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## The Effects of Social Support and Working Alliance on Latino-American Male Combat Veterans

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THE EFFECTS OF SOCIAL SUPPORT  
AND WORKING ALLIANCE  
ON LATINO-AMERICAN MALE COMBAT VETERANS

by

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A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
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## **ABSTRACT**

The negative effects of traumatic combat experiences on combatants' psychological functioning is well documented in the literature. The Global War on Terrorism (GWOT) has resulted in many veterans returning from deployments with mental health conditions related to trauma exposure, such as posttraumatic stress disorder, depression, general anxiety, and suicidality. Past researchers found significant ethnic differences in psychological functioning, with Latino-American veterans reporting more symptoms of PTSD. Furthermore, Latino-American cultural values place importance on collective orientation and secrecy of mental health concerns which may affect treatment. Thus, this study built on limited research about Latino-American male combat veterans by focusing on the effects of social support and working therapeutic alliance during mental health treatment. Using a cross-sectional design, a sample of 42 GWOT Latino-American Veterans undergoing mental health treatment at a VA Medical Center in the Southeastern U.S. was recruited and surveyed. Participants completed a set of nine questionnaires (Beck Scale for Suicidal Ideation, PTSD Checklist – Military Version, Beck Depression Inventory – 2nd Edition, Beck Anxiety Inventory, Postdeployment Social Support Scale, Combat Exposure Scale, Working Alliance Inventory – Short Form, Network Orientation Scale, and Multidimensional Scale of Perceived Social Support). Descriptive and bivariate statistics were calculated, and regression models were tested. The results indicate that social support improved overall PTSD and intrusive symptoms, separately, but working therapeutic alliance had a marginal effect on avoidance symptoms. Working alliance was found to exert a negative effect on depressive symptoms. The study did not yield evidence to support significant effects of social support or working alliance on suicidality and generalized anxiety. These results

have implications for mental health service systems and for future research. Therapists serving veterans with PTSD should work with the patient/client to increase perceived social support. When serving veterans with depressive symptoms, therapists should place special effort on developing a strong working alliance.

To all the men and women  
who fought in the Global War on Terrorism  
and have suffered mental health consequences as a result.

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## **LIST OF ABBREVIATIONS**

ASD	Acute Stress Disorder
BDI-II	Beck Depression Inventory, 2 <sup>nd</sup> Edition
BAI	Beck Anxiety Inventory
BSSI	Beck Scale of Suicidal Ideation
CES	Combat Exposure Scale
CPT	Cognitive Processing Therapy
DSM-IV-TR	Diagnostic and Statistics Manual of Mental Disorders, 4 <sup>th</sup> Edition, Text Revision
DSM5	Diagnostic and Statistics Manual of Mental Disorders, 5 <sup>th</sup> Edition
GAS	General adaptation syndrome
GWOT	Global War on Terrorism
HIPAA	Health Insurance Portability and Accountability Act of 1996
HPA	Hypothalamic pituitary axis
IRB	Institutional Review Board
LACV	Latino-American Combat Veteran
MSPSS	Multidimensional Scale of Perceived Social Support
NOS	Network Orientation Scale
OEF	Operation Enduring Freedom/Operations in Afghanistan
OIF	Operation Iraqi Freedom
OND	Operation New Dawn/Operations in Iraq from 2010 – 2011
PCL-M	PTSD Checklist – Military Version
PE	Prolonged Exposure Therapy
PSSS	Postdeployment Social Support Scale
PTSD	Posttraumatic Stress Disorder
SNS	Sympathetic nervous system
SPSS	A statistics software application produced by IBM (International Business Machines Corporation)
UCF	The University of Central Florida

VA	Veterans Administration/Veterans Affairs
VAMC	Veterans Affairs Medical Center/Veterans Affairs Hospital
VHA	Veterans Health Administration
WAI-SF	Working Alliance Inventory – Short Form
WHO	World Health Organization
VINCI	VA Informatics and Computing Infrastructure

## **CHAPTER 1 INTRODUCTION**

### Statement of Problem

Veterans have returned from Operations Enduring Freedom (OEF), Iraqi Freedom (OIF) and New Dawn (OND) with considerable rates of trauma related mental health issues. Ramchand et al. (2010) suggest that among veterans returning from OEF, between 5% and 20% of veterans not seeking treatment and as high as 50% of veterans seeking treatment qualify for posttraumatic stress disorder diagnosis. A meta-analysis found that between 1.4% and 31% of returning OIF veterans meet criteria for PTSD (Sundin, Fear, Iversen, Rona, & Weasly, 2010). In another study (Miliken, Auchterlonie, & Hoge, 2007) that used a sample of 88,235 soldiers returning from a deployment to Iraq, 20.3% of active and 42.4% of reserve components were flagged for treatment by mental health clinicians. In a study of 103,788 OEF/OIF veterans throughout VA healthcare facilities, researchers found that 31% of the sample received a mental health or psychosocial diagnosis (Seal, Bertenthal, Miner, Sen, & Marmar, 2007). Additionally, Seal et al. (2009) found that PTSD and other psychopathology rates within the Department of VA increased from 2002-2008. Trauma can result in psychopathology. More specifically, it can result in major depressive disorder, acute stress and posttraumatic stress disorder, generalized anxiety disorder, and can also result in suicide (Grant, Beck, Marques, Palyo, & Clapp, 2008; Hoge et al., 2004; Jakupack et al., 2009; Ramchand, Acosta, Burns, Jaycox, & Pernin, 2011; Subica, Claypoole, & Wylie, 2012).

Researchers have shown that Latino-American combat veterans (LACV) tend to have higher rates of PTSD than their counterparts (Ortega & Rosenheck, 2000). In a seminal study,



Kulka et al. (1990) reported that Blacks and Hispanics (27.8%) tended to report more PTSD symptoms than their White/others (13.7%) counterparts. However, after controlling for pre-combat factors, only Hispanics maintained a significantly higher level of PTSD while Blacks did not. This was an interesting finding because Blacks and Hispanics endured similar levels of combat experiences. If combat trauma exposure is held the same for both groups, Hispanics will express higher rates of PTSD. Discussion of these findings is presented further in the Somatization of PTSD section of this report. In a more recent study that focused on the general Latino population within the U.S., it was found that 28.1% of male Latinos had a lifetime prevalence of psychiatric disorder (Alegría et al., 2007). The Veterans Health Administration has kept track of the amount of OEF and OIF in respect to personal identity (VISN Service Support Network, 2012). Of 1,514,920 OEF and OIF veterans, 147,543 (9.74%) reported Hispanic identity. Therefore, the effects of trauma among Latino veterans can prove to be a considerable issue.

The purpose of this study was to gain knowledge on the psychological function among male Latino-American combat veterans (LACV). Additionally, the researcher aimed to analyze how social support and therapeutic working alliance influenced psychological functioning among the stated population. Relevant academic literature on trauma and combat trauma, Latino-America culture, social support, and therapeutic working alliance were reviewed. Based on the literature review, a gap in knowledge was highlighted.

### Research Questions

Due to the nature of the study, this investigation was designed to answer the following five research questions:

1. Does social support exert a direct effect on psychological functioning among male Latino-American combat veterans?
2. Does therapeutic working alliance exert a direct influence on psychological functioning among male Latino-American combat veterans?
3. Does the interaction between social support and combat exposure exert an interaction effect on psychological functioning among male Latino-American combat veterans?
4. Does social support exert a direct effect on therapeutic working alliance?
5. Do cultural competence, ethnicity, gender, and military experience directly influence the level of working therapeutic alliance developed when treating trauma among male Latino-American combat veterans?

### Hypotheses

1. Social support will have a significant direct effect on psychological functioning.
2. Working alliance will have a moderate statistically significant influence on the psychosocial functioning of LACVs in treatment.
3. Social support and combat exposure will exert an interaction effect on psychological functioning.
4. Social support will have a direct effect on therapeutic working alliance.

5. Cultural competence, ethnicity, gender, and military experience will directly influence the level of therapeutic working alliance developed.

### Trauma

#### Experiences

An individual must have undergone a dangerous, lethal, or horrifying experience in order to manifest a trauma-related issue. However, possible traumatizing events are not alike. Therefore, in order to better understand the myriad of possibilities, Wilson (1989) provided 11 dimensions of traumatic experiences that can help describe them:

- 1) degree of life threat; 2) degree of bereavement or loss of significant others; 3) imminence or the rate of onset and offset of the stressors; 4) the duration and severity of the stressors, 5) the level of displacement and dislodging of persons from their community; 6) the exposure to death, dying, injury, destruction, and chaos; 7) the degree of moral conflict inherent in the situation, 8) the role of the trauma (agent versus victim); 9) the location of the trauma (home versus elsewhere); 10) the complexity of the stressor (single versus multiple); and, 11) the impact of trauma in the community. (pp. 8-9)

Experiences of higher magnitudes tend to have higher chances of resulting in pathology (Wilson, 1989).

Traumatic experiences witnessed by a group tend to result in different outcomes than traumatic experiences witnessed by an individual. There are forces within a group such as contagion: a pressure to maintain norms that affects consequences. For example, an individual experiencing a possibly traumatizing event may not be as affected by the event if he or she were

to experience the event with others who react with less magnitude. Social bonds between community members may weaken because of a collective traumatic experience. Erikson (1976) illustrated that a community's social support systems (termed loss of communality) were broken in the wake of The Buffalo Creek Flood disaster and inhibited the posttraumatic recovery of the community. A loss of communality is characterized by disorientation, lack of connection with others, and demoralization (Erikson, 1976). Survivors of the Buffalo Creek Flood claimed that they could not care for others after the disaster. Van der Kolk (2003) stressed that even Vietnam veterans, due to combat events and individual discharges, demonstrated a loss of communality.

The structure of a traumatic experience can be simple or complex. On one end of the continuum, simple traumas are those that occur once and are clear in nature. Clarity in this sense refers to how easily one could decide how to behave. A clear traumatic experience could be one in which the obvious response would be to call for emergency services. Complex traumas involve several experiences and provide more opportunities for moral dilemmas. A service member deployed to a combat area may experience several possibly lethal events per day for months. Those events could involve difficult dilemmas such as risking one's life to save another or ensuring personal safety. In fact, Benetato (2011) found that veterans who suffered life threatening war injuries had considerably altered or shattered worldviews.

#### After the Trauma

Wilson (1989) provided four post-event recovery environment parameters that seem to affect pathology. Trauma membrane, which includes economic, personal, and social support, is considered a protective barrier (Lindey, 1988). The more support individuals have after a

traumatic event, the better they tend to fair. The second parameter, ritualistic cultural processes, affects the recovery environment. An example would be a military funeral for a service member killed in battle. The third parameter, the societal views of an event, also plays an influential role. Figley and Leventman (1980) stated that the public's rejection of the Vietnam War contributed to the readjustment problems that troops endured after returning from deployment. The fourth parameter, an availability of opportunity structures that allow people who have endured trauma to support and take control of their lives (e.g. residential, employment/career, and educational opportunities), can affect the recovery/growth of a trauma survivor. Those with more opportunities that are beneficial tend to readjust better than others do.

### Subjective Response to the Trauma

#### Emotional

Wilson (1989) provided five dimensions to assess an individual's response to trauma: “1) emotional, 2) cognitive, 3) motivational, 4) neurophysiological, and 5) coping resources” (p. 12). Regarding emotions, Wilson (1989) stated that there are four possible reactions: affective distress, affective numbing, psychic numbing, and affect balance. Affective distress refers to an individual’s intense emotions such as fear and anxiety which may be overwhelming. This may inhibit rational thinking, and hamper the ability to appropriately problem solve. At the other extreme, a person can respond with affective numbing. This is when the individual loses the ability to feel emotions. Psychic numbing is a sort of derealization process which includes the individual expressing inhibited movement and demonstrating an inability to receive affection. It can help protect the individual from further stress. Indeed, Wilson stated that individuals tend to

react with affective distress when psychic numbing is reduced or removed. Affect balance is the healthiest of the emotional responses. The individual is capable of addressing the experience without emotions inhibiting rationality in order to best react to the event. Solomon, Mikulincer, and Benbenishty (1989) found that psychic numbing was a common reaction to combat stress among soldiers.

### Cognitive

Wilson (1989) posited that the cognitive reactions to a traumatic event help an individual understand the event. He provided five manners used by individuals to process an event: (a) cognitive denial or avoidance, (b) cognitive distortion, (c) accurate appraisal, (d) dissociation, and (e) intrusion. With cognitive denial or avoidance, individuals negate the information they receive from their environment to maintain cognitive equilibrium. They fail to admit what is truly occurring. In the long-term, individuals avoid cues that remind them of the event or they create a fantasy to replace the actual event. Cognitive distortion is a process in which individuals change their perception of reality to a more bearable one. It results in a quick appraisal of the situation in order to react. Although a healthier response than denial, distortion does not allow for a thorough appraisal in order to best react; it is only a short appraisal with limited information. Accurate appraisal involves the use of a satisfactory assessment of the situation to conduct an appropriate response. This includes becoming aware of others involved, relevant causes, and commencing a response. However, this also has maladaptive consequences. Renaud (2008) found that veterans who used cognitive distortions for coping, specifically viewing the world as a dangerous place, were more likely to avoid attaching to others.

In the long run, dissociation and intrusion become pronounced (Wilson, 1989). With dissociation, people alter their identities or consciousness (American Psychiatric Association, 2013). When it occurs in the moment of the event, it is considered a method of coping with extreme stress. If episodes continue to occur after the events have passed, this reaction can be viewed as pathological, especially if used as a coping process for less threatening situations. Over reliance can result in medical, social, and occupational damage. This process is applicable to combat veterans (Bremner et al., 1992). Intrusion can also be harmful. This involves unwanted memories, visual images, and over-reaction to cues that may have been present during the traumatic event. Solomon and Mikulincer (2007) found in their 20-year longitudinal study that combat veterans reported higher levels of intrusion than their non-combat counterparts. Furthermore, intrusion was significantly associated with social malfunctioning throughout the 20-year period.

### Motivation

A traumatic event has the potential to affect current motivations (Wilson, 1989). For example, instead of being somewhat concerned with safety at the house by using standard security equipment (e.g. locked doors, house alarm system, etc.), persons who have endured a possibly lethal event in a residence may increase their motivation to ensure safety above all else. They might install a barbed-wire fence around the residence, obtain two trained German Shepherds, acquire firearms, or take martial arts training. A traumatic event could potentially create new motivations as well. A person who has not been motivated to assist in a neighborhood crime watch may begin to help because of the loss of a close neighbor. Wilson stated that

motivational changes seem associated with change in the cognitive structure of a person's belief system. Regarding combat veterans with PTSD, motivation becomes an important factor in treatment engagement (Murphy, Thompson, Murray, Rainey, & Uddo, 2009).

### Coping

Kahana, Harel, Kahana, & Rosner (1988) place coping skills into four categories: “instrumental, 2) expressive, 3) cognitive restructuring, and 4) resilient” (p. 16). These strategies are used when facing stress, and an individual may use any of them depending on the stressor. Instrumental coping skills are goal-oriented and are used to address the demands of the stressor. Expressive coping refers to skills used to reduce the perceived distress. These skills include dissociation and denial. The aim is to limit the amount of information attained or distort perceptions to reduce anxiety. In the long term, these skills may result in helplessness and hopelessness. Furthermore, this may lead to protective processes such as cognitive denial and psychic numbing.

Cognitive restructuring is a process in which an individual changes the meaning of the event, categorized as positive and negative restructuring. Positive restructuring involves the seeking out of new information. When using negative restructuring, a person avoids receiving new information and distorts the information previously received in order to lower stress.

Resilient coping occurs when a person is capable of adaptively addressing a situation without damaging psychic equilibrium. In contrast to cognitive restructuring, perceptions are congruent with reality, allowing an individual to make informed decisions. People who use this



coping mechanism tend to have an internal locus of control, the capacity to meet demands, and strong goal commitment.

### Neurophysiology

From a biological approach, the manner in which one responds to stress has developed as the most adaptive response through natural selection. When individuals react to stress, most people become more vigilant and can better focus attention. In regard to perception and making sense of stressful events, combatants and thrill-seekers have reported that they enjoyed their respectively stressful experiences (McCormick, 2001; Terkel, 1984).

Responses to stress happen in a predictable fashion commonly known as the general adaptation syndrome [GAS] (Selye, 1936). One major part of GAS is the fight-or-flight response of the sympathetic nervous system (SNS). The SNS increases glucose availability, cardiac and respiratory rates, sweating, and diverts blood flow from less immediately necessary processes such as digestion and reproduction. Essentially, there are two components to the process: increasing and decreasing. Norepinephrine neurons are responsible for the increase; the potent hormone epinephrine is responsible for the decrease. Both of these subsystems play a central role in the flight-or-fight response.

The hypothalamic-pituitary-adrenal (HPA) axis also mediates stress response. This system addresses a perceived stressor by activating a long link of chemical secretions that end in cortisol. Cortisol is also instrumental in activating the flight-or-flight response. However, cortisol can damage the hippocampus, among other neurological systems, over time. Therefore, the HPA axis' role is essential in the magnitude and duration of the fight-or-flight response.

Hypothalamic-pituitary-adrenal axis changes have been observed among Vietnam, Persian Gulf War, and OEF/OIF veterans diagnosed with PTSD (Golier, Caramanica, & Yehuda, 2012).

### Combat Related Trauma

Combat provides unique stressors different from other traumatizing events that occur elsewhere. The Department of the Army (2009) has defined combat stress as incidences that can significantly affect those that bear them. Examples provided are “personal injury, killing of combatants, witnessing the death of an individual, death of another unit member, and injury resulting in the loss of a limb” (Department of the Army, 2009, pp. 1-2). In addition, the consequences of stress are related to how the person perceives those experiences. The Marine Corps (2010) has defined combat stress as “changes in physical or mental functioning resulting from the experience of lethal force or its aftermath” (pp. 1-3). Thus, combat stress has not been defined as the addition of challenges that are present in combat environments but as the consequences that result from such stressors. Furthermore, the Marine Corps (2010) has continued its definition to include that said reactions could be adaptive or harmful. Thus, to understand how to help combat veterans with mental injuries, one must first understand the experiences and resulting consequences, including how veterans understand the stressors and mental and behavioral consequences.

Nash (2007) categorized combat stressors into four groups: (a) combat stress seen as a weapon, (b) combat stress seen as an obstacle or banished from awareness, (c) combat stress seen as a challenge to leadership, and (d) combat stress seen as a test of personal competence. As Table 1 contains Nash’s (2007) specific list of combat stressors typically overlooked by

researchers. This is due to the use of the Combat Exposure Scale (Keane et al., 1989) which has less breadth. Categories Nash included are physical, cognitive, emotional, social, and spiritual stressors.

Table 1

*Nash's (2007) Combat Stressors*

Physical	Cognitive	Emotional	Social	Spiritual
Heat and cold	Lack of or too much information	Loss of friends to death or injury	Isolation from social support	Lack of faith in God
Dehydration and wetness	Ambiguous or changing mission or role	Fear	Lack of privacy/ personal space	Inability to forgive or feel forgiven
Dirt and mud	Ambiguous or changing rules of engagement	Shame and guilt	The media and public opinion	
Sleep deprivation	Loyalty conflicts	Helplessness		
Noise blasts	Boredom and monotony	The honor of carnage		
Fumes and smells	Experiences that don't make sense	Killing		
Bright light or darkness				
Malnutrition				
Illness or injury				

As Psychological Warfare

Psychological warfare is a military technique used to weaken an enemy (Nash, 2007).

