous models that explain the relationship between stress and disruptions within family subsystems. Some researchers have suggested that models based on pre-existing theories that could apply to the conflicts between stress and the dynamics of the family systems would provide more insight into how both life and military-related stressors impact intimate relationships (Olson & Gorall, 2003; Kennedy, 2006; Stamp, 2004). Models of family systems theory are applicable to this study because of their ability to assess the adaptation to stressors that impact the relationships of military veterans. A discussion of some models follows.

### **Family Systems Theory**

Family systems theory was originally grounded in systems theory dating back to the 1950s. Family systems theory views the family as a whole in which all of the members are interdependent. Therefore each individual member is strongly influenced by structure, organization, and transactional patterns of the family system (Rosenbusch, 2010). As a system, a family unit embodies qualities such as wholeness and interdependence, hierarchy, change, adaptability, and interchange within the environment, with strong emphasis on relationship between individuals within the family unit (Stamp, 2004).

### **Beavers Systems Model**

The Beavers systems model examines the structure, flexibility, and competence of a family and its members (Kennedy, 2006). Rosenbusch (2010) suggested that when utilizing the Beavers systems model, families are seen as having an intuitive system approach to relationships. As Rosenbusch (2010) also explained, the dimension of adaptive flexibility describes a family that does not have strict behavioral patterns, which in turn allows them more freedom to evolve. “The dimension of family style relates to the cohesion dimension and associates with quality of the family interaction and ranges from centripetal to centrifugal which are opposing sides. Centripetal families see relationship

satisfaction coming from within the family and centrifugal see the influence of the outside world meeting their satisfaction” (Rosenbusch, 2010, p. 42). The following section describes specific models within family systems theory.

### **Circumplex Model**

In 1979, David Olson and his colleagues, Douglas Sprenkle and Candyce Russell, developed the Circumplex Model of Marital and Family Systems, which highlights changes families go through developmentally and in reaction to stressors (Olson & Gorall, 2003). Family cohesion, flexibility, and communication are three key components of the model (Olson & Gorall, 2003). The researchers of the model maintained that balanced levels of cohesion and flexibility are associated with healthy family functioning; and the extreme levels of either can cause problems within the family level (de Vries, Carlock, & Florent-Treacy, 2007). Kalso (1996) highlighted the assumption of the model that couples and families need to alter their systems as their individual needs and preferences changes.

### **Resiliency Model of Family Stress, Adjustment, and Adaptation**

The Resiliency Model of Family Stress, Adjustment, and Adaptation is also based on family systems; however, this model also consists of components from coping and adjustment theory and illness models (McCubbin et al., 1996). An outgrowth of the evolution in family stress theory, the Resiliency Model of Family Stress, Adjustment, and Adaptation is the most current extension of earlier family stress models. The Resiliency Model was built on the work of Reuben Hill (1958) and his ABCX model outlining the importance of A (stressor), B (resources), and C (definition of the stressor), which mediate and protect families from deteriorating in a crisis situation (McCubbin & McCubbin, 1993).

The Double ABCX (McCubbin & Patterson, 1983) followed with its focus on factors such as coping and social support that facilitate family adaptation to a crisis

situation. As an extension of the Double ABCX, the Family Adjustment and Adaptation model (McCubbin & Patterson, 1983) was created to emphasize the process involving the family's efforts to balance demands and resources. Later, the Typology Model of Family Adjustment and Adaptation (McCubbin & McCubbin, 1989) evolved to introduce the importance of the family's established and newly created patterns of functioning as buffers against family dysfunction and factors in promoting adaptation and recovery. The Resiliency Model of Family Stress, Adjustment, and Adaptation was chosen as the theoretical framework for this study because of its substantive revision and refinement of previous family stress models. In addition, the theoretical premises of the current study are factors that are related to adaptation in the intimate relationships of OEF/OIF veterans with PTSD. Because the Resiliency Model of Family Stress, Adjustment, and Adaptation encompasses ways to examine these constructs, it served as the theoretical basis for the study.

The Resiliency Model of Family Stress, Adjustment, and Adaptation focuses on understanding the family's strengths and capabilities, which buffer the family from disruptions associated with stressors (McCubbin & McCubbin, 1993). In addition, this model examines why some families are better able to adapt to family crises. The model depicts the family demands (e.g., stressors, strains) and strengths and capabilities (e.g. resources and coping) as critical components that influence the family's adaptation to normative and situational stressors. According to this model, responses to stressful life events occur in two phases over time: (a) the adjustment phase and (b) the adaptation phase (McCubbin & McCubbin, 1993).

### **Adjustment Phase**

Relationship dyads often encounter an event, such as a child getting married, that has a temporary, or little impact if any, on the dyadic subsystem within the family unit. In this phase, the stressor interacts with the couple's vulnerability, which is shaped by the couple's pileup of stressors, strains, and transitions that occur in the same time period of

the stressor (A) (see Figure B1). Family Vulnerability (V), demands within the unit such as financial debts and common trials and tribulations such as a spouse relocating or losing a job, interacts with the family typology (T), a predictable and discernible pattern of the couple's functioning, such as resilient or balanced. These components interact with the couple's resistance and resources (B), the couple's ability to address and manage the stressor and maintain harmony and balance to avoid a crisis in their dyadic subsystem. This result, in turn, interacts with the couple's appraisal of the stressor (C), the couple's definition of the seriousness of the stressor and its related hardship, which interacts with the family problem solving and coping repertoire (FBC), the couple's management of stress and distress through the use of their abilities and skills to manage or eliminate a stress and related hardship (McCubbin & McCubbin, 1993). The adjustment phase is used to illustrate the initial response to a stress event in which only minor changes are made within the couple's relationship and the couple handles the stressor with ease. However, if these minor changes within the dyadic subsystem do not lead to satisfactory level of adjustment (bonadjustment) or if the couple's previous patterns of functioning are no longer adequate to meet their severe hardships, the couple will move into the adaptation phase.

### **Adaptation Phase**

Every stressor does not create major problems in a couple's relationship; however, stressors that stem from military experiences are complex, demanding more changes, or adaptations, in intimate relationships. During the adaptation phase, couples are required to make changes to their dyadic subsystem within the family unit (e.g. goals, roles, and rules). The level of the couple's adaptation phase in a crisis situation is determined by a number of interacting components (McCubbin & McCubbin, 1993). The Pileup (see Figure B1) of family demands, or the cumulative effect, over time, of pre- and post-crisis stressors and strains, interacts with the couple's level of regenerativity and resiliency (R). Resiliency is determined by old and newly created patterns of functioning.

The above components are influenced by family resources and social support (BB and BBB), or the existing resources and the expanded resources that are developed by the couple in response to demands of the stressor event. Resources are often viewed as the primary moderator or mediator between stress and psychological well-being. The BB and BBB are supported by situational appraisal and family appraisal (CC and CCC). CC and CCC explain the couple's perceptions of the changes in their intimate relationship that play a vital role in creating and shaping new patterns, eliminating old patterns, and creating and using resources. The resources and appraisal components interact with the couple's coping and problem solving repertoire (PSC) to create the couple's adaptation to the crisis. Coping and problem solving in this theory can be described as the expansion of the range and efficacy of coping behaviors, or patterns and strategies called upon to facilitate adaptation (McCubbin & McCubbin, 1993). The above mentioned variables are essential for the couple to recover and adapt during a crisis situation. The continuum of family adaptation ranges from optimal bonadaptation to maladaptation. Bonadaptation describes the outcome in which the couple moves through the stressful situation with ease and involves minor adjustment and changes in their dyadic subsystem and patterns of functioning, while restoring their subsystem to a state of balance and harmony. Maladjustment occurs when the couple has to change the roles, rules, responsibilities, and boundaries, which may create imbalance and disharmony. This challenge to the couple's established functioning may cause the couple to experience maladjustment and a resulting condition of family crisis (McCubbin & McCubbin, 1993).

### **Research Findings**

One way to understand major stressors that contribute to a couple's quality of dyadic adjustment is to explore the couple's response to resiliency through studying their adaptation. During stressful situations, resilient intimate dyads are able to maintain balance, adjust to changes, and adapt to a crisis by overcoming the challenges they face (McCubbin, Balling, Possin, Friedrich, & Bryne, 2002). Given the lack of research on the

use of the Resiliency Model of Family Stress, Adjustment, and Adaptation with OEF/OIF veterans and scrutinizing intimate dyads within the family unit, the researcher of this study provides the following non-military related research to demonstrate the effectiveness of this model in studying stressors and couples' dyadic adjustment.

Brody and Simmons (2007) conducted a qualitative study with eight fathers of children between the ages of 4 and 16 who were receiving cancer treatment. The purpose of the study was to explore the resources that help fathers adapt to life after their children's diagnosis using the resiliency model of family stress, adjustment, and adaptation as a framework. The following questions guided this study: (a) What challenges do fathers face when their child is diagnosed with cancer? (b) What resources do fathers use to cope with their child's cancer diagnosis and treatment? (c) How do fathers change in response to their child's diagnosis and treatment?

This study resulted in Brody and Simmons (2007) identifying four major themes: (a) changes and adjustments in family life (changes in family routine and finances), (b) communication patterns (importance of communication in explaining the child's diagnoses to him or her), (c) social support (the extended family and health team seemed to be the fathers' biggest support teams, and (d) resultant effect on fathers (the range of emotions that fathers experience during the diagnosis with the biggest one being spending time with their children because now the fathers realized how quickly life could change). By using their social supports in combination with constructive communication patterns, fathers were more likely to display resilient characteristics that enabled them to adjust to the changes in their family lives. Fathers reported that their relationships with family members were strengthened through their difficult times. Furthermore, the support from extended family, the church, and health care professionals was necessary for fathers to remain positive during their children's illnesses; spousal and parent-child dyads were strengthened; and changes in family lives varied based on the composition of the household. In addition, Brody and Simmons (2007) challenged practitioners to reassure

families that changes and adjustment during crisis situations were normal and indicated that practitioners should have resources available for the family to deal with their adjustment. According to the model, these fathers were able to have a bonadjustment after their children were diagnosed with cancer.

Kuo's (2000) dissertation examined the contribution of preterm labor stress and family resiliency factors to family adaptation and the differences between fathers and mothers in their adjustment. Transition to parenthood becomes challenging as adaptations are made in assuming new roles while assimilating the baby into the family unit. In Kuo's study, both expectant mothers and fathers experienced anticipation and perceived stress before the birth of the child. The mother began by accepting the pregnancy, often reviewing her relationship with her mother, and strengthening intimate dyads due to the mother's desire for the father's involvement during pregnancy and the balancing of her dependence-independence needs.

Kuo (2000) pointed out that fathers had many emotional responses, and their stressors usually involved not knowing their roles as fathers and their inability to cope with changes and lifestyle and disequilibrium in their intimate relationship with the mothers. Kuo used measures of pregnancy adjustment, family functioning, ambiguity tolerance, uncertainty of high-risk pregnancy, family hardiness, and social support to survey the 131 families recruited when the mother was in preterm labor in 19 hospitals in Taiwan. Study results were found to support the Resiliency Model of Family Stress, Adjustment, and Adaptation. In all of the regression models, family hardiness, which is the internal strength and durability of the family unit characterized by a sense of control over life events and hardships (McCubbin & McCubbin, 1993), was the strongest predictor for pregnancy adjustment. The model demonstrated the confirmatory evidence of the importance of resources in determining the outcome of dyads during crises. In comparing fathers and mothers, no differences were found in pregnancy adjustment, family functioning, uncertainty of high-risk pregnancy, family hardiness, and social



support. In this study, Kuo (2000) defined social support as extended family and financial well-being. For fathers, but not mothers, results indicated that social support was a significant predictor of pregnancy adjustment. However, fathers reported more ambiguity tolerance than mothers did. Results of this study support inclusion of assessment of family stressors, resource factors, and appraisal in estimates of family adaptation to stressors.

A more recent study further confirmed the need to address dyads within the family unit during stressful situations to promote overall well-being within the family unit. In a study from a Midwestern section of the United States, Noreuil (2002) recruited 60 mothers and 30 spouses/partners (fathers) to participate in her cross sectional study. The participants were families who had a mother living with chronic illness and at least one child under the age of 18 years living at home. The purposes of this study were to (a) describe levels of uncertainty, family hardiness, and psychological wellbeing in mothers with a chronic illness and their spouses/partners; (b) test for direct and moderating effects of uncertainty and family hardiness on psychological well-being in mothers and their spouses/partners; (c) examine congruency between mothers' and spouse/partners' uncertainty and family hardiness and the relationship to their psychological well-being; and (d) examine mothers and spouses'/partners' responses to open-ended questions about how they deal with the uncertainty of chronic illness.

The results of Noreuil's study (2002) indicated that for mothers and spouses/partners, family hardiness was a significant predictor of psychological well-being. No moderating effects were found for uncertainty and family hardiness on the psychological wellbeing of mothers and their spouses/partners. In addition, Noreuil (2002) found the following four themes when the participants responded to questions about living with the chronic illness: (a) education, which included educating others about the illness, including the impact of the illness on the family; (b) support, which included asking others for help; (c) creative problem solving, which included setting

priorities and simplifying their lives; and (d) living for today, which included living day by day and planning activities at the last minute to manage the unpredictability of chronic illness. Mothers who were diagnosed with chronic illness relied on family members, especially ones in the household, to complete chores and tasks. The mothers who had more relatives living in their homes had better psychological well-being. Noreuil also found that mothers who did not work had lower financial stability; however, they had higher psychological well-being as compared to mothers who tried to manage their chronic illness, work, and family responsibilities. These results complemented the Resiliency Model of Family Stress, Adjustment, and Adaptation as the findings indicated that family hardiness acts as a buffer mitigating the effects of the stressors and demands and as a facilitator of family adjustment and adaptation over time (McCubbin & McCubbin, 1993). “Family hardiness was a significant positive predictor of psychological wellbeing for both mothers and spouses/partners. These findings proved support that stress resistance, resources, such as family hardiness, predict well being in family members who express chronic illness” (Noreuil, 2002, p. 138).

Everson (2005) conducted a study of 205 Army spouses of deployed and non-deployed soldiers during Operation Iraqi Freedom. Using the ABC-X model from family stress and resiliency theory, Everson determined the differing influences of parenting stress and daily family stressors and strains on the perceived quality of life for spouses who remained behind during deployment. The Parental Stress Scale, the Family Inventory of Life Events and Changes, the Family Crisis Oriented Personal Evaluation Scales, the Physical and Psychological Strains Scales from the Occupational Stress Inventory, the Orientation to Life Scale, and the Generalized Contentment Scale were used to assess stress, coping, appraisal of stress and coping (well-being and sense of coherence), and quality of life for the spouses of non-deployed and deployed service members.

Everson (2005) found that the results of the study indicated that length of deployment was a significant factor in terms of the influences of stressors, level of coping, and appraisal or perception factors on the quality of life for this sample of Army spouses. With regard to family stress, well-being, sense of coherence, and quality of life, the observed means for the spousal group whose service members had been deployed longest differed significantly from the group of spouses whose service members had been deployed a shorter length of time. Everson stated that the longer deployment appeared to have less impact on quality of life for the respondents than shorter deployment.

Everson (2005) also reported that the quality of life of spouses of service members deployed for longer than 6 months seemed more directly influenced by parental stress and family stress than other variables in the model. This study also highlighted that having a spouse in the household during a deployment enhanced family coping, well-being, and sense of coherence, and reduced the overall influence of parental stress within the model. In addition, family coping contributed significantly to well-being, sense of coherence, and quality of life. The better this group perceived their families to be coping the greater this factor apparently reduced the amount of distress that otherwise would have created lower physical and emotional well-being, sense of coherence and quality of life (Everson, 2005). The previous research studies illustrate that coping factors are a key component to an overall sense of well-being and ultimately quality of life, and the focus on military families is relevant to this research study.

The above studies demonstrated how the Resiliency Model of Family Stress, Adjustment, and Adaptation can be used to explain how various age groups, individuals with disabilities, and intimate and family dyads adapt or adjust to stressors in their lives. Even though researchers have not used this model with the veteran population, the model is applicable as veterans experience different stressors that may impede their dyadic functioning in intimate relationships. Although this review of literature provides some insight into the numerous of stressors faced by veterans and the effects of PTSD on their

dyadic adjustment with significant others, there remains a lack of research in this area. Research that focuses on the impact of disabilities, especially PTSD, on the lives of OEF/OIF veterans may offer insights to new research and best practices within the helping profession. The next section introduces the research instruments for this study.

### **Overview of Instruments**

According to McCubbin and McCubbin (1996), it is essential to understand factors that serve as buffers against family dysfunction and promote adaptation and recovery. The quality of adjustment, stressors, problem-solving attitudes and behaviors, and the presence of a disability are all possible factors that may influence intimate relationships. The presence of a service-connected disability was self-reported by the veterans on the demographic questionnaire of this study. However, the quality of intimate relationships was assessed through the Dyadic Adjustment Scale.

#### **Dyadic Adjustment Scale**

The Dyadic Adjustment Scale (DAS) was developed in the early 1970s as an assessment tool to measure the quality of adjustment in marriages and other intimate dyads (Spanier, 1987). The DAS has yielded good reliability and validity; the test is applicable for married, cohabiting, and dating couples (L'Abate, 2004). To confirm validity, the DAS was administered to 21 married participants and 94 divorced participants. Answers on tests were compared with external marital status and were found to be consistent and valid (Loewan, 2009). Thirty years later, the DAS still remains a well-known and widely used instrument.

The DAS has been used in many recent studies. Tewary (2008) administered the assessment to 91 veterans to determine if marital quality independently predicted arthritis self-efficacy. Tewary (2008) did not find significant correlations between marital quality and disease management self-efficacy or between length of marriage and disease management. These results may suggest that a longer marital relationship is not important for a better marriage or higher self-efficacy. Williams (2007) conducted a study of 99

professionals to determine the correlation between levels of burnout and marital satisfaction. The results of this study demonstrated that the DAS had good reliability and validity. Williams indicated that given DAS scores alone, the indication was that the respondents of the study had happy, well-adjusted marriages.

