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OEF/OIF veterans with and without PTSD : levels of relationship distress, social support, combat experience, and deployment

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ABSTRACT

As Veterans have returned home from the OEF/OIF wars they have faced many struggles with reintegration. Studies of Veterans returning home have found rates of PTSD as high as 18 % (Hoge et al., 2004; Hoge, Terhakopian, Castro, Messer, & Engel, 2007). The symptomatology of PTSD has historically complicated Veterans primary relationships as well other interpersonal relationships and this study seeks to look at the relationship between PTSD and interpersonal distress in a sample of Veterans returning from the OEF/OIF wars. The author conducted secondary analysis of data from a survey taken by a sample of Connecticut Veterans (n = 620) following the OEF/OIF wars. Veterans who screened positive for PTSD (n=58) were compared to Veterans who did not screen positive for PTSD (n =472). The author analyzed levels of relationship distress, combat experience, post-deployment social support, and deployment location. Veterans with PTSD reported higher levels of relationship distress, combat experience, and less social support than Veterans without PTSD (p< .001). Higher PTSD symptomatology was significant (p< .001) with deployment to Iraq compared to all other deployment locations in the survey. Study findings indicate a need for creating greater practical and emotional support for Veterans returning with PTSD through clinical collaboration with the Veteran, caregivers, family members, close friends, and the larger community.

OEF/OIF VETERANS WITH AND WITHOUT PTSD: LEVELS OF RELATIONSHIP DISTRESS, SOCIAL SUPPORT, COMBAT EXPERIENCE, AND DEPLOYMENT

A project based upon an independent investigation,
submitted in partial fulfillment of the requirements
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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

Introduction

The purpose of this study is to explore the nature of relationship distress experienced by Veterans following deployment in the wars in Iraq and Afghanistan. More specifically this study will document whether in a sample of Connecticut Veterans there is a difference in the level of concern about interpersonal relationships and experience of relationship distress between Veterans with a Post-Traumatic Stress Disorder diagnosis and those without. The study will analyze the concern about interpersonal relationships, experience of conflict with supports, deployment locations, combat experience, post-deployment social support, and PTSD symptomatology. The need for this study arises from past research indicating significant stress in interpersonal relationships among those diagnosed with PTSD. It is also important to study these factors in the returning military population because of the changes in modern warfare and increase in multiple deployments which may impact the incidences of PTSD and soldiers struggle with connecting interpersonally.

Previously, studies have been conducted on relationships of Vietnam Veterans with PTSD and their partners following combat; however, there is less exploratory research on recent Veterans of Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF) (Beckham et al., 1996; Byrne & Riggs, 1996; Calhoun, Beckham, & Bosworth, 2002; Carroll et al., 1985, Riggs et al., 1998; Jorden et al., 1992). Studies of Veterans following recent wars indicate that PTSD symptoms can have a negative effect on family relationships and in turn can increase the

severity of the Veteran's PTSD symptoms; however they also indicate positive family relationships can help decrease the severity of symptoms (Calhoun et al., 2002; Jordan et al., 1992; Kulka et al., 1990; Meis, Barry, Kehle, Erbes, & Polusny, 2010; Silverstein, 1996; Waysman, Mikulincer, Solomon, & Weisenberg, 1993; Wilcox, 2010). These studies highlight the importance of familial support and relationship functioning in the individual treatment of Veterans. Another point of interest would be the variety of locations in which Veteran's seek care for their treatment needs following service. This is important to explore due to the implications for those working with Veterans and specific training needs to ensure the provision of the highest quality of treatment for soldiers.

Studies conducted on recent OEF/OIF Veterans find rates of PTSD as high as 18 % in those surveyed (Hoge et al., 2004; Hoge, Terhakopian, Castro, Messer, & Engel, 2007). Considering the high estimates of PTSD in returning Veterans and past research supporting a correlation with relationship distress, it is important to examine the issue in the current OEF/OIF Veteran population in order to inform further research on treatment strategies for supporting Veterans and their families with reintegration needs (Beckham, Lytle, & Feldman 1996; Riggs, Byrne, Weathers, & Litz, 1998). The importance of this research would be to document the relationship difficulties experienced by OEF/OIF Veterans after deployment. My focal research question is: What proportion of Veterans diagnosed with PTSD following the wars in Iraq and Afghanistan report a greater experience of interpersonal relationship distress compared to Veterans without PTSD?

CHAPTER II

Literature Review

Veterans and Relationship Distress

There is a wealth of studies and articles that address the interpersonal difficulties and other stressors experienced by Veterans that occur upon deployment and reintegration. The population my research will focus on are Veterans who served in the OEF/OIF wars. As of 2008 an estimated 1.64 million U.S. troops had deployed to OEF/OIF wars in Afghanistan and Iraq since October 2001(Tanielian, Jaycox, eds., 2008). With so many soldiers deploying to war zones, services need to be provided for the multiple unique stressors faced by recently returned Veterans.

Veterans of the OEF/OIF wars have experienced stressors including prolonged deployments, multiple deployments, separation from family and supports, combat trauma, traumatic brain injury, and physical injuries that without recent medical and technological advances would have killed them (Hoge, Goldberg, Castro, 2009; Stein, McAllister, 2009; Tanielian, Jaycox, eds., 2008). All these experiences can affect Veterans upon reintegration due to the resulting strained interpersonal relationships, financial strain, severe mental cognitive and emotional disturbances, impaired occupational functioning, PTSD, domestic violence, homelessness, substance dependence isolation, depression, anxiety, and more (Hoge et al., 2006; Kaplan, Huguet, McFarland, Newsom, 2007; Tanielian, Jaycox, eds., 2008; Zivin, 2007). As Veterans return, there needs to be a greater understanding of the intricate difficulties they face

and their struggles related to their experience in service and resulting physical and emotional wounds.

The Veteran and Partner/Caregiver Relationship

The literature includes research on the Vietnam War Veteran population and their partners. The studies document the level of relationship distress when Veterans return home and how PTSD symptomatology exacerbates the distress. Riggs, Byrne, Weathers, and Litz's (1998) study addressed the quality of the intimate relationships of male Vietnam Veterans with and without PTSD. The authors found that Veterans diagnosed with PTSD and their partners were 40 % more likely to report clinically significant levels of relationship distress than the Veterans without PTSD and their partners (Riggs et al., 1998). The results of the study indicate a strong correlation between PTSD severity and the severity of relationship distress. A correlation was also found in a study of National Guard soldiers deployed in OEF/OIF wars. As soldiers reported greater number of PTSD symptoms, they also reported more relationship distress (Khaylis, Polusny, Erbes, Gewirtz, & Rath, 2011).