Psychological operations (PSYOPS) are units whose primary purpose is to create disruptions in

the cognitions of the enemy in order to reduce their military capacity. For example, psychological warfare troops may distribute messages to the enemy that reduce its will to fight. Although the direction of the attack may be from friendly forces toward the enemy, it has an effect on the troops (Nash, 2007). This is a central idea, because it illustrates that the military understands that stress in war is inevitable and that it can immobilize troops. On the other hand, the troops must be able to detach themselves from the enemy in order to fight them, and this can void the prior proposed effect of understanding war as stress.

#### As Friction to be Overcome

Mental health outcomes resulting from combat experiences may be beneficial or disadvantageous (Nash, 2007). For example, Marines may learn that they are capable of functioning under immense stress and still accomplish their mission. Conversely, harmful symptoms may also arise such as hypervigilance, sleep disturbances, and unwanted and distracting recollections (Hoge et al., 2004). Due to the nature of combat, these consequences may be unavoidable because a combatant may not have the appropriate avenues to resolve psychological injuries. Imagine machine gunners and their assistants. The enemy shoots one of them and ends a life. The other must continue the fight. There is no time for addressing how one feels about this incident, let alone grieve. Troops in combat must learn to deny debilitating emotions to survive and accomplish the mission. To attempt to address these emotions would be to admit they exist, resulting in the individual learning to cope by avoiding emotions.

### As a Leadership Test

Newman and Newman (2012) elaborated on a definition provided by Woyach (1991) for leadership. They stated that leadership can be regarded as being composed of three main concepts. First, leadership is not a position, title, or person; leadership is a role between individuals. Secondly, leaders provide the group with goals and how to attain them. Thirdly, leaders provide their respective groups motivation to achieve a mission.

Leaders see combat stress as an issue not appropriate for medical and spiritual service members such as corpsmen and chaplains, respectively, but as falling under their area of responsibility (Nash, 2007). Although some may perceive this as controlling or even narcissistic, commanders bear this responsibility due to the organizational structure of the military; it is the full responsibility that units be ready to accomplish their missions. Thus, the well-being of one's unit is essential, including mental condition, in order to meet any demands set forth. Also, leaders have control over and the responsibility to allocate resources necessary to accomplish the mission. Hence, combat stress from a leader's perspective takes a role different from others'. Leaders are placed in charge of two major elements: mission accomplishment and troop welfare. Combat stress to a leader is not solely a result of the direct experiences in combat, but also from the outcomes of operations: the death of individuals and if applicable, the failure of a mission.

### As a Test of Personal Competence

The fourth category of combat stress involves troops testing their capabilities as Soldiers, Sailors, Airmen, and Marines (Nash, 2007). This and self-concept are linked. For many service members, the more combat-related experiences undergone, the more they perceive their

worthiness. Hence, many troops search for and welcome combat experiences, even if unconsciously. This bears an antagonistic relationship. Service members want to prove their worth as their respective military identities (Airmen, Sailor, Soldier, or Marine), but this can also result in mental and physical injuries, and death. Service member may notice harmful symptoms resulting from horrific experiences, but to acknowledge them would be to admit that they failed a test of military competence. In other words, there is a belief that service members should be able to undergo combat experiences without adverse mental health repercussions. Otherwise, they will not have met the criteria established by their beliefs. Moreover, many others in the same situation may be hiding their mental health issues, causing everyone to think that others have gone through the experience unaffected and further enforcing this phenomenon. This can be a barrier later on, as veterans may become their own worst obstacles to seeking assistance. Indeed, Hoge et al. (2004) found that only 38% to 45% of soldiers and Marines who met criteria for PTSD reported interest in seeking help, leaving a substantial percentage of those who should seek help, but were not.

The combat stress categories have been reviewed for easier recollection. Combatants learn from their own strategies that combat stress is debilitating, but they detach themselves from the enemy. Addressing or even feeling emotions of grief may result in potentially deadly consequences, so service members learn to numb their feelings. Leaders can bear much stress through the failure of a mission and the death of junior service members, attributing both to their actions. Lastly, the test of personal competence approach to combat taken by individuals can result in denying symptoms due to not meeting personal criteria.

### Post-Traumatic Adaptations

Grant et al. (2008) conducted a confirmatory factor analysis to examine the latent psychopathologic constructs commonly associated with traumatic events: PTSD, Major Depressive Disorder, and Generalized Anxiety Disorder. Their sample involved 228 survivors of motor vehicle accidents. The researchers used the Clinician Administered PTSD Scale for DSM-IV [CAPS] (Blake et al. 1990), PTSD Symptoms Scale – Self Report [PSS-SR] Foa, Riggs, Dancu, & Rothbaum, 1993), Impact of Event Scale [IES] (Horowitz, Wilner, & Alvarez, 1979), Anxiety Disorders Interview Schedule [ADIS-IV] (Brown, Barlow, & DiNardo, 1994), Beck Depression Inventory [BDI] (Beck, Rush, Shaw, & Emery, 1979), and the Thought Control Questionnaire, Worry subscale [TCQ-W] (Wells & Davies, 1994). Grant et al. found that each of the pathologies was highly influenced by trauma. Furthermore, the pathologies were each separate disorders.

### Depression

Traumatic events can also lead to depressive symptoms (Grant et al. 2008). The DSM5 (American Psychiatric Association, 2013) established criteria for a major depressive episode; at least one major depressive episode is required to diagnose Major Depressive Disorder. To classify for a major depressive episode, five or more of the following symptoms must be present for at least two weeks. First, depressed mood for a significant daily portion and anhedonia must be present. Furthermore, the individual must have experienced a change in appetite or weight, change in sleep patterns, change in psychomotor activity, fatigue, worthlessness or guilt, difficulty concentrating, and thoughts of death or suicidal ideation. The symptoms must not be

related to psychosis, nor should the person ever have had a manic or hypomanic episode, and do not result from substance use or a physiological condition.

Subica, Claypoole, and Wylie (2012) conducted a study investigating relationships between trauma and severe mental health illness using a sample of 175 participants. The study made use of the Trauma Assessment of Adults – Brief Revised Version (Cusack, Frueh, & Brady., 2004), questions from the Traumatic Life Events Questionnaire (Kubany et al., 2000), the PTSD Checklist (Weathers et al., 1993), Medical Outcomes Study Short Form 12-Item Health Survey (Ware, Kosinski, & Keller, 1996), Patient Health Questionnaire – 9 (Kroenke & Spitzer, 2002), and the CAGE-AID (Brown & Rounds, 1995). Using a regression model, the researchers found that trauma significantly predicted depressive symptoms ( $\beta = .35$ ,  $t(4.83)$ ,  $p < .001$ ).

### Suicide

Suicide has become a major concern among those working with combat veterans (Ramchand et al., 2011), and researchers have shown that there is a link between trauma and suicide among veterans (Center for Health Promotion and Preventive Medicine, 2010; Jakupcack et al., 2009). Suicide is conceptualized into behavior and ideation. Suicidal behaviors include those that are performed in order to end one's life even if they are not successful. Ideation refers to individuals valuing suicide as an acceptable solution to their troubles. In the case of this study, the individual's trouble would refer to the psychological reactions to a traumatic event (i.e. depression, Acute Stress Disorder, Posttraumatic Stress Disorder, and Generalized Anxiety Disorder).



Stein et al. (2010) conducted a multi-national (21 countries) study to investigate associations between trauma and suicidality using a sample of 102,245 adults (18 years-old and greater). They used the World Health Organization (WHO) Composite International Diagnostic Interview Version 3.0 (Kessler & Ustun, 2004) to assess for traumatic event history and suicidal behavior. The statistical analysis used various methods to include bivariate analysis, multivariate analysis, backward recurrence models, and calculation of attributable risk proportions. Researchers controlled for country, various demographic variables, and life course (early, middle, and later years in a lifetime) interactions. Although the researchers did not find a specific type of trauma to increase the likelihood of suicidality, having experienced a traumatic event was associated with increased suicidal ideation and attempts.

Bossarte et al. (2012) used data from the 2010 Behavioral Risk Factor Surveillance System, Veteran's Health Module of Nebraska and Tennessee. The sample size was 2,602. The results showed that suicidal ideation was highest among participants who were diagnosed with depression, anxiety, or PTSD.

#### Acute Stress (ASD) and Posttraumatic Stress Disorders (PTSD)

Traumatic experiences can lead to event-specific symptoms (American Psychiatric Association, 2013; Wilson, 1989). Although the provided list of pathologies results from trauma, ASD and PTSD are disorders in which the symptoms revolve around the event itself. For example, whereas an individual may develop hopelessness (a depressive symptom) from a trauma, this hopelessness is applied to a majority of cognitions. In the case of ASD and PTSD,

the symptoms are specific to the stressor. For example, an individual may be hypervigilant, but this is much more so in situations that are similar to that of the traumatic event.

Criteria for ASD and PTSD require that a person has endured or witnessed another possibly lethal event or sexual violence (American Psychiatric Association, 2013). Examples include potentially personally deadly events, witnessing the event as occurs to others, becoming aware that an event occurred to a close friend or family, or repeated presentation of aversive details resulting from traumatic events. For ASD, the person must present symptoms of the following five symptom clusters: intrusion, negative mood, dissociation, avoidance, and arousal. PTSD criteria is similar to ASD, but the subclusters are intrusion, avoidance, negative alterations in mood and cognitions, and arousal; and symptoms must persist for longer than one month. The purpose for having two seemingly identical diagnoses, except for the duration, is to prevent over-diagnosing of individual patients.

In a seminal article, Hoge et al. (2004) surveyed 2,530 soldiers and Marines before deployment to Iraq and 3,671 three to four months after their return from deployment; all individuals were in infantry units. Using the PTSD Checklist – Military Version [PCL-M] (Weathers, Keane, & Davison, 2001), a modified combat experience questionnaire, and a  $\chi^2$  test for linear trend, the researchers found a statistically significant positive relationship between combat experiences and PTSD prevalence (Iraq:  $\chi^2=49.44$ ;  $p<.001$ ; Afghanistan:  $\chi^2=31.35$ ;  $p<.001$ ). A regression analysis using a sample of 253 Air Force medical personnel deployed to Iraq was conducted employing combat exposure, military experiences, and current stressors to predict PTSD symptomatology. Combat exposure was determined to be the strongest predictor (combat exposure  $\beta=.95$ ; military experience  $\beta=-.16$ , current stressors  $\beta=.37$ ). Combat exposure

and current stressors were found to be statistically significant ( $p < .001$ ), but military experience was not statistically significant ( $p > .05$ ).

### Generalized Anxiety

Unlike ASD and PTSD, trauma can also lead to a generalized state of anxiety (Grant et al., 2008). That is, the individual is always in a state of anxiety and it is not cue-dependent. Traumatic events and stressful situations can result in generalized anxiety. The DSM5 has established criteria for Generalized Anxiety Disorder (American Psychiatric Association, 2013). An individual must present excessive, uncontrollable worry in several areas for a majority of six months. The individual must also report at least three of the following symptoms: restlessness, easily fatigued, difficulty concentrating, irritability, muscle tension, and sleep disturbance. These symptoms must not be explained by the following disorders: panic disorder, social phobia, obsessive-compulsive disorder, separation anxiety disorder, anorexia nervosa, somatization disorder, hypochondriasis, pervasive developmental disorder, body dysmorphic disorder, and PTSD. The anxiety cannot be provoked by content from delusional beliefs. The symptoms must also not be explained by substance use or a medical condition.

Marshall, Miles, and Stewart (2010) conducted a study to investigate the relationship between anxiety sensitivity and PTSD severity. They used a multi-sized sample depending on how many of the interviews (initial, six-month, & 12-month follow-up) participants completed. The investigators used the PTSD Checklist - Civilian Version (Weathers et al., 1993) and Anxiety Sensitivity Index (Peterson & Reiss, 1992). They made use of cross-lagged path analysis which

allowed them to assess causal models using longitudinal data. The findings indicated that individuals with PTSD were more likely to report anxiety sensitivity.

## Epidemiological Risk Factors for Trauma and PTSD

### Gender

Kessler, Mickelson, and Williams (1999) reviewed the National Comorbidity Study, a large-scale investigation on the prevalence, correlates, and repercussions of mental health disorders in the U.S. (Kessler et al., 1994; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). They found that although men tended to undergo more events that were traumatic (60.7%), it appeared that women (51.2%) tended to experience higher impacts of traumatic events. This resulted in women having higher prevalence of PTSD rates. However, they underreported more than men. Second, the most associated event associated with PTSD among men was combat exposure. A total of 38% of the men reported linking combat exposure with PTSD and 29% claimed combat exposure as the most significant event relating to trauma. However, combat exposure was not the most prevalent experience among the entire sample; it was reported among only 6.4% of the sample. The most prevalent event was witnessing death (35.6%), but this had a low association with PTSD (6.4%). Among women, rape was most associated with PTSD (42.1%); it was the most troublesome event for 29.9% of women who met criteria for PTSD. Rape was followed by sexual molestation in prevalence among women with PTSD (38.9%); 19.1% of the cases reported molestation as the most upsetting event. Together, rape and molestation were reported among 49.0% of women cases.

### Marital Status

After controlling for age, Kessler et al. (1994) found that married participants reported lower rates of lifetime PTSD prevalence than those who never married. Men who were never married seemed to have a higher vulnerability when exposed to trauma than men who were married.

### Race/Ethnicity

Black individuals and other (mostly Native-and Asian-Americans) reported less exposure to traumatic events than their White and Hispanic counterparts (Kessler et al., 1994). In contrast, they were more likely to develop PTSD. This resulted in no lifetime PTSD differences based on race. Furthermore, the analysis could not explain the results by controlling for educational and financial differences. It is noteworthy that Kessler, Mickelson, and Williams (1999) argued that they may have incorrectly found that Black individuals and others underwent fewer traumatic events due to methodological threats. It is possible that the wording (e.g. abuse, assault) may have contributed to underreporting by Black individuals and others because all of the groups did not have the same definitions for those words. This may have also affected recall.

### Trauma and Ethnic Culture

Smith, Lin, and Mendoza (1993) argued that people have an inherent need to make meaning out of their experiences. This is especially important when considering traumatic events. Meaning development is dependent on social and cultural influences (Summerfield, 1995). Thus, cultural beliefs affect the sense that an individual makes out of a traumatic experience. People look to others in their culture to learn how to resolve issues such as the death

of a loved one. Therefore, it is essential for providers to consider cultural treatment preferences when providing care (Eisenman et al., 2008).

### Latino-American Culture

Latino-American is a pan-ethnicity; it is composed of many subcultures deriving from many nations. In fact, Garcia (2011) separated Latino-Americans into three subcultures by region: Mexican and Central American, Caribbean, and South American. Within each subculture, she categorized the groups by nationality. However, she also argued that all Latino-Americans have a common history of oppression in the U.S. which has shaped them into a more encompassing group. Ergo, though it is necessary to be aware of the ethnic diversity of Latino-Americans when discussing ethnically specific issues, one must also be aware of commonalities.

Delgado-Romero, Galván, Hunter, and Torres (2008) presented distinctions between the terms “Latino” and “Hispanic.” Hispanic is an English word that refers to someone of Spanish descent, and the United States has adopted Hispanic as the official ethnic identity for individuals who claim heritage from Spanish culture (U.S. Office of Management & Budget, 1997). Except for Brazilians, who have more of a Portuguese background, people of Puerto Rican, Cuban, Dominican, Mexican, and Central and South American descent may fall in this category. This term is relatively exclusive in that it emphasizes European background while ignoring Indigenous and African contributions to culture. The term Latino tends to be more inclusive, because it refers to the people from Latin America, including Brazil. Furthermore, it makes the distinction between Latinos and Spaniards who tend to acculturate more to the dominant European-American ethnicity within the U.S. (Comas-Díaz, 2001). The present study focused on

Latinos, not Hispanics. However, due to constraints based on semantics used in prior literature Hispanic has been used when the literature cited used the term.

### Latinos and PTSD

In their 1990 National Vietnam Veterans Readjustment Study (NVVRS), Kulka et al. found large differences in PTSD rates between Hispanic veterans and veterans of other ethnicities. A total of 27% of Hispanic participants met criteria for PTSD, and 20.6% of Black participants and 13.7% of Whites/others met PTSD criteria. There has been disagreement as to whether the Latinos truly meet criteria for PTSD more than the other groups or if it is due to methodological and theoretical issues (Breslau et al., 1998; Frueh, Brady, & de Arellano, 1998; Perilla, Norris, & Lavizzo, 2002; Ruef, Litz, & Schlenger, 2000). Lewis-Fernández et al. (2008) conducted an analysis of the NVVRS to assess the possibility of methodological artifacts. The authors attempted to control for expressive style and combat exposure. The results showed that Hispanic veterans still presented higher rates of PTSD than the other groups.

Pole, Best, Metzler, and Marmar (2005) performed a study to investigate why Hispanics tended to be at greater risk for PTSD than non-Hispanic Black and Caucasian individuals. The researchers used a sample of police officers. Consistent with prior research (Kulka et al., 1990; Ruef, Litz, & Schlenger, 2000), Hispanic participants demonstrated more severe symptoms of PTSD. When comparing Hispanic police officers with their non-Hispanic Black counterparts, Hispanic participants reported more peritraumatic dissociation: dissociation that occurs during and immediately after a traumatic event (Pole et al., 2005). This finding was consistent with prior research stating that peritraumatic dissociation was a strong predictor of PTSD (Ozer, Best,

Lipsey, & Weiss, 2003). The comparison between Hispanics and non-Hispanic Caucasians was more complicated. There were three influential variables: less social support, self-blame, and wishful thinking. Hispanics reported less social support, and the other two variables were lower as well. Furthermore, Hispanics were more likely to have reported avoidance/numbing than non-Hispanic Caucasians. This finding may partially explain why Hispanics report more severe and higher rates of PTSD. Foa, Steketee, & Rothbaum (1989) posited that avoidant strategies at dealing with trauma prevented cognitive processing which prevent mental health improvement and maintain PTSD symptoms.

### Somatization of PTSD

Beckham et al. (1998) reported that people who met the criteria for PTSD also reported somatization of symptoms. For example, an individual may complain of headaches due to the stress from a traumatic experience. Furthermore, PTSD expression occurs within cultural context (Hughes, 1993). Eisenmann et al. (2008) used a sample of 60 foreign-born Latino adults to investigate the relationship between PTSD and somatization among Latino veterans. They found that Latinos reported somatization as the most common expression of stress. Fierros and Smith (2006) theorized that this phenomenon may be a result of how Latino culture tends to view mental and physical health; they viewed both as belonging to one whole and not completely separate entities (Gureje, Simon, Ustun, & Goldberg, 1997). Therefore, when one is affected, so is the other. A prominent example is the DSM-IV-TR culture-bound syndrome, Nervios (American Psychiatric Association, 2013). Anxiety is the underlying psychological distress, which manifests physiologically as nervousness, headaches, tingling, gastrointestinal issues, and



dizziness (also known as mareos). The integration of mental and physical health among Latinos has been thought to lead to increased PTSD symptoms (Fierros & Smith, 2006).

## **CHAPTER 2**

### **THEORETICAL CONTEXT & LITERATURE REVIEW**

#### Introduction

The literature on Latino culture guided theory selection. As reviewed in this chapter, Latinos present a collective orientation. This is related to the importance of family and well-being of others in the culture. This also has implications for social dynamics (e.g., interpersonal communication should focus on group cohesion and secrets should not be shared outside of the family). Considering that a therapeutic working alliance is essential for therapy (Beck, 1995), a clinician's cultural competence should exert an effect on psychological functioning through the working alliance. These relationships are elaborated further in this chapter.