### **Family Crisis Oriented Personal Evaluation Scales**

#### **(F-COPES)**

The F-COPES was developed to identify problem-solving behaviors in families as they responded to difficulties (Jacob & Tennebaum, 1988). The F-COPES has been shown to have a very good reliability of .96 and a strong validity of .86 with other family measures (Fischer & Corcoran, 2007; Graham et al., 2006). The instrument is structured to reflect two levels of interaction: interactions within the family unit and interactions with family's larger social network. It was predicted that families with an increased array of coping strategies would better adapt in stressful situations (Rockelli, 2008).

Walsh (2005) conducted a study of 26 military families of soldiers who has served on an overseas tour that was at least 6 months in duration. The F-COPES was utilized as the instrument to assess coping skills of the families. Walsh hypothesized that younger military families would demonstrate fewer coping resources and have less social support. However, F-COPES demonstrated that younger families had a larger and better supply of coping skills and that there were no differences between the two families in terms of social support. Walsh reported that the F-COPES proved to be reliable with this population and the instrument had good internal consistent reliability.

#### **Family Inventory of Life Events (FILE)**

Based on the Double ABCX Model of Family Adjustment and Adaptation, FILE is a 71-item assessment used to assess chronic and recent stress events. The index of family stressors assesses the number of life stressors encountered by an individual in the past year (Naar-King, Ellis, & Frey, 2004). Andrews (2007) reported that the instrument is easy to administer and scores are weighted, with higher scores implying lower stress.

Walsh (2005) confirmed that the FILE instrument has good reliability. As described above, Walsh conducted a study on 26 military families of soldiers who had served on an overseas tour that was at least 6 months in duration. Walsh utilized the FILE to assess stressors faced by the military families. He found no difference between the younger and older families in their reports of family-related life stressors. Contrary to Walsh's hypothesis, families of lower ranked soldiers reported having lower degrees of life-event stress, and families who reported more life stressors endorsed more physical symptoms. Walsh also concluded that as family members dealt with multiple deployments, they began to look at the deployment as a challenge instead of as a stressor.

### **Summary**

Chapter II provided an overview of PTSD and the role this disorder plays in the lives of OEF/OIF veterans. This chapter highlighted the importance of spouses/partners to veterans and how PTSD and other life stressors may impact such intimate relationships. In addition, this chapter discussed the Resiliency Model of Family Stress, Adjustment, and Adaptation and provided a review of studies demonstrating this model's effectiveness in examining how individuals adjust or adapt to stressors. The chapter concluded with a brief description of the instruments used in this study. Chapter III will describe the methods and procedures used to conduct the present study investigating the possible differences in intimate relationships with significant others between OEF/OIF veterans who self-reported PTSD and those who did not.

## CHAPTER III METHODOLOGY

### **Overview**

The review of literature in Chapter II established the need for a closer examination of war veterans and their intimate relationships (Chrysos et al., 2005; Dekel, Goldblatt, et al., 2005; Smith et al., 2005). Intimate relationships play a key role in veterans' lives; however, conditions such as PTSD may have dramatic impacts on such relationships (Calhoun et al., 2002; Denkers, 1999). The purpose of this study was to explore the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. More specifically, this study identified the factors that were related to the dyadic level of adaptation for this population. Chapter III outlines the methodology that was used for this study and provides sufficient details so that the study can be replicated in all essential aspects (Cone & Foster, 2006). This chapter describes the (a) research design, (b) setting and participants, (c) research instruments, (d) procedures for completing the study, (e) research questions, (f) variables, and (g) data analysis.

### **Overview of the Research Design**

A regression approach was used to answer the main research question posed in the present study. Regression analyses are a statistical methodology for investigating functional relationships among variables (Chatterjee, Hadi, & Price, 2000). The researcher explored the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not report this disorder by identifying the factors that were related to the dyadic level of adaptation for this population. In this study, the level of adaptation in intimate relationships was measured by the Dyadic Adjustment Scale.

The general population from which the sample of this study was recruited included approximately 13,075 OEF/OIF veterans living in the state of Iowa (State of

Iowa Transitional Assistance Advisor Billy Foley, personal communication, April 16, 2010). During the past 6 years, over 80% of Iowa's soldiers have been deployed to Iraq and/or Afghanistan, which exceeds the numbers of soldiers deployed in World War II (Dorsey, 2008). The actual accessible population for this study was 2,408 veterans attending colleges and universities in the state of Iowa who were utilizing federal education benefits. The most popular education benefit programs available to veterans, reservists, and/or servicemen are the Montgomery GI-Bill, Post-911 GI-Bill, Vocational Rehabilitation and Employment Chapter 31 program, Reserve Education Assistance Program, and Vocational Educational Assistance Program. Depending on each individual's situation, education benefits could include payment of tuition and fees, a monthly housing allowance, personal spending allowance, and/or a stipend for books and supplies. The remainder of this chapter addresses the (a) setting and participants, (b) research instruments, (c) procedures for completing the study, (d) research questions, (e) variables, and (f) data analysis.

### **Selection of Participants**

Purposive sampling was used to identify participants for this investigation. In purposive sampling, researchers do not study whoever is available, but use their judgment to identify participants based on selected criteria to include people of interest and exclude those who do not suit the purpose (Fraenkel & Wallen, 2003). One of the advantages of purposive sampling is that it enables a researcher to confidently generalize results from a small sample to a larger population (Fraenkel & Wallen, 2003). Due to the 541,400 servicemen and servicewomen utilizing education benefits (Veterans Benefits Administration, 2008), the researcher of this study was aware that she would find eligible participants on college and university campuses. The target sample was community-dwelling veterans who served in the theaters of OEF/OIF and were reintegrated into their local communities. The purposive sampling excluded OEF/OIF veterans who were institutionalized or needed inpatient treatment because the severity of their current



symptoms might have impeded their ability to reintegrate into society and might have influenced their answers to the survey instruments. This study focused on community-dwelling OEF/OIF veterans who had service-connected (SC) disabilities or conditions and who were enrolled in post-secondary education. Service-connected disabilities and conditions are attributable injuries or diseases incurred or aggravated during active military service for which the veteran receives a monthly compensation based on the determination of percentage of disability (Krumhaus, 2001).

To achieve adequate statistical power for this study, the researcher aimed to meet the required sample size (at least 10 participants per variable), estimated to be at least 100 participants: one group of 50 OEF/OIF veterans who self-reported service-connected PTSD and another group of 50 OEF/OIF veterans who self-reported any other service-connected disability or condition. The five variables of this research study included nature of the stressors, level of coping, type(s) of social support, types and involvement of interventions, and characteristics of the intimate relationship that best predicted dyadic adaptation levels in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not.

The specific eligibility criteria for the participants were as follows: Participants must (a) have been in the active military, naval, or air service, and have been discharged from active duty or released under conditions other than dishonorable; (b) have been deployed to the theaters of Operations Enduring Freedom and Iraqi Freedom (OEF/OIF) in Afghanistan or Iraq with combat exposure or war zone services or related activities; (c) have a service-connected disability; and (d) currently be in a self-reported committed relationship of at least 3 months.

The researcher also had a deselection process. Deselection, excluding certain individuals for consideration and accepting all others (Yalom & Leszcz, 2005), is necessary to ensure that participants meet the eligibility criteria for the study. A deselection process was in place to ensure that all participants met all of the criteria to be

included in the present study. The deselection process was structured so that at the beginning of the survey, participants must have answered yes to the four eligibility criteria to be directed to the study's surveys. If participants answered no to any of the four criteria, they were redirected to a page that thanked them for their interest in the study. To reconfirm that the participants were eligible, the researcher completed the inclusion/exclusion checklist form (see Appendix A, Inclusion/Exclusion Checklist) as she reviewed the demographic questionnaires. Individuals who had personality disorder or moderate/severe traumatic disorder were deselected as they might have had a behavior that might have influenced their answers on the instruments (American Psychiatric Association, 2000; Falvo, 2005).

### **Research Procedures**

After securing approval from the dissertation prospectus committee and the Institutional Review Board (IRB) of the University of Iowa to proceed with this study, the researcher began to recruit participants. Recruitment was designed to achieve a sample of participants that adequately represented the target population and to meet the sample size and power requirements of the study (Patel, Doku, & Tennakoon, 2003). Therefore, participants were recruited in the following two stages.

**Stage One.** In Stage One, the researcher began the recruitment process by utilizing referrals from a colleague. The researcher's colleague referred her to four different certifying officials (COs) working on college and university campuses in the state of Iowa. Certifying Officials act as liaisons between universities/colleges and regional VA offices to provide information on university procedures and to resolve problems regarding eligibility and payment of VA education benefits. The researcher contacted the four COs by telephone to explain the nature of the study and request their assistance. After the researcher received the COs' permission by phone, the researcher sent them an email announcement to forward to veterans on their respective campuses.

The COs sent a total of three emails to all eligible participants requesting their participation in the study and did not add a transmittal of their own but sent original email announcements. The COs sent the first email immediately after the researcher emailed the email announcement. The second email was sent 2 weeks after the first email announcement, and the final email was sent 2 weeks after the second email announcement. Within the email announcements, eligible participants were provided a URL that led to the four screening questions. If individuals answered “NO” to any of the four screening questions, they were redirected to a thank you page in 5 seconds. The page thanked the individuals for their interest and provided them with a list of possible resources that support troops. However, if individuals answered “Yes” to all four screening questions, they were automatically rerouted to the consent document. After reviewing the consent document and agreeing to be in the study, individuals clicked the next page link and began the questionnaires electronically using WebSurveyor, a web-based survey program capable of collecting, analyzing, and graphing data. The four COs provided an enrollment of 1397 veterans utilizing educational benefits, which yielded a response rate of 11%.

**Stage Two.** Because Stage One yielded a response from 38 subjects, the researcher searched for other COs within the state of Iowa. A public document found on the Internet listed every CO within the state of Iowa; therefore, the researcher contacted each CO by phone to explain the nature of the study and request their assistance. The researcher contacted 109 COs; however, only 31 agreed to allow their students to participate. As a result, the 31 COs provided an enrollment of 1011 veterans utilizing educational benefits, which yielded a response rate of 24%. The 31 Stage Two COs agreed to send the email announcement to their veterans only once as compared to other 4 COs in Stage One who sent the email announcement three times. The 79 COs who chose not to participate cited the following reasons: 11 indicated no veterans were enrolled at their schools, 5 stated they did not have time to individually send emails, 11

were concerned that the topic was too sensitive, 7 indicated that there were too few veterans to send out the email, 9 reported that their school policy allowed information to be sent to veterans pertaining to only school or VA-related information, and 36 did not cite a specific reason but expressed their disinterest in participating.

Overall, 35 COs provided an enrollment of 2,636 veterans utilizing educational benefits on 34 college and university campuses across the state of Iowa. There were 275 veterans who were interested in the study but did not meet the eligibility requirements, which yielded a 10% ineligibility rate. One hundred and twenty-six veterans consented to participate in the study and were encouraged to complete surveys at any location that had Internet access where they felt comfortable. For the 126 participants who utilized WebSurveyor to complete the online assessments, there was no way to identify which of the 34 colleges or universities the participants attended.

WebSurveyor consisted of the four instruments: (a) the demographic questionnaire, (b) the Dyadic Adjustment Scale (Spanier, 1987), (c) the Family Inventory of Life Events and Changes (McCubbin et al., 1996), and (d) the Family Crisis Oriented Personal Evaluation Scale (McCubbin et al., 1996). The survey protocol was pilot tested by a total of six students attending the University of Iowa. Based on their results, the estimated time for completion of the surveys was 35 minutes.

As compensation for the participants' time and effort, participants who completed the surveys were entered into a drawing for a \$25 American Express gift card. A total of eight American Express gift cards were purchased and raffled off immediately after data collection. Upon completion of the final survey, participants were redirected to a registration form. The registration form was designed so that it was not linked to the participants' responses. On the registration form, the participants indicated their name and mailing address. The winning participants were mailed their gift cards at the end of the data collection process. The incentive for participants' time and effort was also described in the email announcements. The only identifiable information collected was

the participants' names and addresses provided at the end of the survey, if participants chose to participate in the drawing.

To protect the identifiable information, the researcher did not download the information until the drawing and immediately shredded the identifiable information. After the eight names and addresses were chosen, the researcher immediately addressed envelopes and went to the post office on that day to mail the winners their gift cards. To protect the participants' privacy, the researcher collected the minimum private information needed to answer the study questions. In using WebSurveyor, the researcher designed the surveys so that the results and the participants' names and addresses could not be linked. The names and addresses were also deleted from WebSurveyor immediately after the drawing. Although the identifiable information was on WebSurveyor, only the researcher had the password to the surveys and the identifiable information.

### **Researcher's Ethical Considerations**

The researcher realized that there could be some risk involved in the study; therefore, risk management procedures were followed. Questions on the surveys may have caused the participants to become emotionally, physically, socially, or psychologically distressed due to re-experiencing traumatic events or reflecting on the nature of their intimate relationships. No financial or legal risks were anticipated. If the participants became distressed, they were instructed to take the following steps, which were also listed within the informed consent document: (a) Contact their health provider or the clinic where they received health care; (b) if they felt their distress was a life-threatening emergency, they were instructed to call 911 to receive immediate medical or mental health attention; and/or (c) if they had thoughts of harming themselves, they were to contact the national suicide prevention hotline at 1-800-273-8255 or American Red Cross at 1-800-696-3873 for immediate assistance. In addition, the researcher is a skilled counselor who is bound by the American Counseling Association Code of Ethics.

Participants were advised that the study would be completed on a voluntary basis.

Participants who chose to participate were provided an opportunity to enter the drawing for a \$25 gift card. There were no direct benefits to the participants.

### **Research Instruments**

The research instruments for this study were as follows: (a) a demographic questionnaire, (b) the Dyadic Adjustment Scale (Spanier, 1976), (c) the Family Inventory of Life Events and Changes (McCubbin et al., 1996), and (d) the Family Crisis Oriented Personal Evaluation Scale (McCubbin et al., 1996). Each instrument is described in the following sections.

#### **Demographic Questionnaire**

A demographic questionnaire (see Appendix A) was developed to obtain background information from each participant. The participants were asked to respond to questions related to general information about themselves, their service-connected disabilities, military experiences, and relationships with their significant others. The demographic questionnaire requested the following information: (a) age, (b) gender, (c) ethnicity, (d) length of relationship and current relationship status, (e) branch of service, (f) description of military duties, primary service-connected disability, and its onset, (g) types and amount of sought interventions, and (h) decision-making process to not seek interventions, if that option was chosen.

#### **Dyadic Adjustment Scale**

The Dyadic Adjustment Scale (DAS; Spanier, 1976) was used to measure participants' dyadic adaptation in intimate relationships. This instrument is the most frequently used survey instruments for studying separate components of dyadic adjustment in marriages and other types of relationship dyads (Spanier, 1976). During the 30 years since its creation, the DAS continues to be a leading instrument and an often used measurement in relationship research due to its applicability to a wide variety of relationship dyads (e.g., married, cohabiting, homosexual, and divorced couples), and its

good reliability and validity (Graham, Liu, & Jeziorski, 2006). It has been used in more than 1000 studies within 10 years of its establishment and its use continues to grow (Graham et al., 2006).

The DAS is a 32-item self-report instrument and has the following four subscales: (a) Dyadic Cohesion (5 items) refers to the common interests and activities shared by the couple, for example, “Do you and your mate engage in outside interests together?”; (b) Dyadic Satisfaction (10 items) measures the amount of tension and well-being in the relationship, for example, “How often do you and your mate leave the house after a fight?”; (c) Dyadic Consensus (13 items) assesses the extent of agreement between partners on matters that are important to the relationship, for example, “Rate the extent of agreement or disagreement between you and your partner on handling family finances”; and (d) Affectional Expression (4 items) measures the individual’s satisfaction with the expression of the affection and sex in the relationship, for example, “Indicate if being too tired for sex causes differences of opinions or problems within your relationship in the past few weeks.” The final score is obtained by adding the total scores from each of the four subscales (Spanier, 1987). The scores for the DAS can range from 0 to 151 with higher scores indicating a higher level of adjustment.

The DAS has been used recently to assess marital adjustment following war captivities while examining loneliness and PTSD (Solomon & Dekel, 2008). The DAS has a total scale internal consistency reliability of .96 and a construct validity of .86 when compared to the Locke Wallace Marital Scale (Graham et al., 2006; Rosen-Grandon, Myers, & Hattie, 2004; Spanier, 1987). Research has reported that the DAS has good convergent validity and discriminant validity (Heyman, Sayers, & Bellack, 1994). In addition, the Cronbach alpha is reported to be .96 for overall DAS and ranges from .73 to .94 for the four subscales (Touliatos, Perlmutter, & Straus, 1990).

The DAS was chosen from among other instruments because of its sound conceptual foundation and its ability to be used in both the U.S. and other cultural

contexts such as Italy and Turkey (as cited in Graham et al., 2006). It is the most widely used instrument by relationship researchers and clinicians to assess overall relationship satisfaction in couples and has well-established reliability and validity (Pearce & Halford, 2008). The DAS also measures relationship quality, which is important because the correlates and consequences of relationship quality are widespread and encompassing (Graham et al., 2006).

### **Family Inventory of Life Events and Changes**

The Family Inventory of Life Events and Changes (FILE; McCubbin et al., 1996) was used as a measurement to assess the participants' pile-up of life stressors. The 71-item self-report questionnaire was developed to systematically assess cumulative family life changes. The FILE has the following nine subscales to measure family chronic and recent life stress within the past year: (a) Intrafamily Strains (12 items) reflects the source of tension and conflict between family members, for example, "Increase of husband/father's time away from home"; (b) Marital Strains (4 items) measures stressors in the marital role arising from sexual or separation issues, for example, "Spouse had an affair"; (c) Pregnancy and Childbearing Strains (4 items) relates to pregnancy difficulties and adding a new child to the family, for example, "An unmarried member became pregnant"; (d) Finance and Business Strains (12 items) reflects the combination of assessing sources of increased strain on a family's money and reflection of strain arising from a family owned business or other investments, for example, "Took out a loan or refinanced a loan to cover increased expenses"; (e) Work-Family Transitions and Strains (10 items) measures moving in and out of the work force and changes occurring at work or a move made by family or one of its members, for example, "A member lost or quit a job"; (f) Illness and Family "Care" Strains (8 items) reflects the dependency needs arising from a family member's illness or injury, onset of an increased difficulty with a chronic illness, or a member or relative requiring more help or care, for example, "A child becomes seriously ill or injured"; (g) Losses (6 items) reflects losses due to death or a



broken relationship, for example, “Close friend of the family dies”; (h) Transitions “In and Out” (5 items) indicates a family member moving out or back home, or beginning a major involvement outside of the family, for example, “Young adult member left home”; and (i) Family Legal Violations (5 items) focuses on a member breaking society’s laws or morals, for example, “A member went to jail or juvenile detention.” These 71 “yes-no” items measured stress by computing a total score and a number of subscales scores. Higher scores indicated increased stress. The total score was computed by summing the scores for each subscale. The scale had a potential range of scores from 41 to 2065.