In a similar study conducted by Carroll, Rueger, Foy, and Donahoe (1985) the researchers found that Veterans with PTSD had more difficulty with global relationship adjustment, and higher levels of hostility and physical aggression towards partners compared to other Veterans. Caselli and Motta (1995) conducted a study on Vietnam Veterans' perceptions of marital adjustment and found that variables of PTSD and combat level explained the majority of the difference in marital adjustment. When PTSD and level of combat were observed individually, marital adjustment was primarily predicted by PTSD. In this study Veterans with PTSD reported higher rates of unemployment, current substance use, and a history of psychological treatment compared to other Veterans.

Another element of relationship distress that has been studied in Vietnam Veterans with PTSD and their partners is caregiver burden and the resulting poor psychological adjustment. A 1996 study by Beckham, Lytle, and Feldman reported increased caregiver burden in the partners of Veterans with PTSD over an 8 month period. A significant finding in this study was the following:

> In the longitudinal analyses, change in caregiver burden was a significant predictor of change in partner psychological distress, dysphoria, and state anxiety. In addition, changes in patient PTSD severity were also predictive of changes in caregiver psychological distress and dysphoria. Partners whose caregiver burden increased over the time interval predicted increased psychological distress, dysphoria, and state anxiety. Increases in patient PTSD severity also predicted increased caregiver psychological distress and dysphoria. (p.1070)

This finding indicates cyclical effects of PTSD symptom severity and increased caregiver burden.

Calhoun, Beckham, and Bosworth surveyed female partners of Vietnam War Veterans in a 2002 study. Fifty-one of the 71 partners surveyed were in relationships with Veterans diagnosed with PTSD and 20 were in relationships with non-PTSD partners. The study found that partners of Veterans with PTSD experienced increased caregiver burden and had greater difficulties with psychological adjustment than partners of Veterans without PTSD The study also found that there was a positive relationship between the severity of the PTSD symptoms and caregiver burden.

Similarly, a study on psychological distress and caregiver burden in the partners of combat Veterans found that on average the 89 partners surveyed tested in the 90th percentile on a

scale used to evaluate psychological distress (Manguno-Mire et al., 2007). The study also looked at partner burden in relation to several independent variables including Veteran PTSD severity, partner treatment engagement, partner self-efficacy, perceived threat, and perceived barriers. The results showed a high correlation between Veteran PTSD severity, partner treatment engagement, and perceived threat with increased partner burden. The studies conducted by Beckham et al., Calhoun et al., and Manguno-Mire et al., are related to my research subject in that they found a positive correlation between the severity of PTSD and relationship difficulties. The results suggest a need for effective treatments that target the Veteran-partner dyad and other relationships that are important in supporting a Veteran through their individual treatment and reintegration into daily life. The aforementioned studies focus on primary partner relationships; the lack of research conducted on interpersonal relationships beyond primary partner and family relationships drives my study.

Veterans Relationships with Children and Families

Several studies have explored relationship distress in Veterans with PTSD in regard to children and family relationships. Jordan et al. (1992) conducted a study on family problems of male PTSD Vietnam Veterans that laid the foundation for studies previously discussed. The results showed significantly higher levels of problems in marital and family adjustment in relation to parenting skills, violent behavior, life satisfaction, and children behavioral problems in families of PTSD Veterans compared to families of Veterans without PTSD. The authors noted that PTSD symptomatology did not guarantee violence in the family and that half the respondents reported no violent acts in the year prior to the study. However, Byrne, and Riggs (1996) conducted a study that further explored the relationship between PTSD and aggressive behavior with partners. This study found that PTSD put Veterans at an increased risk for

engaging in relationship aggression. Gold et al. (2007) conducted an extension to the Jorden et al. (1992) study with similar findings about female Veterans of the Vietnam War. Results showed PTSD and family adjustment were positively correlated as well as PTSD in Veterans and child behavioral problems. Similarly, Gewirtz, Polunsy, Degarmo, Khaylis, and Erbes (2010) discussed their finding of a connection between increased levels of PTSD and self-reports of parenting and couple difficulties following deployment to Iraq. The authors explored the complications of reintegration into the family within the context of PTSD.

Ruscio, Weathers, King, and King (2002) analyzed groupings of PTSD symptomatology and looked at the correlation with perceived father-child relationship. Their findings suggested that PTSD symptoms related to emotional numbing had the highest correlation with relationship impairment in combat Veterans, the association remained strong after regression analysis. In a 2008 study on family adjustment in Desert Storm Veterans Taft, Schumm, Panuzio and Proctor found that higher combat exposure was associated with higher PTSD symptoms. Taft et al. also found that higher PTSD symptoms were correlated with poorer family adjustment.

Reintegration and Treatment

Research has been conducted on Veteran's experience with reintegration as well as their treatment interests to address the difficulties they face upon their return. Sayer et al. (2010) found that 30-39 % of Veterans struggled with divorce since homecoming and up to 47 % experienced some to extreme difficulty getting along with their partner in the 30 days prior to the survey. The study not only described the types of reintegration problems experienced by combat Veterans but it also identified interests in interventions or information to help with the adjustment. Of the Iraq-Afghanistan combat Veterans studied 96% expressed interest in services for community reintegration problems (Sayer et al., 2010, p.593). Results showed that Veterans

with PTSD reported more reintegration difficulties, as well as a greater interest in services. The study highlights the interpersonal and reintegration difficulties experienced by returning Veterans and the types of services they would like to receive.

Couples Treatment with Veterans Diagnosed with PTSD

Sherman, Zanotti, & Jones 2005 article explores the effects of PTSD and examines the importance of including partners in treatment. The article suggests that couples therapy can be useful along with other treatment when working with clients with PTSD. As noted in previously cited studies, increased stress can increase the PTSD symptoms thus continuing the distress of the family. The article suggests that social and familial support can help in PTSD treatment but is not possible when the Veteran is treated alone. Couples therapy can help improve the functioning and psychological functioning of the Veteran-partner dyad. It is suggested that couples counseling could help build support for the Veterans' individual treatment that is often difficult to engage in.

Sherman and colleagues outline the effects of various PTSD groupings of symptoms on the relationship and follows with treatment implications. These symptom groupings include re-experiencing, avoidance, and increased arousal. The treatment implications include different techniques to utilize in order to address the effects of PTSD symptoms. They include working with the partners to educate about the symptoms, to learn how to support each other, problem solve, and process and learn from experiences. The suggested treatment also includes a focus on strengthening emotional ties, building trust, intimacy and communication to combat the effects of the various symptom groupings. The study explores possible treatment modalities that address the larger systems affected by PTSD.