#### Social Support

As summarized by Vaux (1988), Emile Durkheim, in the late 1800s, was one of the first social scientists to focus on social support with his works on suicide and social integration. Regarding social work, Durkheim's work was relevant to the study of suicide. For example, he described egoistic suicide as coming from a lack of social integration (Ritzer, 2008). Social support, according to Durkheim, provides individuals with morality, values, and a sense of purpose. Furthermore, a major benefit of social support is that it acts as a buffer from daily stress. Without this buffer, people would not be capable of dealing with frustration and would be likely to commit suicide.

Three independent researchers developed the foundation of social support theory (Vaux, 1988). Cassel (1974) stated that social support played a noteworthy influence on the stress of an individual. Social feedback acted as a buffer that cushioned the impact of stress. Caplan (1974)

stated that the effect of social support on how an individual was affected by stress was so beneficial that efforts be placed to increase social support rather than decrease rates of traumatic experiences. He defined social support in terms of not only friends and family but also included community resources such as mutual-aid groups, clergy, and informal services. He argued that social support helped an individual by providing instrumental assistance such as money, material resources, and needed labor, adding that social support also offered psychological assistance through stressful situations. Cobb (1976) claimed that the beneficial effects social support had on an individual's psychosocial functioning was because the person would feel cared for and included in a social network.

In a more modern sense, Thoits (1986) defined social support as “functions performed for a distressed individual by significant others such as family members, friends, co-workers, relatives, and neighbors” (p. 417). Social support can be divided into four types: (a) instrumental support refers to the assistance provided that helps an individual accomplish common tasks; (b) information support is the aid that is provided in the form of relevant knowledge that helps address a stressor; (c) socioemotional support is a highly studied category (Thoits, 1995) and is the support given by emotionally close individuals to others that addresses affection, love, sympathy, and inclusion; and (d) structural support is the number and types of relationships an individual has. In other words, this support refers to the social network of an individual. This type of support is instrumental in providing avenues for seeking other types of supports (Lin & Wescott, 1991). Researchers have reported network size and the strengths of the relationships linked to the amount of support received (Barrera, 1986; Wellman & Wortley, 1990).

There are three different levels of health impacted by social support. First, social

integration has a positive relationship with physical and mental health (Berkman, 1984).

However, it does not help alleviate the impact of traumatic events. Secondly, perceived support has been found to have a positive relationship with health and reduce the impact of stressful events (House, Landis, & Umberson, 1988). Thirdly, intimate and close relationships seem to provide the greatest buffer against stress; intimate relationships provide a greater buffer than close friendships (Cohen & Willis, 1985).

Another approach to conceptualizing social support distinguishes between perceived social support and support received during crisis (Joseph, 1999). In the former, the focus is on personal evaluation of social support. This conceptualization defines social support as a buffer. Higher levels of perceived social support act to lessen the harmful effects that stressful events have on psychological functioning (Kessler & McLeod, 1985). The latter support received concerns actual support provided. Joseph (1999) observed that one major influence social support has in regard to crisis is that it provides an avenue for survivors to discuss their trauma. Rafael (1986) claimed that individuals who undergo stressful events display a need to confer with someone. To help understand this relationship between crisis and social support, Stiles (1987) provided the analogy that self-disclosure is to psychological distress as fever is to physical infection. In both cases, this is a sign of and a reaction to addressing the problem. The effect of either support on trauma is beneficial. Perceived high levels of social support among combat veterans appear to improve post-deployment coping self-efficacy and lower distress severity levels (Smith, Benight, & Cieslak, 2013). Operation Enduring Freedom and OIF veterans reporting higher social support levels reported more resiliency and fewer PTSD symptoms (Pietrzak et al., 2009).

There appears to be an inverse relationship between social support and suicidal ideation among veterans diagnosed with PTSD (Pietrzak et al., 2010). In fact, veterans who contemplate suicide have reported lower levels of social support (Pietrzak, Russo, Ling, & Southwick, 2011). Married veterans have reported less suicidality along with veterans who reported greater satisfaction with their social support network (Jakupcak et al., 2010).

Social support seems to have a moderating influence on veterans undergoing exposure therapy and cognitive restructuring, both of which are therapies employed in working with veterans (Department of Veterans Affairs, 2017; Thrasher, Power, Morant, Marks, & Dalgleish, 2010). Additionally, emotional social support seems to be related to increased exposure therapy response (Price, Gros, Strachan, Ruggiero, & Acierno, 2013). Furthermore, Tsai, Harpaz-Rotem, Pietrzak, and Southwick (2012) found that among veterans seeking treatment through the VA, those who screened positive for PTSD reported less social support, suggesting that social support serves as a mediating factor between trauma and PTSD. In another study, Dekel and Monson (2010) found that veterans who had undergone family- and couples-therapy for PTSD appeared to improve at higher rates than those who attended individual therapy. Veterans have reported perceiving more social support from veterans than from others (Laffaye, Cavella, Drescher, & Rosen, 2008).

Pietrzak, Harpaz-Rotem, & Southwick (2011) conducted a descriptive study focusing on the cognitive coping skills used by combat veterans who sought treatment for PTSD after deployment in OEF or OIF. They used a sample size of 167 veterans from the Connecticut VAMCs primary care or mental health clinics. The researchers used seven self-report measurement instruments to collect data: (a) the 30-item Thought Control Questionnaire [TCQ]

(Wells & Davies, 1994) was used to measure the strategies employed to control thought processes; (b) the 31-item Cognitive-Behavioral Avoidance Scale [CBAS] (Ottenbreit & Dobson, 2004) measured avoidance strategies; (c) the 15-item Combat Experience Scale from the Deployment Risk and Resilience Inventory [DRRI] (King et al., 2006) was used to measure magnitude of combat exposure; (d) the 17-item Posttraumatic Stress Disorder Checklist – Military Version [PCL-M] (Weathers et al., 1993) measured PTSD symptoms; (e) the 9-item Patient Health Questionnaire – 9 [PHQ-9] (Kroenke, Spitzer, & Williams, 2001) was used to measure depressive symptoms; (f) the 4-item CAGE Questionnaire was used to measure alcohol abuse issues; and (g) the Postdeployment Social Support Scale from the DRRI (King et al., 2006) measured the perceived level of social support received after deployment. The researchers made use of a structural equation model to analyze the data. The results suggest that post-deployment support was inversely associated with PTSD symptoms (-.29), maladaptive thorough control (-.42), and avoidance coping (-.55).

### Social Aspects of Latino-American Culture

One particular Latin-American value highlighted by Garcia (2011) was a collective orientation. In contrast, however, a major outcome of PTSD may be alienation through avoidance (American Psychiatric Association, 2013). Veterans with PTSD tend to isolate themselves from others, including their families. In turn, social support is highly diminished leading to detrimental effects, even more so in a culture that presents a need for collective interaction.

Martinez (1990) conducted a study to investigate the effects of social support on PTSD among Hispanic and White Vietnam veterans using a sample of 180 randomly selected Vietnam veterans from a pool of 800. Instruments used were the Mississippi Scale for Combat-Related PTSD [M-PTSD] (Keane, Caddell, & Taylor, 1988), the Combat Exposure Scale [CES] (Keane et al., 1989), and two self-perceived social support measures that were adapted from the Research Triangle Institute. The first social support instrument measured frequency of visits and intimacy with family and friends. The second measured emotional crises and tangible support from family and friends. The major statistical analyses used were Pearson's correlation and a multiple regression model. The correlation revealed an inverse relationship between social support and PTSD. Furthermore, the second measure of social support (emotional crises and tangible support) had a significant interaction with ethnicity. White veterans who reported fewer emotional crises and tangible aid were found to have higher levels of PTSD than their counterparts with higher reported social support.

Ribas and Lam (2010) carried out an exploratory study to investigate the link between social support and quality of life using a sample of 60 Latino participants with mental health illness. The study employed a cross-sectional design using four instruments. Social network size was measured using the Social Support Questionnaire (Sarason, Levine, Basham, & Sarason, 1983). The Social Provisions Scale (Cutrona & Russell, 1987) measured quality of social support. Acculturation was measured by the Acculturation Scale short form (Marin & Marin, 1991), and the Lehman Quality of Life Interview (Lehman, 1988) measured quality of life across domains of independent living. Statistical analyses used were Pearson's correlations and multiple regression models. Results from that study indicated that social support was linked to higher

levels of quality of life. Participants with smaller social support networks reported higher levels of mental illness. Moreover, the quality of the social support network was positively related to the quality of life, independent of network size.

Stemming from the collective orientation is the familismo dimension (Sue, 2006). Latino-American culture considers the family central to their daily lives. There is a strong respect for family members and adults. Latino-Americans hold extended family members with high regard. In fact, a family may also include non-biologically related individuals such as a godparent or close family friend within the family system. Gender roles tend to follow a traditional trend. The dominant members of the family are usually male, and other family members are expected to be obedient and treat them with more respect than others. Meanwhile, women tend to hold submissive and self-sacrificing roles in relation to men. They tend to complete tasks that focus on child-rearing, caring for other family members, and maintain communication and relationships between family members. When working with Latino-American clients, clinicians should understand that because family is a core dimension in each individual's life, family issues are central to psychosocial well-being.

Solomon, Bravo, Rubio-Stipec, and Canino (1993) conducted a study to investigate the effects of social support on mental health following a disaster in St. Louis and another in Puerto Rico. The disasters occurred after collecting psychiatric data from both locations. Thus, an initial baseline was established. Afterwards, all of the original respondents were contacted. The St. Louis group had an 84% response rate; the Puerto Rican group had a 90% response rate. The researchers used the Diagnostic Interview Schedule/Disaster Supplement [DIS/DS] (Robins & Smith, 1983) which included measurements for demographic characteristics, PTSD, generalized



anxiety, life events, health status, functioning levels, and social support. Furthermore, the researchers included disaster specific items regarding exposure, extent of harm, and material losses; they sought and received help from formal agencies. Statistical analyses involved a series of *F* tests. The results indicated a positive relationship between lack of family and increased alcohol use.

A major aspect of the Latino-American community is acculturation, especially when working with those who have served in a transitional institution such as the U.S. Military (Sue, 2006). Some Latinos may find that they have to merge or repress their Latino identity for or with the dominant European-American ethnicity (Delgado-Romero, Galvan, Hunter, & Torres, 2008). This could produce identity struggle issues. In some cases, the family does not understand the acculturation issues individuals are having, and this results in alienation from the family. Because family is central, alienation could severely affect someone's life by removing this core dimension.

A collective mindset and family are social in nature. The well-being of others and being included is significant to Latino-Americans. This phenomenon could be even more so considering the collective values of military service. Thus, social support seems an appropriate theory to confirm among the stated population.

The knowledge found in the literature on this topic helped develop three of the research questions which guided this study.

1. Does social support have a direct effect on psychosocial functioning among male Latino-American combat veterans? The hypothesis is that it does have a significant direct effect on psychological functioning.

2. Does the interaction between social support and combat exposure exert an interaction effect on psychological functioning among male Latino-American combat veterans?

The knowledge presented suggests that social support and combat exposure will exert an interaction effect on psychological functioning.

3. Does social support exert a direct influence on therapeutic working alliance among the stated population? Previous evidence suggests that it does.

### Therapeutic Working Alliance

Bordin (1979) claimed that therapeutic working alliance was a pan-theory in that it is applicable across many theories. He put forth three aspects necessary for a working alliance: (a) collaborative effort to develop goals, (b) task assignments, and (c) bond development. Gelso and Carter (1994) claimed that a therapeutic working alliance was the relationship between the client and therapist. In other words, it is the bond between two people attempting to resolve a psychosocial or mental health issue. Providing a more in-depth definition, Luborsky (1994) described the working alliance as “an expression of a patient’s positive bond with the therapist who is perceived as helpful and supportive” (p. 39). Essential to this definition is the understanding that the client takes an active role in the therapeutic process (Bordin, 1994). Indeed, developing a goal that both parties, the client and practitioner, agree on is fundamental to building a trusting bond.

Beck (1995) and Hardy, Cahill, and Barkham (2007) argued that a good working alliance is necessary to effectively provide cognitive behavioral therapy. In fact, Marmar, Gaston, Gallagher, and Thompson (1989) found that the therapeutic working alliance was predictive of

improvement of depressive symptoms among elderly clients undergoing cognitive therapy.

Robinson, Berman, and Neimeyer (1990) found that the working alliance was more predictive of therapy outcome than the treatment approach. In another study, Neale and Rosenheck (1995) found that working alliance was associated with reduced psychopathology among veterans receiving treatment at a VA facility. In a randomized controlled clinical trial conducted on the use of Internet-based treatment for PTSD, Knaevelsrud and Maercker (2007) found high levels of working alliance and a reduction of PTSD and other psychopathological symptoms.

Forbes et al. (2008) conducted a path analysis focusing on the skills of coping with anger among veterans with PTSD. The study included a sample of 103 Vietnam veterans who were receiving psychotherapy and completed self-report questionnaires. The 14-item Hospital Anxiety and Depression Scale [HADS] (Zigmond & Snaith, 1983) measured anxiety and depression. The 10-item scale Alcohol Use Disorders Identifications Test [AUDIT] (Babor, de la Fuente, Saunders, and Grant, 1989) measured alcohol abuse. The seven-item Novaco's Dimensions of Anger Reactions Scale [DAR] (Forbes, et al., 2004) measured anger. The 12-item Working Alliance Inventory [WAI] (Tracey & Kokotovic, 1989) measured working alliance. In using a path analysis, the researchers found that working alliance did not have a significant mediating effect on anger. However, results of theoretical studies overwhelmingly supported therapeutic working alliances as having a positive relationship with mental health improvement.

### Effects on Working Alliance

There are several factors that affect the therapeutic alliance. For one, it is mediated by a client's treatment preference, confidence, and trust in the therapist (Andrusyna, Tang, DeRubies,

& Luborsky, 2001; Iacoviallo et al., 2007). The following example illustrates this relationship. A veteran seeks therapy for PTSD from a practitioner who explains that there are two approaches to PTSD therapy used by the agency: cognitive processing therapy (CPT) and prolonged exposure (PE). During the assessment, the client states that she has difficulty coping with strong emotions from her traumatic experience and would like to employ an approach that is less emotionally overwhelming. Regardless, the therapist states that although CPT tends to be less emotionally taxing, it involves much homework, which she believes will not be completed due to the client's busy schedule, and she states that the treatment will involve PE. The client decides to forego therapy. This hypothetical case demonstrates how treatment approach incongruence between the client and practitioner may detrimentally affect therapeutic alliance.

Therapists can have considerable influence on the level of working alliance. Foreman and Marmar (1985) focused on strategies that practitioners use to improve the working alliance within an object relations approach to treatment. The authors found that working alliance improved when the practitioner directly addressed the feelings and cognitions of the client in regard to the therapist. Focusing on a cognitive approach, Gaston, Marmar, and Ring (1989) found that therapists who focused on relationship problems instead of working on solutions for other problems helped develop better alliances.

Another influential factor involves demographic similarities between the client and practitioner. Luborsky, Crits-Cristoph, Alexander, Margolis, and Cohen (1983) used two methods to rate helping alliance while considering several demographic characteristics. The researchers found a positive correlation between similarity and therapeutic alliance. Moreover, religion and

age were found to be the most influential characteristics. Military involvement, such as active duty or family member of a service member, was not included.

### Cultural Competence

Whaley and Davis (2007) declared that cultural competence is needed in current mental health services, and Bhui et al. (2007) established it as a core requirement. Tucker, Mirsu-Paun et al. (2007) defined culturally competent and culturally sensitive practice. Culturally competent practice refers to the integration of cultural values and principles into structures, policies, behaviors, attitudes, and practices in order to provide culturally sensitive treatment (Cross, Bazron, Dennis, & Issacs, 2007; Tucker, Mirsu-Paun et al., 2007). Culturally sensitive practice builds on cultural competence by providing for the following: (a) a display of cultural respect through provider attitudes and behaviors, (b) a collaborative partnership between the provider and clients, and (c) empowering the client (Tucker, Herman, et al., 2007; Tucker, Mirsu-Paun, et al., 2007). Culturally sensitive care resulted from three major events that occurred from the 1950s to the 1980s: (a) de-institutionalization, (b) civil rights movement, and (c) community mental health care services (Koyanagi, 2007; Rogler, Malgady, Constantino, & Blumenthal, 1987; Torrey, 1997). The de-institutionalization movement, a movement that shut down major mental health hospitals due to lack of effectiveness and ethical violations, began in 1955 with the development of the first anti-psychotic: chlorpromazine. This new drug allowed many psychiatric patients to move from large institutions into their communities. From 1955 to 1965, the number of patients in state institutions dropped from approximately 560,000 to 510,000. The second major influential factor of the de-institutionalization movement was the enactment of

Medicare and Medicaid in 1965, which allowed patients to seek services in their communities. From 1965 to 1985, the number of patients in state institutions dropped from approximately 510,000 to 100,000. Coupled with the de-institutionalization process, the civil rights movement of the 1960s resulted in increased access to human services for Blacks and other minority groups. As a response to de-institutionalization and increased funding for private care through Medicare and Medicaid, community mental health care centers began to develop in areas that were more ethnically diverse than other areas where access to mental health care was relatively more accessible. Typical treatment modalities in these community centers were not as effective with the more diverse clientele as with the middle-class population. Therefore, culturally sensitive practices were needed to be developed in order to provide effective treatment.

More professionally precise, social work has been undergoing a paradigm shift in regard to cultural competence. Lum (2011) noted that academics have not yet recognized a universal definition for cultural competence within social work. He did so by providing a review of the literature in which he highlighted three definitions. The National Association of Social Workers (2007) has defined cultural competence as:

the process by which individuals and systems respond respectfully and effectively to people of all cultures, languages, classes, races, ethnic backgrounds, religions, and other diversity factors in a manner that recognizes, affirms, and values the worth of individuals, families, and communities and protects and prescribes the dignity of each. (p. 4)

This approach takes an interrelationship approach in which identities based on several constructs and their values are taken into account along with a systems theory approach. The Substance Abuse and Mental Health Services Administration [SAMSHA] (2000) stated that

“cultural competence includes attaining the knowledge, skills, and attitude” (p. 1) that enable practitioners to effectively provide care, considering a person’s values and reality. Furthermore, SAMSHA (2000) made clear that there should be expected deviance from normative acceptable behaviors among diverse populations. Given this, SAMSHA has claimed that a client’s health is more likely to improve when cultural competency is part of the working relationship. Rothman (2008) stated that cultural competence is “a process, which can be learned, through which a social worker attains the necessary knowledge and skills needed to practice competently and sensitively across cultures” (p. 7). This requires that a practitioner gain and implement relevant skills and knowledge applicable to the population of interest. Synthesized from the definitions presented, cultural competence encompasses knowledge, skills, and policies that demonstrate an ability to work effectively across cultures.

Rogler et al. (1987) identified three major elements of culturally sensitive practice as it relates to Latinos. First, Latinos should have increased access to services. Second, providers should consider cultural values when selecting a treatment option. Third, developing treatments should integrate Latino cultural aspects (e.g. values, beliefs, social dynamics). Researchers have found that culturally sensitive practice with Latino clients provides increased retention rates and improved outcomes (Guerrero & Andrews, 2011; Metghalchi et al., 2008). Moreover, by conducting a broad review of literature, Betancourt, Green, Carrillo, and Ananeh-Firempong (2016) concluded that organizations should make efforts to recruit providers of minority ethnicity who can fluently speak a client’s language. Additionally, the authors suggested that organizations provide healthcare workers with cultural education.