The FILE was chosen from among many other instruments because of its ability to identify the severity of stressors within intimate relationships. The most severe stressors may involve death, illness, or violence while the least severe may be a car purchase or refinanced loan (McCubbin et al., 1996). In addition, the FILE has been used in studies of parent dyads (Barton & Baglio, 1993; Murata, 1994), relationship dyads (Beach et al., 1992; McCubbin & Patterson, 1983) and across various disability groups (Atkins & Amenta, 1991; Benter, 1990; McCubbin & Patterson, 1983). The overall scale reliability is .81 with the subscale reliabilities ranging from .73 to .30. The internal consistency, ranging from .79 to .82, is most soundly established by the total scales; therefore, only the total scales should be used (McCubbin et al., 1996).

### **Family Crisis Oriented Personal Evaluation Scale**

The Family Crisis Oriented Personal Evaluation Scale (F-COPES; McCubbin et al., 1996) was used to assess the participants’ coping behaviors. The 30-item instrument identifies problem-solving attitudes and behaviors that families develop to respond to problems or difficulties (McCubbin et al., 1996). The F-COPES items are rated on a 5-point Likert scale, and responses indicate the extent to which the participants strongly agree to strongly disagree with items. The items described are coping behaviors that focus on two levels of interaction: individual to family systems (how they handle problems between themselves) or family to social environment (the way in which they

handle problems externally or demands that emerge outside of their boundaries; (McCubbin et al., 1996). The items are distributed across the following five subscales: acquiring social support, reframing, seeking spiritual support, mobilizing family to seek help, and passive appraisal. The total coping score may be obtained by summing the numbers circled by the respondents. However, for the purpose of this study, the five items were reversed. This reversal ensured that all items were weighted in the same positive direction for both analysis and interpretation. The total score, a sum of all items, can range from 30 to 150, with higher scores indicating greater adaptive coping mechanisms and leading to more successful adaptation (McCubbin et al., 1996).

The reliability of the total scale of the F-COPES is .86 and it has a test-retest reliability of .81 over 5 weeks (McCubbin et al., 1996). Leske and Jiricka (1998) reported an internal consistency reliability of .86 for F-COPES. In addition, they stated that the test-retest reliability was well established.

### **Research Variables**

To answer the main research question presented in this study, hierarchical regression analyses were used to analyze the factors that contributed to the dyadic adjustment levels of veterans who self-reported PTSD and those who did not. This section will present and define the dependent and independent variables of the proposed study.

#### **Dependent Variable**

**Overall quality of dyadic adjustment.** Dyadic adjustment is the nature and quality of changes in the interaction of a relationship dyad. The overall quality of dyadic adjustment is a single score that is derived by adding the final scores of each of the four subscales (dyadic concerns, dyadic satisfaction, dyadic cohesion, and affectional expression) from the DAS (Spanier, 1989). The scores for the DAS can range from 0 to 151 with higher scores indicating greater adjustment. The total score cutoff for distress is 97.

## **Independent Variables**

**Stressors.** A stressor is a phenomenon that may occur in an intimate relationship that produces or has the potential of producing changes in the relationship that can be classified as being minor, a set back, or catastrophic (McCubbin et al., 1996). Stressors may arise from life sources such as relationships or military experiences such as combat exposure. Life stressors are a single measure of the couple's chronic and recent life stress in the past year as measured by the Family Inventory of Life Events and Changes.

**Coping patterns.** Coping patterns are the participant's abilities and skills to manage or eliminate a stressor and related hardship. Coping patterns are a single measurement of a couple's ability to respond to problems or difficulties, which is the score obtained from the Family Crisis Oriented Personal Evaluation Scale (McCubbin et al., 1986). The single measurement does not have subscales and can range from 30 to 150, with higher scores indicating a greater use of adaptive coping mechanisms and leading to more successful adaptation.

**Intimate relationship.** An intimate relationship is a union of at least 3 months that is based on emotional attachment, falling in love, personal predilection, and mutual engagement. This relationship may be defined as marriage, a common-law marriage, an engagement, or an exclusive dating relationship (Flinck et al., 2008). Therefore, this type of relationship does not include family members outside of the dyad. A dichotomous yes/no self-report of a committed relationship was obtained from the demographic questionnaire.

**Interventions.** Interventions are any professionally provided services that may be used to manage a crisis in intimate relationships. Interventions are resources (e.g. family counseling, pastoral counseling) used by veterans to help them adjust to their disabilities over the last year. The self-reported frequency of services the participants used in the last year was obtained from the demographic questionnaire.

**Social support.** Support is any person or psychological, family, or social resource that persons in intimate relationships use to manage a crisis. This support may be informal (friends or other family members), formal (medical or social services), resources (schools, churches, etc.), or broad social levels such as state and federal government policies that aid families (McCubbin et al., 1996). A single measure of the participants' ability to actively engage in acquiring support was obtained from the acquiring social support subscale of the Family Crisis Oriented Personal Evaluation Scale.

### **Data Analysis**

This section presents data analysis that served to explore the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. After describing the level of dyadic adaptation in OEF/OIF veterans and exploring the differences between the two groups, the main research question addressed the factors that best predicted the dyadic level of adaptation for this population.

#### **Research Question 1**

What is the level of dyadic adaptation in intimate relationships of OEF/OIF veterans as measured by the Dyadic Adjustment Scale? Research Question 1 was descriptive in nature. The level of adaptation of OEF/OIF veterans was measured by the total score on the DAS. Descriptive statistics (means, frequencies, standard deviations, correlations) were calculated for variables of interest.

#### **Research Question 2**

Is there a difference between the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not? Research Question 2 was analyzed by comparing the means of the PTSD and non-PTSD groups to determine if there was a difference between their levels of dyadic adaptation in intimate relationships. First, the researcher used a one-way ANOVA (Analysis of Variance). The bi-level independent variable was the PTSD group and the non-PTSD group. The dependent variable was the total score from the DAS. Second, the researcher

used a MANOVA (Multivariate Analysis of Variance). When using the MANOVA, the PTSD group and the non-PTSD group served as the bi-level independent variable, and the dependent variables were the four subscales of the DAS. The significant results of the MANOVAs were evaluated with univariate ANOVAs.

### **Research Question 3**

What factors (i.e., age, deployment tours, types of intimate relationships, pharmacologic interventions, life stressors, and level of coping) best predict the dyadic adaptation levels in intimate relationships of OEF/OIF veterans who self-reported PTSD and who did not? Research Question 3 was analyzed through two hierarchical regression analyses. In hierarchical regression analysis, the researcher decides not only how many predictors to enter but also the order in which they are entered. The order of entry is based on logical or theoretical considerations. In this analysis, the independent variables were factors of age, deployment tours, types of intimate relationships, pharmacologic interventions, life stressors, and level of coping. The dependent variable was the total score from the DAS. The entry of the independent variables was chosen based on temporal precedence. The regression analyses were conducted twice, once for the group of participants who self-reported PTSD and again for the participants who did not. Each procedure was performed with SAS 9.2 to review data and determine significance.

### **Summary**

Chapter III provided an overview of the research design and procedures that the researcher used to explore level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. The chapter included a description of the independent and dependent variables and the rationale for the chosen instruments. Chapter IV will present the results of the data collection and analysis for this study.

## CHAPTER IV

### RESULTS

The purpose of this study was to explore the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. More specifically, this study identified the factors that are related to the level of dyadic adaptation for this group. Finally, the study identified differences between the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not.

This chapter is organized into five main sections. The first section is a description of the demographic characteristics of the sample. The second section describes research instruments utilized in this study. The third section presents the statistical analyses that addressed the study's research questions. The fourth section includes statistical analyses for related findings. The final section provides a summary of all findings of the study. Data were analyzed using Statistical Analysis System (SAS) 9.2.

#### **Participant Characteristics**

The total sample consisted of 126 OEF/OIF participants who were enrolled in colleges and universities throughout the state of Iowa. The sample included 76.9% (n=97) male and 23% (n=29) female participants, whose ages ranged from 23 to 59 years (Mean = 32.3; SD = 7.9). The most common ethnic representation was White (71.4%), with 19.8% Black, 3.2% Hispanic or Latino participants, and 5.6% belonging to other categories. With respect to intimate relationships, 47.6% were married, 20.6% were exclusively dating, 14.2% lived with their partners, and 11.1% were engaged. The average length of the committed relationships was 64.37 (SD=73.04) months, and 77.98% of the participants indicated that they had previous committed relationships compared to the 22.4 % of the participants who did not.

Of the 97 participants who had previous committed relationships, the number of previous relationships ranged from 0 to 8. Overall, the above demographic information

was representative of the military population. Although female representation in the military is increasing, women represent less than 25% of the armed forces (Department of Defense, 2009). The National Center for Veterans and Statistics (2010) confirmed that Whites dominate the veteran population by race. The number of participants who were married was consistent with information that the majority of veterans are married or have been married at some point in their lives (Veterans Population, 2007).

The remaining questions on the demographic questionnaire were specific to the participants' military background, disabilities acquired during active duty, and usage of available services. For the branches of service, the sample consisted of 53.17 % Army, 15.9% Marines, 12.7% National Guard, and 9.5% Navy. Participants reported between one and eight deployments ( $M=1.71$ ;  $SD=0.99$ ). The type of duty during their deployment was described as Mainly Combat (43.7%), Mainly Combat Support (41.3%), and Mainly Service Support (15.1%). PTSD was self-reported by 50.8% of the participants compared to 49.2% who did not self-report PTSD. Of the participants who self-reported PTSD, 29.3% indicated a primary rating for this disorder, 27.7% self-reported PTSD but it was not their primary rating, and 3.9% self-reported PTSD but it was not service connected. The average length of time since diagnosis was 3.8 years ( $M=3.60$   $SD=3.91$ ). In terms of branch of service, the sample was representative of the U.S. veterans' population because it indicated that more veterans belonged to the Army as compared to all other branches (Veterans Population, 2007).

Because types of interventions may or may not be a factor that can predict the dyadic adaptation levels in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not, participants also were asked to indicate all of the interventions they used within the last year. Of the sample, 42% reported that they did not utilize any types of intervention within the last year. In contrast, the most common intervention reported by participants was individual therapy or readjustment counseling (38.75%), whereas 12.5% reported using pharmacology, 2.5% indicated using support

groups, and 4.75 % reported using family therapy. The participants who did not utilize these interventions cited the following reasons: 21.4% indicated no interest (n=27), 18.3% were afraid of stigma (n=23), 13.5% were unsure of the services offered (n=17), 12.7% were fearful of the effects on their military career (n=16), 7.9% preferred to seek services outside of the VA or no longer needed services (n=10), 5.6% had improvement in their problem or situation (n= 7), 4.8% had bad experiences (n=6), and 2.4% indicated no transportation to receive services (n=3).

Participants who had utilized services but no longer received services indicated the following reasons: 11.9% indicated no interest (n=15), 11.1% no longer needed services (n=14), 7.9% had improvement in their problem or situation (n= 10), 7.1% were afraid of stigma (n=9), 6.3% preferred to seek services outside of the VA or had bad experiences, 4.8% were fearful of the effects on their military career (n=8), 4.8% were unsure of the services offered and were fearful of the effects on their military experience (n=6), and 0.8% indicated no transportation to receive services (n=1). Other researchers have confirmed that fear of stigma and lack of awareness of available services are the most prominent reasons many veterans do not seek services (Pietrzak et al., 2009; Renshaw, Rodrigues, & Jones, 2009).

### **Instrumentation**

In addition to the participants' characteristics, the main variables of dyadic adaptation, life stressors, and coping were operationalized in the following research instruments and analyzed in this section. Research instruments for this study were as follows: (a) demographic questionnaire, (b) the Dyadic Adjustment Scale (DAS; Spanier, 1976), (c) the Family Inventory of Life Events and Changes (FILE; McCubbin et al., 1996), and (d) the Family Crisis Oriented Personal Evaluation Scale (F-COPES; McCubbin et al., 1996). The means, standard deviations, and correlations are reported for each of these instruments.



Missing values were treated by finding, for each subject, the average proportion of points scored over all answered questions on a survey. For each missing value within the survey, the product of this average proportion and the maximum number of possible points for the missing item was substituted. A single subject had more than 10 missing items over all questionnaires and was excluded from analysis. The inclusion of imputed values did not result in a marked change in the magnitude of the point estimates.

### **Demographics**

Demographic data were collected for the purpose of describing the demographics of the participants. The demographic questionnaire (see Appendix A) requested the following information about the participants: (a) age; (b) gender; (c) ethnicity; (d) length of relationship and current relationship status; (e) branch of service; (f) description of military duties, primary service-connected disability, and its onset; (g) types and amount of sought interventions; and (h) reasons for not seeking interventions, if that option was chosen.

### **Dyadic Adaptation**

Dyadic adaptation, the outcome variable, was measured by using the Dyadic Adjustment Scale (DAS; Spanier, 1976). Dyadic adaptation measured the quality of the participants' intimate relationships and referred to the efforts used within intimate relationships to bring a new level of harmony, balance, and functioning (McCubbin et al., 1996) to a relationship after the impact of stressors. The total score of the DAS was calculated by adding up the totals for each of the four subscales ( $M=92.47$ ,  $SD=30.04$ ,  $range=15.47-144.62$ ). In contrast, Dekel et al. (2008), Dekel et al. (2010), and Solomon et al. (2008) reported higher scores in samples of military participants.

The scores for the DAS can range from 0 to 151 with higher scores indicating greater adjustment. A common cutoff score for distinguishing between distressed and non-distressed couples is 98 (Cook et al., 2004; Dekel & Solomon, 2006). Within this study, based on a cut-off score of 98, 55% ( $n=66$ ) of the participants scored greater than

98, showing nondistressed couples with normative dyadic relations. The estimated Cronbach's alpha coefficients for the DAS survey are shown in Table B3. All scales had coefficients exceeding 0.7, indicating good reliability.

There was no statistically significant difference in DAS scores based on gender (see Table B5). However, among veterans who self-reported PTSD, DAS total score was statistically correlated with the number of tours ( $r=.57$ ;  $n=60$ ;  $p=0.05$ ). Inconsistent with prior research (Sheppard, Malatras, & Israel, 2010; Tanielian et al., 2008), findings of this study indicated that the more tours the participants completed, the greater the adjustment within their intimate relationships. In contrast, the correlation between tours and DAS among those without PTSD was statistically insignificant ( $r=-0.12$ ). (See Table B4.) Supported by Sheppard et al. (2010), among participants with PTSD, the investigator found that the DAS correlated significantly with measure of coping, the Family Crisis Oriented Personal Evaluation Scale ( $r=.57$ ;  $n=57$ ;  $p<0.0001$ ), and measure of life stressors, the Family Inventory of Life Events ( $r=-0.43$ ,  $n=58$ ,  $p=0.0006$ ). Furthermore, the use of pharmacologic intervention had a moderate negative correlation ( $r=-0.29$ ,  $n=58$ ,  $p=0.02$ ) with DAS score, which was unexpected given that pharmacology is a prominent intervention utilized to treat the full spectrum of PTSD features (Alderman, Condon, & Gilbert, 2009; Brady & Sinha, 2005).

### **Coping**

Coping was measured using the Family Crisis Oriented Personal Evaluation Scales (F-COPES). The independent variable, coping, indicated the degree of usage of individual and family resources, coping methods, and problem-solving techniques that could be employed by the OEF/OIF veterans when faced with life stressors. F-COPES (McCubbin et al., 1996) is a 30-item scale that was utilized to measure the participants' levels of coping by summing the numbers circled by the respondents to provide a total coping score. However, for the purpose of this study, the five items were reversed. This reversal ensured that all items were weighted in the same positive direction for both

analysis and interpretation. The total score, a sum of all items, may range from 30 to 150, with higher scores indicating greater adaptive coping mechanisms and leading to more successful adaptation. McCubbin et al. (as cited in Chui & Chan, 2007) suggested the following cut-off points when interpreting the F-COPES scores: low (< 50), moderate (51-99), and high (> 100).

The mean total score of the F-COPES for this sample (N= 106) was 95.13 (SD=22.13) and ranged from 30 to 150. As confirmed by Tzoy, Connolly, and Novak (2007), the participants in this study scored slightly higher on the coping scale as compared to the norm of 93.11 and had similar outcomes to previous studies by the authors of the F-COPES instrument. Among all participants in this study, 1.85% had low coping scores as compared to 38.89% who had high coping scores. Among those with PTSD, 1.75% (n=1) had low coping scores as compared to 31.58% (n=18) who had high coping scores. Furthermore, among those without PTSD, 1.96% (n=1) had low coping scores as compared to 43.14% (n=22) who had high coping scores. A non-significant trend was that females had higher F-COPES scores (M=100.71; SD=18.37) compared to males (M=93.50; SD=22.91). However, females were more likely to utilize problem-solving techniques, behavioral strategies, and coping mechanisms when faced with stressful circumstances as compared to their male counterparts. The F-COPES results were consistent with Schell and Marshall's (2008) report that previously deployed OEF/OIF veterans were less likely to search for support from others, including securing assistance in terms of adequate health care. Also, consistent with Sherman et al. (2006), participants with PTSD reported a few ineffective and unhealthy coping skills strategies as compared to participants without PTSD (see Table B11). The results indicated that participants with PTSD were less likely to solicit support from sources outside of their intimate relationships (e.g., friends, neighbors, relatives, and extended family) or to redefine stressful events to make them more manageable.