PTSD and Combat Experience

Previous researchers have studied combat experiences as a predicator for various mental health conditions. They consistently found that increased frequency and severity of combat experience was related to higher levels of PTSD and depression symptoms (Bryan, Cukrowicz, West, & Morrow, 2010; Hoge et al., 2004; Hoge, Auchterlonie, & Milliken, 2006). Other researchers found a relationship between PTSD and higher combat exposure or injury in samples of Veteran populations of the Iraq War, Gulf War, and Vietnam War (Hoge et al., 2004; Ikin et al., 2004; Kang, Natelson, Mahan, Lee, & Murphy, 2003; Kulka et al., 1990; Vasterling et al., 2010). Vasterling et al. found a positive correlation between PTSD symptom scores and the intensity of combat experiences in a sample of Army regular duty and active National Guard soldiers. The findings from these studies raise awareness of the impact of combat experience on PTSD symptomatology.

PTSD and Social Support

Research has been conducted on the importance of social support during deployments and upon return and reintegration. The data supports the importance of social support and indicate that inadequate social support is associated with combat-related PTSD (Boscarino, 1995; Irving, Telfer, & Blake, 1997). Laffaye, Cavella, Drescher, and Rosen (2008) collected data that supported the importance of social support from military peers, family, and friends. They also found that they symptoms of PTSD had a disintegrating effect on support from non-military friends. These findings support the data from previous studies that show a reciprocal effect with PTSD symptomatology and sources of support. Wilcox (2010) supports the findings from this study with data that indicates a relationship between PTSD symptomatology and support from family, significant others, and military peers. However, she found that there was not a

relationship between PTSD symptomatology and friends. Social support appears to have an effect on PTSD symptoms, and in return PTSD symptoms appear to have an effect on social support.

PTSD and Deployment Location

Research has been conducted on the relationship between various deployment locations and PTSD in Veterans. Findings from a 2009 study by Yu-Chu, Arkes, and Pilgrim showed that the probability of screening positively for PTSD increased more than 6 % if soldiers had been deployed to Iraq or Afghanistan, and this probability increased the longer the soldiers were deployed. In 2006 Hoge, Auchterlonie, and Milliken's analyzed the relationship between deployment location and mental health problems experienced by soldiers who were deployed during the OEF/OIF wars. The researchers found that soldiers reported the highest prevalence of mental health problems after returning from OIF locations including Iraq, Kuwait, and Qatar; soldiers returning from Afghanistan reported the second highest prevalence. Those returning from Bosnia and Kosovo had significantly lower prevalence of mental health problems. Lapierre, Schwegler,and LaBauve (2007) supported these findings reporting that a deployment location of Iraq indicated a slightly higher incidence of mental health issues over a deployment location of Afghanistan.

Summary

This study will explore the differences between Veterans who screen positive for PTSD and those who do not following the OEF/OIF wars and their experience of interpersonal relationship distress. Previous studies on this subject have focused on Vietnam era Veterans and their partners. A significant percentage of soldiers recently returned from the OEF/OIF display symptoms of PTSD, indicating the importance of continuing to research the impact of military

experience and PTSD on interpersonal relationships. In this research I document the connection between PTSD and Veteran's interpersonal relationship experience. I will also be looking at connections between Veteran's combat experiences, deployment location perceived social support post-deployment, and level of PTSD symptomatology.

Although similar research has been done on Veteran populations following other wars Veterans are returning from the OEF/OIF wars with higher incidence of PTSD than previously documented. The components of PTSD may be significantly affecting the way soldiers are able to reintegrate into civilian life and connect with support systems. As seen in the literature review, supports are very important for reintegration and treatment of Veterans with PTSD; however it appears that PTSD may be closely linked to difficulty in interpersonal relationships. This study will add to the existing research by either reaffirming the findings of previous studies or should results contradict previous studies it will lay the foundation for future research as to why that is.

CHAPTER III

Methodology

Introduction

The purpose of this study is to examine the relationship between PTSD and interpersonal difficulties of Veterans. There are a number of hypothesis that arise from the research question. Veterans with a PCL-M score of 50 or above will report higher levels of interpersonal distress, higher levels of combat experience, and lower levels of perceived social support than Veterans with a PCL-M score below 50. Another hypothesis is that scales testing Veteran's PTSD symptomatology, post-deployment social support, relationship distress, and combat experience will be correlated. The higher a respondent's scores on any one scale the higher they would score on any other scale. More specifically, a higher PTSD symptomatology score would indicate a higher Relationship distress due to the correlation of scales. Another hypothesis is that Veterans returning from deployment in Iraq or Afghanistan will report higher PTSD symptomatology than individuals in all other theaters.

Research Design

This study used secondary data analysis of data collected from a web-based survey of all Connecticut military personnel that had deployed under the auspices of OEF/OIF since 2003. For the purposes of this study, OEF/OIF Veterans include all individuals who were deployed overseas in support of OEF/OIF and subsequently left active-duty military service. This definition closely corresponds to the eligibility criteria for Veterans Health Administration

benefits. It excludes most current active-duty service members but does include members of the National Guard or reserves, as well as a small number of individuals who left, but later returned, to active-duty military service.

We received a list of all names and addresses of Connecticut residents from the Department of Veterans Affairs that had been deployed and subsequently enrolled in VA care. All Veterans included on the VA list were sent a letter of introduction and a link to the web-based survey from the Connecticut Commissioner of Veteran's Affairs. Due to a poor initial response rate from the first mailing, a follow-up letter and survey link was sent 6 months after the original letter. The first mailing included a unique identifying number that the Veterans were to use to log into the survey, but it was later determined that a formatting error on the electronic survey did not allow Veterans to enter the full identifier into the proper survey field and the identifier was thus dropped for the second mailing. As a result, the surveys were anonymous, and could not be linked to any identifying information from the participating Veterans.

Sample

The overall sampling frame for the study was 13,406 names received from the VA. Letters were mailed out to these 13,406 individuals, and approximately 5,000 letters were returned with bad addresses. The approximate response rate was 7.4 % resulting in a sample of 620 Veterans. The Institutional Review Board at Central Connecticut State University reviewed and approved this study. Smith College Human Subjects Review Committee approved the secondary research utilizing the data from this study.

Survey

The survey was a comprehensive needs assessment and included numerous questions related to mental and physical health treatment, location of care, military experience, school, family and interpersonal relationships, work, legal problems, financial problems, social support, and services needed. Veterans were asked to self-report diagnosis of or treatment for various mental health problems before or during and after military service. Multi-item scales were also built in to screen for depression, PTSD, social support, and suicidality. For the purpose of this study the scale for PTSD was used in categorizing Veterans with PTSD and those without as opposed to using the self-report concerning diagnosis or treatment.