Brach and Fraserirector (2000) posed a theoretical argument that cultural competency can improve providers' abilities to deliver effective healthcare. Similarly, Anderson et al. (2003) stated that culturally incompetent practice can actually compromise the quality of care provided. In fact, culturally sensitive practice has been found to have a beneficial effect. In their meta-analytic review of 76 studies, Griner and Smith (2006) found that culturally adapted interventions were considerably (four-fold) more effective than traditional care.

#### Personal Communication Among Latinos

Garcia (2011) explained that communication among Latino-Americans has a certain particularity. When communicating, complete communication requires more than simply delivering facts. Affective information must also be included. Consequently, practitioners who work with Latino-Americans must understand this to create a bond with clients.

Stemming from the family system is "respeto" (Calzada, Fernandez, & Cortes, 2010; Gonzales-Ramos, Zayas, & Cohen, 1998). In the family context, children treat adults with respect, meaning that they do not interrupt conversations or have arguments (Delgado-Gaitan, 1994). Outside of the family context, Harwood, Miller, and Irizarry (1995) stated that respeto refers to the understanding that manners and behaviors should be restricted to those who demonstrate courtesy to others. This depends on the relationship between the parties, and the sex, age, and social status of the individuals. Applied to the client-practitioner relationship, this value urges the client to demonstrate a level of courtesy to the practitioner that is higher than would be warranted to a friend of similar characteristics. Thus, a Latina may defer her personal judgment on what is occurring in therapy to the practitioner. For example, a practitioner may suggest that a



certain aspect of the client seems to be a problem. Should the client disagree, she may not say anything to maintain respeto. This deferment to authority may result in a lack of appropriate therapeutic applications and should be considered when working with Latinos.

### Personal Communication and the Latino Veteran

Cañive, Castillo, and Tuason (2001) presented four case studies of Hispanic veterans, and two of them are discussed in this section of the review. Mr. Rodriguez reported that he had difficulty expressing his emotions with a female therapist because he believed that she was not capable of dealing with them; he was protecting her. This stemmed from a childhood belief that women cannot cope with strong emotions. Furthermore, due to his Catholic background, he believed that women were similar to the Virgin Mary: innocent and pure. Lastly, the subject of confianza (trust) played a restrictive factor in self-disclosure: Hispanics tend to discuss intimate and emotional subjects only with immediate family. Cañive et al. (2001) stated that in this particular case, a therapist of the same ethnicity as the client would likely be able to establish rapport more quickly than a therapist of a different ethnicity.

In another case, Mr. Garcia presented issues related to seeking help (Cañive et al., 2001). He first sought treatment for psychosomatic issues which the therapist discovered were resulting from PTSD. Thus, Mr. Garcia did not seek mental health treatment, but his primary care provider referred him to a therapist. Once he met with the mental health therapist, Mr. Garcia apologized for seeking treatment. He believed that his mental health issue was a result of God's will; he felt he had no control over his mental health. He also reported that men are not supposed to complain, implying that he was less than a man for doing so. Cañive et al. (2001) claimed that

once a therapeutic alliance was established, Mr. Garcia was capable of understanding his emotions and collaborated better with the therapist.

### Predictors of Therapeutic Alliance/Matching

Cañive et al. (2001) noted that language can be a significant factor in working with Hispanic veterans. More specifically, Cañive et al. referred to code switching which means changing between languages, typically English and Spanish. The authors claimed that when nervous or expressing strong emotions, Hispanic clients tend to speak in Spanish. On other occasions, Spanish can be a barrier with a therapist who does not understand Spanish. In some cases, code switching can make the client appear confused or illogical. Providers should consider the language preferences of a client.

Self-disclosure can be difficult for Hispanics (Cañive et al.; 2001). First, they are taught to speak about intimate and emotional issues only with immediate family (Fierros & Smith; 2006). Furthermore, male clients may find it even more difficult to express traumatic experiences with a female therapist (Cañive et al.; 2001). In order to address this, therapists are encouraged to build a strong trusting relationship with the client. However, the therapist should be aware that doing so might take more time than with other clients.

Partly due to the reluctance to discuss traumatic experiences with others outside of the immediate family, Hispanic veterans often present psychosomatic issues (Eisenmann et al., 2008). This can lead to a difficult time in achieving the correct diagnosis, especially if the practitioner is not culturally competent with this population (Cañive et al.; 2001). To address this, the therapist should make an effort to understand the model in which clients understand their

symptoms. As stated previously, Hispanic veterans may understand their mental health issues in spiritual terms such as God's will. After understanding the model, the therapist can provide a proper diagnosis while establishing rapport. The therapist should also adhere to working with the client's model instead of forcing the scientific view of mental health. Otherwise, the client may not feel understood or may believe that the treatment is not addressing the necessary issues. This increases the likelihood that a client will terminate treatment early.

Non-Hispanic therapists should be aware of their own cultural values (Cañive et al.; 2001). Otherwise, they may propose a model of therapy that does not harmonize well with the client. The therapist should consider that Hispanic clients see the family to extend beyond the nuclear family. Moreover, interdependence within the family is expected. The therapist should avoid using a treatment model that assumes individual independence. Also, the therapist should show higher levels of emotional response. Demonstrating dignity, respect, and caring is essential for establishing rapport.

Hispanics tend to avoid medications for mental health treatment and value psychotherapy more (Cooper et al., 2003; Eisenman et al., 2008). This is important to consider in Cognitive-Behavioral therapy (CBT), which develops collaborative goals and tasks (also aspects of therapeutic working alliance). Cooper et al. (2003) also found that Hispanics need more time than African-Americans and Whites to build a trusting relationship with their providers; along with goals and tasks, bond comprises the three components of a therapeutic working alliance. Fierros and Smith (2006) attributed this phenomenon to a cultural value that strangers are not to be trusted with secrets (Canive & Castillo, 1997; Koss-Chioino & Canive, 1996). In order to address this, a clinician should increase self-disclosure and provide for a more relaxed

environment (Manoleas, Organista, Negron-Velazquez, & McCormick, 2000). Canive and Castillo (1997) found that Hispanic clients develop a trusting bond faster with a practitioner who is emotionally interactive. Thus, practitioners should consider Latino cultural values when establishing an effective therapeutic working alliance.

The literature guided the research questions examined in this study. Do cultural competence, ethnicity, gender, and military experience directly influence the level of working therapeutic alliance developed when treating trauma among male Latino-American combat veterans? The literature suggested that that they do. In addition, does the working therapeutic alliance exert a direct influence on psychological functioning among male Latino-American combat veterans? The literature suggested that the therapeutic alliance will play a small to moderate direct effect.

The theories and studies presented helped the researcher form the study's research questions. As Hoge et al. (2004) found, there is a need to understand how to treat LACV. The researcher in the present study did not find working alliance to have a positive relationship with anger management. Nonetheless, theory has provided strong evidence that working alliance is essential to improvement in mental health therapy. Social support reduces harmful effects of trauma in a general sample of combat veterans and civilian Puerto Ricans post-disaster (Solomon et al., 1993). Moreover, in another study using Vietnam veterans, Martinez (1990) found a positive relationship between social support and emotional stability among Hispanic veterans.

### Restatement of Hypotheses

1. Social support will have a significant direct effect on psychological functioning.
2. Working alliance will have a moderate statistically significant influence on the psychological functioning of LACVs in treatment.
3. Social support and combat exposure will exert an interaction effect on psychological functioning.
4. Social support will have a direct effect on therapeutic working alliance.
5. Cultural competence, ethnicity, gender, and military experience will directly influence the level of therapeutic working alliance developed.

## **CHAPTER 3 METHODOLOGY**

### Design

This prospective study used a cross-sectional design to investigate the factors that relate to psychological functioning among Latino-American male combat veterans. In a cross-sectional study, the researcher collects data within a short period of time on one group to obtain important information about the characteristics of a group. For the present study, data were collected through established psychological measurements in a clinical sample from a VAMC in the Southeastern U.S. The National Institutes of Health (n.d.) and Nass, Levit, and Glostin (2009) affirmed that research based on clinical samples is fundamental to bettering healthcare. The initial aim of the study was to use confirmatory factor analysis and structural equation modeling for data analysis. However, due to difficulties in collecting a clinical sample large enough to test a structural equation model, data analyses instead included descriptive statistics, bivariate analyses, t-tests, and regression models.

### Sample

The study was an examination of psychological functioning in a non-representative, clinical sample of 42 Latino-American male veterans seeking psychological services from a VAMC in the Southeastern U.S. The participants were combat veterans defined as any person enlisted or commissioned in the military who had been deployed to serve in a combat area. To increase internal validity of this study, participants were limited to those who had served in the Global War on Terrorism (GWOT). This included Operations Enduring Freedom [OEF] (2001 –

current), Iraqi Freedom [OIF] (2003 – 2010), and New Dawn [OND] (2010 – 2011). The study sample included participants from associated community-based outpatient clinics.

### Inclusion Criteria

Individuals in the sampling pool were screened for inclusion criteria. Participants must have been deployed to a combat area and had been receiving treatment for a combat-related trauma. Acceptable combat areas included those detailed by the IRS (2012), of which Iraq and Afghanistan were the major theatres. The investigator conducted the inclusion criteria screening by reviewing medical notes for clear evidence that the veteran was deployed to at least one of the stated areas (elaborated in the Sampling Procedure section below). Furthermore, the study accepted only male participants due to the low percentage of female veterans who would otherwise have met the criteria. Using a VA database of 213,803 OEF and OIF veterans enrolled in the VA, Maguen et al. (2012) found that 22,925 identified as Hispanic of which 2,842 (12.4%) were women. Applying this ratio to the study's sample size ( $N = 42$ ), women would have been expected to make up five cases of the sample. Kimerling et al. (2010) found that PTSD issues for female veterans were different from male veterans. Thus, to reduce potential bias stemming from gender influences and to increase internal validity, only male participants were included in the study. Furthermore, the study included veterans that had self-identified as Latino or Hispanic in their medical records and included veterans who were receiving care at the VAMC's region at the time of data collection.

### Exclusion Criteria

Veterans who had not been in combat areas, as listed by the IRS (2012), were not receiving treatment for combat related trauma, or those who did not identify as Latino or Hispanic were excluded from the study. Also excluded were those veterans that were seeking treatment for military sexual trauma or had been diagnosed with a psychotic disorder. Language proficiency did not exclude anyone because all those sampled spoke and read English fluently.

### Sampling Procedures

The study used a convenience sample. The investigator completed the sampling procedure by establishing a sampling pool using information from the VAMC Computer Patient Record System. The investigator obtained a list of mental health scheduling clinics from the Mental Health Service administration. Using this list, the investigator was able to survey each mental health provider's schedule for potential participants. The survey procedure was as follows: (a) open the veteran's medical record, (b) screen for gender, (c) screen for ethnicity, (d) screen for GWOT criteria, (e) screen for combat trauma, (f) screen for current combat trauma-related mental health treatment, and (g) screen for military sexual trauma and psychosis. Veterans who met inclusion criteria were placed on a spreadsheet for the sampling pool.

The investigator obtained contact information for the veterans in the sampling pool and sent each individual a recruitment packet through the mail. The recruitment packet included a recruitment letter (Appendix A) and informed consent form. The recruitment letter provided a summary of the study and instructed the recipients to contact the investigator should they wish to participate. The consent form included information required by the VAMC Institutional Review



Board for the veteran to make an informed decision on whether to volunteer for the study.

Veterans who contacted the investigator to participate were scheduled to meet with the investigator to collect data.

If a veteran did not respond within two weeks of the recruitment packet mailing, the investigator mailed another recruitment packet. If a veteran failed to contact the investigator two weeks after the second mailing, the investigator called the veteran at the phone number on record to ask if he had received the recruitment packet; all veterans who were called did receive the recruitment packet prior to the phone call. The investigator then discussed participation with the veteran. Those who agreed to participate were scheduled to meet with the investigator at an OVAMC facility for data collection. Veterans who declined to participate were noted in the spreadsheet to prevent future contact regarding the study.

Data were collected from providers as well. The investigator presented the study at three separate Mental Health Service meetings with the aim of recruiting providers. Providers who agreed to participate met with the investigator to provide consent and collect data. However, the provider sample size was too small ( $n = 9$ ) to include in any data analysis. Furthermore, the data collected were responses on only one scale and did not allow for further qualitative interpretation.

#### Data Collection Procedures

Once contact was established between the investigator and the veteran with those who had provisionally agreed to participate, an appointment was made to collect data. Appointments were made adjacent to medical appointments for the participants' convenience. All data were

collected on VAMC property. Once the participant appeared for data collection, the investigator introduced himself. The veteran was then presented with the VAMC and University of Central Florida (UCF) IRB-approved consent form. If the veteran officially agreed to participate, both the veteran and investigator signed the consent form in their respective locations and the investigator collected the form. The investigator then presented the veteran with a Health Insurance Portability and Accountability Act of 1996 (HIPAA) authorization form requesting that the veteran authorize the investigator and study to use his data for the study. Once the veteran completed the form, the investigator collected the form and provided the participant with the packet of instruments.

The instruments were provided in the following order: (a) Beck Scale for Suicidal Ideation (BSSI); (b) PTSD Checklist-Military (PCL-M); (c) Beck Depression Inventory – II (BDI-II); (d) Beck Anxiety Inventory (BAI); (e) Postdeployment Social Support Scale (PSSS); (f) Combat Exposure Scale (CES); (g) Working Alliance Inventory – Short Form (WAI-SF); (h) Network Orientation Scale (NOS); and (i) Multidimensional Scale of Perceived Social Support (MSPSS). This order was established considering that the participants might be fatigued towards the end of completing the questionnaires. The questionnaires focused on mental health functioning were placed towards the beginning so that the participants did not leave the study focusing on possible mental issues. Instead, the participant finished by focusing on social support. After the participant completed his participation, the investigator reviewed the BSSI for suicidality. If a participant scored at least a “6” or answered “2” to at least two items on the BSSI, a safety protocol was enacted. First, the investigator offered the participant a warm transfer to his provider for further assessment and intervention. If the participant declined a

warm transfer, the investigator conducted a suicide risk screening himself. Although a sizeable portion of the sample triggered the safety protocol, no participants required a significant safety intervention. Lastly, the investigator provided the participant with a copy of his completed consent and HIPAA authorization forms, along with a “VHA Research and Development Volunteering in Research: Here Are Some Things You Need to Know” brochure as required by VHA standards. These procedures comprised the data collection process.

Subsequent to completion of the collection of data, the investigator securely scanned all forms and instruments into the study’s networked folder, and tangible paperwork was deposited into a locked filing drawer in the investigator’s office. Approximately bi-weekly, the investigator accessed the data and input it into an excel spreadsheet that was also maintained on the study’s secured network drive. In keeping with VHA research standards, the local VA Research Compliance Officer routinely audited the study. No major protocol deviations were noted.

#### Operationalization of Variables & Measures

The study used 11 measurement instruments. Ten instruments were well-established questionnaires, and the 11<sup>th</sup> was used to collect demographic data. One of the measurements, the Multicultural Counseling Inventory (Roysicar, 2004), which was completed by the providers, was not included in the data analysis due to limited provider participation. Veterans completed the remaining 10 measurements. The measurements were divided into the following groups: (a) social support, (b) working alliance, and (c) psychological functioning.

## Social Support

The study used three social support scales. The Postdeployment Social Support Scale [PSSS] (King et al., 2006) is presented in Appendix B. The PSSS is a 15-item self-report instrument that measures actual instrumental and emotional support provided by family, friends, and the community to a service member after a combat tour (King et al., 2006). The PSSS was found to have a Cronbach's alpha of .88 (Vogt, Proctor, King, King, & Vasterling, 2008).

The Network Orientation Scale [NOS] (Vaux, Burda, & Stewart, 1986) is presented in Appendix C. The NOS is a 20-item Likert scale that measures an individual's subjective attitudes and beliefs regarding the utility of social support with good internal reliability (Cronbach's  $\alpha$  = .84; Vaux et al., 1986).

The Multidimensional Scale of Perceived Social Support [MSPSS] (Roysicar, 2004) is presented in Appendix D. The MSPSS is a 12-item Likert scale developed to measure perceived social support from friends, family, and significant others with adequate internal reliability (Cronbach's  $\alpha$  = .88; Zimet, Dahlem, Zimet, & Farley, 1988). Together, these three measurements cover a wide range of social support constructs: support provided (PSSS), perception of support (MSPSS), and subjective orientation towards support (NOS).

## Combat Exposure

Because all participants endured combat trauma, it was essential to control for the magnitude of exposure. The study used the Combat Exposure Scale [CES] (Keane et al., 1989) in Appendix E. The CES is a seven-item self-report instrument that measures the amount of combat a participant experienced. This measurement is continuous in nature and has demonstrated good

internal consistency (Cronbach's  $\alpha = .85$ ) and excellent test-retest reliability ( $r = .97, p < .001$ ; Keane et al., 1989).

### Working Alliance

The study measured working alliance using the Working Alliance Inventory – Short Form [WAI-SF] (Tracey & Kokotovic, 1989) in Appendix F. The WAI-SF is a 12-item instrument designed to measure the therapeutic relationship between provider and patient/client.

Furthermore, the measurement has three subscales: agreement on goals, agreement on tasks, and affective bond. Internal reliability for the instrument among clients is excellent (Cronbach's  $\alpha = .92$ ; Busseri & Tyler, 2003). This instrument can be administered to the client, counselor, or both independently. For the purposes of this study, it was administered to patients/veterans only.

The demographic measurement used in this study (Appendix G) served two purposes. First, it confirmed that the participant met inclusion criteria by prompting on combat exposure, combat deployment, receiving combat-trauma related therapy, and Latino/Hispanic ethnicity. Second, it gathered data on the participant's perception of his provider's characteristics, including the provider's gender, ethnicity, and military history. These three items were dichotomous variables that measure provider-participant similarity. Participants were also prompted to self-report the number of sessions that they had attended with their provider, but the vast majority of participants reported that they could not recall this information accurately. Thus, it was not included in the data analysis.

### Psychological Functioning

Four established instruments measured psychological functioning. The PTSD Checklist – Military Version [PCL-M] found in Appendix H is a 17-item self-report scale that measures PTSD symptom severity within the past month (Weathers, Litz, Herman, Huska, & Keane, 1993). The PCL-M has demonstrated excellent internal consistency with a sample of veterans (Cronbach's  $\alpha = .97$ ; Norris & Hamblen, 2003).

The Beck Scale for Suicidal Ideation (BSSI) shown in Appendix I is a 19-item self-report instrument that measures the severity of suicidal ideation (Beck, Kovacs, & Weissman, 1979). The BSSI has demonstrated outstanding internal consistency (Cronbach's  $\alpha = .93$ ; Beck, Steer, & Ranieri, 1988).

The Beck Depression Inventory – II (BDI-II) is shown in Appendix J. It is a 21-item self-report instrument that measures depression symptom severity with excellent internal consistency (Cronbach's  $\alpha = .92$ ; Beck, Steer, & Brown, 1996).

Finally, the Beck Anxiety Inventory (BAI) shown in Appendix K (Beck & Steer, 1990) is a 21-item self-report instrument that measures anxiety symptom severity and has demonstrated outstanding internal consistency (Cronbach's  $\alpha = .92$ ; Beck, Epstein, Brown, & Steer, 1988). Scores on these four instruments served as the dependent variables that represented psychological functioning within the sample.

### Institutional Review Boards (IRB)

This study was approved by two Institutional Review Boards. Because the study was conducted within the University of Central Florida's (UCF) Public Affairs PhD Program, it was

subject to UCF's IRB approval (Appendix L). Additionally, data were collected at the VAMC; thus, the study was also subject to VAMC's IRB approval. Due to the VA's exhaustive and stringent IRB approval process, the UCF IRB made its approval contingent on the VAMC's IRB decision.