With the exception of the passive appraisal subscale, the other four subscales showed an acceptable level of reliability. See Table B4 for the Cronbach's alpha coefficients obtained for the F-COPES survey. A low estimate of Cronbach's alpha was found for the appraisal subscale. The average item variance was 0.84, the average inter item covariance was 0.1, and there were 4 items on the subscale. The missing responses on the F-COPES scale were almost entirely associated with the appraisal domain. The appraisal domain contained, on average, 2.02 missing items. The F-COPES survey, as a whole, contained only an average of 2.2 missing items. The omitted variables were replaced as discussed above. The algorithm used for the imputation was based on the responses to the entire data set, which is likely to dilute the covariance observed among the items of the appraisal subscale. It is clear that, because of the large number of missing items for the appraisal subscale, it should not be interpreted as an accurate measure of the appraisal domain in this population. The investigator found no statistical differences in F-COPES by race, sex, number of tours, types of relationships, or types of interventions (see Table B4).

### **Family Inventory of Life Events**

Life stressors were measured by the Family Inventory of Life Events (FILE; McCubbin et al., 1996), which was utilized to measure the life events and changes encountered by the OEF/OIF veterans during the past 12 months. The FILE is divided into nine general categories: intra-family strains, marital strains, pregnancy and childbearing, work-family transition and strains, finance and business, illness and family care, losses, transitions in and out, and family legal violations. The participants completed the survey by providing yes or no answers. Each life event and strain for which the participants answered yes was assigned standard weights. The standard weights were added to give an adjustment score for the subscales. The total score was computed by adding scores for each subscale. High scores indicated increased stress. The total score for the FILE was calculated by adding the totals for each of the nine scales ( $M=521.2$ ,

SD=338.97, range=41-2065). In terms of gender, female participants appeared to report more life stressors. However, there was no significant difference between genders on any of the nine categories.

The investigator found no statistical differences in FILE score by race, sex, types of relationships, or tours. In terms of participants with PTSD, there was a positive association between the FILE score and family therapy ( $r=.31$ ;  $n=110$ ;  $p=.015$ ) and the use of pharmacologic intervention ( $r=.25$ ;  $n=110$ ;  $p=.042$ ). In terms of participants without PTSD, only DAS had an association with FILE score ( $r=-0.44$ ;  $n=110$ ;  $p < .005$ ). As shown in Table B7, the ANOVA results revealed that there was a difference between participants with PTSD and those without the disorder as measured by the FILE. The results indicated that participants with PTSD tended to have greater life stressors in the following areas: intra-family strains ( $F(1,108)=6.4$ ;  $p=.012$ ), illness ( $F(1,108)=9.3$ ,  $p=.002$ ) and losses ( $F(1,108)=23.7$ ;  $p=.001$ ). These areas may have a significant association with PTSD due to symptoms caused by PTSD and/or combat exposure. The estimates of Cronbach's alpha from the FILE survey are shown in Table B8. Although the total showed good reliability ( $\alpha = 0.85$ ), several of the subscales lacked the desired level of reliability. The losses subscale showed the lowest reliability with an estimated alpha of 0.12. Notably, all responses to item 57 were "No." Item 57 asked respondents whether a child member had died. Item 58, which asked about the death of in-laws, was impacted by similar difficulties, with a single affirmative response. The lack of reliability of this subscale for the veterans' population appears to stem from the inapplicability of items 56 and 57. For the transitions subscale, the low reliability is largely a consequence of small or slightly negative correlations between item 66, which asked about a parent/spouse starting school, and items 63, 64, and 65. The pregnancy subscale showed a lack of correlation between items 24 and 25, items related to abortion and adoption of a child, respectively ( $\rho = -0.06$ ), and between items 23 and 22 ( $\rho = -0.05$ ). Item 22 asked about unwanted or difficult pregnancy.

## Results of Analyses to Address Research Questions

### Research Question 1

Research Question 1 asked, “What is the level of dyadic adaptation in intimate relationships of all OEF/OIF veterans as measured by the Dyadic Adjustment Scale (DAS, Spanier, 1976)?” This question was answered using the total scores from the DAS instrument. As previously stated, the total score of the DAS was derived by adding the totals for each of the four subscales. The total dyadic adaptation scores for participating OEF/OIF veterans ( $N=116$ ) suggested an overall slight level of relationship dissatisfaction ( $M=92.47$ ,  $SD=30.04$ ,  $range=15.47-144.62$ ) as the scores were marginally close to the cut off score differentiating between satisfaction and dissatisfaction.

### Research Question 2

Research Question 2 asked whether there was a difference between the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. The participants either reported PTSD ( $n = 60$ ) or did not report the disorder ( $n = 56$ ).

To answer Research Question 2, a multivariate analysis of variance (MANOVA) analysis was used to test the null hypothesis that the four DAS subscales, not including the total DAS score, each had the same mean across the two PTSD categories. The overall MANOVA result was statistically significant at  $\alpha = .05$  ( $F(4,111) = 4.59$ ;  $p=.001$ ). Follow-up one-way ANOVAs revealed a significant difference between groups on the subscales of consensus ( $F(1, 114) = 15.9$ ;  $df = 1,114$   $p = .001$ ), satisfaction ( $F(1, 114) = 9.7$ ;  $df = 1, 114$ ;  $p = .002$ ), cohesion ( $F(1, 114) = 13.1$ ;  $df = 1, 114$ ;  $p = .002$ ), and affectional ( $F(1, 114) = 9.9$ ;  $df = 1, 114$ ;  $p = .002$ ). To further examine how OEF/OIF veterans with self-reported PTSD differed in dyadic adaptation, an analysis of the mean scores was conducted (see Table B9). The mean scores revealed that the dyadic adjustment of OEF/OIF veterans who did not self-report PTSD ( $n=56$ ;  $M=103.20$ ) was significantly higher than those who reported the disorder ( $n=60$ ;  $M=82.46$ ).

The above findings seemed to support earlier studies indicating that individuals with PTSD were at greater risk for relationship problems (Cook et al., 2004; Dekel et al., 2005; Galovski & Lyons, 2004). The analysis of the subscales also confirmed earlier studies that reported clinically significant levels of relationship distress (Riggs et al., 1998). For example, Nelson Goff et al. (2007) found that PTSD symptoms significantly predicted marital dissatisfaction due to emotional stress. Also, Cook et al. (2004) reported that veterans with PTSD were three times more likely to display marital distress and experience more problems in intimate functioning. In addition, Solomon et al. (2008) found that PTSD symptoms impacted marital intimacy because of veterans' withdrawal, isolation, and inability to effectively communicate.

### **Research Question 3**

What factors (i.e., age, deployment tours, types of intimate relationships, pharmacologic intervention, life stressors, and level of coping) best predict the dyadic adaptation levels in intimate relationships of OEF/OIF veterans who self-reported PTSD and for those who did not? A hierarchical multiple regression was conducted to assess the impact of age, deployment tours, types of intimate relationships, pharmacologic intervention, life stressors, and level of coping on the dyadic adaptation levels of OEF/OIF veterans who self-reported PTSD and those who did not. Two regression analyses were conducted: one for the group of participants who self-reported PTSD and the other for the participants who did not. Correlations were computed between the criterion (outcome) variable and the predictor variables.

For the criterion (outcome) variable, the Dyadic Adjustment Scale (DAS, Spanier, 1976) was chosen to measure the quality of the participants' intimate relationships. For this study, the cut-off score was 98, which is the common cut-off score for distinguishing between distressed and non-distressed couples (Cook et al., 2004; Dekel & Solomon, 2006). A score of 98 and higher indicated relationship satisfaction and good adjustment

as compared to scores below 98, which indicated relationship distress and poor adjustment.

The predictor variables were age, deployment tours, types of intimate relationships, pharmacologic intervention, life stressors, and level of coping. For this study, demographics included age and number of tours. Age was entered as a covariate in this analysis. The number of completed tours was entered as a single integer-valued predictor. The types of intimate relationships were identified by the participants and were grouped into the following categories: married, engaged, exclusive dating, and living with partner. The predictor variable, life stressors, was chosen to measure the life events and changes encountered by the participants during the past 12 months. Life stressors were measured by the total score of the Family Inventory of Life Events (FILE; McCubbin et al., 1996). Higher scores indicated a greater accumulation of stressors. Another predictor variable focused on level of coping and was measured by the total score of the Family Crisis Oriented Personal Evaluation Scale (F-COPES; McCubbin et al., 1996). Higher scores on the F-COPES indicated higher levels of coping. The pharmacology variable indicated whether participants used the pharmacologic intervention within the last year.

Hierarchical regression is a useful tool for testing a theoretical model with variable entry based on literature supporting the relationship between the dependent and independent variables (Newton & Rudestam, 1999). The dependent variable for this question was dyadic adaptation. A priori power analysis showed that a sample size of 50 would yield power of at least .80 assuming an effect size of .15 for the regression analyses. Power analysis was conducted using G Power software (Faul, Erdfelder, Lang, & Buchner, 2007) and consistent with the recommendation by Cohen (1977).

The selected independent variables were entered in the following blocks of order for the hierarchical regression. The demographic variables of type of relationships, age, and number of tours were entered first to examine potential differences between the types of relationships, to estimate the effect of additional tours of duty and age, and to adjust



for the effect of these important population characteristics on DAS scores in later steps of the hierarchical regression model. Second, pharmacotherapy was entered. The effect of pharmacotherapy on veterans with PTSD was relevant to the population under consideration because pharmacotherapy usage was the second most prevalent intervention included in the survey, with 10% of veterans with PTSD reporting some level of pharmacotherapy usage. Pharmacotherapy usage also showed significant association with PTSD status, indicating that it may be used preferentially in cases of PTSD. Pharmacotherapy has become the leading treatment of choice for veterans with PTSD. More than 20 different medications used to treat PTSD symptoms can improve resiliency and quality of life (Brady & Sinha, 2005); however, medications can cause side effects that may interfere with the veterans' daily functioning. Third, FILE and F-COPES total scores were entered. These variables were entered last because the investigator was interested in controlling for the effects of age, type of relationship, and number of tours. In answering Research Question 4, listwise deletion was used. A listwise deletion removes participants who have missing data on any of the variables entered into the regression analysis. The sample of participants was reduced, and the number of participants utilized in each step can be found in Tables B11 and B12.

Correlations were computed among the independent variables of military demographics, types of intimate relationships, life stressors, levels of coping, and use of pharmacologic intervention, and dyadic adaptation. Among participants with PTSD, DAS was correlated with tours ( $r = 0.24$ ,  $n = 57$ ,  $p = 0.05$ ), FILE ( $r = -0.43$ ,  $n = 56$ ,  $p = 0.0006$ ), F-COPES ( $r = 0.57$ ,  $n = 56$ ,  $p < 0.0001$ ), and pharmacology ( $r = -0.29$ ,  $n = 60$ ,  $p = 0.02$ ) (see Table B4). Among participants without PTSD, DAS was correlated with FILE ( $r = -0.44$ ,  $n = 52$ ,  $p = 0.00011$ ).

To further understand the relationships and evaluate the ability of each variable to statistically predict dyadic adaptation, hierarchical regression analysis was conducted first for the group of participants with self-reported PTSD and again for the participants who

did not report this disorder. Examination of histograms did not indicate any meaningful level of heteroscedasticity or deviations from normality.

### **With PTSD**

**Step 1.** The first sequential step entered types of relationships, age, and tours. The result for this first step was a statistically significant  $R^2$  equal to 0.19 ( $F(5, 53) = 2.51, p = 0.041$ ). After adjusting for types of relationships and age, there was a significant association ( $p = .0019$ ) between tours and DAS score. It is estimated that each additional tour increased the average DAS score by 14 points. Also, participants who were engaged on average scored higher on the DAS than participants who were married.

**Step 2.** The second step of the regression analysis entered pharmacology, a type of intervention, which indicated the participants' current use. The result was a statistically non-significant  $R^2$  change equal to 0.20 ( $F(1, 57) = 0.93, p = .623$ ). Pharmacology explained an additional 1% of the variance in DAS scores and was not associated with DAS scores after adjusting for all variables of the model.

**Step 3.** The third step of the regression analysis entered the participants' pileup of life stressors as measured by the FILE and their levels of coping as measured by the F-COPES. Adding the FILE and F-COPES in Step 3 resulted in a 38% change in  $R^2$  over the previous step. The result was highly statistically significant ( $F(2, 52) = 21.6, p < .001$ ). After controlling for types of relationship, age, tours, and pharmacotherapy use, FILE and F-COPES were significant predictors.

### **Without PTSD**

**Step 1.** The first sequential step entered types of relationships, age, and tours. The result for this first step was a statistically significant  $R^2$  equal to 0.17 ( $F(5, 48) = 1.97, p = 0.09$ ). After adjusting for the number of tours and age, there was a significant association ( $p = .034$ ) between types of relationships and DAS scores.

**Step 2.** The second step of the regression analysis entered pharmacology, a type of intervention, which indicated the participants' current use. Pharmacology explained

1% variance in the DAS scores. The result was a statistically non-significant  $R^2$  equal to 0.18 ( $F(1,52) = 0.34, p = 0.56$ ). Age and tours did not show significant association with DAS after adjusting for types of relationships and pharmacology. After adjusting for age and tours, types of relationships had a significant association with DAS score ( $p=.036$ ).

**Step 3.** The third step of the regression analysis entered the participants' pileup of life stressors as measured by the FILE and their levels of coping as measured by the F-COPES. Adding the FILE and F-COPES scores in Step 3 resulted in a 14% increase in  $R^2$  over the previous step. The result was statistically significant ( $F(2, 46) = 4.54, p = 0.02$ ). Type of relationship and FILE score were associated with DAS score after adjusting for all other components. FILE score showed a negative association with DAS score. The adjusted estimate for a unit of change in the FILE score was -.025. Age, tours, pharmacology or F-COPES were not associated with DAS score after adjusting for all variables of the model.

### **Conclusion**

There was a significant difference between the dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. The findings indicated that there was a significant difference between the two groups in the areas of cohesion, satisfaction, consensus, and affection. Further, tours, types of intimate relationships, life stressors, and levels of coping were associated with dyadic adaptation levels in intimate relationships of OEF/OIF veterans who self-reported PTSD. In contrast, with the exception of the FILE score ( $R=-0.44; p<0.05$ ), types of relationships were associated with adaptation levels in intimate relationships of OEF/OIF veterans who did not self-report PTSD. Overall, the results of this study provided preliminary evidence that there is a complex connection between intimate relationships and PTSD; therefore, when counselors are assisting veterans with PTSD, it is essential to customize interventions that incorporate components of their intimate relationships. Chapter V discusses these results

along with implications of the findings, limitations of the study, and suggestions for further research.

## CHAPTER V

### DISCUSSION

The results presented in Chapter IV highlighted the difference in the levels of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. Chapter V provides (a) a summary of the study; (b) a discussion of the major findings for each research question; (c) a review of the limitations of the study; (d) implications for the helping professions, educators, and researchers; and (e) suggestions for future research.

#### **Summary of the Study**

Considering the number of intimate relationships affected by the complexity of PTSD and the increasing numbers of OEF/OIF veterans returning home with this disorder, the connection between intimate relationships and PTSD remains a phenomenon that needs to be addressed. The RAND Corporation (2008) reported that 1.64 million service members were deployed to Iraq or Afghanistan as of October 2007 and approximately 300,000 returned with PTSD or depression. Research has identified PTSD as a challenge for veterans and their significant others due to veterans' difficulties adjusting after returning from war (Calhoun et al., 2002; Dekel, Goldblatt, et al., 2005; Nelson Goff et al., 2007; Ruzek, 2007). Therefore, there is a growing need for practitioners to understand the influence of PTSD on intimate relationships and specific issues faced by partners of those with PTSD (Monson & Taft, 2005). Information from this exploratory study of the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not may be utilized as a tool to suggest potential solutions to this problem.

The sampling procedure that was used in this study was a non-probability sampling procedure, specifically purposive sampling. A total of 126 OEF/OIF veterans participated in this study. The participants were OEF/OIF veterans enrolled in colleges and universities throughout the state of Iowa who utilized VA educational and training

benefits during the Fall 2009 and/or Spring 2010 semesters. Participants responded to a demographic questionnaire and answered questions about the extent of agreement and/or disagreement within their intimate relationships, life changes within the last 12 months, and use of coping mechanisms. The research questions guiding this study were:

1. What is the level of dyadic adaptation in intimate relationships of all OEF/OIF veterans as measured by the Dyadic Adjustment Scale (Spanier, 1976)?
2. Is there a difference between the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not?
3. What factors (i.e., age, deployment tours, types of intimate relationships, pharmacologic interventions, life stressors, and level of coping) best predict the dyadic adaptation levels in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not?

The next section will discuss the findings associated with each research question and how these findings compare with the existing PTSD literature.

### **Discussion of Findings**

#### **Results for Research Question 1**

The first research question sought to measure the level of dyadic adaptation in intimate relationships of all OEF/OIF veterans in this study. Participants were asked to rate the extent of agreement or disagreement between themselves and their partners in the areas of cohesion, satisfaction, consensus, and affectional expression; the total score of these ratings formed the dyadic adaptation score. Of the total sample, 46% of the OEF/OIF veterans reported distressed relationships as measured by the Dyadic Adjustment Scale (Spanier, 1976). The results suggest that these OEF/OIF war era veterans were faced with issues that may have jeopardized their satisfaction with their intimate partners.

Although there have been other studies exploring intimate relationships of veterans (Dekel, Goldblatt, et al., 2005; Dekel, Solomon, & Bleich, 2005; Nelson Goff et al., 2007), this is one of the first studies to explore the intimate relationships of community dwelling, OEF/OIF veterans from the standpoint of dyadic adaptation using the DAS; therefore, there were no comparison groups with which to compare. However, OEF/OIF veterans are a unique population, and there may be several factors to explain why so many experience relationship distress. First, consistent with research examining veterans of previous war conflicts, veterans of this war era are faced with more frequent deployments with insufficient down time for rest and recuperation between deployments (Demers, 2009) and prolonged exposure to combat-related stress (Sheppard et al., 2010). At the time of this study, combat tours averaged 15 months in duration, which is twice as long as other war eras, and some OEF/OIF veterans have served as many as five to seven deployments (Kang & Hyams, 2005; Sammons & Batten, 2008). The time that veterans spend away from their families cannot be replaced. Veterans often miss the births of their babies, children's graduations, anniversaries, and other life milestones. While veterans and their partners are apart, they may experience different life events, and homecoming reunions may be stressful as the couples take time to rebuild intimacy and reexamine common values and goals (Bolton et al., 2002). A second explanation may be that spouses are happy when their partners return and may want to make up for lost time or resume the lifestyle they had before deployment; however, almost all veterans need time to readjust after returning from war zones (Bell, Schumm, Knott, & Ender 1999; Demers, 2009). Third, deployments to Iraq and Afghanistan and exposure to combat are associated with increased rates of PTSD, depression, physical injuries, and alcohol misuse, all of which can have a negative affect on intimate relationships (Jakupcak et al., 2010). These factors may cause veterans to act differently and partners to feel sympathy for their significant others; have negative feelings toward their partners; and/or experience health decline due to feelings of worry, anger, and depression. Finally, these

participants and their partners may not recognize that they have issues, may feel like they are alone, and/or do not know where to seek help.