Survey participants were asked to check as many deployment locations that applied to their war experience. The list of possible locations included Afghanistan, Africa, Bosnia, Iraq, and Kuwait. In order to test the PTSD symptomatology based on deployment location each location was to be compared to all others. The test compared the mean PTSD symptom score of all veterans who were in a given theater to anyone who was not in that theater. Veterans' mean level of PTSD symptomatology was represented for each individual theater they were in versus the mean score of Veterans in all other theaters. The mean PTSD scores were categorized as "if in this theater", and "if out of this theater." Separating the theaters in this manner allowed for analysis of trends in PTSD symptomatology in relation to individual deployment locations.

Scales Used for Analysis

PTSD checklist- military version: PCL-M.

The PCL-M is a 17-item self-report measure of the DSM-IV symptoms of PTSD in relation to military experience (Weathers, Huska, & Keane, 1991). The PCL-M scale was included in the mental health portion of the survey. It is made up of 17 questions concerning

PTSD symptoms and how much the individual is bothered by them on a 5 point Likert scale with 1 being not at all to 5 being extremely. This scale can be used to gauge PTSD symptom severity. The sum of the responses fall between 17 and 85, 17 indicating no experience of PTSD symptoms and 85 indicating severe experience of symptoms. The cutoff score of 50 is commonly used in research to classify Veterans with PTSD. Veterans with a score of 50 or greater will be classified as having PTSD. This categorization of PTSD was used throughout the paper to compare those with PTSD and those without.

Relationship distress scale: RDS.

I created the Relationship Distress Scale and it has not been tested for validity or reliability in any other studies. The RDS was created by summing the responses to 8 questions related to concern about interpersonal relationships and questions regarding interpersonal conflict. Veterans ranked their concern using a 4 point Likert Scale ranging from not a concern to major concern. The Veterans ranked their level of conflict on a 5 point Likert Scale from none of the time to all of the time. For the relationship distress scale Cronbach's Alpha is .84 indicating a sound level of reliability across the questions. Following initial analysis a question about living with parents was dropped, due to a low response rate, making the scale 7 items

Combat experience scale: CES.

The CES used in the survey was a 16 item self-report measure of a variety of combat experiences that a soldier may have had while deployed. The questions in this scale were derived from the 15-item combat experiences scale from the Deployment Risk and Resilience Inventory (King, King, Vogt, Knight, & Samper, 2006). Respondents ranked their experiences using a 5 point Likert Scale with 1 being strongly agree and 5 being strongly disagree. For

analysis purpose response values were inverted in order to have the highest scores indicate the highest combat experience and to align with other measures used.

Post-deployment social support scale: PSSS.

The Post-Deployment Social Support Scale is a 15 item self-report measure from the Deployment Risk and Resilience Inventory (King, King, Vogt, Knight, & Samper, 2006) used to assess the Veteran's perception of emotional and practical support from family, friends, coworkers, employers, and the community. Veterans ranked statements using a 5 point Likert Scale with 1 indicating strongly disagree and 5 indicating strongly agree. Response values were inverted where necessary to analyze data with the greatest scores indicating the lowest social support and the least scores indicating highest social support.

Data Collection and Analysis

Data were collected directly into SurveyMonkey, then downloaded as an SPSS file into SPSS for analysis. Continuous variables were analyzed using means and standard deviations, while categorical variables were analyzed with frequencies. Analyses of variance were used to compare the group that scored 50 or above on the PCL-M and those who scored 49 or below, and measures of relationship distress, post-deployment social support, and combat experience. In order to test the relationship between deployment locations and PTSD symptomatology we isolated each individual theater and compared the mean PCL-M scores of the Veterans to those of the Veterans in all other theaters. Categorical variables were analyzed using frequencies and continuous variables were assessed using means and standard deviations. T-tests were used to compare mean scores between groups.

CHAPTER IV

Findings

Demographics of Participants

Table 1 describes the sociodemographic characteristics of the survey participants. The majority of participants were white, male, married, and between the ages of 31 and 50, had a college degree, lived with a spouse or partner, and had household incomes exceeding $75,000 a year. Over 60 % of respondents had deployed 2 or more times.

Table 1

Sociodemographic Characteristics of Veterans (N=620)

	Percentage of respondents
Most Recent Branch	
Air Force	21 %
Army	34 %
Coast Guard	6 %
Marine Corps	12 %
Navy	28 %
Service Type	
On Active Duty	58 %
In the National Guard	22 %
In the Reserves	21 %
Number of Deployments	
1	38 %
2-4	44 %
5 or more	18 %
Age (Mean=40.4)	
18-30	24 %
31-50	53 %
50+	23 %
Race	
Caucasian	87 %

Race	
African American	5 %
Hispanic	7 %
Asian	2 %
American Indian or Alaska Native	2 %
Gender	
Female	10 %
Male	90 %
Education	
Less than or Equal to High School Diploma	12 %
Some College	24 %
College Graduate	64 %
Marital Status (Current)	
Single, Never married	20 %
Married	69 %
Divorced/Widowed	11 %
Household Income	
<=$25,000	14 %
$25,001-$75,000	34 %
>$75,000	52 %
Residence	
With Spouse or Partner	70.9 %
Alone	13.3 %
Parents	10.9 %
Friends	2.7 %

Table 2 depicts the current location in which Veteran respondents receive their medical and mental health care. Fifty-two percent of all respondents receive mental health care exclusively from VA providers, while nearly 42% receive mental health care from private providers, and nearly 6% receive mental health care from a military base.

Table 2

Where Veterans Receive their Medical and Mental Health Care

	VA	Military Base	Private Provider
Where Veterans Receive Mental Health Care	52.0 %	5.8 %	41.2 %
Where Veterans Receive Health Care	32.0 %	13.0 %	55.0 %

A portion of the survey was dedicated to Veteran's experience being diagnosed with or treated for various mental health conditions. Approximately 16% of respondents reported being diagnosed or treated for PTSD during or after military service. Other mental health conditions are outlined in Table 3.

Table 3

Mental Health Diagnoses or Treatment Before, During, and After Military Service.

	*Diagnosed or treated during or after military service (%)
Depression	20
PTSD	16
Anxiety	13
Panic	3
Bipolar	2
Schizophrenia	0.2

† Sorted by diagnosis percentage

The number of Veterans that met the cutoff score of 50 and above on the PCL-M differed from the number of Veterans that self-reported the diagnosis of or treatment for PTSD (*n*=86). Of the 530 respondents that completed the self-report PCL-M 10.9 % scored 50 or above, and for the purpose of this research will be classified as having PTSD (*n*=58) whereas the other 89.1% of respondents will be classified as not having PTSD (*n*=472).

Several questions addressed the level of concern experienced by Veterans regarding interpersonal relationships, while several others addressed the frequency of disagreements with friends and family. Table 4 and 5 detail overall responses to these questions. Of the Veterans that responded the highest percentages reported concern over civilian friends not being able to understand their experience, and relating better to Veterans than civilian friends. As for the questions regarding interpersonal conflict the highest percentage of Veterans endorsed having had serious disagreements with their family about things that were important to them a little to all of the time.