The study was initially approved by the VAMC IRB in 2013. However, as several policies came to light per the VAMC Research Office and the Officer of Research Oversight, six amendments were submitted to and approved by the IRB, causing significant delay. The study was also delayed by a federal government furlough in 2014. Aside from delays, neither the amendments nor the furlough had any remarkable effect on data collection.

### Statistical Analysis

The study was originally designed to use confirmatory factor analysis and structural equation modeling to test theory. However, due to the difficulties that arose in collecting data from a clinical sample, the researcher was not able to recruit the minimally necessary sample size. Thus, data were analyzed using descriptive statistics, bivariate analysis, and regression models. The investigator used the VA's national statistical analyses system named VA Informatics and Computing Infrastructure (VINCI). VINCI provides a logical workspace for investigators to conduct data analyses in a manner that maintains patient confidentiality. Actual statistical analyses were conducted using SPSS (IBM; 2016).

### Descriptive Statistics

Means and medians were calculated for central tendency descriptors, and standard deviation presented the spread for all continuous variables. The Shapiro-Wilks test was used to

assess for normality of the distribution of continuous variables. Frequencies and percentages were calculated for dichotomous variables.

### Bivariate Analyses

Bivariate analyses provided information on the relationships between the study's variables. Because the distribution of several variables did not meet normality criteria, two correlation analyses were used. Pearson's  $r$  was calculated to establish relationships between normality distributed variables, and Spearman's Rho was used when either of the variables had a non-normal distribution. Statistical significance was set at  $p < .05$ .

### Regression Models

Bivariate statistical results were used to select the most promising variables for inclusion in the regression models. A regression model was developed for each measure of psychological functioning (i.e. BSSI, PCL-M, BDI-II, & BAI). Predictor variables that were significantly correlated with the respective psychological functioning variable were included in the regression model. If the model did not have at least two predictor variables that were significantly correlated with the psychological functioning measure, the measures that had the least chance of a type 1 error (highest  $\alpha$ ) were included. Coefficient significance was set at  $p < .05$  and direction was assessed by polarity (i.e., positive or negative). The model  $F$ -test was set at  $p < .05$  and the adjusted  $R^2$  showing the amount of variance predicted was reported.



## CHAPTER 4 RESULTS

### Descriptive Statistics

This chapter provides results regarding the factors associated with various dimensions of psychological functioning within a non-representative clinical sample of Latino combat veterans. A total of 677 veterans' medical charts were reviewed for the following inclusion criteria: male; Latino; deployment in support of Operation Iraqi Freedom or Operation Enduring Freedom; and receiving mental health services for trauma-related symptoms. Those cases that failed to meet all of the criteria were excluded, leaving 284 patients eligible for participation. The investigator mailed recruitment packages containing a recruitment letter and a copy of the informed consent form to these patients. Of the 284 contacted, 42 participated. Table 2 shows the number of respondents submitting complete data for each dependent variable as well as the range, mean, and standard deviation for participant responses.

Table 2

#### *Descriptive Statistics for Dependent Measures*

Measure	<i>n</i>	Minimum	Maximum	<i>M</i>	SD
BSSI (Suicide)	28	0.00	21.00	6.68	6.76
PCL-M (PTSD)	40	39.00	85.00	69.75	11.43
BDI-II (Depression)	34	9.00	52.00	34.32	10.68
BAI (Anxiety)	40	30.00	70.00	50.50	10.08

## Dependent Variables

### BSSI (Suicidality)

The central tendency and spread of the outcome variables were in-keeping with a population that was receiving mental health treatment. For example, Beck (1993) stated that anyone scoring over a six on the BSSI scored high enough to seek further services. The sample's mean was above 6 ( $M = 6.68$ ), which was the threshold suggested by Beck for suicidality. The total scores of the BSSI exhibited a non-normal distribution ( $W = 0.865$ ,  $df = 28$ ,  $p = .002$ ) due to the scoring procedures which divide participants into groups for the purpose of clinical decision-making (see Table 3). Due to the nature of the scale, participants with no suicidality scored very low and/or left most of the scale blank, and suicidal participants had very high scores. In fact, the histogram shows a tri-modal central tendency/distribution.

Table 3

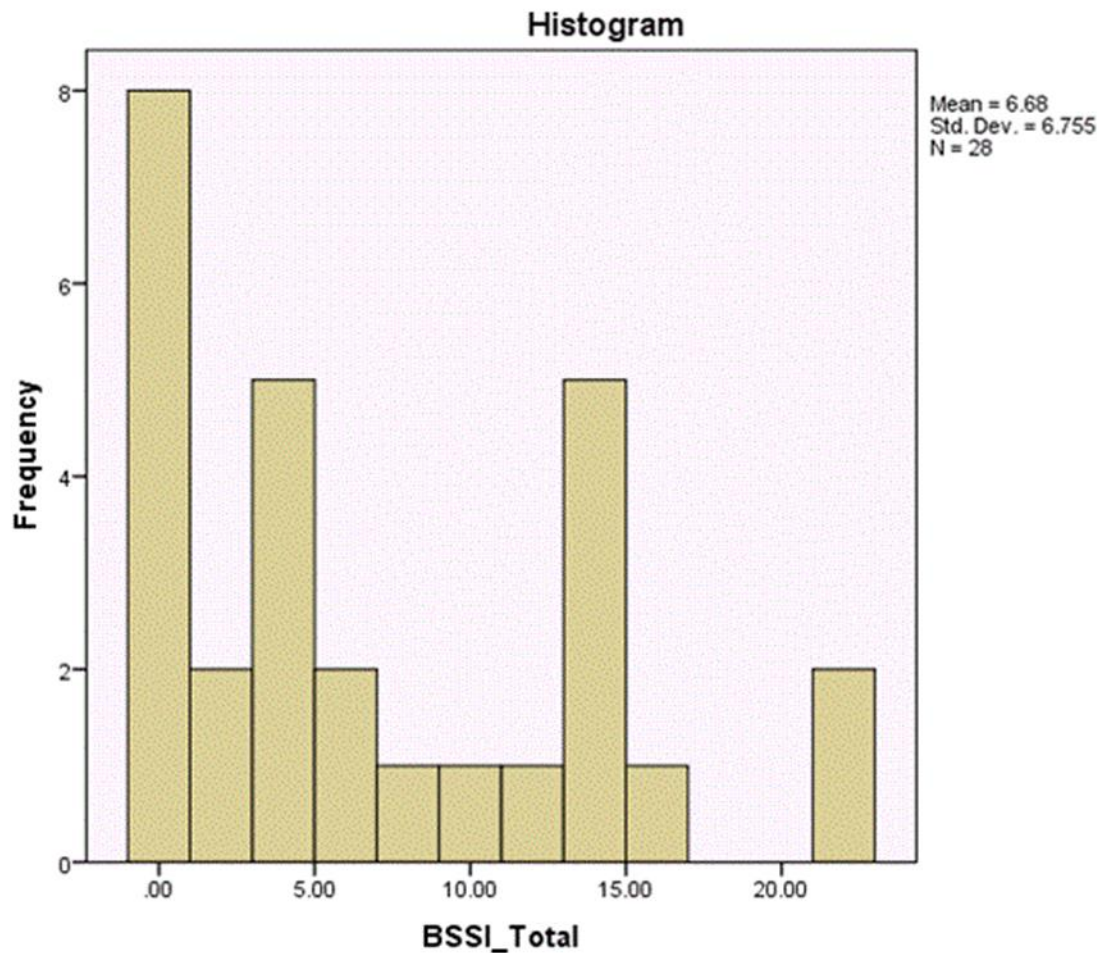
#### *Shapiro-Wilks Test for Normality of Continuous Variables*

Outcome Variables	Statistic	Shapiro-Wilks	
		df	$p$
BSSI	0.865	28	0.002**
PCL-M	0.927	40	0.013*
BDI-II	0.961	34	0.268
BAI	0.968	40	0.308

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

This illustrates that there were many participants who had no suicidal ideation, some with passive thoughts of suicidality, and others who were reaching more dangerous levels of lethality. This highlights that the sample was not representative of the general population, but may still be

typical of those receiving mental health outpatient services. The distribution may have affected the validity of the statistical analysis because it did not meet the parametric test assumption of normality.



*Figure 1.* Histogram of the BSSI distribution

The BSSI is designed so that items 4 and 5 serve as screeners for suicidal ideation (Beck & Steer, 1993; de Beur, Fokkema, de Groot, de Keijser, & Kerkhof, 2015). Therefore, if a participant answered '0' for items 4 and 5 on the BSSI, all following missing data were noted

with a score of zero. This occurred for 13 cases. No other missing data were noted. Despite this process, item 21 still had a missing percentage rate of 26.2%. Upon further investigation, the item asks:

21: Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

0. My wish to die during the last suicide attempt was low.
1. My wish to die during the last suicide attempt was moderate.
2. My wish to die during the last suicide attempt was high.

This item assumes that the participant had a suicide attempt within the past week, which may have excluded a good portion of those answering the questionnaire. No other item on the BSSI was missing 15% or more.

A dummy variable was created to identify whether respondents who skipped BSSI items were different from those who completed the BSSI. This dummy variable allowed for a comparison of predictor variable means between respondents with missing BSSI data and those with no missing data (See Table 4). There were no major differences found between means; therefore, it was appropriate to assume that the missing data were not due to a confounding variable.

Table 4

*Shapiro-Wilks Test for Normality of Dependent Variables*

Outcome Variables	Shapiro-Wilks		
	Statistic	df	<i>p</i>
BSSI	0.865	28	0.002**
PCL-M	0.927	40	0.013*
BDI-II	0.961	34	0.268
BAI	0.968	40	0.308

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

PCL-M (Posttraumatic Stress Disorder)

PTSD was measured using the PCL-M which is a 17-item self-report scale designed to measure the severity of an individual's PTSD symptomology. The VA National Center for PTSD (2014) has suggested that the cutoff point on the PCL-M for veterans in mental health services, where estimated prevalence of PTSD is 40% or above, should be between 45 & 50. Because in this study, the researcher sought participants who were receiving treatment specifically for trauma, the sample had a much higher PCL-M mean ( $M = 69.75$ ) with a standard deviation of 11.43 points. Furthermore, Figure 2 shows a negative skew. Thus, the majority of the sample met criteria for PTSD as per the prescribed cutoff scores. Using a Shapiro-Wilks test for normality, the PTSD checklist was found to be non-normally distributed,  $W = .927$ ,  $df = 40$ ,  $p = .013$ . As with the suicidality scale, the PTSD scale scores may have been non-normally distributed due to the sample; those who were seeking mental health services would endorse more PTSD symptoms than the general population.

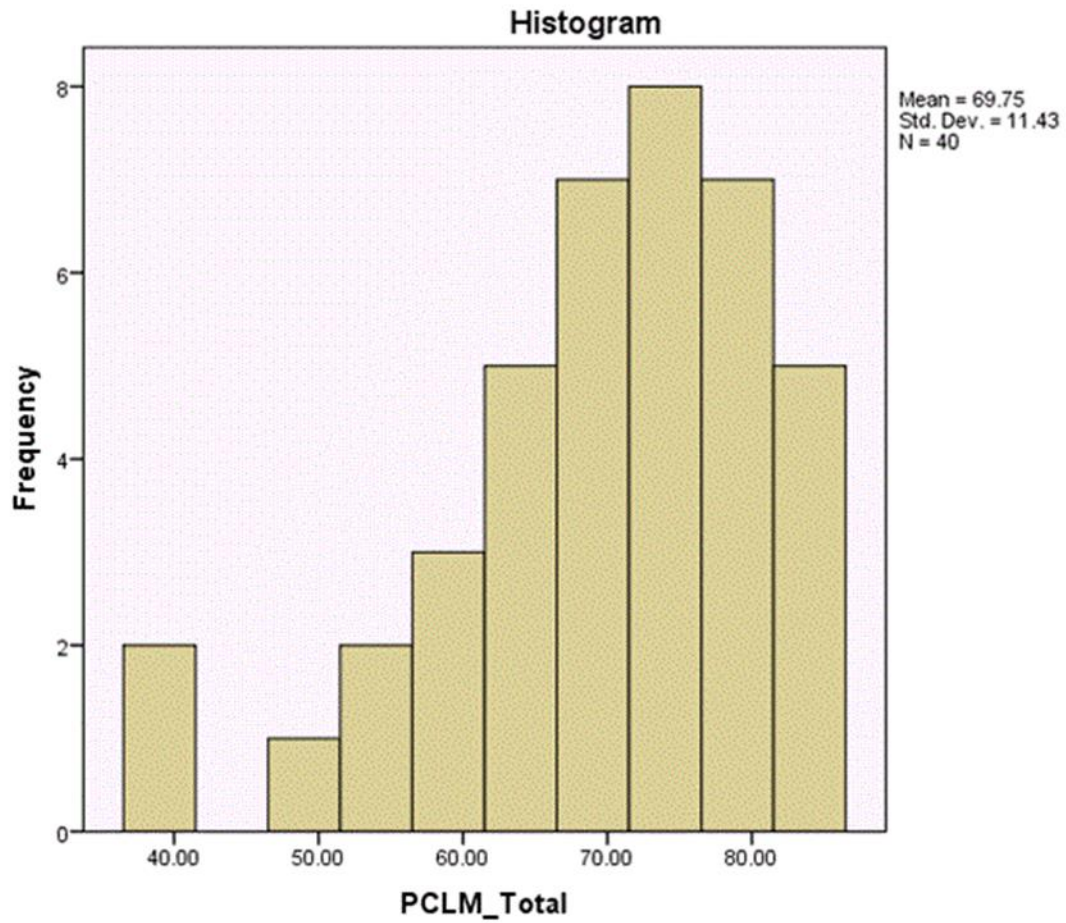


Figure 2. Histogram of the PCL-M distribution

### BDI-2 (Depression)

The BDI-2 central tendency and distribution ( $M = 34.32$ ,  $SD = 10.68$ ) showed that 95% of the sample had moderate to extreme depression as defined by the BDI-II Manual (Beck, Steer, & Brown, 1996); depression scale responses were found to be normally distributed ( $W = .961$ ,  $df = 34$ ,  $p = .268$ ). Figure 3 illustrates the central tendency and spread of the BDI-II.

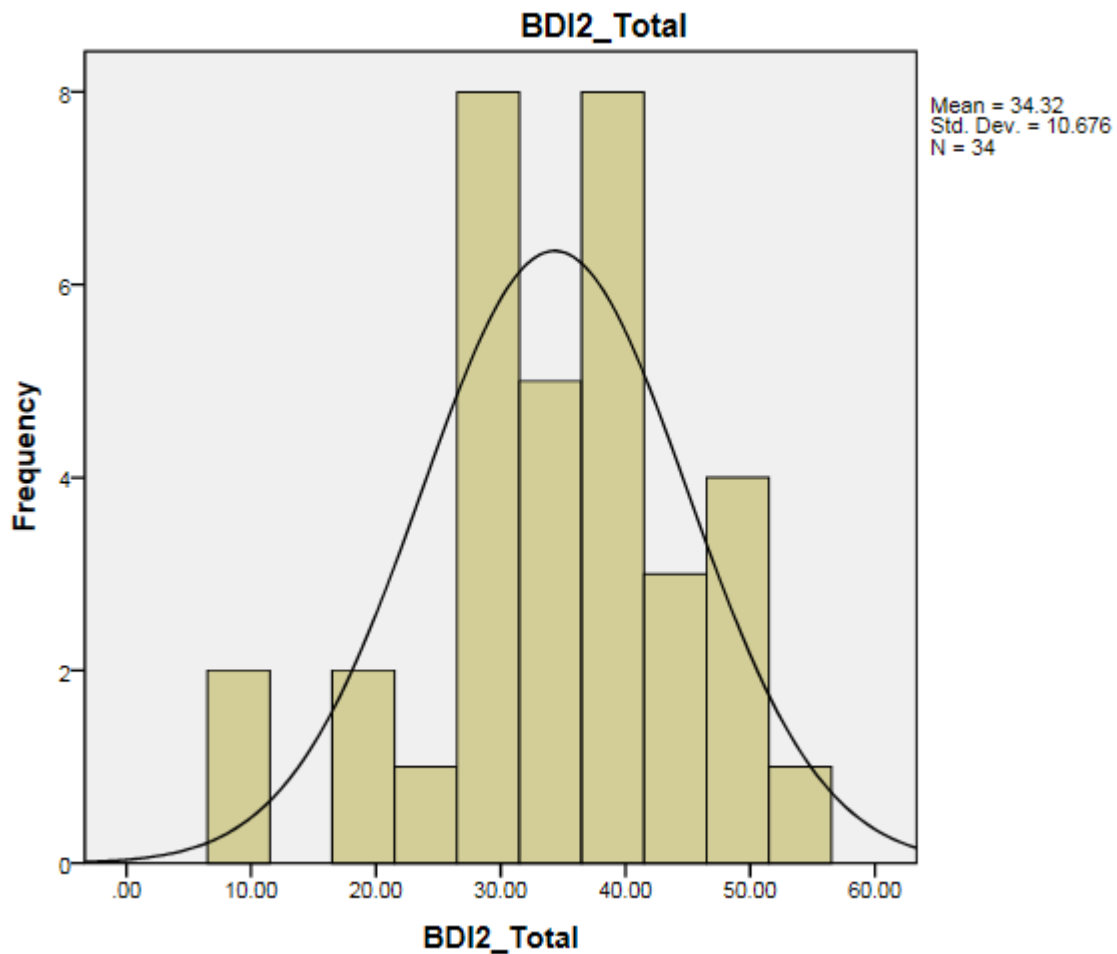


Figure 3. Histogram of BDI-II distribution with normal bell curve

### BAI (Anxiety)

The BAI responses were found to have a normal distribution ( $W = .968$ ,  $df = 40$ ,  $p = .308$ ), and the mean and standard deviation ( $M = 50.50$ ,  $SD = 10.08$ ) also demonstrated that the sample had reported severe anxiety. Figure 4 is a histogram showing the central tendency and spread of the BAI. Given the reviewed distribution of scores across all of the psychological

functioning measures, the sample consisted of a group of Latino-American male combat veterans experiencing severe problems within each dimension of psychological functioning.