### **Results for Research Question 2**

Research Question 2 investigated differences between the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. This question was addressed by analyzing the total DAS scores using a MANOVA and analyzing the subscales of the DAS (consensus, satisfaction, cohesion, and affectional) using ANOVAs. The results indicated that there was a significant difference in the dyadic adaptation of the two groups of participants. Participants who self-reported PTSD had lower DAS total scores than participants who did not self-report PTSD. In addition, there was a significant difference on all four subscales (cohesion, satisfaction, consensus, and affectional expression) of the DAS between the two groups of participants. The investigator generated several potential reasons for the statistical difference in DAS scores between participants who self-reported PTSD and those who did not.

First, participants who self-reported PTSD had lower total DAS scores, which indicate relationship distress. This finding highlights the enduring toll taken by PTSD on intimate relationships and led the investigator to examine what aspects of the relationships were affected by the disorder. Second, participants who self-reported PTSD had significantly lower DAS scores on each of the subscales of consensus, satisfaction, cohesion, and affectional. Below are several possible explanations that shed light on these results.

Dyadic cohesion refers to the common interests and activities shared by a couple. The investigator was not surprised that the two groups differed on this component of the relationship. Veterans with PTSD have difficulty sleeping at night because of recurring dreams; therefore, they may be too tired the next day to go on a date or attend family gatherings. A second explanation is that veterans with PTSD are hypervigilant and often



experience exaggerated startle responses. Therefore, veterans may not like to be around crowds (e.g., at football games, grocery stores, museums) because of their tendency to operate in a fight or alert mode. These symptoms often cause veterans to jump at every noise and constantly look for an escape even in safe environments. These veterans may feel that it is not worth attending activities outside the home if they cannot fully enjoy them or would be uncomfortable. Another explanation is that PTSD may cause veterans to have markedly diminished interest or participation in significant activities. It is a possibility that veterans with PTSD may no longer be interested in activities that they previously enjoyed with their significant others.

In terms of dyadic satisfaction, tension, and well-being in their relationship satisfaction, the participants who self-reported PTSD indicated more problems in dyadic satisfaction than participants who did not self-report PTSD. For example, a question on the dyadic satisfaction scale is, "How often do you and your mate leave the house after a fight?" The investigator concluded that OEF/OIF veterans with PTSD may have more difficulty working through problems than OEF/OIF veterans without PTSD because of the ability of the latter group to communicate with their partners and work through their issues in an effective way.

Research has shown that veterans with PTSD have higher rates of violent outbursts and aggressive behavior, exhibit more hostile expression, and have poorer anger control than those without PTSD (Calhoun et al., 2002; Taft et al., 2007). In addition, this population often demonstrates problems with self-disclosure and a higher tendency to engage in fights with their partners (Dekel, Enoch, & Solomon, 2008). This tendency may prevent veterans from expressing the problems they are experiencing within the intimate relationship or cause them to blame their partner for the relationship distress. Most importantly, intimate partners of combat veterans have been found to experience similar symptoms of PTSD (Ancharoff, Munroe, & Fisher, 1998; Dekel et al., 2008), which may also increase relationship distress if both veterans and their partners

have an inability to effectively communicate and solve problems. Finally, OEF/OIF veterans with PTSD have been found to misuse alcohol in efforts to self-medicate and to mitigate their symptoms or to handle life difficulties by improving their mood and pleasure to facilitate interpersonal connections (Jakupcak et al., 2010). However, additional health and social problems may be caused by excessive drinking, and veterans may be more prone to act out unacceptable behaviors, both of which may cause increased relationship dissatisfaction.

The dyadic consensus subscale assessed the extent of agreement between the participants and their partners on matters that were important to their relationship; for example, the participants were asked to rate the extent of agreement or disagreement with their partner on handling family finances. Although there are disagreements in every intimate relationship, finances and family roles within the home appear to be common topics of discussion (Faber, Willerton, Clymer, MacDermid, & Weiss, 2008; Newby et al., 2005). The lower scores of participants with PTSD on the dyadic consensus subscale as compared to participants without PTSD were not surprising. Statistical differences between these two groups may be due to the combination of PTSD-related symptoms and the amount of time veterans spend away from home training and serving in combat zones. Veterans may return from tours and find that their significant others have assumed the primary caretaking role of children and financial responsibilities (Waldrep, Cozza, & Chun, 2004). Because veterans may be unable to effectively communicate their difficulties, the problems may worsen and veterans may experience isolation and emotional withdrawal. The veterans may also feel that their families have learned to live without them and that they are no longer a contributing member of the family (Waldrep et al., 2004). The veterans' intimate partners may experience ongoing frustration when they feel that the veteran is physically present but psychologically and emotionally absent (Calhoun et al., 2002; Dekel, Solomon, & Bleich, 2005).

On a final note, when veterans begin to adjust to their home circumstances and the veterans and their partners reach consensus on disagreements, the veterans may be redeployed. Each deployment is faced with new challenges and may cause the veterans and their intimate partners to have more and/or different areas of disagreement upon return from multiple deployments.

Although relationship avoidance and emotional numbing are diagnostic features of PTSD, the Affectional Expression aspect of the DAS further highlights evidence that veterans may experience a restricted range of affection and feelings of detachment from others. The affectional expression subscale highlights individuals' satisfaction with the expression of affection and sex in the relationship. The literature has reported that veterans with PTSD often lose some of their sexual drive and may have difficulties with sexual functioning (Dekel et al., 2008; Kotler et al., 2000). Medication utilized to treat PTSD symptoms may also cause veterans to have issues with their sexual functioning. Therefore, veterans may experience continuing conflict between controlling PTSD symptoms and satisfying their partners. Furthermore, because of their restricted range of affection, veterans with PTSD may no longer know how to demonstrate affection within the intimate relationship or may fail to notice their partner's need for affection because of their isolation and lack of trust. Veterans have reported difficulty in setting aside or ignoring emotional problems, which increases emotional distance within an intimate relationship (Nelson Goff et al., 2007). Despite their need and desire for more intimacy, significant others of veterans with PTSD may not request or seek more intimacy because of past physical/verbal abuse or fear of the veteran's anger outbursts or aggressive behavior. Aggressive behaviors among this population have become a growing concern (Taft et al., 2009).

### **Results for Research Question 3**

Research Question 3 explored what factors (i.e., age, deployment tours, types of intimate relationships, pharmacologic interventions, life stressors, and level of coping) best

predict the dyadic adaptation levels in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. A hierarchical multiple regression was conducted to assess the impact of military demographics, types of intimate relationships, life stressors, levels of coping, and use of pharmacological interventions on the dyadic adaptation levels of OEF/OIF veterans who self-reported PTSD and those who did not. The regression analyses were conducted twice, once for the group of participants with self-reported PTSD and again for the participants without PTSD. Correlations also were computed between the criterion (outcome) variable and predictor variables. The major findings for each group are highlighted below.

### **With PTSD**

**Relationship status.** Research has found that many individuals search for significant others to fill voids; create bonds; fulfill a sense of hope (Strong et al., 2001); and provide consistent emotional support, affection, everyday assistance (Previti & Amato, 2003), friendship, and happiness. Of all the types of relationships in this study, individuals who were engaged scored on average higher on the DAS than participants who were married. This finding may be related to the tendency for individuals who are engaged to work harder to impress their future spouses, complain less about issues, or stay at home even if irritated with their partners' PTSD-related symptoms, and their excitement about the future union may overshadow the veterans' shortcomings.

**Tours of duty.** The physical separation of deployment can interfere with intimacy, social activities, and types of communication, and usually impacts intimate relationships in a negative way (Allen, Rhoades, Stanley, & Markman, 2010). In addition, military deployment has been found to impact relationship dyads by impacting family cohesion and nurturance and increasing spousal emotional distress and depression (Taft et al., 2008). Surprisingly, the results from this study estimated that for each tour, the participant DAS score increased. This finding suggests that the more tours completed by OEF/OIF veterans with self-reported PTSD, the higher their levels of relationship

satisfaction. This finding may be explained by intimate partners becoming more comfortable with subsequent deployments as veterans return home safely. Moreover, veterans who return from war often feel guilty for leaving their unit behind; therefore, increased deployments may result in more self-worth and a boost of confidence for the veterans. If veterans feel better about themselves, they may be more open to working on problems within their intimate relationships and may have learned to manage PTSD-related symptoms.

**Life stressors and coping mechanisms.** There was a statistically significant relationship between life stressors, coping mechanisms, and dyadic adaptation. The FILE and F-COPES accounted for 38% of the DAS score. The results also indicated that the lower the participants' FILE score, the higher their DAS score; however, participants with PTSD tended to have more life stressors in areas of intra-family strains, illness, and losses as compared to participants without PTSD. Intra-family strains reflect a source of tension and conflict between family members that may be caused by the veterans' inability to manage PTSD symptoms and the number/length of deployments (McCubbin et al., 1996). Illness and family care refer to dependency needs arising from a family member's illness or injury, onset of increased difficulty with a chronic illness, or a member or relative requiring more help or care (McCubbin et al., 1996). An explanation for this finding may be that veterans had not accepted their service or non-service connected injuries (Ruzek et al., 2010), did not know how to manage the symptoms that coincided with injury, or realized that they were more dependent on their spouses for assistance. The effect of losses (e.g., death or broken relationships) may be explained by the fact that there have been approximately 5,600 OEF/OIF fallen soldiers (Washington Post, 2010), and surviving veterans may feel guilt based on the troubling feeling that they survived when others did not (Leskela, Dieperink, & Thuras, 2002). Because of possible feelings of guilt, loss, and PTSD symptoms, participants may have distanced themselves from friends and families, resulting in strained and/or broken relationships.

Due to the illumination of PTSD symptoms, it is no surprise that participants with PTSD have different coping skills strategies compared to participants without PTSD. The results of this study indicated that participants with PTSD were less likely than participants without PTSD to solicit support from sources outside their intimate relationships (e.g., friends, neighbors, relatives, and extended family) or to redefine stressful events to make them more manageable. This finding supports the conclusion that veterans may be reluctant to seek help for existing problems (Owens et al., 2009). Veterans who want to continue their military careers may choose not to seek help in fear of jeopardizing their chances to return to active duty. Consistent with the findings of Hoge et al. (2004), the concern of stigma is a significant problem especially for combat veterans who report high levels of symptoms, which leads to the second conclusion that these participants may have been afraid of the stigma that coincides with seeking help outside of the intimate relationship as they attempted to maintain their self-perception of being strong. Pietrzak, Johnson, Goldstein, Malley, and Southwick (2009) reported that stigma has caused individuals impacted by mental disorders to lose respect for themselves and to avoid treatment. Stigma is a significant barrier to treatment; therefore, there is a need to change veterans' acceptability of treatment, as they often hold on to past experiences and myths about mental health (Cully, Jameson, Phillips, Kunik, & Fortney, 2010). A third conclusion to explain why individuals with PTSD may have ineffective and unhealthy coping skills is that they may have low resiliency, which may explain why there is increased alcohol abuse, domestic violence, and higher levels of depression among this group (Hoge et al., 2004; Jacobsen et al., 2008). For an example, Jakupcak et al. (2010) reported that OEF/OIF veterans misused alcohol in efforts to self-medicate combat-related PTSD and depression, and combat veterans were more likely to misuse alcohol compared to non-combat veterans.

**Pharmacotherapy.** There was a non-significant relationship between pharmacology and DAS scores. However, pharmacology accounted for a small variance

(1%) in dyadic adaptation. The results indicated that the more veterans utilized pharmacology, the lower their dyadic adaptation. These findings are concerning, because research has shown that pharmacotherapy intervention has been used more frequently in treating veterans with PTSD and has been proven to reduce symptoms and improve veterans' resiliency and quality of life (Brady & Sinha, 2005). There may be several reasons why medication may cause relationship dissatisfaction. First, medication may reduce symptoms but also may cause side effects such as sexual dysfunction (National Center for PTSD, 2009). Sexual dysfunction has been found to reduce relationship satisfaction (Arzi et al., 2000; Dekel et al., 2008). Second, veterans' sense of pride may contribute to this finding. Veterans may experience complications with medication but choose not to address the concern because of embarrassment or a fear of being perceived as weak. The military culture portrays little tolerance for weakness, whether physical, mental, or moral (Pietrzak et al., 2009). Therefore, symptoms may worsen, which may impact the quality of intimate relationships.

### **Without PTSD**

In terms of participants without PTSD, type of relationship and FILE were the only two variables correlated with dyadic adaptation. The investigator was not surprised that FILE had a negative association with the DAS score. The finding seems to make sense, because the lower number of life stressors faced by the participants, the higher their relationship satisfaction. It seems logical to assume that individuals without PTSD have better coping strategies to deal with their life stressors; therefore, life stressors do not affect their relationship satisfaction as severely. Moreover, if their communication ability is not affected by PTSD symptoms, they may be able to deal more effectively with the problems at hand.

### **Conclusion**

In summary, participants who self-reported PTSD had lower DAS scores. In other words, these participants experienced greater difficulties in the areas of consensus, satisfaction, cohesion, and affectional expression. Therefore, this group of participants may be at higher risk for relationship dissolution if adequate and effective interventions are not available. The next section will discuss the limitations of this study and how these limitations may have influenced the findings.

### **Limitations**

It is important to note any limitations that may have directly or indirectly influenced this research study. The most notable limitations were due to (a) purposive sampling, (b) response rate, (c) self-reports, and (d) limited research for comparison. These limitations are addressed in the following paragraphs.

First, the investigator had limited access to the military population; therefore, purposive sampling was used to recruit participants for the study. Purposive sampling limits the generalizability of the study results because the participants were not randomly sampled (Fraenkel & Wallen, 2003). The non-random sample was limited to community dwelling OEF/OIF veterans attending colleges and universities in the state of Iowa; therefore, the participants may be higher functioning than individuals seen in medical or psychiatric settings. Also, the college population may also have more resources, higher expectancy of success, and more resiliencies as compared to those who are not pursuing further education. On the other hand, resources availability and effectiveness was not assessed; therefore, participants may not be utilizing all potential resources because of their unawareness or have used resources but have found them ineffective. Furthermore, not inviting both veterans and their partners to complete the survey instruments removed the ability of the researcher to discover if the levels of dyadic adaptation would have been the same among the couples and to explore differences among reported answers on the scale. Also, the current instruments could have been supplemented to assess how much



effort the couples have put into maintaining or improving their relationship quality. The current study was limited without the aforementioned component but it could have shed light on the amount of effort, if any, couples were putting into their relationships.

Second, the response rate for this study was lower than desired. Of the 2,636 participants who received an invitation to participate in the study, only 126 responded. The less than 5% response rate may have impacted the survey results, because those who did not respond may have differed from the participants with regard to their answers to survey questions (Fraenkel & Wallen, 2003). It is assumed that more satisfied participants would have been more willing to complete the survey; however, a number of participants indicated relationship dissatisfaction. Limited responses could also be tailored to survey modality. The survey was conducted via the internet and represented only those individuals who used the internet, were comfortable with computers, or had unlimited access to computers. However, this may also have led the participants to provide more frank answers than if the survey had been conducted through a veterans' organization or a VA medical facility. Also, the target population may have been busy with work, family, and school-related activities and not have been inclined to respond. Furthermore, the timing may have impacted the response rate. The survey may have been received by a potential participant who had just returned from deployment and was trying to adjust to civilian life, complete final exams, or become accustomed to his or her new semester. Also, participants were asked if they had other conditions but were not asked if the other conditions added to their relationship distress or caused multiple problems with their PTSD.

Third, the data were collected using self-report measures. Therefore, the scores used in the study were based on subjective moods and perspectives of the participants concerning their life stressors, coping skills, and relationship satisfaction. A social desirability response factor may have impacted the results. Participants might have been inclined to report socially desirable responses to cast themselves in a more favorable light

or to appear to be more agreeable because of uncertainty regarding their anonymity, as opposed to answering the questions honestly. It is possible that more participants were diagnosed with PTSD than self-reported the disorder. Instead of utilizing only self-reported data, the study could have included actual data of the participants' diagnoses and treatment usage, which may have contributed to different findings.

Numerous studies have demonstrated that intimate partners of veterans with PTSD are at increased risk for experiencing relationship distress (Dekel, Solomon, et al., 2005; Renshaw et al., 2007; Riggs et al., 1998); however, to date no known studies have examined the dyadic adaptation in OEF/OIF veterans. Because of the gap in literature, the investigator was not able to identify measurement pitfalls or compare these study results to prior studies with this population.