Table 4

Percentage of Veterans who Report Concern about Interpersonal Distress.

Question	Slight to major concern	Not a concern
My civilian friends just can't understand my experience.	50.6 %	49.4 %
I relate better to my fellow Veterans than my civilian friends.	43.1 %	56.9 %
My spouse or partner and I are having problems getting along.	41.2 %	58.8 %
I'm having a problem connecting emotionally with members of my family.	40.2 %	59.8 %
I'm having problems living with my parents.	20.1 %	79.9 %

Table 5

Percentage of Veterans who Report an Experience of Interpersonal Conflict.

Question	A little to all of the time	None of the time
Have you had serious disagreements with your family about things that were important to you?	46.3 %	53.7 %
Have you felt that others were trying to make changes in you that you did not want to make?	35.6 %	64.4 %
Have you had serious disagreements with your friends about things that were important to you?	32.4 %	67.6 %

Several scales were used in order to look for group differences between the Veterans with PTSD and those without. Statistics for these scales and means for the entire sample of Veterans that responded to each question in each scale are displayed in Table 6.

Table 6

Means and Range of Veteran Scores in the CES, PSSS, PCL-M, and RDS.

Scale	*Mean (SD)*	*Range (min-max)*
CES	35.77 (17.01)	64 (16-80)
PSSS	33.37 (11.18)	56 (15-71)
PCL-M	28.75 (14.43)	68 (17-85)
RDS	11.08 (4.02)	18 (7-25)

Pearson Correlation Coefficient was used to analyze the correlation between pairings of the relationship distress scale, combat experience scale, the PCL-M, and the post-deployment social support scale. All pairings were found to be significantly correlated (Table 7). The strongest correlation was found between the PCL-M and the Relationship Distress Scale (r =.68 $p < .001$).

Table 7

Results of Pearson Correlations for Scales.

	PSSS	RDS	CES	PCL-M
PSSS	1			
RDS	.395***	1		
CES	.178***	.301***	1	1
PCL-M	.356***	.675***	.424***	.424***

***p = < .001

The group that screened positive for PTSD had significantly higher means across the 8 questions addressing interpersonal relationship distress (Table 8). Highest means in both groups were for the statement "My civilian friends just can't understand my experience." In the PTSD positive group high means were found for "I'm having a problem connecting emotionally with members of my family," and "Have you felt that others were trying to make changes in you that you did not want to make?"

Table 8

A Comparison of Mean Scores for Individual Relationship Questions between Two Populations

Questions	PTSD (PCL-M ≥ 50) (*Mean n* = 52.38)	No PTSD (PCL-M < 50) (*Mean n = 424.25)*	*T*
	Mean (SD)	*Mean (SD)*	
My civilian friends just can't understand my experience.	3.05 (.99)	1.70 (.85)	11.13 ***
I'm having a problem connecting emotionally with members of my family.	2.79 (.95)	1.51 (.79)	11.48 ***
I relate better to my fellow Veterans than my civilian friends.	2.77 (1.02)	1.58 (.82)	10.07 ***
Have you felt that others were trying to make changes in you that you did not want to make?	2.73 (1.27)	1.52 (.90)	9.05 ***
My spouse or partner and I are having problems getting along.	2.48 (1.09)	1.61 (.91)	6.07 ***
Have you had serious disagreements with your family about things that were important to you?	2.47 (1.29)	1.66 (.9)	5.98 ***
Have you had serious disagreements with your friends about things that were important to you?	2.13 (1.1)	1.43 (.78)	5.98 ***
I'm having problems living with my parents. †	1.81 (1.12)	1.27 (.64)	4.03 ***

****p* = < .001

† lower *n* values due to nature of question. *n* = 32 for PTSD, *n* = 225 for No PTSD.

Table 9 displays higher mean scores across scales, including the relationship distress scale, for the group of Veterans with PTSD compared to those without.

Table 9

A Comparison of Mean Scale Scores: PTSD vs. No PTSD

Scale	PTSD (PCL-M ≥ 50) (*Mean n* = 57)	No PTSD (PCL-M <50) (*Mean n* = 418.33)	*T*
	Mean (SD)	*Mean (SD)*	
RDS	15.77 (4.40)	10.47 (3.53)	10.19 ***
CES	50.71 (18.04)	34.24 (16.03)	7.19 ***
PSSS	40.26 (9.07)	32.57 (11.20)	4.97 ***

***p = < .001

Table 10 displays the mean PTSD symptom severity scores for veterans according to deployment locations. Respondents were able to check as many deployment locations as applied and thus to analyze the data we isolated each location individually and compared it with all other locations concerning Veteran's levels of PTSD symptomology. Findings show that those whose deployments included Iraq endorsed significantly higher levels of PTSD symptomatology than those who had been deployed to Kuwait, Afghanistan, Africa, and Bosnia but not Iraq. Deployment to Afghanistan was not statistically significant when compared to all other theaters and thus did not support the earlier hypothesis.

Table 10

PCL-M Score Based on Presence in Isolated Theaters.

Theater †	*n*	If in theater PCL-M score *Mean (SD)*	If out of this theater PCL-M score *Mean (SD)*	*T*
Afghanistan	90	29.34 (13.86)	28.62 (14.56)	.43
Africa	30	32.97 (15.94)	28.49 (14.31)	1.65
Bosnia	37	28.37 (14.61)	28.77 (14.43)	.16
Iraq	244	31.60 (15.62)	26.31 (12.86)	4.27 ***
Kuwait	135	30.19 (14.97)	28.25 (14.23)	1.35

† Sorted by theater name

***p = < .001

The following table displays the difference in numbers of individuals that would be categorized as having PTSD or not having PTSD based on self-report of treatment or diagnosis, and by the PCL-M Cutoff score. It also shows the number of individuals who self-reported PTSD and did not meet the PCL-M requirement for PTSD, as well as those who denied PTSD but met the PCL-M requirement for PTSD.