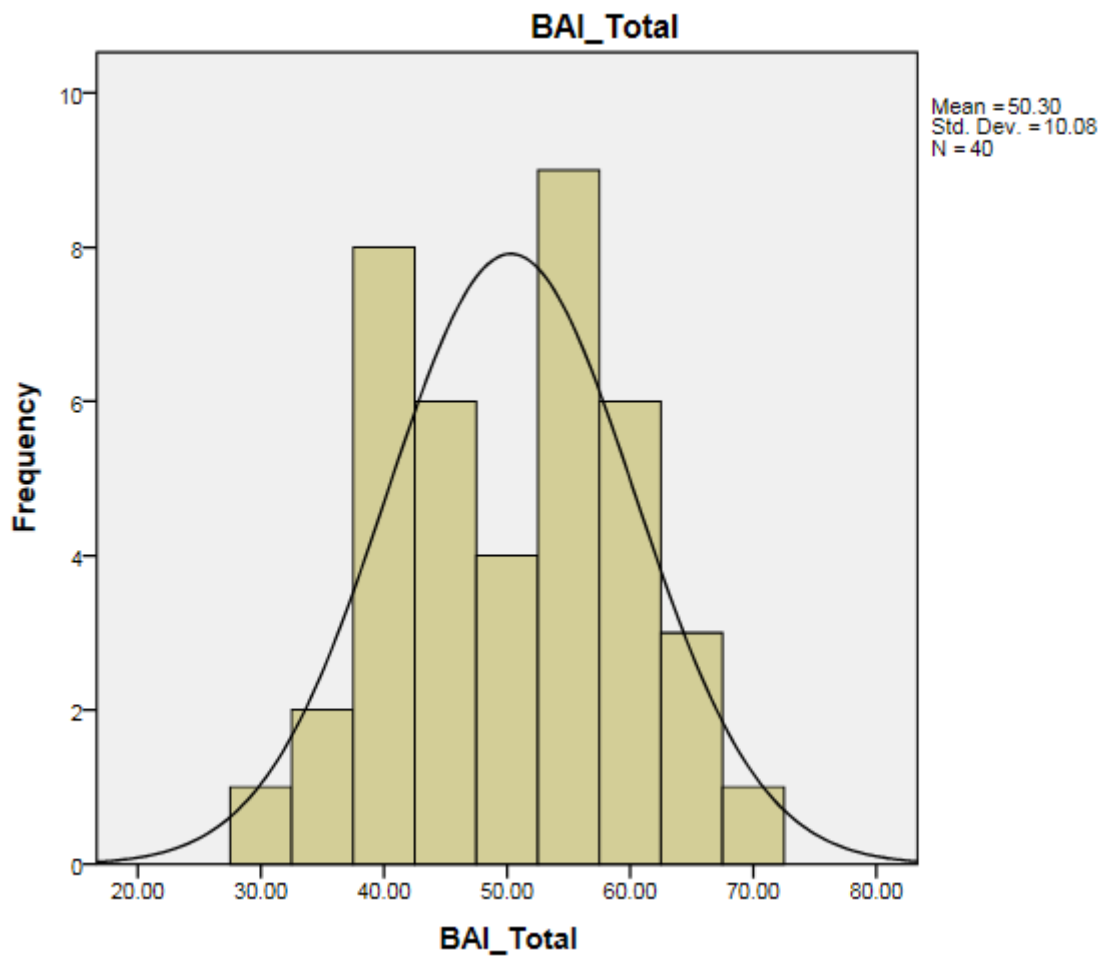


Figure 4. Histogram of BAI distribution with normal bell curve



## Independent Variables

### Characteristics of Veterans' Therapists

The study included three dichotomous variables that described the patients' therapists: ethnicity (Latino or not), peer (veteran or not), and gender (female or male). A total of 26 (61.9%) therapists were perceived by the patients to be of an ethnicity other than Latino, and 14 (33.3%) were perceived to be Latino. An overwhelmingly majority (85.7%) of therapists were perceived as non-military veterans; only six (14.3%) were reported to be veterans by the sample. Lastly, there was a nearly even distribution of gender among therapists: 19 (45.2%) were female, and 23 (54.8%) were male.

### Social Support, Combat Exposure, and Working Alliance

This study included five continuous independent variables. First, combat exposure was assessed using the Combat Exposure Scale [CES] (Keane et al., 1989). Second, there were three measurement instruments used to gain a thorough understanding of social support. The three social support instruments were the Multidimensional Scale of Perceived Social Support [MSPSS] (Zimet et al., 1988), which measures perceived general social support from family, significant other, and friends; the Network Orientation Scale [NOS] (Vaux et al., 1986) which measures the participant's subjective beliefs regarding the utility of social support; and the Postdeployment Social Support Scale [PSSS] (King et al., 2006) which measures social support received when the veteran returns from a deployment. Third, working alliance was assessed using the Working Alliance Inventory – Short Form [WAI-SF] (Tracey & Kokotovic, 1989). Descriptive statistics (sample size, mean, and standard deviation) are reported in Table 5.

Table 5

*Descriptive Statistics for Independent Measures*

Measure	<i>n</i>	<i>M</i>	SD
CES	39	21.18	9.02
PDSSS	39	21.18	7.14
WAI-SF	34	65.56	13.91
Task	37	23.03	4.85
Bond	36	22.50	6.16
Goal	37	20.68	4.42
NOS	36	54.39	6.83
MSPSS	39	52.79	18.81

Shapiro-Wilks tests were used to assess normality. The results are shown in Table 6. The WAI-SF was the only variable to fail to meet normality standards ( $W = .918$ ,  $df = 34$ ,  $p = .014$ ). However, a view of the histogram (Figure 5) shows that the distribution was not extremely far from normal, and the rejection of the normality testing may have been a result of a low sample size that did not have any scores totaling between 60 and 65.

Table 6

*Shapiro-Wilks Test for Normality of Predictor Variables*

Outcome Variables	Shapiro-Wilks		
	Statistic	df	<i>p</i>
CES	0.979	39	0.552
PSSS	0.964	39	0.247
NOS	0.954	36	0.144
MSPSS	0.946	39	0.059
WAI-SF	0.918	34	0.014*

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

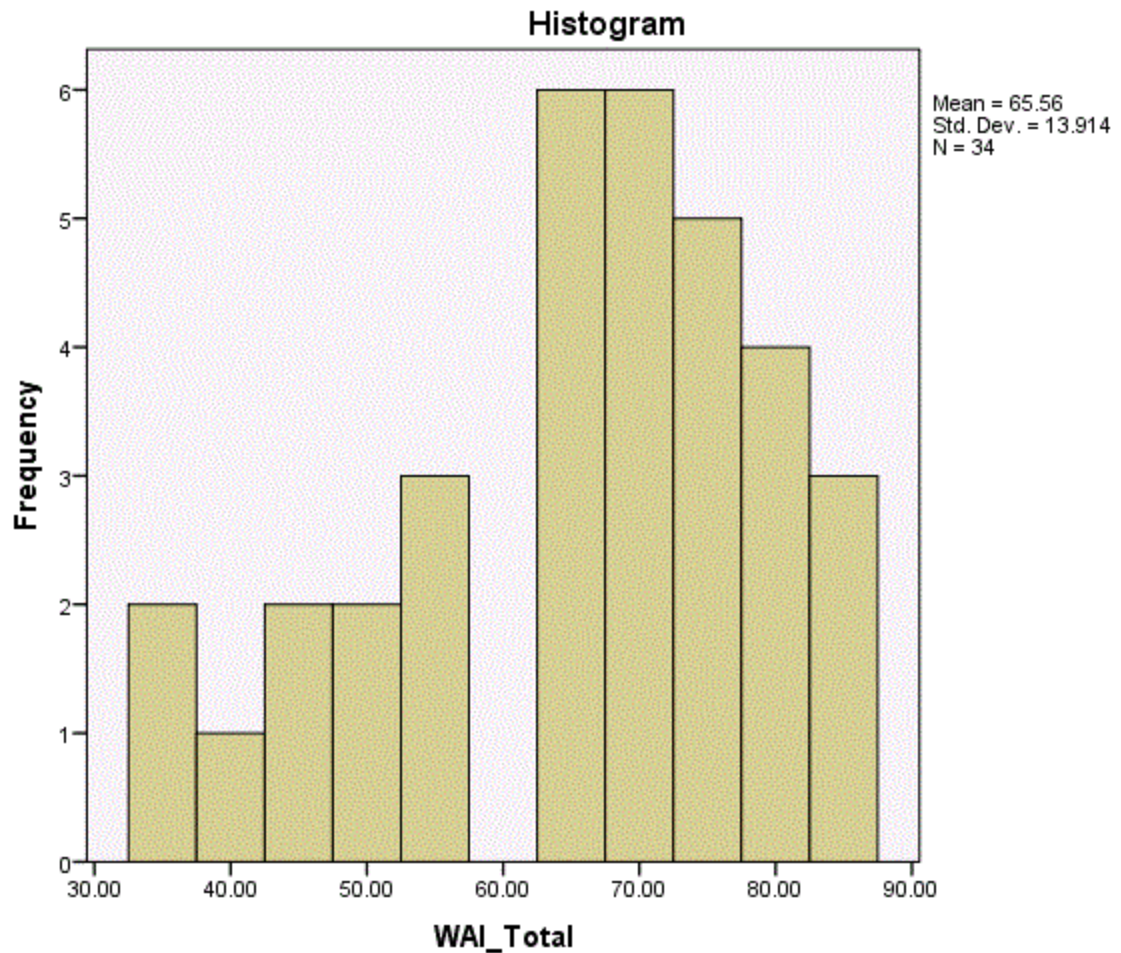


Figure 5. Histogram of WAI-SF distribution

#### Bivariate Statistics for Continuous Variables

A Pearson Statistics for Continuous Variables variation was conducted for the continuous variables. Table 7 shows the results of the analysis in which only the pairings of normally distributed variables were considered. This table includes the variables of depression, general anxiety, combat exposure, post deployment social support, network orientation, and multidimensional social support.

Table 7

*Continuous Variables Correlations (Pearson's r)*

Variables	1	2	3	4	5	6	7	8	9
1. BSSI (Suicide)									
2. PCL-M (PTSD)	.234								
3. BDI-II (Depression)	.283	.595**							
4. BAI (Anxiety)	.314	.636**	.671						
5. CES (Combat Exposure)	-.232	.372*	-.049	.215					
6. PDSSS (Postdeployment SS)	.149	-.271	-.061	-.173	-.069				
7. NOS (Network Orientation)	.306	.296	.148	.157	-.142	-.477**			
8. MSPSS (Multidim. SS)	-.032	-.379*	-.097	-.152	-.152	.739**	-.528**		
9. WAI-SF (Working Alliance)	.201	-.324	-.409*	-.261	-.261	.133	-.140	.282	

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

Table 8 shows the Spearman Rho correlations for continuous variables. When using correlations to build the regression models, the Spearman's Rho was considered for variables that were not normally distributed per their Shapiro-Wilks tests. These variables include the suicide scale, PTSD checklist, and Working Alliance Inventory.

Table 8

*Continuous Variables Correlations (Spearman's Rho)*

Variables	1	2	3	4	5	6	7	8	9
1. BSSI (Suicide)									
2. PCL-M (PTSD)	.175								
3. BDI-II (Depression)	.278	.573**							
4. BAI (Anxiety)	.206	.564**	.703**						
5. CES (Combat Exposure)	-.223	.445**	-.031	.223					
6. PDSSS (Postdeployment SS)	.027	-.269	-.238	-.183	.040				
7. NOS (Network Orientation)	.362	.228	.240	.140	-.162	-.504**			
8. MSPSS (Multidim. SS)	-.093	-.359*	-.282	-.156	-.115	.723***	-.557**		
9. WAI-SF (Working Alliance)	.047	-.381*	-.396*	-.238	-.019	.203	-.200	.398*	

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

There were several significant correlations found. There was a statistically significant correlation between the depression scale and the PTSD checklist ( $r_s = .573, n = 32, p = .001$ ) pointing out that the effects of trauma may not only affect PTSD symptomology but may also increase depressive symptoms. There was also a significant correlation between PTSD symptomology and general anxiety ( $r_s = .564, n = 38, p < .001$ ) showing an overlap in trauma-specific symptoms and general anxiety. Together, these correlations may highlight that although trauma may cause PTSD specific symptoms, PTSD may be understood as a disorder that affects both depression and anxiety. Another set of interesting correlation findings involved the social support measures. Specifically, the multidimensional scale of social support was found to be correlated with post-deployment social support and network orientation ( $r = .739, n = 37, p < .01$ ). This could highlight that the multidimensional scale of social support was a measurement that covers a broad spectrum of social support constructs. Furthermore, the inverse relationship of multidimensional social support and PTSD ( $r_s = -.359, n = 37, p = .029$ ) may highlight the buffering effect that overall social support may have on PTSD, although the other two more specific measures of social support were not significantly correlated. Interestingly, multidimensional social support was inversely related to network orientation ( $r = -.528, n = 35, p < .01$ ). These relationships are discussed in more detail in Chapter 5. Lastly, in the correlation analysis, working alliance was found to be negatively related to depression ( $r_t = -.259, n = 30, p = .049$ ) meaning that the strength of the therapeutic bond between the therapist and patient was inversely related to depressive symptoms. The significant correlations between the predictor variables and the four dimensions of psychological functioning variables were used to design regression models.

Bivariate results also allow us to test the relationship between social support and working alliance. Working alliance was significantly related to one of the measures of social support (MSPSS; perceived social support), but not to the other two measures (PSSS & NOS). The correlation was only statistically significant when examining the Spearman's Rho results and not the Pearson's  $r$  results.

#### Bivariate Statistics for Dichotomous Variables

In the study, three dichotomous predictor variables representing therapists' characteristics were hypothesized to relate to working alliance. The study used  $t$ -tests to assess for differences in the WAI-SF scores based on the therapists' (1) gender, (2) ethnicity (Latino or not), and (3) military history (veteran or no military service). There was no significant difference in working alliance between male ( $M = 67.631$ ,  $SD = 14.221$ ) and female ( $M = 62.933$ ,  $SD = 13.530$ ) therapists,  $t(32) = -.977$ ,  $p = .336$ . The  $t$ -test also revealed no significant difference between therapists who were Latino ( $M = 66.923$ ,  $SD = 12.298$ ) and those who were not ( $M = 65.700$ ,  $SD = 14.737$ ),  $t(31) = -.248$ ,  $p = .806$ . Lastly, a  $t$ -test showed no significant difference between therapists who were veterans ( $M = 68.000$ ,  $SD = 15.874$ ) and those who had no military service ( $M = 65.233$ ,  $SD = 13.902$ ),  $t(32) = -.369$ ,  $p = .715$ . Therefore, there were no significant differences in working alliance based on the three therapist characteristics.



## Multiple Regression Models

### Multiple Regression Models for Suicide

The study used a multiple regression model to predict suicidality. The model was built using the variables that had bivariate relationships closest to statistical significance: network orientation ( $r_s = .362, n = 23, p = .090$ ; NOS) and working alliance goals ( $r_s = .302, n = 25, p = .143$ ; WAI-Goals). The equation was as follows:

$$\text{BSSI} = \text{Constant} + \beta_1 \text{NOS} + \beta_2 \text{WAI-Goals} \quad (1)$$

The NOS ( $\beta = .284, p = .194$ ) and WAI-SF-Goals ( $\beta = .260, p = .233$ ) were not significant predictors. The  $F$ -test for the model as a whole failed to reach statistical significance,  $F(2, 19) = 1.761, p = .199$ . Therefore, the model and predictor variables were not successful in explaining variation in suicidality scores.

Table 9

#### *BSSI Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized	Standardized			
	B	SE			
Constant	-17.008	13.003		-1.308	.206
NOS	.282	.210	.284	1.346	.194
WIA-SF-Goals	.429	.349	.260	1.232	.233

$R^2 = .156$

Power = .371

### Multiple Regression Models for PTSD

A multiple regression model was designed using predictor variables that correlated with the PCL-M scores which were the WAI (a measure of working alliance;  $r_s = -.381$ ,  $n = 33$ ,  $p = .029$ ), CES (a measure of combat exposure;  $r_s = .445$ ,  $n = 37$ ,  $p = .006$ ), and the MSPSS (a measure of social support;  $r_s = -.359$ ,  $n = 37$ ,  $p = .029$ ). As shown in Table 10, this model failed to produce any significant results, and the model was rerun with only two variables (CES & perceived social support). The correlation between these two predictor variables ( $r_s = .424$ ,  $n = 32$ ,  $p = .001$ ) did not pose a multicollinearity issue because they were not found to be significantly correlated at .7 or greater ( $r = -.152$ ,  $n = 36$ ,  $p = .376$ ). The formula appeared as such:

$$\text{PCL-M} = \text{Constant} + \beta_1\text{CES} + \beta_2\text{MSPSS} \quad (2)$$

Results indicated that social support was significantly and negatively associated with PTSD severity ( $p = .008$ ). Combat exposure was not a significant predictor ( $p = .181$ ). The model as a whole explained 27.4% of the total variance in the PCL-M,  $F(2, 33) = 5.845$ ,  $p = .010$ .

Table 10

#### *PTSD Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized B	Standardized SE			
Constant	76.390	7.418		10.297	.001
CES	.318	.232	.212	1.368	.181
MSPSS	-.249	.087	-.443	-2.855	.008

$R^2 = .274$

Power = .896

To further evaluate these relationships, three additional multiple regression models were

created with one model for each PCL-M subscale. As shown in Table 11, PTSD symptomology was divided into its three symptom subclusters: (a) intrusion, (b) hyperarousal, and (c) avoidance, and a correlation matrix was built.

Table 11

*Correlation of Predictor Variables With PCL-M Symptoms Subclusters*

Variables	Intrusion	Hyperarousal	Avoidance
CES	.396*	.358*	.225
MSPSS	-.337*	-.059	-.392*
WAI	-.108	-.256	-.378*
NOS	.177	-.100	.440**

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

A multiple regression model for the intrusion subscale of the PCL-M was created based on significant relationships at the bivariate level (See Table 12). The equation reads as follows:

$$\text{Intrusion Subscale of PCL-M} = \text{Constant} + \beta_1 \text{CES} + \beta_2 \text{MSPSS} \quad (3)$$

Combat exposure was marginally significant using a p-value  $< 0.1$  ( $\beta = .273, p = .084$ ).

Perceived multi-dimensional social support also had a significant effect ( $\beta = -.320, p = .022$ ).

The model explained 24.2% of the total variance,  $F(2, 33) = 5.276, p = .010$ .

Table 12

*PTSD Intrusion Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized B	Standardized SE			
Constant	21.453	2.890		7.423	.001
CES	.160	.090	.273	1.783	.084
MSPSS	-.083	.034	-.370	-2.413	.022
$R^2 = .242$					
$Power = .839$					

The next regression model was conducted for the Hyperarousal subscale (See Table 13). There was only one predictor variable; thus, there were no possible multicollinearity issues to assess. Combat exposure had a statistically significant, positive effect on hyperarousal ( $B = .163$ ,  $p = .027$ ). The model was statistically significant and explained 12.8% of the total variance,  $F = (1, 36) = 5.301$ ,  $p = .027$

Table 13

*PTSD Hyperarousal Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized B	Standardized SE			
Constant	18.517	1.452		12.754	.001
CES	.150	.065	.358	2.302	.07
$R^2 = .128$					
$Power = .643$					

Finally, the multiple regression model for avoidance was designed as follows:

$$\text{Avoidance Subscale of the PCL-M} = \text{Constant} + \beta_1\text{MSPSS} + \beta_2\text{WAI-SF} + \beta_3\text{NOS} \quad (4)$$

There were no issues with multicollinearity. As shown in Table 14, the model explained 26.9% of the total variance,  $F(3, 25) = 3.070$  and was statistically significant ( $p = .046$ ). However, none of the coefficients for the predictor variables met statistical significance: MSPSS ( $p = .915$ ), NOS ( $p = .126$ ), WAI ( $p = .082$ ).

Table 14

*PTSD Avoidance Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized	Standardized			
	B	SE			
Constant	16.354	16.894		.968	.342
MSPSS	-.008	.074	-.024	-.108	.915
WIA-SF	-.139	.077	-.317	-1.813	.082
NOS	.376	.237	.349	1.584	.126

$R^2 = .269$

Power = .722

### Multiple Regression Models for Depression

A regression model was also analyzed for the outcome of depression (as measured by the BDI-II). A correlation between depression and working alliance (as measured by WAI-SF) was found ( $r = -.409$ ,  $n = 30$ ,  $p = .025$ ). Therefore, a regression model was built using the WAI-SF as the predictor and depression as the outcome variable.

$$\text{BDI-II} = \text{Constant} + \beta\text{WAI-SF} \quad (5)$$

As shown in Table 15, the WAI-SF ( $\beta = -.409$ ,  $p = .025$ ) had a statistically significant negative

impact on depression. In other words, as the working alliance increased, the intensity of the depression decreased. The model predicted 16.7% of the total variance in depression,  $F(1, 28) = 5.626, p = .025$ .