### **Implications for Practice**

After deployment, OEF/OIF veterans may expect to return home and immediately assume prior roles and normal functioning. However, homecoming can be filled with a mixture of stress and joy as veterans try to readjust to life as it was prior to deployment (Waldrep et al., 2004). PTSD, a signature disorder faced by veterans who are returning from Iraq and Afghanistan, can sometimes interfere with feelings of closeness and connecting with others. This research supports the literature findings that OEF/OIF veterans with PTSD experience lower dyadic adaptation than those without the disorder (Cook et al., 2004; Dekel, Goldblatt, et al., 2005, Dekel, Solomon, & Bleich, 2005; Nelson Goff et al., 2007). Of the total sample in this study, 46% of the OEF/OIF veterans reported distressed relationships. Thus, clinicians employed in the helping professions will first need the knowledge and skills to recognize veterans whose lives are being impacted by PTSD. Most importantly, clinicians on college campuses and academic advisors are in greater need of becoming more familiar with the impact of PTSD on veterans than are clinicians within the VA system, who are required to take ongoing training on PTSD. The professionals on campuses usually are one of veterans' biggest

support systems within the community and may not be afforded the opportunity to attend veterans' specific trainings or be mandated to accumulate a specific numbers of hours each year on military trends and working with special military populations (e.g. PTSD, women veterans) as compared to professionals with the VA systems. However, the professionals on campuses are encouraged to partner with local rehabilitation counselors who are trained to assist individuals to embrace their disabilities and reengage in the workforce and community. During initial stages of veterans returning, professionals on campuses and rehabilitation counselors may collaboratively assess the veterans' functions and limitations to assist the veterans in removing any barriers to their successful reintegration. Therefore, regardless of setting, all clinicians serving veterans may benefit from attending conferences or workshops specific to this population. They are also encouraged to become familiar with the most current research published within the field and learn about new treatment modalities that can be tailored toward this population and their intimate partners. The study outcomes may help clinicians better understand specific areas within the intimate relationships of OEF/OIF veterans that reduce their dyadic adaptation as well as the role of life stressors, coping mechanisms, and types of intervention. For example, this study found that the two areas of most concern within the intimate relationships of this population were dyadic consensus (the measurement of differences on various topics such as religion, goals, and household tasks) and dyadic satisfaction (dealing with interpersonal behaviors). Clinicians who are aware of these two problem areas can begin to assess couples' relationships prior to deployment, amount of contact during deployment, and mutual expectations following deployment. Furthermore, clinicians should assess if the couples are aware of available interventions, to what extent they have used available interventions, and if the interventions were helpful. Consistent with Cully et al., 2010, veterans within this study used individual therapy most frequently, and over 85% of the participants did not use support groups or co-joint therapy, which supported Sayer et al.'s (2010) finding that the majority of veterans with

PTSD were interested in traditional mental health services for their reintegration problems, such as face-to-face individual therapy. Hence, clinicians should encourage veterans to use both support groups and co-joint therapy to normalize their feelings and reduce tensions within their relationships. Treatments that are designed to enhance relationship harmony are highly encouraged in order to address problems that plague intimate relationships (Fals-Stewart & Kelley, 2005).

Stein et al. (2006) maintained that coping strategies are crucial for individuals with PTSD and those without the disorder. However, the results in this study were also consistent with the PTSD avoidance criteria indicating that participants with PTSD are less likely to solicit support from sources outside of their intimate relationships (e.g., friends, neighbors, relatives, and extended family) or to redefine stressful events to make them more manageable. In addition, the study found that females were more likely than their male counterparts to utilize problem-solving techniques, behavioral strategies, and coping mechanisms when faced with stressful circumstances. Therefore, the study results emphasize the need for intimate partners to have a sense of identity within the context of treatment facilities and military communities. If the veterans of this era are unlikely to receive support outside of their intimate relationships, it is essential that intimate partners work with clinicians to learn skills to help their partners manage and to eliminate stressors and related hardships. Clinicians should also be knowledgeable about and able to refer intimate partners who are not married and therefore not eligible for VA benefits to services from which they can receive the same effective modes of training. Furthermore, when clinicians are aware of specific problems faced by this population within their intimate relationships, they should encourage the involvement of the intimate partner in treatment and goal setting. Research has shown that intimate partners are at risk for secondary trauma and may begin to exhibit symptoms similar to the veteran with PTSD (Arzi et al., 2000). For this reason, intimate partners should have a sense of identity within the treatment setting so that they can receive interventions tailored toward

their needs (e.g., feeling unloved by their partner, depression due to multiple roles within the family, spousal abuse) regardless of their relationship status.

Clinicians could also benefit from the results of this study by learning about the types of life stressors typically faced by OEF/OIF veterans. Intra-family conflict, illness, and losses are areas in which OEF/OIF veterans with PTSD experience the most difficulty. Clinicians could utilize this information to address these specific areas and refer veterans to other services if problems are outside their scope of practice. For example, a clinician may be able to help a veteran process the psychological aspects of dealing with an amputation or loss of a comrade but may need to refer the veteran to a primary care clinic to deal with undue pressure or rubbing of prosthesis. In addition, veterans may need dual services such as mental health counseling and couples counseling or mental health counseling and bereavement counseling.

Although clinicians within the helping professions may be able to effectively assist OEF/OIF veterans transition to their lives after deployment, they should familiarize themselves with barriers that impede veterans' effective readjustment. The VA has maintained an active Transition Assistance Program and Disabled Transition Assistance Program (TAP/DTAP) throughout the United States and around the world, but veterans may find initial debriefings on how to transition to civilian life and find available services premature at the moment. TAP and DTAP are voluntary programs and not a step that is required for soldiers prior to discharge; however, problems associated with readjustment may be delayed and prolonged. Therefore, veterans and their families need to be knowledgeable about services available throughout the duration of their lives.

It may be helpful to advertise services provided by clinicians throughout the community, such as at grocery stores, local churches, colleges and universities, and on TV and radio stations for veterans whose PTSD symptoms cause them to feel isolated and have diminished interest in outside activities. Because the results of this study highlighted complications within intimate relationships among this population, clinicians

are encouraged to establish community efforts that focus on intimate partners, especially those who are not legal spouses. Clinicians may work with community agencies to provide locations and hours during which partners can attend drop-in groups and walk-in appointments to receive counseling that does not require insurance referrals or are not based on socioeconomic class. Furthermore, clinicians need to provide psychoeducational classes designed for intimate partners and veterans who have recognized that their symptoms have impeded their relationship quality. These classes should be conducted within the community to reduce stigma and provide an environment in which the partners and/or veterans feel most comfortable. The classes should focus on topics such as regaining intimacy after deployment, effective ways to communicate, reintegrating into activities that partners and veterans once enjoyed, and seeking help for emotional and physical abuse, to name a few based on this study's outcomes. These classes should be designed to normalize the veterans' and their partners' distress as well as provide healthy coping mechanisms.

Clinicians may work hard to improve veterans' awareness and be available to provide services; however, research has shown that fear of stigma is associated with decreased seeking of help among the military population (Owens et al., 2009; Pietrzak et al., 2009). Hoge et al. (2004) reported that only 20% to 30% of OEF/OIF veterans were seeking treatment. Consistent with those findings, 18.3% of OEF/OIF veterans who did not seek treatment reported stigma as the reason, and over 7% indicated they had used interventions but did not continue because of stigma. Furthermore, the number one barrier to seeking treatment and continuing treatment was no interest or loss of interest. These results emphasize the need for available services outside of the military environment that are confidential and operated by civilian providers. To improve services for veterans across areas of their lives and reduce barriers of care caused by stigma, the VA has extended their services into community-based locations. For example, veterans are able to receive readjustment counseling at local vet centers that are located within

communities near veterans and their families. Furthermore, the VA is conducting a pilot study in which counselors have been hired to perform counseling at local universities and colleges and in community-based locations where veterans may feel safer and more comfortable receiving care. It also recommended that clinicians join forces with national campaigns to encourage veterans to seek help for relationship distress in the same way that they would receive treatment for physical wounds and illnesses. On a final note, veterans should be briefed on whom to contact in the event of an emergency. They should be instructed to contact their health provider or the clinic where they received health care; if they feel distress and their problem is a life-threatening emergency, they should be instructed to call 911 to receive immediate medical or mental health attention; and/or if they have thoughts of harming themselves, they are to contact the national suicide prevention hotline at 1-800-273-8255 or American Red Cross at 1-800-696-3873 for immediate assistance. It is important to brief veterans on the above protocol because more often than not counselors or professionals within the community settings are considered to be life lines.

### **Implications for Educators**

In response to the increasing numbers of OEF/OIF veterans diagnosed with PTSD and the effects of this disorder on their relationship satisfaction, programs in the helping professions should incorporate military content within their curriculum. Incorporating the military content within a course can provide counselors-in-training with the knowledge of theoretical and practical aspects of issues that are relevant to the military family. Course topics might address issues such as deployments, interpersonal relationships, military casualty, maintaining intimate relationships, and managing service-connected disabilities, to name a few. Also, educators should emphasize basic marriage, couple, and family counseling concepts within a course and teach students the knowledge to recognize when and how to refer to appropriate sources those individuals whose intimate relationships may be distressed. Furthermore, counselors in training would benefit from extensive

knowledge of signature disorders (e.g., PTSD, TBI, tinnitus, etc.) across war eras, as individuals with these disorders may request assistance from counselors in transitioning to vocational or educational settings. In addition, the results of this study could be used within a military-related course or experiential exercise. Students could design interventions and strategies for addressing the specific areas (i.e., cohesion, consensus, affectional expression, satisfaction) that may impact the intimate relationships of this population. Students may design support groups aimed at working with OEF/OIF veterans diagnosed with PTSD and their partners. As an experiential exercise, students and professors are encouraged to attend a homecoming of OEF/OIF veterans returning from combat to discover and witness the feelings associated with such an event or be assigned to shadow an OEF/OIF veteran and/or spouse for a day to increase their awareness and ability to appreciate the experiences of this population. Furthermore, educators should establish relationships with local VA facilities to create opportunities for counselors-in-training to complete internships and practicum experiences. This experience may open the door for job opportunities for counselors-in-training and for students to be exposed to VA programs and methods of treatment.

### **Implications for the Helping Professions**

There are many helping professions that are focused on improving the quality of lives of others. However, there is a need for more opportunities for professionals to network and gain awareness of how to work with the OEF/OIF population and their intimate partners. Individuals are encouraged to organize or participate in events that allow professionals to enhance their personal and professional development and network with other professionals in the field. The events should include topics such as but not limited to disabilities and intimate relationships, marriage/family therapy interventions, implications for returning veterans and their families, caregiver burden, and reducing stigma regarding treatment for returning soldiers. The results of this research provide event and/or conference organizers the rationale for including a military-related



component at their event or conference. In addition, future presenters could utilize the results of this study to organize a presentation that highlights the specific needs of this population, suggests strategies to remove barriers related to the dyadic adaptation within veterans' intimate relationships, or discusses the complications that PTSD may add to their intimate relationships.

Individuals within the helping professions can volunteer for and disseminate information on local community activities that are designed to increase veterans' awareness. For example, each year in September, the state of Connecticut has a day-long program entitled "Stand Down." During this event, veterans and their families are invited to learn more about state and federal benefits and employment and educational assistance, and to receive medical screenings and legal and motor vehicle assistance. This event allows on-the-spot assistance and provides free transportation to veterans who are interested.

Because there are so many specialties within the helping professions and communities that are willing to aid this population, individuals within the helping professions could partner with community agencies and conduct a weekend retreat for veterans and their partners. The hosting agencies could work with local hotels to donate a block of rooms for this population to stay for the weekend retreat. Based on their specialties, individual professionals could design a portion of the retreat. For example, an individual who specializes in marital counseling could design activities centered on emotional literacy and communication skills. Mental health counselors could design a workshop on how veterans can process their current feelings and work on tactics to teach veterans to share intimate feelings, conversations, and beliefs with their partners. Rehabilitation counselors could add to the retreat by discussing creative solutions for OEF/OIF veterans to achieve personal and professional goals and to live life with more satisfaction despite physical, mental, developmental, or emotional disabilities. It is essential to keep in mind that the retreat should be in a resort location that is away from

the military culture and open to all intimate military couples. A multitude of specialties should be involved in the planning of such a retreat; the above-mentioned specialties are just a snapshot of a holistic approach to veterans and their intimate partners who are in the process of higher dyadic adaptation post deployment.

Finally, it is strongly recommended that individuals within the helping professions reach out to staff at their local VA facility or community-based outpatient clinic to explore local resources and to identify opportunities for further training. VA facilities offer numerous training events, conferences, and other opportunities for counselors to learn more about how to improve the lives of veterans and their families after deployment.

### **Recommendations for Future Research**

Results of the present study suggest several avenues of future research on exploring the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-report PTSD and those who do not report this disorder. Subsequent studies should examine the dyadic adaptation of OEF/OIF veterans pre-deployment to identify relationship norms for veterans before their experiences in combat. In addition, future research is needed to continue to investigate factors that may contribute to low dyadic adaptation among OEF/OIF veterans with distinct relationship statuses. Future research should also explore if the time span since the veterans returned home plays a role in their dyadic adaptation. It would be beneficial to understand if veterans' dyadic adaptation worsens over time. In addition, this research demonstrated that PTSD complicates the intimate relationships of OEF/OIF veterans; however, it would be intriguing to discover if a change in PTSD symptoms predicts changes in the dyadic adaptation. Additionally, future research should examine if type of communication (e.g., phone, internet, web-cam) that maintains intimacy during deployment improves dyadic adaptation upon the veterans' return home. The potential intervention effectiveness of pre-deployment programs should be investigated given that they are optional services offered to veterans

prior to discharge. Moreover, future research should focus on the identity of military intimate partners within treatment facilities given that OEF/OIF veterans often turn to intimate partners before seeking outside help. This population tends not to seek treatment because of stigma; therefore, it would be interesting to explore their perceptions of treatment and dyadic adaptation after receiving treatment in the community by a civilian provider.

A qualitative study might yield more specific information about OEF/OIF veterans' perceptions of their intimate relationships without the use of a survey choice only response. Future research should include a higher proportion of participants who are women and also Coast Guard and Air Force veterans. It would also be interesting to discover the reason why OEF/OIF veterans who complete more tours have a higher level of adjustment within their intimate relationships and if this finding is applicable only to this war era's veterans. Furthermore, more research is needed to better understand what aspects of family therapy and pharmacology are effective to reduce the veterans' life stressors as compared to other modes of intervention.

On a final note, the investigator proposed that one recommendation for future research is the replication of the present study with the following changes: (a) utilizing VA medical centers or outbased centers as avenues for recruitment to increase participation and to increase the chances of generalization; (b) verifying the veterans' records for PTSD diagnoses instead of utilizing self-reports, which may have allowed for more variability of responses on the items; (c) allowing both veterans and their partners to complete the survey instruments to discover if the levels of dyadic adaptation would be the same among the couples and to explore differences among reported answers on the scale; and (d) determining if length of relationships, number of previous relationships, types of combat duty, and types of barriers to care could best predict dyadic adaptation among this population; all of these factors were omitted from this study due to sample size.

## **Conclusions**

This study explored the level of dyadic adaptation in intimate relationships of OEF/OIF veterans who self-reported PTSD and those who did not. Specifically, the study identified factors related to the levels of dyadic adaptation for this population. The findings of this study suggested that there is a difference between the dyadic adaptation of OEF/OIF veterans who self-reported PTSD and those who did not. The results also provided specific areas (e.g., dyadic cohesion) within intimate relationships that are impacted by PTSD and identified factors (e.g., branch of service) that can predict dyadic adaptation among this population. These findings are important because they highlight areas in which clinicians, educators, and individuals within the helping professions can join the Department of Veterans Affairs' initiatives to improve the reintegration of OEF/OIF veterans into their familiar roles after deployment. Given that veterans continue to return from current combat locations, the investigator highlighted areas for future research that would provide more insight into this population and ways to improve both the veterans' lives and the lives of their intimate partners.

APPENDIX A  
RESEARCH INSTRUMENTS

## Demographic Questionnaire

The following questions ask about your background. Please answer the following questions to the best of your ability. All responses are confidential.

1. Please indicate your age in years. \_\_\_\_\_
  
2. Please indicate your gender.
  - a. Male
  - b. Female
  
3. Which of the following categories best describe your primary ethnicity?
  - a. African-American or Black
  - b. American Indian or Native Alaskan
  - c. Asian
  - d. Hispanic or Latino
  - e. Native Hawaiian or Other Pacific Islanders
  - f. Bi-Racial: \_\_\_\_\_
  - g. White
  - h. White, Not Hispanic or Latino
  - i. Other: \_\_\_\_\_
  
4. A committed relationship may be as a union of at least three months that is based on emotional attachment, falling in love, and personal predilection. This relationship may be defined as a marriage, common-law marriage, engagement or exclusive dating relationship. This type of relationship does not include family and children.
  - a. Are you currently in a committed relationship? Yes No
  
  - b. Current relationship status (circle all that apply)
    - a. Exclusive Dating
    - b. Engaged
    - c. Living with partner
    - d. Married
    - e. Other: \_\_\_\_\_
  
  - c. Please indicate the length of your committed relationship with your current spouse/partner: \_\_\_\_\_ years \_\_\_\_\_ months?

**Please Continue to the Next Page**

- d. Have you had other committed relationships (please circle ) yes no
- If yes, please indicate the number of past relationships: \_\_\_\_\_
5. Please indicate the branch of services with which you were last affiliated.
- a. Army
  - b. Air Force
  - c. Coast Guard
  - d. Marines
  - e. National Guard
  - f. Navy
  - g. Other \_\_\_\_\_
6. Type of military duty:
- a. Mainly combat (served in a line unit of combat)
  - b. Mainly combat support (served in a unit directly supporting a combat unit in combat)
  - c. Mainly service support (served in a non-combat related duty)
7. Number of Tours: \_\_\_\_\_
8. Do you have Posttraumatic Stress Disorder? Yes No
9. If you answered yes to question 9, please describe your PTSD:
- a. I have a primary rating for PTSD
  - b. PTSD is one of my service connected disabilities
  - c. I have PTSD but it is not service connected.

**Please Continue to the Next Page**

10. If Posttraumatic Stress Disorder is not your primary service connected disability, please list your highest rated service connected disability below:

---

11. Please indicate how long you have been diagnosed with your primary service connected disability (in years). \_\_\_\_\_ years
12. Please indicate the frequency of the types of services (1-8), you have **used in the past year** by placing a number in the box that indicates how frequently you have utilized these services.