Table 11

Cross Tabulation of Self-Reported PTSD and PCL-M Categorized PTSD

	PCL-M Cutoff Score < 50 (does not have high PTSD symptoms)	PCL-M Cutoff Score ≥ 50 (does have high PTSD symptoms)	TOTAL
Denies Diagnosis of PTSD by Clinician	415	22	437
Endorses Diagnosis of PTSD by Clinician	53	33	88
TOTAL	468	55	523

$\chi^2 = 84.86$, $p = < .001$

CHAPTER V

Discussion

Major findings included support for the connection between PTSD and higher levels of relationship distress, combat experience, and reportedly less social support in Veterans returning from the OEF/OIF wars. The strongest relationship of scales was found between the PCL-M and the RDS meaning as Veteran scores of PTSD symptomatology increase corresponding Veteran scores of relationship distress increase. These findings support the literature as far as the connections between PTSD and relationship distress, combat experience and social support (Beckham et al., 1996; Boscarino, 1995; Bryan et al., 2010; Hoge et al., 2004; Hoge et al, 2006; Irving et al.,1997; Khaylis et al., 2011; Riggs et al., 1998; Vasterling et al., 2010). Also there was a significant connection between higher levels of PTSD symptomatology and deployment to Iraq compared to all other theaters. Some studies had found deployment to Iraq or Afghanistan connected to higher levels of PTSD symptomatology compared to other locations (Hoge et al., 2006; Lapierre et al., 2007; Yu-Chu et al., 2009). The findings are consistent with previous literature and expose the complexity of PTSD in conjunction with relationships, social support, and combat experience. The data suggests that there would be more difficulty for Veterans with PTSD reintegrating and getting practical and social support compared to Veterans without PTSD due to the levels of interpersonal distress and PTSD symptomatology.

Across the 8 questions addressing interpersonal relationship distress the mean level of concern or frequency of conflict was higher for those with PTSD than those without. Veterans

with PTSD had significantly higher concern about having problems getting along with their spouse or partner than those without. Similarly, those with PTSD have greater concern about connecting emotionally with family members than those without. One cause of the difference in concern between groups could be the isolating effects of PTSD symptomatology. Individuals struggling with symptoms may push their supports away even though support is greatly needed for positive outcomes as discussed earlier in the literature review. The difference in mean scores between the PTSD and non-PTSD groups could be due to the specific symptomatology and the reciprocal effects of symptoms and caregiver burden.

When considering responses of the entire sample for the five questions about concern and interpersonal relationships, the highest percentages of Veterans reported concern in regard to disconnect from civilian friends and their understanding of the Veteran experience. There were differences in highest percentages when the responses were divided into those who screened positively for PTSD and those who did not. There is a major difference in levels of relationship distress between the two groups but within both groups the highest levels of concern was related to civilian friends.

Another interesting finding was the high frequency of feeling that others were trying to make changes in them that they did not want to make reported by the group with PTSD. Veterans with PTSD reported a higher frequency of conflict with those around them and appear to feel less aligned with what others wanted to change than Veterans without PTSD. Although the question did not specify who was trying to make changes it targets a lack of control or cohesion with some individuals in their lives.

Implications for Practice

There are many practice implications that arise from this research. In some settings Veterans may feel that they don't have any control or choices about their treatment, especially in regard to what insurance companies are willing to cover. The feeling of having a lack of control may be expanded for Veterans with PTSD due to the interpersonal complications, and symptomatology. Veterans can be given more of a sense of self-directed control by being involved in their treatment decisions. When working with Veterans with PTSD, it would be important to be able to offer a variety of services and treatment models that the individual could choose from, encouraging higher levels of personal investment in their own treatment.

The reported levels of concern from Veterans with PTSD indicate a need for improvement in working with the Veteran and their support systems in order to provide cohesion and a stable environment. Relationships are two sided and thus treatment should also focus on the people that the Veteran interacts with frequently and looks to for support. Providers should involve these support systems and provide psychoeducation for friends, family, and caregivers in order to help individuals understand the perspective of the Veteran with PTSD, their needs, and the effects of the symptoms. Support groups and other services should also be available to the friends, family members, and caregivers to help them cope with the symptoms changes in the Veteran with PTSD and in order to provide a sense of community. Findings from this study suggest that many Veterans are getting mental health services from private providers (42.1%) as well as the VA (52%), and thus practitioners in all settings should be trained to work with Veterans through their transition from deployment to reintegration and beyond. If the Veteran and their primary supports are provided with the highest quality of care specific to the nature of PTSD, then levels of relationship distress may decrease improving treatment outcomes.

Implications for Future Research

In multiple settings clinical treatment has moved away from focusing on one individual to focusing on systems and environmental factors. An area for future research would be the outcomes of treatment modalities that work with the Veteran, their family, support systems, and the larger communities. Research should focus on the layers of interpersonal relationships and the potentially positive effects of those relationships on the treatment of PTSD in Veterans. Future studies could analyze the effectiveness of treatments specific to the nature of PTSD that work with the Veteran and their primary supports on reduction of relationship distress. It is clear that social support, familial and partner relationships, as well as peer relationships are related to levels of PTSD symptomatology. The ways in which these relationships can help or hinder a Veteran in treatment for PTSD should continue to be studied.

Other implications for research arise from manner in which Veterans were categorized as having PTSD or not having PTSD leads. If individuals reported a having been diagnosed with or treated for PTSD during or after military service but did not score 50 or above on the PCL-M then they were not categorized as having PTSD even though a clinician may have verified their diagnosis. Also individuals who stated they have never been diagnosed or treated for PTSD but scored 50 or above on the PCL-M were included in the PTSD category, although a trained clinician may not have diagnosed them. Table 9 displays the results of a cross tabulation of self-reported diagnosis of or treatment for PTSD and PTSD indicated by the PCL-M cutoff score. There was a significant association between cutoff score and diagnosis. However, the cutoff score is a substantially better match for those whom did not endorse diagnosis whereas for the group that did endorse diagnosis or treatment for PTSD, many (61.6%) were left out of the group categorized as having PTSD when using the PCL-M cutoff. A reason so many Veterans who

self-reported diagnosis of or treatment for PTSD did not meet the PCL-M cutoff could be due to effective treatment and symptom reduction. One way to test this in the future would be to measure Veterans scores for PCL-M at diagnosis, and then follow up after some treatment so see how they would score on the scale and if they would meet criteria for PTSD based on the cutoff score.

There are other ways of looking exploring the survey data depending on what is used to categorize PTSD. Categorization could include everyone who endorses a diagnosis and everyone who meets the PCL-M cutoff, in this case that would be 108 individuals, or it could be based on the self-report of symptoms using the PCL-M cutoff, or it could be based on self-report of diagnosis of or treatment for PTSD. Future analysis might compare the differences in results between these methods of categorization, or determine which method is best. Self-report of symptoms, and self-report of diagnosis or treatment may be faulty, and clinical diagnosis may be hard to organize for a study. Future studies that utilize clinician interview and diagnosis, or the Structured Clinical Interview for DSM disorders (SCID) may provide more reliable diagnosis, and thus more reliable results.

Strengths

Strengths of this research include the utilization of a tested PTSD symptom scale (PCL-M) and the use of a tested cutoff score to categorize Veterans with and without PTSD. The use of the PCL-M in conjunction with Veterans' self-report of diagnosis or treatment for PTSD allowed a comparison of the methods of categorization and the implications for data analysis. Another strength is the large sample size that responded to the Survey. Veterans who responded were in multiple branches of the military and over half of the population reported as active duty.