Table 15

*BDI-2 Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized	Standardized			
	B	SE			
Constant	55.703	9.129		6.102	.001
WAI-SF	-.331	.140	-.409	-2.372	.025

$R^2 = .167$   
 $Power = .669$

To further evaluate the relationship between depression and working alliance, a second model was created with the subscales of the WAI-SF serving as three predictors. The WAI-SF was broken down into its subscales (a) task, (b) bond, and (c) goals) and a regression model was created to predict depression.

$$BDI-II = \text{Constant} + \beta_1 \text{WAI-SF-Task} + \beta_2 \text{WAI-SF-Bond} + \beta_3 \text{WAI-SF-Goals} \quad (6)$$

The model did not meet significance, but was marginally significant,  $F(3, 28) = 2.742, p = .062$ . This means that while the WAI-SF as a whole can predict depression levels, none of the three subscales is particularly predictive of depression. Table 16 presents the model results.

Table 16

*Depression Regression Model With WAI-SF Subscales as Predictors Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized	Standardized			
	B	SE			
Constant	59.125	9.458		6.251	.001
Task	-1.254	.610	-.570	-2.053	.049
Bond	.392	.477	.226	.822	.418
Goals	-.230	.546	-.095	-.420	.677

 $R^2 = .227$ 

Power = .670

## Multiple Regression Model for Anxiety

As with suicidality, the Pearson's correlation analysis found no variables that had a significant relationship with generalized anxiety. Thus, a multiple regression model using the two variables closest to significance in the correlation matrix was created. These two variables were working alliance ( $r = -.261, n = 33, p = .142$ ) and combat exposure ( $r = .215, n = 37, p = .201$ ).

$$\text{BAI} = \text{Constant} + \beta_1 \text{WAI-SF} + \beta_2 \text{CES} \quad (7)$$

Neither predictor variable was significant. Further, the model was not statistically significant,  $F(2, 27) = 1.582, p = .224$ .

Table 17

*BAI Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized	Standardized			
	B	SE			
Constant	61.415	9.782		6.278	.001
WAI-SF	-.196	.120	-.301	-1.642	.112
CES	.117	.233	.092	.504	.618

 $R^2 = .105$ 

Power = .341

## Multiple Regression Models for Combat Exposure and Social Support Interaction

Because this study included hypotheses and interaction between combat exposure and social support, multiple regression models were created for each dependent variable (i.e., Suicidality, PTSD, Depression, & Anxiety). Thus, the models appeared as follows:

$$\text{Dependent variable} = \text{Constant} + \beta_1 \text{CES} + \beta_2 \text{MSPSS} + \beta_3 \text{CES} \times \text{MSPSS} \quad (8)$$

However, these models are only valid when both predictor variables are significant in the initial regression models. Results from the interaction models are shown in Tables 18-21 (Appendix M), but extreme caution should be taken when interpreting these results. Combat exposure and perceived social support were not statistically significant predictors for any one psychological functioning variable. Therefore, the results of the interaction models could not provide evidence to support the hypothesis that the interaction between combat exposure and social support predicted psychological functioning.



## **CHAPTER 5**

### **FINDINGS & DISCUSSION**

#### Introduction

This study examined factors that affect the psychological functioning of Latino-American male Global War on Terrorism combat veterans receiving psychological treatment for trauma-related symptoms. Psychological functioning was composed of the following four mental health constructs and their corresponding symptom severity: suicidality, posttraumatic stress, depression, and general anxiety. Predictor constructs included combat exposure, specifically the severity and frequency of traumatic combat experiences; social support, specifically perceived assistance provided by others; and working therapeutic bond, defined as the bond developed between therapists and their patients. The study was framed by theories regarding social support and working therapeutic alliance.

This chapter contains a review of the results of the data analyses and interprets the findings in tangible effects. First, it presents whether or not the results supported the hypotheses. The study had five research questions and hypotheses. Three of the hypotheses concerned the effects of variables on psychological functioning. The variables of concern were social support and working alliance. The other two hypotheses focused on variables that affected working alliance. This chapter also contains theoretical, practical, and research implications.

#### Hypothesis 1: Effect of Social Support on Psychological Functioning

The first hypothesis claimed that social support would have a significant direct effect on psychological functioning as a whole. Due to the limited sample size, the researcher was not able to measure psychological functioning as one theoretical construct. Therefore, this hypothesis was

tested with a focus on the four dimensions of the construct (suicidality, posttraumatic stress, depression, and general anxiety) rather than the construct itself. The results allowed for an assessment of the effect of social support on suicidality, posttraumatic stress, depression, and general anxiety.

### Suicide

The results provided no support for the hypothesis that social support affects suicidality. Using a Spearman's Rho analysis, the researcher found that none of the social support measures were significantly correlated to suicidality. Of the three measures, network orientation had the largest Spearman's Rho, and it was included in the regression model as a predictor variable. The regression analysis did not identify a significant effect for this measure of social support. The results showed that the model for suicidality ( $\beta = .371$ ) had power statistics well below the standard ( $\beta = .8$ ). This may have led to a type one error, also known as a false negative. It is possible that there were relationships between the predictor variables and their respective psychological functioning variable, but the analysis did not have enough power to observe the relationships.

### Posttraumatic Stress

The results provided partial support for an effect of social support on posttraumatic stress severity, with significance varying based on the measure of social support used and the aspect of posttraumatic stress that was assessed. The research design included four models for posttraumatic stress, one predicting the posttraumatic stress score, and one for each of the three subscales representing symptom subclusters (intrusion, hyperarousal, and avoidance). Also

included were two measures of social support: multidimensional perceived social support (perceived social support from friends, family, & significant others) and network orientation (subjective attitudes and beliefs regarding the utility of social support). The bivariate analysis showed a mild to moderate negative correlation between multidimensional social support and the PTSD total score, the intrusion subscale score, and the avoidance subscale score; however, no significant correlation between multidimensional social support and hyperarousal was found. Bivariate analysis did not yield a significant correlation between the Network Orientation Scale and any of the psychological functioning scales. Multiple regression results indicated a significant effect of social support as measured by the Multidimensional Scale of Perceived Social Support on posttraumatic stress severity and intrusive symptom severity. As expected, veterans with stronger social support had lower levels of posttraumatic stress symptom severity and intrusive symptom severity. Social support was not included in the hyperarousal model, because the measures were not related to hyperarousal at the bivariate level. Although both social support measures were significantly correlated with the avoidance subscale, the multiple regression analysis did not indicate either to have a statistically significant effect on the latter. In summation, social support had significant effects only on PTSD and intrusion when measured by the MSPSS.

### Depression

The results provided no support for an effect of social support on depression. Bivariate analyses did not reveal any significant relationships between depression and any social support measures. Therefore, the model for depression did not include any social support measurements.

## Anxiety

The results provided no support for an effect of social support on general anxiety. Bivariate analyses did not result in any significant correlations between anxiety and any of the social support measures. As such, no social support measures were included in the model predicting anxiety. Similar to the model for suicidality, the results showed that the model for generalized anxiety ( $\beta = .341$ ) had power statistics well below the standard ( $\beta = .8$ ). This may have led to a type one error, as well.

## Conclusion Regarding Effect of Social Support

Social support had an effect on PTSD as a whole and its intrusion subcluster of symptoms, lending evidence that perceived social support does have a positive effect on those who suffer traumatic events. However, only perceived social support and not the utility of support or posttraumatic event social support were found to be effective. Social support had no significant effects on suicidality, depression, or general anxiety.

## Hypothesis 2: Effect of Working Alliance on Psychological Functioning

The results provided partial support for an effect of therapeutic working alliance on psychological functioning, specifically depression and one dimension of PTSD (avoidance). Working alliance was not found to have a statistically significant correlation with any of the other psychological functioning variables. Thus, it did not have any statistically significant effects on suicidality and general anxiety.

## Depression

A statistically significant relationship between working alliance and depression was identified through both bivariate and regression analysis. In the regression model predicting depression, working alliance was found to have an expected statistically significant effect on depression. As working alliance increased, depressive symptoms decreased. Therefore, another regression model predicting depression was developed. This model separated working alliance into its subclusters: task, bond, and goals. The model including the subclusters was not found to be statistically significant.

## PTSD

Working alliance was also found to have a statistically significant correlation with the avoidance subcluster of PTSD. In the regression model analysis, working alliance was found to have a marginally significant effect on avoidance, with avoidance being higher among those with lower levels of working alliance as would be expected. The results provided no support for a relationship between working alliance and PTSD as a whole or any of its subscales. Therefore, the researcher found evidence for only a portion of this hypothesis.

## Suicide and Generalized Anxiety

The results showed that the models for suicidality ( $\beta = .371$ ) and generalized anxiety ( $\beta = .341$ ) had power statistics well below the standard ( $\beta = .8$ ). This may have led to a Type I error, also known as a false negative. It is possible that there were relationships between the predictor variables and their respective psychological functioning variables, but the analysis did not have enough power to observe the relationships.

### Hypothesis 3: Interaction Effect of Social Support and Combat Exposure

The third hypothesis was that social support and combat exposure would exert an interaction effect on psychological functioning. None of the initial regression models on psychological functioning identified social support and combat exposure as having significant effects on the outcome variables. Thus, even though the models that included an interaction term for social support and combat exposure may appear to have yielded statistically significant results, they were not valid.

### Hypothesis 4: Effect of Social Support on Working Alliance

The fourth hypothesis was that social support will have a direct effect on therapeutic alliance. The statistical analysis revealed that perceived social support was correlated with working alliance, but post-deployment social support and network orientation were not. Thus, there was limited evidence to support this hypothesis. Additionally, the distribution of the working alliance scores were found to not have a normal distribution, limiting the generalizability of the results. As stated, the findings apply only to the study sample.

### Hypothesis 5: Effect of Therapist Characteristics on Working Alliance

In the fifth hypothesis, the therapist characteristics of cultural competency, ethnicity, gender, and military experience were believed to have a direct influence on therapeutic working alliance. The study used t-tests to assess for differences in working alliance based on the stated dichotomous variables of gender, ethnicity, and military history. The researcher found that there was no significant difference in working alliance based on these three variables. The therapist characteristics of gender, ethnicity, and military history were not found to influence the working

alliance. Insufficient data on cultural competency were collected through the therapists' completion of the MCI to conduct a statistical analysis. Therefore, this portion of the hypothesis was not tested. Thus, except for cultural competency which was not testable, no evidence was found to support this hypothesis. Along with the study's inability to test for an effect due to cultural competence, the following section details this study's major limitations.

### Study Limitations

The study had some limitations that resulted in limited support for the hypotheses. The first set of limitations are due to the nature of collecting data from clinical samples. Per ethical guidelines, veterans that were contacted to participate in the study were able to decline participation. Additionally, should they have decided to participate, they had the right to skip over items or stop participating completely. This is an appropriate manner to collect data, especially when requesting patients in a clinical setting to respond on matters that may cause discomfort, such as trauma. While collecting new data from clinical samples provides new information that can be analyzed, this data collection procedure also results in reduced sample size and incomplete data.

It is possible that veterans that were contacted to participate in the study, declined to participate for cultural or mental health related issues. Especially with PTSD, discussing trauma-related material can result in intrusive recollection and hyperarousal, thus leading potential participants to avoid further discussion (American Psychiatric Association, 2013). As stated in the literature review, Latinos seemed to keep secrets within the family (Fierros & Smith, 2006), thus it is possible that some veterans declined to participate for lack of proper alliance with the

researcher.

The main limitation was the small sample size ( $N = 42$ ). Along with limitations in clinical data collection, the study was not able to obtain a larger sample size due to the limits in the data collector's schedule and time constraint of the project. The sample size limited the results generalizability and the power of the statistical analysis. Furthermore, the measurements in the study may have not properly assessed the constructs they were intended to capture. Aside from the demographics questionnaire that provided nominal information, the measurements in this study were well-established with reported psychometric analysis. Notwithstanding, the psychometrics reported did not result from studies conducted with participants that used all Latino samples. Thus, it is possible that due to cultural differences between the general population and Latinos, the assessments did not properly their deliberate constructs.

### Implications

#### Theory

Two major theories were used to conceptualize and build this study. These theories claim that social support and therapeutic working alliance have an effect on psychological functioning (Beck, 1995; Bordin, 1979; Caplan, 1974; Cassel, 1974; Hardy et al., 2007). These theories and empirical tests are largely based on the predominant culture in the United States. Past research on the psychological functioning of veterans has often relied on samples which include participants of non-Latino ethnicity, to Caucasian and African-American respondents (Forbes, et al., 2008; Grant et al., 2008; Hoge et al., 2004; Pietrzak et al., 2011). The results of this study, in



accordance with the findings of previous researchers (House et al., 1988; Kessler & McLeod, 1985), indicated that social support has similar effects on the mental health of Latino-American trauma survivors.

On the other hand, the researcher did not find support for beneficial effects of posttraumatic social support (Joseph, 1999) and subjective attitudes and beliefs regarding the utility of social support (NOS) on trauma-related mental health. Due to the findings, it is not clear through what path social support affected mental health. As discussed in the review of the literature, social support was expected to buffer effects of traumatic events by allowing survivors to discuss their trauma (Joseph, 1999; Raphael, 1986). In this study, posttraumatic social support was not found to have a measurable effect on trauma-related mental health conditions. However, the study might be limited in its test of this relationship, because data on posttraumatic social support were collected long after the traumatic events occurred. Ergo, the participants were asked to report on events about which they may not be clear on or may have been altered by events that occurred between the trauma and data collection. Another possibility is that the effect of posttraumatic social support varies based on culture. Further research with larger samples and tighter timelines is needed to more fully assess this relationship among Latino veterans.

In alignment with previous research on samples of elderly individuals undergoing cognitive therapy (Marmar et al., 1989), working alliance was found to influence depression. Specifically, a stronger working alliance was found alongside lower levels of depression. However, working alliance was not found to reduce PTSD symptoms, a diagnosis which is also treated with cognitive therapy. This finding is in contrast with those of Beck (1995) and Hardy et al. (2007) who argued that a solid working alliance was essential to any therapy using a cognitive

approach. It is worth mentioning that working alliance had a marginal effect on the avoidance cluster of PTSD. A study with a larger sample may shed further light on the relationship.

### Practice

Due to the small sample size and results of the normality testing, the findings of this study are likely only valid as applied to this specific sample and not the general population of Latino-American veterans. Regardless, the findings support the following practice implications. Case workers and therapists should assist in improving perceived social support in veterans' relationships with their significant others, family, and friends. Along with the existing recommendations by Dekel and Monson (2010), perhaps providing family- and couples-therapy designed to improve relationships and decrease isolation may be an appropriate first line of treatment with Latino-Americans. In fact, Gaston et al. (1989) concluded that focusing on relationship problems instead of problem-solving other issues led to a greater therapeutic alliance. Other methods for improving social support may include government programs, non-profit organizations, and participation in local religious services that build positive relationships with others.

When working on depressive symptoms, a clinician should be especially sensitive to the need to develop a strong working alliance with a Latino-American veteran first. As stated, Gaston et al. (1989) found that working on relationship issues rather than problem-solving other issues helped improve working alliance. As such, it should be central to the client's treatment plan that the therapist and client work on relationships prior to undergoing a cognitive therapy for depression.

### Program Planning

This study also has implications for how program administrators can enhance services provided to the study sample. As stated, increasing social support and working alliance may provide beneficial results, specifically reduced PTSD and depressive symptoms. The Mental Health Service administration should aim to provide training on the benefits of the main concepts investigated in this study, namely social support and working alliance. For example, a “Grand Rounds” presentation at the VA on the results of this study would help increase awareness of the mental health challenges faced by Latino combat veterans. This may initiate program planning discussions on how to more effectively address the needs of this population. Furthermore, the administration should ensure the availability of social support services such as support groups that are designed to help Latino veterans develop peer support helpful in addressing the challenges faced by this group of veterans. Moreover, as discussed in the following section, administrators in the Mental Health Service should collaborate with researchers to conduct studies that further build on this study’s findings and examine other issues related to Latino combat veterans.

### Research

Studies that make use of clinical samples are essential to improving healthcare (National Institutes of Health, n.d.). However, federal regulations (HIPAA & Title 21) require special protections for patients (HIPAA) who are receiving medical care and might participate in scientific research (Title 21). Major standards include privacy and voluntary informed consent which limit sampling procedures. Moreover, obtaining access to special populations is even more

difficult because of the difficulty in identifying individuals and limited sampling pools.

Nevertheless, (Nass et al., 2009) clinical research is necessary “in order to develop guidelines for best practices and to ensure high-quality patient care,” (p. 113).

### Future Research

Future research on the subject should aim to reduce the impact of the study’s limitations. Research methods should attempt to increase sample size, percentage of complete data, and involve a more comprehensive statistical analysis. One approach may involve conducting secondary data analysis of psychological measurements completed during assessment and throughout treatment. This would provide for more complete data as providers can ensure that questionnaires are completed. In fact, at the time of the present study, VHA was implementing a Measurement Based Care initiative in mental health services which guides treatment through the use of objective psychometric instruments (Department of Veterans Affairs, 2016). Commonly used measurements include the Patient Health Questionnaire – 9 [PHQ-9] (Kroenke & Spitzer, 2002), PTSD Checklist – 5 [PCL5] (Weathers et al., 2013), Brief Addiction Monitor [BAM] (Cacciola et al., 2013), and Generalized Anxiety Disorder [GAD 7] (Spitzer et al., 2006). Furthermore, with secondary data analysis that uses commonly collected data, a study can include participants from several VA Medical Centers, vastly increasing sample size. This may also improve data distribution as it would likely result in data collected from a sample more representative of the population. With a larger sample size and more complete data, researchers could conduct more comprehensive analyses such as multiple regression models that provide enough power for confirmatory factor analysis of the measurements, and testing of a structural

equation model that assesses latent variables and their relationships with other latent and observable variables. Additionally, assessment on psychometric properties of the measurement instruments may be conducted, allowing for more depth in analyzing the effects of various subscales, especially with an ethnic minority population.

As stated previously, the validity of a study is highly dependent on the validity of its measurements. As discussed in the limitations section, none of the psychometrics for the variables in this study were calculated using Latino samples. Hence, the measurements may not be as valid with the sample in this study as they have been previously found. Due to differences in cultural values between the general population and Latinos, it is possible that the measures did not properly capture their intended measurement as understood by the study sample. For example, it is possible that ethnic values may affect working alliance measurement, and said ethnic values are not properly assessed by the Working Alliance Inventory. Hence, future research should aim to assess the validity of working alliance measures with Latino samples in order to make valid culturally sensitive measurements.

Because this study was cross-sectional, it limited the researcher's ability to find causal relationships. A longitudinal study could provide support for causal relationships between the studied variables as it may identify concurrent changes in measurements. Should measurements change in predicted patterns reliably, there may be evidence to make causal conclusions, meaning that a change in one variable causes a predictable change in another. For example, a study that can manipulate levels of social support and also measure changes in psychological function throughout social support variation may establish a causal link between those two variables. Also, this study focused on veterans seeking treatment at a VAMC. Therefore, veterans

who did not receive services at a VAMC were not included in the study. There may be some factors that affect working alliance and a veteran's choice of treatment which were not captured by this study's measurements. Future researchers should attempt to assess if there is a considerable portion of the veteran population that seeks mental health services at locations other than VA facilities. Furthermore, if a considerable number of veterans seeking services elsewhere are found, future studies should aim to use samples of said population. This may provide insight on services that the VA is lacking in, or perhaps provide evidence that access to additional VA services should be offered to veterans.