<b>Types of Services</b>	<b>Frequency</b> (Number of Times Used in the Last Year)
1. Individual Therapy or Readjustment Counseling	
2. Family Therapy (couple plus children)	
3. Conjoint Therapy or Marriage Therapy (couple only; no children)	
4. Group Therapy (led by a counselor)	
5. Residential Treatment	
6. Pharmacotherapy	
7. Support Group (led by fellow troops)	
8. Other: (Please describe)	

**Please Continue to the Next Page**



13. Please indicate the type of services you plan to use in the next 6 months:

Types of Services	Circle Yes or No	
	Yes	No
1. Individual Therapy or Readjustment Counseling	Yes	No
2. Family Therapy (couple plus children)	Yes	No
3. Conjoint Therapy or Marriage Therapy (couple only; no children)	Yes	No
4. Group Therapy (led by a counselor)	Yes	No
5. Residential Treatment	Yes	No
6. Pharmacotherapy	Yes	No
7. Support Group (led by fellow troops)	Yes	No
8. Other: (Please describe)	Yes	No

14. If you have not sought services or no longer receive services, please circle all of the following reasons that impact your decision:

- a. Not interested
- b. Unsure of the services offered
- c. No transportation to get to the needed services
- d. Stigma (e.g. afraid of what others may think)
- e. The effects of the decision on military or post military careers
- f. Prefer to seek services outside of the VA facilities
- g. Had bad past experience(s)
- h. Improvement in situations or problem
- i. No longer need services
- j. Other \_\_\_\_\_

**Please Continue to the Next Survey**

### Dyadic Adjustment Scale (Spanier, 1989)

Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list. Circle the asterisk under one answer for each of them.

	<b>The extent of agreement or disagreements</b> (Please circle your choice)					
	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
1. Handling family finances	*	*	*	*	*	*
2. Matters of recreation	*	*	*	*	*	*
3. Religious Matters	*	*	*	*	*	*
4. Demonstration of affection	*	*	*	*	*	*
5. Friends	*	*	*	*	*	*
6. Sex Relations	*	*	*	*	*	*
7. Conventionality (correct or proper behavior)	*	*	*	*	*	*
8. Philosophy of life	*	*	*	*	*	*
9. Ways of dealing with parents or in-laws	*	*	*	*	*	*
10. Aims, goals, and things believed important	*	*	*	*	*	*
11. Amount of time spent together	*	*	*	*	*	*
12. Making major decisions	*	*	*	*	*	*
13. Household tasks	*	*	*	*	*	*
14. Leisure time interests and activities	*	*	*	*	*	*
15. Career decisions	*	*	*	*	*	*

**Please Continue to the Next Page**

	<b>How often?</b> (Please circle your choice)					
	All The Time	Most Of The Time	Most Often Than Not	Occasionally	Rarely	Never
16. How often do you discuss or have you considered divorce, separation, or termination of your relationship?	*	*	*	*	*	*
17. How often do you and your mate leave the house after a fight?	*	*	*	*	*	*
18. In general, how often do you think that things between you and your partner are going well?	*	*	*	*	*	*
19. Do you confide in your mate?	*	*	*	*	*	*
20. Do you ever regret that you married (or lived together)?	*	*	*	*	*	*
21. How often do you and your partner quarrel?	*	*	*	*	*	*
22. How often do you and your mate get on each other nerves?	*	*	*	*	*	*

	Everyday	Almost Everyday	Occasionally	Rarely	Never
23. Do you kiss your mate?	*	*	*	*	*

	All of Them	Most of Them	Some of Them	Very Few of Them	None of Them
24. Do you and your mate engage in outside interest together?	*	*	*	*	*

**Please Continue to the Next Page**

	<b>How often do the following occur between you and your mate?</b> (Please circle your choice)					
	Never	Less Than Once A Month	Once or Twice A Month	Once or Twice A Week	Once A Day	More Often
25. Have a stimulating exchange of ideas	*	*	*	*	*	*
26. Laugh together	*	*	*	*	*	*
27. Calmly discuss something	*	*	*	*	*	*
28. Work together on a project	*	*	*	*	*	*

	<b>There are some things about which couples sometimes agree or disagree. Indicate if either item caused differences of opinions or were problems in the past few weeks.</b> (Please circle your choice)	
	Yes	No
29. Being too tired for sex	*	*
30. Not showing love	*	*

<b>The asterisks below represent different degrees of happiness in your relationship. The middle point, "happy" represents the degree of happiness of most relationships. Circle the asterisk above the phrase which best describes the degree of happiness, all things considered, of your relationship.</b> (Please circle your choice)							
	Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect
31. Have a stimulating exchange of ideas	*	*	*	*	*	*	*

32. Which of the following statements best describes how you feel about the future of your relationship? Mark one statement
* I want desperately for my relationship to succeed, and would go to almost any length to see that it does.
* I want vary much for my relationship to succeed, and will do all I can to see that it does.
* I want vary much for my relationship to succeed, and will do my fair share to see that it does
* It would be nice if my relationship succeeded, but I earn do much more than I am doing now to keep the relationship going,
* It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.
*My relationship can never succeed, and there is no more that I can do to keep the relationship going

Source: Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, 38, 15–28.

### Family Inventory of Life Events and Changes (McCubbin et al., 1996).

Over their life cycles, all families experience many changes as a result of normal growth and development of members and due to external circumstances. The following list of family life changes can happen in a family at any time. Because family members are connected to each other in some way, life change for any one member affects all the other persons in the family to some degree.

“**Family**” means a group of two or more persons living together who are related by blood or marriage or adaptation. This includes persons who live with you and to whom you have a long term commitment.

**Directions:** Please read each of the life changes and decide whether it happened to your family during the **past 12 months** and check **Yes or No**.

Did the change happen in your family during the last 12 months:			
<b>I. Intrafamily Strains</b>	<b>YES</b>	<b>NO</b>	<b>Score</b>
1. Increase of husband/father's time away from the family			46
2. Increase of wife/mother's time away from the family			51
3. A member appears to have emotional problems			58
4. A member appears to depend on alcohol or drugs			66
5. Increase in conflict between husband and wife			53
6. Increase in arguments between parent(s) and child(ren)			45
7. Increase in conflict among children in the family			48
8. Increased difficulty in managing teenage child(ren)			55
9. Increased difficulty in managing school age children (6 -12 yrs)			39
10. Increased difficulty in managing preschool age children (2.5- 12 yrs)			36
11. Increased difficulty in managing toddler(s) (1- 2.5 yrs)			36
12. Increased difficulty in managing infant(s) (0-1 yr.)			35
13. Increase in the amount of “outside activities” in which the children are involved.			25
14. Increased disagreements about a member's friends or activities			35
15. Increase in the number of problems or issues which don't get resolved			45
16. Increase in the number of tasks or chores which don't get done			35
17. Increased conflicts with in-laws or relatives			40

**Please Continue to the Next Page:**

Did the change happen in your family during the last 12 months:			
<b>II. Marital Strains</b>	<b>YES</b>	<b>NO</b>	<b>Score</b>
18. Spouse/parent was separated or divorce			79
19. Spouse/parent had an "affair"			68
20. Increased difficulty in resolving issues with a "former" or separated spouse			47
21. Increased difficulty with sexual relationship between husband and wife			58

Did the change happen in your family during the last 12 months:			
<b>III. Pregnancy and Childbearing Strains</b>	<b>YES</b>	<b>NO</b>	<b>Score</b>
22. Spouse had unwanted or difficult pregnancy			45
23. An unmarried member became pregnant			65
24. A member had an abortion.			60
25. A member gave birth to or adopted child.			60

Did the change happen in your family during the last 12 months:			
<b>IV. Finance and Business Strains</b>	<b>YES</b>	<b>NO</b>	<b>Score</b>
26. Took out a loan or refinanced a loan to cover increased expenses			29
27. Went on welfare			55
28. Change in conditions (economic, political, weather) which hurts the family investments			41
29. Change in agriculture market, stock market, or land values which hurts family investment and/or income			43
30. A member started a new business			50
31. Purchased or built a home			41
32. A member purchased a car or a major item			19
33. Increased financial debts due to over-use of credit cards			31
34. Increased strains on family "money" for medical/dental expenses			23
35. Increased strains on family "money" for food, clothing, energy, home care			21
36. Increased strains on family "money" for child(ren) education			22
37. Delay in receiving child support or alimony payments			41

**Please Continue to the Next Page:**

Did the change happen in your family during the last 12 months:			
<b>V. Work-Family Transitions and Strains</b>	<b>YES</b>	<b>NO</b>	<b>Score</b>
38. A member changed to a new job/career			40
39. A member lost or quit a job			55
40. A member retired from work			48
41. A member started or returned to work			41
42. A member stopped working for extended period (e.g. laid off, leave of absence, strike)			51
43. Decrease in satisfaction with job/career			45
44. A member had increased difficulty with people at work			32
45. A member was promoted at work or given more responsibilities			40
46. Family moved to a new home/apartment			43
47. A child/adolescent member changed to a new school			24

Did the change happen in your family during the last 12 months:			
<b>VI. Illness and Family "Care" Strains</b>	<b>YES</b>	<b>NO</b>	<b>Score</b>
48. Parent/spouse become seriously ill or injured			44
49. Child became seriously ill or injured			35
50. Close relative or friend of the family became seriously ill			44
51. A member became physically disabled or chronically ill			73
52. Increased difficulty in managing chronically ill or disabled member			58
53. Member or close relative was committed to an institution or nursing home			44
54. Increased responsibility to provide direct care or financial help to husband's and/or wife's parents			47
55. Experienced difficulty in arranging for satisfactory child care			40

Did the change happen in your family during the last 12 months:			
<b>VII. Losses</b>	<b>YES</b>	<b>NO</b>	<b>Score</b>
56. A parent/spouse died			96
57. A child member died			99
58. Death of husband's or wife's parent or close relative			48
59. Close friend of the family died			47
60. Married son or daughter was separated or divorced			58
61. A member "broke up" a relationship with a close friend			35

**Please Continue to the Next Page**

Did the change happen in your family during the last 12 months:			
<b>VIII. Transitions “In and Out”</b>	<b>YES</b>	<b>NO</b>	<b>Score</b>
62. A member was married			42
63. Young adult member left home			43
64. Young adult member began college (or post high school training)			28
65. A member moved back home or a new person moved into the household			42
66. A parent/spouse started school (or training program) after being away from school for a long time			38

Did the change happen in your family during the last 12 months:			
<b>IX. Family Legal Violations</b>	<b>YES</b>	<b>NO</b>	<b>Score</b>
67. A member went to jail or juvenile detention			68
68. A member was picked up by police or arrested			57
69. Physical or sexual abuse or violence in home			75
70. A member ran away from home			61
71. A member dropped out school or was suspended from school			38

Source: McCubbin, H., Thompson, A., & McCubbin, M. (1996). *Family assessment: Resiliency, coping, and adaptation: Inventories for research and practice* (5<sup>th</sup> ed.). Madison, WI: University of Wisconsin.



### Family Crisis Oriented Personal Evaluation Scale (McCubbin et al., 1996)

This instrument is designed to record problem solving attitudes and behaviors which families develop to respond to problems and difficulties.

**Directions:** First, read the list of “Response Choice” one at a time. Second, decide how well each statement describes your attitudes and behaviors in responses to problems and difficulties. If the statement describes your response well, then circle the number 5 indicating that you strongly agree; if the statement does not describe your response at all, then circle number 1 indicating that you strongly disagree; if the statement describes your response to some degree, then select number 2, 3, or 4 to indicate how much you agree or disagree with the statement about your response.

Please circle a number (1, 2, 3, 4, 5) to match your response to each statement.

	<b>When we face problems or difficulties in our family, we respond by:</b> (Please circle your choice)				
	Strongly Disagree	Moderately Disagree	Neither Agree Neither Disagree	Moderately Agree	Strongly Agree
1. Sharing our difficulties with relatives	1	2	3	4	5
2. Seeking encouragement and support from friends	1	2	3	4	5
3. Knowing we have the power to solve major problems	1	2	3	4	5
4. Seeking information and advice from persons in other families who have faced the same or similar problems	1	2	3	4	5
5. Seeking advice from relatives (grandparents, etc.).	1	2	3	4	5
6. Seeking assistance from community agencies and program designed to help families in our situations	1	2	3	4	5
7. Knowing that we have the strength within our own family to solve our problems	1	2	3	4	5
8. Receiving gifts and favors from neighbors (e.g. food, taking in mail, etc.).	1	2	3	4	5
9. Seeking information and advice from the family doctor	1	2	3	4	5
10. Asking neighbors for favors and assistance	1	2	3	4	5
11. Facing the problems “head-on” and trying to get solution right away	1	2	3	4	5
12. Watching television	1	2	3	4	5
13. Showing that we are strong	1	2	3	4	5
14. Attending church services	1	2	3	4	5

**Please Continue to the Next Page**

	<b>When we face problems or difficulties in our family, we respond by:</b> (Please circle your choice)				
	Strongly Disagree	Moderately Disagree	Neither Agree Neither Disagree	Moderately Agree	Strongl y Agree
15. Accepting stressful event as a fact of life	1	2	3	4	5
16. Sharing concerns with close friends	1	2	3	4	5
17. Knowing luck plays a big part in how well we are able to solve family problems	1	2	3	4	5
18. Exercising with friends to stay fit and reduce tension.	1	2	3	4	5
19. Accepting that difficulties occur unexpectedly	1	2	3	4	5
20. Doing things with relatives (get-togethers, dinners, etc.)	1	2	3	4	5
21. Seeking professional counseling and help for family difficulties	1	2	3	4	5
22. Believing we can handle our own problems	1	2	3	4	5
23. Participating in church activities	1	2	3	4	5
24. Defining the family problems in a more positive way so that we do not become too discouraged	1	2	3	4	5
25. Asking relatives how they feel about problems we face	1	2	3	4	5
26. Feeling that no matter what we do to prepare, we will have difficulty handling problems	1	2	3	4	5
27. Seeking advice from a minister	1	2	3	4	5
28. Believing if we wait long enough, the problem will go away	1	2	3	4	5
29. Sharing problems with neighbors					
30. Having faith in God					

Source: McCubbin, H., Thompson, A., & McCubbin, M. (1996). *Family assessment: Resiliency, coping, and adaptation: Inventories for research and practice* (5<sup>th</sup> ed.). Madison, WI: University of Wisconsin.

Thank you for your responses.

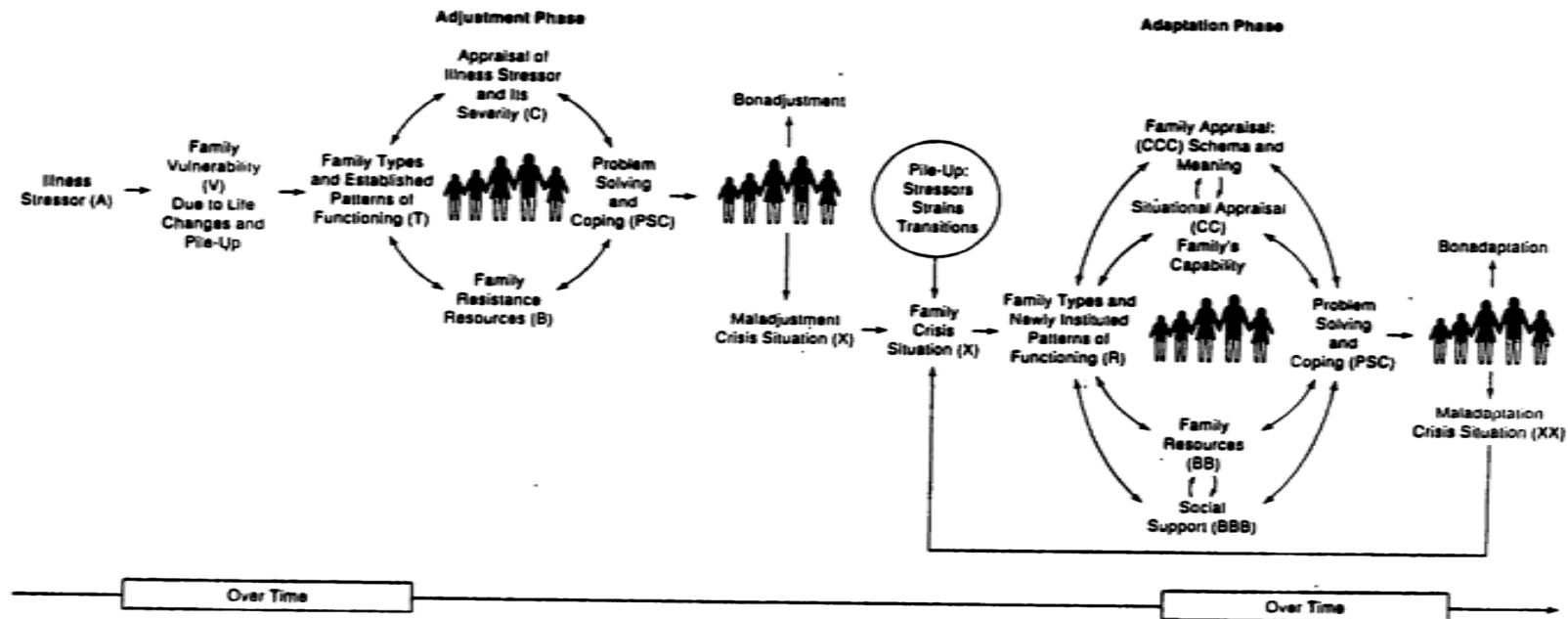
## INCLUSION/EXCLUSION CHECKLIST

## INCLUSION CRITERIA:

<b>Criterion</b>	<b>Met Criterion YES or NO</b>
Active in the military, naval, or air service after 1975 and has been discharged from active duty or released under conditions other than dishonorable	
OEF/OIF veteran with combat exposure or war zone services or related activities	
Has a service connected disability rating	
Currently sharing a long-term committed relationship for at least three months	
Participant does not have a personality disorder or a moderate/severe traumatic brain injury	

APPENDIX B  
TABLES AND FIGURES

Figure B1. *The Resiliency Model of Family Stress, Adjustment, and Adaptation*



The Resiliency Model of Family Stress, Adjustment, and Adaptation. (From McCubbin, M. & McCubbin, H. (1993). *Families coping with illness: The Resiliency Model of Family Stress, Adjustment, and Adaptation*. In C. Danielson, B. Hamel-Bissel, & P. Winstead-Fry, *Families, health and illness* (pp. 21-63). St. Louis: Mosby.)

Source: McCubbin, M. A., & McCubbin, H. I. (1993). Families coping with illness: The Resiliency Model of Family Stress, Adjustment, and Adaptation. In C. Danielson, B. Hamel-Bissel, & P. I. Winstead-Fry (Eds.), *Families, health, and illness: Perspective on coping and interventions* (pp. 21-63). St. Louis, MO: Mosby.