The study included analysis of Veterans deployed to multiple theaters beyond Iraq and Afghanistan.

Limitations

There are limitations to the study including self-reported survey responses. PTSD was determined by a built in scale of self-report questions that were rooted in the DSM-IV diagnosis. The cutoff score of 50 was used to categorize those with and without PTSD but the diagnosis was not verified by clinician interview and thus is less valid than a clinical diagnosis. The use of self-selecting populations in research minimizes generalizability to the larger veteran population. The self-selecting population may have impacted the number of Veterans that screened for PTSD. Those struggling with a mental illness that impaired daily functioning may have been less inclined to take the time to fill out a survey, or may have been triggered by questions and not completed the survey. Another limitation was that the survey had minimal questions regarding interpersonal relationship distress and thus limited the relationship distress scale. If this research were to be recreated it would be useful to have a greater set of questions regarding familial, peer, and community relationships in order to provide in depth results.

Conclusion

Research that explores the impact of PTSD on Veterans and their experience is vital to the future of providing quality mental health services and treatment for Veteran's returning from deployment. PTSD does not only affect the individual struggling with the symptoms, but also the loved ones around them, and those providing support. In turn the way people relate to an individual with PTSD can also affect the symptom intensity and can complicate treatment. PTSD affects systems and thus future research should focus on systemic approaches to providing treatment for Veterans beyond the individual level. As individuals we do not exist in isolation

but in relationship to other human beings, and treatment should address the value of those relationships.

References

Beckham, J. C., Lytle, B. L., & Feldman, M. E. (1996). Caregiver burden in partners of Vietnam War Veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 64,* 1068-1072.

Boscarino, J. A. (1995). Post-traumatic stress and associated disorders among Vietnam Veterans: The significance of combat exposure and social support. *Journal of Traumatic Stress, 8*(2), 317-336. doi:10.1002/jts.2490080211

Bryan, C. J., Cukrowicz, K. C., West, C. L., & Morrow, C. E. (2010). Combat experience and the acquired capability for suicide. *Journal of Clinical Psychology, 66*(10), 1044-1056. doi: 10.1002/jclp.20703

Byrne, C. A., & Riggs, D. S. (1996). The cycle of trauma: Relationship aggression in male Vietnam Veterans with symptoms of posttraumatic stress disorder. *Violence and Victims, 11*, 213-225.

Calhoun, P.S., Beckham, J.C. & Bosworth, H.B. (2002). Caregiver burden and psychological distress in partners of Veterans with chronic posttraumatic stress disorder. *Journal of Traumatic Stress, 15(3),* 205-212.

Carroll, E. M., Rueger, D. B., Foy, D. W., & Donahoe, C. P. (1985). Vietnam combat Veterans with posttraumatic stress disorder: Analysis of marital and cohabitating adjustment. *Journal of Abnormal Psychology*, 94(3)

Caselli, L. T., & Motta, R. W. (1995). The effect of PTSD and combat level on Vietnam Veterans' perceptions of child behavior and marital adjustment. *Journal of Clinical Psychology*, 51(1).

Gewirtz, A. H., Polusny, M. A., DeGarmo, D. S., Khaylis, A., & Erbes, C. R. (2010). Posttraumatic stress symptoms among National Guard soldiers deployed to Iraq: associations with parenting behaviors and couple adjustment. *Journal of Consulting & Clinical Psychology*, *78*(5), 599-610. doi:10.1037/a0020571

Gold, J, Taft, C. Keehn, M., King, D., King, L., Samper, R. (2007) PTSD symptom severity and family adjustment among female Vietnam Veterans. *Military Psychology, 19*(2), 71–81

Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. *JAMA: Journal of The American Medical Association, 295*(9), 1023-1032. doi:10.1001/jama.295.9.1023

Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care**.** *New England Journal of Medicine, 351,* 13-22.

Hoge C.W., Goldberg H.M., Castro CA (2009): Care of war Veterans with mild traumatic brain injury: flawed perspectives. *New England Journal of Medicine*; 360:1588–1591

Hoge, C. W., Terhakopian, A., Castro, C. A., Messer, S. C., & Engel, C. C. (2007). Association of posttraumatic stress disorder with somatic symptoms, health care visits, and absenteeism among Iraq war Veterans**.** *American Journal of Psychiatry, 164,* 150-153. doi: 10.1176/appi.ajp.164.1.150

Ikin, J. F., Sim, M. R., Creamer, M. C., Forbes, A. B., McKenzie, D. P., Kelsall, H. L., & ... Schwarz, H. H. (2004). War-related psychological stressors and risk of psychological disorders in Australian Veterans of the 1991 Gulf War. *British Journal of Psychiatry, 185*(2), 116-126. doi:10.1192/bjp.185.2.116

Irving, L. M., Telfer, L., & Blake, D. D. (1997). Hope, coping, and social support in combat-related posttraumatic stress disorder. *Journal of Traumatic Stress, 10*(3), 465-479. doi:10.1023/A:1024897406135

Jordan, B. K., Marmar, C. B., Fairbank, J. A., Schlenger, W. E., Kulka, R. A., Hough, R. L. et al. (1992). Problems in families of male Vietnam Veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 60*, 916-926. doi: 10.1037/0022-006X.60.6.916

Kang, H., Natelson, B., Mahan, C., Lee, K., & Murphy, F. (2003). Post-traumatic stress disorder and chronic fatigue syndrome-like illness among Gulf War Veterans: a population-based survey of 30,000 Veterans. *American Journal of Epidemiology*, *157*(2), 141-148.

Kaplan, M. Huguet, N., McFarland, B., Newsom, J., (2007) Suicide among male Veterans: a prospective population-based study. *Journal of Epidemiology and Community Health.* 61:7 619-624.

Khaylis, A., Polusny, M., Erbes, C., Gewirtz, A., & Rath, M. (2011) Posttraumatic stress, family adjustment, and treatment preferences among National Guard soldiers deployed to OEF/OIF. *Military Medicine,* 176: 2, 126-131(6).

King, L., King, D., Vogt, D., Knight, J., & Samper, R. (2006). Deployment risk and resilience inventory: A collection of measures for studying deployment-related experiences of military personnel and veterans. *Military Psychology*, 18(2), 89-120.

Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R. et al. (1990). *Trauma and the Vietnam War generation*: *Report of findings from the National Vietnam Veterans Readjustment Study.* New York: Brunner/Mazel.

Laffaye, C., Cavella, S., Drescher, K., & Rosen, C. (2008). Relationships among PTSD symptoms, social support, and support source in Veterans with chronic PTSD. *Journal of Traumatic Stress, 21*(4), 394-401. doi:10.1002/jts.20348

Lapierre, C. B., Schwegler, A. F., & LaBauve, B. J. (2007). Posttraumatic stress and depression symptoms in soldiers returning from combat operations in Iraq and Afghanistan. *Journal of Traumatic Stress, 20*(6), 933-943. doi:10.1002/jts.20278

Manguno-Mire G, Sautter F, Lyons JA, Myers L, Perry D, Sherman M et al. (2007) Psychological distress and burden among female partners of combat Veterans with PTSD. *Journal of Nervous & Mental Disease*, 195, 144–151. doi: 10.1097/01.nmd.0000254755.53549.69

Meis, L.A., Barry, R.A., Kehle, S.M., Erbes, C.R. & Polusny, M.A. (2010). Relationship adjustment, PTSD symptoms, and treatment utilization among coupled National Guard soldiers deployed to Iraq. *Journal of Family Psychology*, *24* , 560 – 567. doi: 10.1037/a0012576

Riggs, D., Byrne, C. A., Weathers, F. W., & Litz, B. T. (1998). The quality of intimate relationships in male Vietnam Veterans: The impact of posttraumatic stress disorder. *Journal of Traumatic Stress, 11,* 87–102.

Ruscio, A. M., Weathers, F. W., King, L. A., & King, D. W. (2002). Male war-zone Veterans' perceived relationships with their children: The importance of emotional numbing. *Journal of Traumatic Stress, 15,* 351-357.

Sayer, N. A., Noorbaloochi, S., Frazier, P., Carlson, K., Gravely, A., & Murdoch, M. (2010). Reintegration problems and treatment interests among Iraq and Afghanistan combat Veterans receiving VA medical care. *Psychiatric Services, 61*(6), 589-597. doi: 10.1176/appi.ps.61.6.589

Silverstein, R. F. (1996). Combat-related trauma as measured by ego developmental indices of defenses and identity achievement. *Journal of Genetic Psychology, 157*, 169-179.

Sherman, M. D., Zanotti, D. K., & Jones, D. E. (2005). Key elements in couple's therapy with Veterans with combat-related posttraumatic stress disorder. *Professional Psychology: Research and Practice*, 36(6), 626−633. doi: 10.1037/0735-7028.36.6.626

Stein, M.B., McAllister, T.W., (2009) Exploring the convergence of posttraumatic stress disorder and mild traumatic brain injury. *American Journal of Psychiatry*, 7:166: 768 - 776. doi:10.1176/appi.ajp.2009.08101604

Taft, C. T., Panuzio, J., Schumm, J. A., & Proctor, S. P. (2008). An examination of family adjustment among Operation Desert Storm Veterans. *Journal of Consulting & Clinical Psychology*, 76(4). doi: 10.1037/a0012576

Tanielian T, Jaycox, L., eds. (2008) Invisible wounds of war: psychological and cognitive injuries, their consequences, and services to assist recovery. Santa Monica, CA: RAND.

Vasterling, J. J., Proctor, S. P., Friedman, M. J., Hoge, C. W., Heeren, T., King, L. A., & King, D. W. (2010). PTSD symptom increases in Iraq-deployed soldiers: Comparison with non-deployed soldiers and associations with baseline symptoms, deployment experiences, and post-deployment stress. *Journal of Traumatic Stress, 23*(1), 41-51. doi:10.1002/jts.20487

Yu-Chu, S., Arkes, J., & Pilgrim, J. (2009). The Effects of Deployment Intensity on Post-Traumatic Stress Disorder: 2002-2006. *Military Medicine, 174*(3), 217-223.

Waysman, M., Mikulincer, M., Solomon, Z., & Weisenberg, M. (1993). Secondary traumatization among wives of posttraumatic combat Veterans: A family typology. *Journal of Family Psychology, 7*, 104-118.

Weathers, F. W., Huska, J., & Keane, T. (1991). The PTSD checklist–military version (PCL-M). Boston: National Center for Posttraumatic Stress Disorder.

Wilcox, S. (2010). Social relationships and PTSD symptomatology in combat Veterans. *Psychological Trauma: Theory, Research, Practice, and Policy*, 2(3), 175-182. doi: 10.1037/a0019062

Zivin, K., Kim, H., McCarthy, J. F., Austin, K. L., Hoggatt, K. J., Walters, H., & Valenstein, M. (2007). Suicide mortality among individuals receiving treatment for depression in the Veteran's affairs health system: Associations with patient and treatment setting characteristics. *American Journal of Public Health*, 97(12), 2193-2198.

APPENDIX A

Research Approval

HUMAN STUDIES COUNCIL
CCSU
Central Connecticut State University

CCSU Federalwide Assurance #: FWA00005627
CCSU IRB registration #: IRB00003671

Marc Goldstein, Ph.D.
Department of Psychology
Central Connecticut State University
New Britain, CT 06050

June 15, 2009

Dear Dr. Goldstein:

This is to inform you that your HSC proposal #Su09004 entitled "10K Veterans Survey" has been approved by the Human Studies Council at Central Connecticut State University.

This approval is subject to continuing review or renewal on or before June 15, 2010. Please note that any changes to the study must be promptly reported and approved. Contact either Dr. Bradley Waite (**Waite@ccsu.edu** 832-3115) or Mimi Kaplan (**Kaplan@ccsu.edu** 832-2366) if you have any questions or require further information.

Best of luck with the research!

Sincerely,

Bradley M. Waite, Ph.D.
HSC Chair

CC: HSC file

1615 Stanley Street — P.O. Box 4010 — New Britain, CT 06050-4010 — T: 860-832-2366 — F: 860-832-2352 — www.ccsu.edu

APPENDIX B
Human Subjects Committee Approval Letter

SMITH COLLEGE

School for Social Work
Smith College
Northampton, Massachusetts 01063
T (413) 585-7950 F (413) 585-7994

February 14, 2012

Jeanne-marie Mailloux

Dear Jeanne-marie,

Thank you for your revisions. You are all set to go and your study approved! Nice job.

Please note the following requirements:

Consent Forms: All subjects should be given a copy of the consent form.

Maintaining Data: You must retain all data and other documents for at least three (3) years past completion of the research activity.

In addition, these requirements may also be applicable:

Amendments: If you wish to change any aspect of the study (such as design, procedures, consent forms or subject population), please submit these changes to the Committee.

Renewal: You are required to apply for renewal of approval every year for as long as the study is active.

Completion: You are required to notify the Chair of the Human Subjects Review Committee when your study is completed (data collection finished). This requirement is met by completion of the thesis project during the Third Summer.

Good luck with your research.

Sincerely,

David L. Burton, M.S.W., Ph.D.
Chair, Human Subjects Review Committee