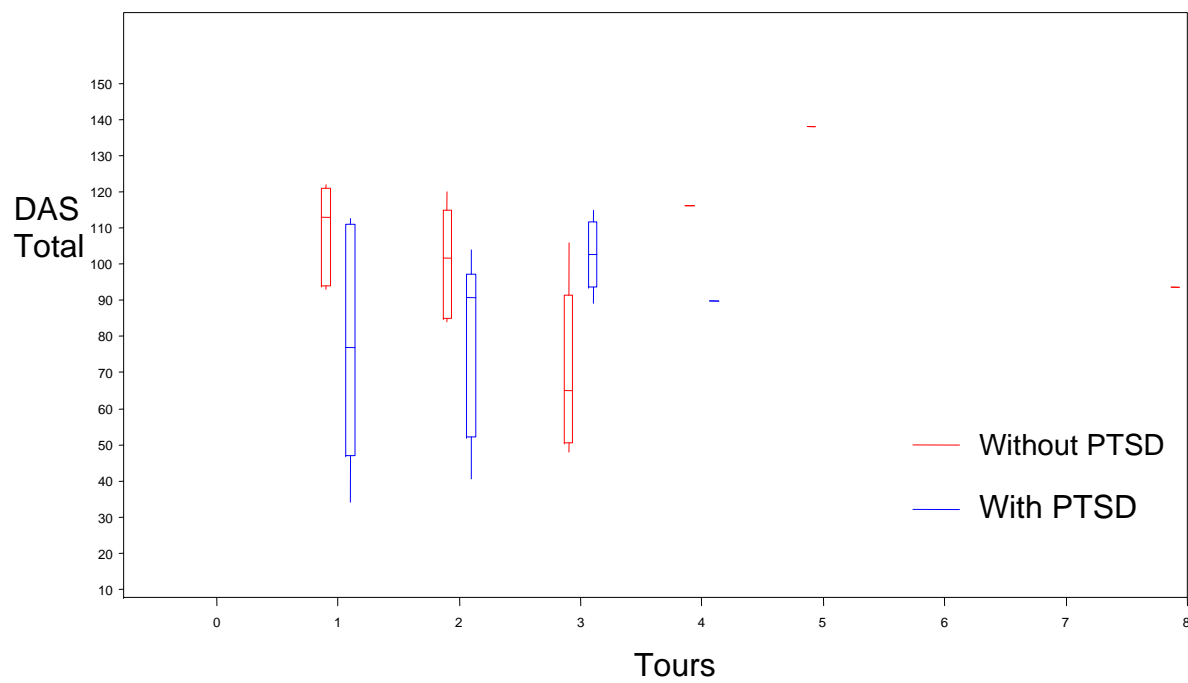
Figure B2. *Boxplot of Tours and DAS Scores by PTSD Status*

Table B1. *List of Participating Schools*

<b>Schools</b>	<b>Number of Veterans</b>	<b>Schools</b>	<b>Number of Veterans</b>
+ **University of Iowa	390	** Coe College	12
+ *Indian Hills Community College	200	**AIB Business College	30
+ *Kirkwood Community College	400	**Graceland University	5
+ *Des Moines Area Community College	407	** Buena Vista University-(BVU) Council Bluffs	6
* Hawkeye Community College	174	** Buena Vista University-Council Bluffs Denison	1
* Southwestern Community College	28	** Buena Vista University-Estherville	2
** Iowa Wesleyan College	25	** Buena Vista University- Le Mars	2
**Dordt College	1	**Buena Vista University-Iowa Falls	3
* Southeastern Community College-Keokuk	18	** Buena Vista University-Marshalltown	4
**St. Ambrose University	57	** Buena Vista University-Newton	1
**Iowa State University	443	**Buena Vista University-Ottumwa	21
*Northeast Iowa Community College-Peosta	50	** Buena Vista University-Mason City	12
**Mount Mercy College	24	** Buena Vista University-Storm Lake	13
* Northeast Iowa Community College-Calmar	26	***Allen College	5
**Drake University	57	**Cornell College	4
* Scott Community College	150	***Des Moines University-Osteopathic Medical Center	13
* Marshalltown Community College	24	Muscatine Community College	28

+ = first stage recruitment process; \* = Community college; \*\* = Private Four-Year College or University; \*\*\* = Hospitals and Medical Centers; Total=2636

Table B2. *Participants' Characteristics*

	All Participants	Participants with- out PTSD	Participants with PTSD
<b>Gender</b>			
Female	29 (23.02)	14 (11.11)	15 (11.9)
Male	97 (76.98)	48 (38.1)	49 (38.89)
<b>Age (years)</b>	32.25 (7.90)	32.32 (7.97)	32.19 (7.89)
<b>Race</b>			
White	90 (71.43)	42(33.33)	48 (38.1)
Black	25 (19.84)	14 (11.11)	11 (8.73)
Hispanic or Latino	4(3.17)	2 (1.59)	2 (1.59)
Other	5 (3.97)	3 (2.38)	2 (1.59)
No Answer	2 (1.59)	1 (0.79)	2 (0.79)
<b>Branch of Service</b>			
Army	67 (53.17)	36 (28.57)	31 (24.6)
Marines	20 (15.87)	7 (5.56)	13 (10.32)
National Guard	16 (12.7)	5 (3.97)	11 (8.73)
Navy	12 (9.52)	7 (5.56)	5 (3.97)
Air Force	8 (6.35)	6 (4.76)	2 (1.59)
Other	2 (1.59)	1 (0.79)	1 (0.79)
No Answer	1 (0.79)	0 (0.0)	1 (0.79)
<b>Type of Duty</b>			
Mainly combat	55 (43.65)	19(15.08)	36 (28.57)
Mainly combat support	52 (41.27)	27 (21.43)	25 (19.84)
Mainly service support	19 (15.08)	16 (12.7)	3 (2.38)
<b>Tours</b>	1.71 (0.99)	1.74(1.20)	1.69 (0.75)
<b>PTSD</b>			
Did not answer	49 (38.89)	49 (38.89)	0 (0.0)
PTSD, not primary service- connected disability	35 (27.78)	12 (9.52)	23 (18.25)
Primary rating for PTSD	37(29.37)	0 (0.0)	37(29.37)
PTSD, not service- connected	5 (3.97)	1 (0.79)	4 (3.17)
<b>Time since diagnosis (years)</b>	3.60 (3.91)	3.38 (3.700)	3.78 (4.08)



Table B2 (continued)

	All Participants	Participants with- out PTSD	Participants with PTSD
<b>Relationships</b>			
In a relationship	120 (95.24)	58 (46.03)	62 (49.21)
Not in a relationship	4 (3.17)	3 (2.38)	1 (0.79)
Do not wish to answer	2 (1.59)	1 (0.79)	1 (0.79)
<b>Types of Relationships</b>			
Married	60 (47.62)	33 (26.19)	27 (21.43)
Exclusive Dating	26 (20.63)	14 (11.11)	12 (9.52)
Living with Partner	18 (14.29)	4 (3.17)	14 (11.11)
Engaged	14 (11.11)	8 (6.35)	6 (4.76)
Other	6 (4.76)	2 (1.59)	4(3.17)
No answer	2 (1.89)	1 (0.79)	1 (0.79)
<b>Length of Relationship (months)</b>	64.37 (73.04)	67.03 (72.20)	61.79 (74.33)
<b>Other Relationships</b>			
Reported other relationships	97 (76.98)	45 (35.71)	52(41.27)
Reported no other relationships	28 (22.22)	17 (13.49)	11 (8.73)
Did not answer	1 (0.79)	0 (0)	1 (0.79)

Table B3. *Reliability of the DAS Scales*

Scale	Cronbach's Alpha	Items
DAS Total	0.96	32
Consensus	0.94	13
Satisfaction	0.94	10
Cohesion	0.89	5
Affection	0.74	4

Table B4. *Correlations Among Selected Variables*

## Without PTSD

Pearson Correlations Among Selected Covariates and DAS scores in Veterans Without PTSD											
MEASURE	1	2	3	4	5	6	7	8	9	10	11
1. DAS Total											
2. FCOPEs Total	0.21										
3. FILE Total	-0.44*	-0.10									
4. SEX (Female = 1)	-0.13	-0.04	-0.01								
5. RACE (White = 1)	0.08	0.03	-0.03	-0.18							
6. MARRIED (Yes = 1)	0.04	0.01	-0.06	-0.13	-0.12						
7. TOURS	-0.12	-0.30*	0.12	0.02	-0.06	0.01					
8. RELATIONSHIP LENGTH (mo)	0.09	-0.01	-0.08	-0.20	-0.03	0.55*	0.03				
9. TIME SINCE DIAGNOSIS (y)	-0.17	-0.13	0.00	0.17	-0.29*	0.07	0.20	0.03			
10. THERAPY OR REHAB (Use = 1)	0.15	0.25	-0.08	0.00	-0.05	-0.17	-0.08	-0.16	0.29*		
11. PHARMACOTHERAPY (Use = 1)	0.12	0.01	0.03	0.08	0.03	-0.15	0.21	0.00	-0.02	0.28*	

\* p &lt; 0.05 for the two tailed test.

## With PTSD

Pearson Correlations Among Selected Covariates and DAS scores in Veterans With PTSD											
MEASURE	1	2	3	4	5	6	7	8	9	10	11
1. DAS Total											
2. FCOPEs Total	0.57*										
3. FILE Total	-0.43*	-0.19									
4. SEX (Female = 1)	0.18	0.27*	0.17								
5. RACE (White = 1)	0.11	0.04	-0.18	0.01							
6. MARRIED (Yes = 1)	0.00	0.03	0.19	-0.31	0.08						
7. TOURS	0.24*	0.17	-0.03	-0.02	-0.14	0.34*					
8. RELATIONSHIP LENGTH (mo)	-0.03	0.13	0.16	-0.15	-0.04	0.45*	0.18				
9. TIME SINCE DIAGNOSIS (y)	0.13	0.24	-0.06	0.24	0.09	-0.13	-0.18	0.22			
10. THERAPY OR REHAB (Use = 1)	-0.17	0.03	-0.03	0.03	0.03	-0.10	0.04	0.04	-0.20		
11. PHARMACOTHERAPY (Use = 1)	-0.29*	-0.18	0.25*	-0.17	-0.21	0.03	0.07	0.25*	-0.20	0.31*	

Table B5. *DAS Results Based on Gender*

	Female		Male		F (ndf, ddf)	P
	Mean (SD)	n	Mean (SD)	n		
<b>Consensus</b>	41.5(11.37)	27	40.29(13.77)	89	0.17 (1,114)	0.62
<b>Satisfaction</b>	32.09(9.19)	27	31.43(11.22)	89	0.07 (1,114)	0.72
<b>Cohesion</b>	13.93(4.36)	27	13.47(5.84)	89	0.14 (1,114)	0.59
<b>Affectional</b>	7.78(2.80)	27	6.41(3.58)	89	3.31 (1,114)	0.07
<b>DAS Total</b>	95.3(24.3)	27	91.61(31.60)	89	0.31 (1,114)	0.51

Table B6. *Cronbach's Alpha Coefficients for F-COPES Survey*

Scale	Cronbach's Alpha	Items
F-COPES Total	0.91	29
Social Support	0.81	9
Reframing	0.86	8
Spiritual	0.87	4
Mobilization	0.65	4
Appraisal	0.33	4

Table B7. *Analysis of Variance for FILE*

	<b>All Subjects n=110</b>	<b>No PTSD n=52</b>	<b>PTSD n=58</b>	<b>F(ndf, ddf)</b>	<b>P value</b>
	<b>Mean (SD)</b>				
<b>Intra-family strains</b>	193.86 (138.33)	159.33 (140.32)	224.83 (130.07)	6.4 (1,108)	0.012
<b>Marital strains</b>	58.98 (72.68)	45.48 (73.19)	71.09 (70.52)	3.5 (1,108)	0.064
<b>Pregnancy</b>	14.82(35.03)	13.94(34.54)	15.6 (35.71)	0.1 (1,108)	0.805
<b>Finance</b>	59.89 (62.40)	49.63(58.62)	69.09(64.73)	2.7 (1,108)	0.103
<b>Illness</b>	37.8(53.48)	21.94 (38.50)	52.02 (61.00)	9.3 (1,108)	0.002
<b>Losses</b>	24.14(38.23)	7.06(16.80)	39.45(45.23)	23.7(1,108)	.001
<b>Work-Family Transitions</b>	18.52(28.52)	18.06(30.57)	18.93(26.80)	0 (1,108)	0.873
<b>Legal</b>	16.87(45.72)	15.52(50.47)	18.09(41.35)	0.1(1,108)	0.77
<b>File Total</b>	521.2(338.97)	430.08(35.89)	602.9(292.59)	7.6((1,108)	0.007

Table B8. *Reliability of the FILE Scales*

<b>Scale</b>	<b>Cronbach's Alpha</b>	<b>Items</b>
Intra family Strains	0.74	16
Marital Strains	0.67	4
Pregnancy	0.41	4
Finance	0.61	12
Work Family	0.54	10
Illness	0.50	8
Losses	0.12	6
Transition	0.30	5
Legal	0.68	5
File Total	0.85	70

Table B9. *Analysis of Variance for DAS*

	<b>All Subjects</b>	<b>No PTSD</b>	<b>PTSD</b>	<b>F(ndf, ddf)</b>	<b>P value</b>
	<b>n=116</b>	<b>n=56</b>	<b>n=60</b>		
	<b>Mean (SD)</b>				
<b>Consensus</b>	40.58 (13.24)	45.34 (9.72)	36.13(14.48)	15.9 (1,114)	0.001
<b>Satisfaction</b>	31.58 (10.77)	34.69(9.35)	28.69 (11.23)	9.7 (1,114)	0.002
<b>Cohesion</b>	13.58 (5.49)	15.42 (4.34)	11.86(6.04)	13.1(1,114)	0.002
<b>Affectional</b>	6.73(3.44)	7.75(3.14)	5.78(3.56)	9.9((1,114)	0.002
<b>DAS Total</b>	92.47 (30.04)	103.2 (23.57)	82.46(32.06)	15.5 (1,114)	0.001

Table B10. *F-COPES Results Based on Gender*

	<b>Female</b>	<b>Male</b>	<b>F(ndf, ddf)</b>	<b>P value</b>
	<b>n=24</b>	<b>n=84</b>		
	<b>Mean (SD)</b>			
<b>F-COPES Total</b>	100.71(18.37)	93.5(22.91)	2.0(1,104)	0.1607
<b>Social Support</b>	28.92(6.17)	25.34(7.87)	4.2 (1,104)	0.0423
<b>Reframing</b>	30.04(5.68)	30.25(7.60)	0.01(1,104)	0.901
<b>Spiritual Support</b>	13.25(4.5)	11.54(5.34)	2.0 (1,104)	0.1588
<b>Mobilizing</b>	13.46(2.98)	12.31(3.71)	1.9(1,104)	0.1712
<b>Appraisals</b>	6.05(2.74)	6.58(2.71)	0.7(1,104)	0.4115

Table B11. *Analysis of Variance for F-COPES*

	<b>All Subjects n=106</b>	<b>No PTSD n=49</b>	<b>PTSD n=57</b>	<b>F(ndf, ddf)</b>	<b>P value</b>
	<b>Mean (SD)</b>				
<b>F-COPES Total</b>	95.13(22.13)	96.65(19.88)	91.25(23.32)	3.9 (1,114)	0.0507
<b>Social Support</b>	26.15(7.61)	28.02(6.86)	24.55(7.927)	5.7 (1,114)	0.0186
<b>Reframing</b>	30.2(7.20)	31.95(5.81)	28.7 (7.927)	5.7 (1,114)	0.0187
<b>Spiritual Support</b>	11.93(5.25)	12.63(5.11)	11.32(5.284)	1.7 (1,114)	0.1983
<b>Mobilizing</b>	12.57(3.60)	12.57(3.43)	12.57(3.774)	0(1,114)	0.99
<b>Appraisal</b>	6.46(2.77)	6.28(2.73)	6.61(2.793)	0.4(1,114)	0.5345

Table B12. *Dyadic Adaptation Hierarchical Regression Analysis (With PTSD)*

		<b>R<sup>2</sup></b>	<b>R<sup>2</sup> Change</b>	<b>F Change (NDF, DDF)</b>	<b>p Change</b>	<b>β</b>	<b>P</b>
Step 1	(N=59)	0.19	0.19	2.51(5,53)	0.041		
<b>Type of Relationship</b>							0.102
<b>Age(y)</b>						-0.40	0.713
<b>Tours</b>						14.13	0.019
Step 2	(N=59)	0.20	0.01	0.93(1,57)	0.339		
<b>Type of Relationship</b>							0.102
<b>Age(y)</b>						-0.37	0.742
<b>Tours</b>						15.26	0.013
<b>Pharmacotherapy Use</b>						-0.91	0.623
Step 3	(N=55)	0.58	0.38	21.6(2,52)	<0.001		
<b>Type of Relationship</b>							0.043
<b>Age(y)</b>						-0.95	0.664
<b>Tours</b>						8.07	0.002
<b>Pharmacotherapy Use</b>						0.23	0.751
<b>FILE Total</b>						-0.04	<0.001
<b>F-COPES Total</b>						0.66	<0.001



Table B13. *Dyadic Adaptation Hierarchical Regression Analysis (Without PTSD)*

		<b>R<sup>2</sup></b>	<b>R<sup>2</sup> Change</b>	<b>F Change (NDF, DDF)</b>	<b>p Change</b>	<b>β</b>	<b>P</b>
Step 1	(N=54)	0.17	0.17	1.97(5,48)	0.09		
Type of Relationship							0.034
Age(y)						0.033	0.936
Tours						-1.94	0.469
Step 2	(N=54)	0.18	0.01	0.34(1,52)	0.56		
Type of Relationship							0.036
Age(y)						0.024	0.953
Tours						-3.53	0.361
Pharmacotherapy Use						0.020	0.563
Step 3	(N=49)	0.32	0.14	4.54(2,46)	0.02		
Type of Relationship							0.036
Age(y)						0.146	0.732
Tours						-1.492	0.699
Pharmacotherapy Use						0.181	0.610
FILE Total						-0.025	0.009
F-COPES Total						0.203	0.254

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