One final limitation to the study was that there were no data on the mental health condition of the participants prior to traumatic combat experiences reviewed in their medical records. Thus, the researcher made the assumption that the variation in psychological functioning was due to combat experiences, and this may not necessarily be correct for all participants. It is possible that participants experienced traumatic events prior to combat deployment, and the study measured the culmination of the events on the participants' psychological functioning. Future studies should aim to control for pre-combat experiences by either collecting historical reports from participants or conducting a longitudinal study that collects data before and after a combat deployment. With such a study, researchers would be better able to assess for the effect of combat trauma on psychological functioning.

### Conclusion

Due to their exposure to traumatic events while deployed in service of the Global War on Terrorism, service members have been returning to the U.S. with mental health conditions

(Milikenet al., 2007; Ramchand et al., 2010; Seal et al., 2007; Seal et al., 2009; Sundin et al., 2010). These conditions can manifest as PTSD, Major Depressive Disorder, suicidality, and Generalized Anxiety Disorder (Grant et al., 2008; Hoge et al., 2004; Jakupack et al., 2009; Ramchand et al., 2011; Subica et al., 2012). Researchers have found that trauma affects Latino-American combat veterans differently than it affects others (Kulka et al., 1990; Ortega & Rosenheck, 2000), and this can pose a considerable issue for the Veterans Health Administration, main mental health service provider for veterans (VISN Service Support Network, 2012). Social support and working alliance have been found to be remarkable factors affecting psychological functioning. This cross-sectional study was conducted to examine the effects of social support and working alliance on the psychological functioning of the stated population. The results indicated limited support for beneficial effects of social support and working alliance. Further clinical studies are necessary to better understand the phenomena.

**APPENDIX A**  
**RECRUITMENT LETTER**





**DEPARTMENT OF VETERANS AFFAIRS**  
**Orlando VA Medical Center**  
**5201 Raymond St.**  
**Orlando, FL 32708**

Month DD, YYYY

Veteran Name  
Street address  
City, FL ZZZZZ

Dear Orlando VAMC Patient,

I am writing to ask for your help in understanding the effects that social support and your bond with your therapist have on your mental health. I have developed a study which uses a series of questionnaires that provide us with valuable information on how you and other veterans are doing with your mental health therapy. This information could be used to improve our services in the future.

To make sure that we collect the appropriate information, we would like to make sure that you fit the needed criteria. This study will use data collected from male veterans that identify as either Latino or Hispanic and have deployed to combat operational areas of Operations Enduring Freedom, Iraqi Freedom, and New Dawn. This includes any service member of the U.S. Armed Forces that have deployed to Afghanistan since 2001 or Iraq since 2003.

The questions should take about 30 minutes to complete. Your responses are voluntary and will be kept confidential. If at any time you wish to stop, you are free to do so. Your responses will not be recorded into your medical records and your health care providers (including mental health therapists) will never have access to them. Furthermore, this study has been approved by the Institutional Review Boards of the Orlando VA Medical Center and University of Central Florida. If you have any questions about your rights as a participant, please contact them at (321)397-6664.

If you would like to participate or have any questions about this study, please contact Lloyd Duran (principal investigator) by telephone at (321)795-3393 or by email at [lloyd.duran@va.gov](mailto:lloyd.duran@va.gov). Do not sign any paperwork until you are at the study site (Orlando VAMC).

By taking the time to participate in this study, you will be helping us develop the best care we could provide for your fellow veterans. I hope you decide to take part in the study and look forward to receiving your input.

Thank you,

Lloyd Duran, MSW, Ph.D Candidate  
Principal Investigator  
Orlando VAMC and University of Central Florida

**APPENDIX B**  
**POSTDEPLOYMENT SOCIAL SUPPORT SCALE**

**SECTION L: POST-DEPLOYMENT SUPPORT**

You have completed the questions about your deployment. The next set of statements refers to social support after deployment. Please decide how much you agree or disagree with each statement and circle the number that best fits your choice.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. The reception I received when I returned from my deployment made me feel appreciated for my efforts.	1	2	3	4	5
2. The American people made me feel at home when I returned.	1	2	3	4	5
3. When I returned, people made me feel proud to have served my country in the Armed Forces.	1	2	3	4	5
4. I am carefully listened to and understood by family members or friends.	1	2	3	4	5
5. Among my friends or relatives, there is someone who makes me feel better when I am feeling down.	1	2	3	4	5
6. I have problems that I can't discuss with family or friends.	1	2	3	4	5
7. Among my friends or relatives, there is someone I go to when I need good advice.	1	2	3	4	5
8. People at home just don't understand what I have been through while in the Armed Forces.	1	2	3	4	5
9. There are people to whom I can talk about my deployment experiences.	1	2	3	4	5
10. The people I work with respect the fact that I am a veteran.	1	2	3	4	5
11. My supervisor understands when I need time off to take care of personal matters.	1	2	3	4	5
12. My friends or relatives would lend me money if I needed it.	1	2	3	4	5
13. My friends or relatives would help me move my belongings if I needed to.	1	2	3	4	5
14. When I am unable to attend to daily chores, there is someone who will help me with these tasks.	1	2	3	4	5
15. When I am ill, friends or family members will help out until I am well.	1	2	3	4	5

**APPENDIX C**  
**NETWORK ORIENTATION SCALE**

### Network Orientation Scale

Below is a list of statements concerning relationships with other people. Please indicate the extent to which you agree or disagree with each statement. (Using the scale below, circle one number corresponding to each statement.)

- 1 = Strongly agree  
2 = Agree  
3 = Disagree  
4 = Strongly disagree

	SA	A	D	SD
1. Sometimes it is necessary to talk to someone about your problems.	1	2	3	4
2. Friends often have good advice to give.	1	2	3	4
3. You have to be careful who you tell personal things to.	1	2	3	4
4. I often get useful informatino from other people.	1	2	3	4
5. People should keep their problems to themselves.	1	2	3	4
6. It's easy for me to talk about personal and private matters.	1	2	3	4
7. In the past, friends have really helped me out when I've had a problem.	1	2	3	4
8. You can never trust people to keep a secret.	1	2	3	4
9. When a person gets upset they should talk it over with a friend.	1	2	3	4
10. Other people never understand my problems.	1	2	3	4
11. Almost everyone knows someone they can trust with a personal secret.	1	2	3	4
12. If you can't figure out your problems, nobody can.	1	2	3	4
13. In the past, I have rarely found other people's opinions helpful when I have a problem.	1	2	3	4
14. It really helps when you are angry to tell a friend what happened.	1	2	3	4
15. Some things are too personal to talk to anyone about.	1	2	3	4
16. It's fairly easy to tell who you can trust, and who you can't.	1	2	3	4
17. In the past, I have been hurt by people I confided in.	1	2	3	4
18. If you confide in other people, they will take advantage of you.	1	2	3	4
19. It's okay to ask favors of people.	1	2	3	4
20. Even if I need something, I would hesitate to borrow it from someone.	1	2	3	4

**APPENDIX D**  
**MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT**

# **Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988)**

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**  
 Circle the "2" if you **Strongly Disagree**  
 Circle the "3" if you **Mildly Disagree**  
 Circle the "4" if you are **Neutral**  
 Circle the "5" if you **Mildly Agree**  
 Circle the "6" if you **Strongly Agree**  
 Circle the "7" if you **Very Strongly Agree**

1.	There is a special person who is around when I am in need.	1	2	3	4	5	6	7	SO
2.	There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7	SO
3.	My family really tries to help me.	1	2	3	4	5	6	7	Fam
4.	I get the emotional help and support I need from my family.	1	2	3	4	5	6	7	Fam
5.	I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7	SO
6.	My friends really try to help me.	1	2	3	4	5	6	7	Fri
7.	I can count on my friends when things go wrong.	1	2	3	4	5	6	7	Fri
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7	Fam
9.	I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7	Fri
10.	There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7	SO
11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7	Fam
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7	Fri

The items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO).

**APPENDIX E**  
**COMBAT EXPOSURE SCALE**



## CES

*Please circle the number above the answer that best describes your experience*

1) Did you ever go on combat patrols or have other dangerous duty?

1	2	3	4	5
No	1-3X	4-12x	13-50x	51+times

2) Were you ever under enemy fire?

1	2	3	4	5
Never	<1 month	1-3 months	4-6 months	7 mos or more

3) Were you ever surrounded by the enemy?

1	2	3	4	5
No	1-2X	3-12x	13-25x	26+times

4) What percentage of the soldiers in your unit were killed (KIA), wounded or missing in action (MIA)?

1	2	3	4	5
None	1-25%	26-50%	51-75%	76% or more

5) How often did you fire rounds at the enemy?

1	2	3	4	5
Never	1-2X	3-12x	13-50x	51 or more

6) How often did you see someone hit by incoming or outgoing rounds?

1	2	3	4	5
Never	1-2X	3-12x	13-50x	51 or more

7) How often were you in danger of being injured or killed (i.e., being pinned down, overrun, ambushed, near miss, etc.)?

1	2	3	4	5
Never	1-2X	3-12x	13-50x	51 or more

Keane, T.M., Fairbank, J.A., Cardell, J.M., Zimering, R.T., Taylor, K.L. & Mora, C.A. (1989)

**APPENDIX F**  
**WORKING ALLIANCE INVENTORY – SHORT FORM**

**Working Alliance Inventory-Client  
Short Form (Client)**

Client Case# \_\_\_\_\_ Counselor ID# \_\_\_\_\_ Date \_\_\_\_\_

Measurement Point (circle one): 1<sup>st</sup> Week      3<sup>rd</sup> Week

**Instructions:**

On the following page there are sentences that describe some of the different ways you might think or feel about your counselor.

As you read the sentences mentally insert the name of your counselor in place of \_\_\_\_\_ in the text.

Below each statement there is a seven point scale:

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

If the statement describes the way you *always* feel (or think) circle the number 7; if it never applies to you, circle the number 1. Use the numbers in between to describe the variations between these extremes.

Work quickly, your first impressions are the ones we would like to see.

PLEASE DON'T FORGET TO RESPOND TO EVERY ITEM.

Thank You!

1. \_\_\_\_\_ and I agree about the things I will need to do in counseling to help improve my situation.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
2. What I am doing in counseling gives me new ways of looking at my problem.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
3. I believe \_\_\_\_\_ likes me.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
4. \_\_\_\_\_ does not understand what I am trying to accomplish in counseling.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
5. I am confident in \_\_\_\_\_'s ability to help me.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
6. \_\_\_\_\_ and I are working towards mutually agreed upon goals.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
7. I feel that \_\_\_\_\_ appreciates me.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
8. We agree on what is important for me to work on.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
9. \_\_\_\_\_ and I trust one another.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
10. \_\_\_\_\_ and I have different ideas on what my problems are.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
11. We have established a good understanding of the kind of changes that would be good for me.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
12. I believe the way we are working with my problem is correct.
 

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

**APPENDIX G**  
**DEMOGRAPHIC QUESTIONNAIRE**

### Questions Regarding You and Your Current Psychotherapy

Please answer the following questions as best as possible:

1a. Did you deploy to a combat zone in support of the Global War on Terrorism? Y / N

1b. If so, where did you deploy to? \_\_\_\_\_

2. Are you receiving mental health therapy related to a combat deployment? Y / N

3. Do you identify as Latino or Hispanic? Y / N

4. Who is your current psychotherapy provider? \_\_\_\_\_

5. How many psychotherapy sessions have you completed with your current provider? \_\_\_\_\_

6. Is your current psychotherapy provider Latino or Hispanic? Y / N

7. Is your current psychotherapy provider a U.S. military veteran? Y / N

**APPENDIX H**  
**PTSD CHECKLIST – MILITARY VERSION**

### PTSD Checklist M

Veteran's Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Veteran's DOB: \_\_\_\_\_ Last four digits of SSN: \_\_\_\_\_  
Staff: \_\_\_\_\_ Location: \_\_\_\_\_

Below is a list of problems and complaints that people sometimes have in response to stressful military experiences. Please read each one carefully and indicate how much you have been bothered by that problem IN THE PAST MONTH.

1. Repeated disturbing MEMORIES, THOUGHTS or IMAGES of a stressful military experience from the past?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

2. Repeated disturbing DREAMS of a stressful military experience from the past?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

3. Suddenly ACTING or FEELING as if a stressful military experience from the past were happening again (as if you were reliving it)?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

4. Feeling VERY UPSET when SOMETHING reminded you of a stressful military experience from the past?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely



5. Having PHYSICAL reactions (e.g. heart pounding, trouble breathing, sweating) when SOMETHING REMINDED you of a stressful military experience from the past?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

6. Avoiding THINKING ABOUT or TALKING ABOUT a stressful military experience from the past or AVOIDING HAVING FEELINGS related to it?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

7. Avoiding ACTIVITIES or SITUATIONS because they REMINDED you of a stressful military experience from the past?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

8. Trouble REMEMBERING IMPORTANT PARTS of a stressful military experience from the past?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

9. LOSS of INTEREST in activities that you used to enjoy?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

10. Feeling DISTANT or CUT OFF from other people?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

11. Feeling EMOTIONALLY NUMB or being unable to have loving feelings for those close to you?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

12. Feeling as if your FUTURE somehow will be CUT SHORT?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

13. Trouble FALLING or STAYING ASLEEP?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

14. Feeling IRRITABLE or having ANGRY OUTBURSTS?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

15. Having DIFFICULTY CONCENTRATING?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

16. Being "SUPERALERT" or watchful or on guard?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

17. Feeling JUMPY or easily startled?

- ☐ 1. Not at all
- ☐ 2. A little bit
- ☐ 3. Moderately
- ☐ 4. Quite a bit
- ☐ 5. Extremely

**APPENDIX I**  
**BECK SCALE FOR SUICIDAL IDEATION**

### Beck Scale for Suicide Ideation

Veteran's Name: \_\_\_\_\_ Date: \_\_\_\_\_

Veteran's DOB: \_\_\_\_\_ Last four digits of SSN: \_\_\_\_\_

Staff: \_\_\_\_\_ Location: \_\_\_\_\_

1. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have a moderate to strong wish to live.
- ☐ 1. I have a weak wish to live.
- ☐ 2. I have no wish to live.

2. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have no wish to die.
- ☐ 1. I have a weak wish to die.
- ☐ 2. I have a moderate to strong wish to die.

3. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. My reasons for living outweigh my reasons for dying.
- ☐ 1. My reasons for living or dying are about equal.
- ☐ 2. My reasons for dying outweigh my reasons for living.

4. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have no desire to kill myself.
- ☐ 1. I have a weak desire to kill myself.
- ☐ 2. I have a moderate to strong desire to kill myself.

5. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I would try to save my life if I found myself in a life-threatening situation.
- ☐ 1. I would take a chance on life or death if I found myself in a life-threatening situation.
- ☐ 2. I would not take the steps necessary to avoid death if I found myself in a life-threatening situation.

6. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have brief periods of thinking about killing myself which pass quickly.
- ☐ 1. I have periods of thinking about killing myself which last for moderate amounts of time.
- ☐ 2. I have long periods of thinking about killing myself.

7. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I rarely or only occasionally think about killing myself.
- ☐ 1. I have frequent thoughts about killing myself.
- ☐ 2. I continuously think about killing myself.

8. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I do not accept the idea of killing myself.
- ☐ 1. I neither accept nor reject the idea of killing myself.
- ☐ 2. I accept the idea of killing myself.

9. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I can keep myself from committing suicide.
- ☐ 1. I am unsure that I can keep myself from committing suicide.
- ☐ 2. I cannot keep myself from committing suicide.

10. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I would not kill myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc.
- ☐ 1. I am somewhat concerned about killing myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc.
- ☐ 2. I am not or only a little concerned about killing myself because of family, friends, religion, possible injury from an unsuccessful attempt, etc.

11. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. My reasons for wanting to commit suicide are primarily aimed at influencing other people, such as getting even with people, making people pay attention to me, etc.
- ☐ 1. My reasons for wanting to commit suicide are not only aimed at influencing other people, but also represent a way of solving my problems.
- ☐ 2. My reasons for wanting to commit suicide are primarily based upon escaping from my problems.

12. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have no specific plan about how to kill myself.
- ☐ 1. I have considered ways of killing myself, but have not worked out the details.
- ☐ 2. I have a specific plan for killing myself.

13. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I do not have access to a method or an opportunity to kill myself.
- ☐ 1. The method that I would use for committing suicide takes time, and I really do not have a good opportunity to use this method.
- ☐ 2. I have access or anticipate having access to the method that I would choose for killing myself and also have opportunity to use it.

14. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I do not have the courage or the ability to commit suicide.
- ☐ 1. I am unsure that I have the courage or the ability to commit suicide.
- ☐ 2. I have the courage and the ability to commit suicide.

15. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I do not expect to make a suicide attempt.
- ☐ 1. I am unsure that I shall make a suicide attempt.
- ☐ 2. I am sure that I shall make a suicide attempt.

16. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have made no preparations for committing suicide.
- ☐ 1. I have made some preparations for committing suicide.
- ☐ 2. I have almost finished or completed my preparations for committing suicide.

17. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have not written a suicide note.
- ☐ 1. I have thought about writing a suicide note or have started to write one, but have not completed it.
- ☐ 2. I have completed a suicide note.

18. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have made no arrangements for what will happen after I have committed suicide.
- ☐ 1. I have thought about making some arrangements for what will happen after I have committed suicide.
- ☐ 2. I have made definite arrangements for what will happen after I have committed suicide.

19. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have not hidden my desire to kill myself from people.
- ☐ 1. I have held back telling people about wanting to kill myself.
- ☐ 2. I have attempted to hide, conceal, or lie about wanting to commit suicide.

20. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. I have never attempted suicide.
- ☐ 1. I have attempted suicide once.
- ☐ 2. I have attempted suicide two or more times.

21. Select the one statement in each group that BEST describes how you have been feeling for the PAST WEEK, INCLUDING TODAY.

- ☐ 0. My wish to die during the last suicide attempt was low.
- ☐ 1. My wish to die during the last suicide attempt was moderate.
- ☐ 2. My wish to die during the last suicide attempt was high.



**APPENDIX J**  
**BECK DEPRESSION INVENTORY – SECOND EDITION**

## Beck Depression Inventory—Second Edition

Veteran's Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Veteran's DOB: \_\_\_\_\_ Last four digits of SSN: \_\_\_\_\_  
Staff: \_\_\_\_\_ Location: \_\_\_\_\_

This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the PAST TWO WEEKS, INCLUDING TODAY. Select the number beside the statement you have picked. If several statements in the group seem to apply equally well, select the highest number for that group.

### 1. SADNESS

- ☐ 0. I do not feel sad.
- ☐ 1. I feel sad much of the time.
- ☐ 2. I am sad all the time.
- ☐ 3. I am so sad or unhappy that I can't stand it.

### 2. PESSIMISM

- ☐ 0. I am not discouraged about my future.
- ☐ 1. I feel more discouraged about my future than I used to be.
- ☐ 2. I do not expect things to work out for me.
- ☐ 3. I feel my future is hopeless and will only get worse.

### 3. PAST FAILURE

- ☐ 0. I do not feel like a failure.
- ☐ 1. I have failed more than I should have.
- ☐ 2. as I look back, I see a lot of failures.
- ☐ 3. I feel I am a total failure as a person.

### 4. LOSS OF PLEASURE

- ☐ 0. I get as much pleasure as I ever did from the things I enjoy.
- ☐ 1. I don't enjoy things as much as I used to.
- ☐ 2. I get very little pleasure from the things I used to enjoy.
- ☐ 3. I can't get any pleasure from the things I used to enjoy.

### 5. GUILTY FEELINGS

- ☐ 0. I don't feel particularly guilty.
- ☐ 1. I feel guilty over many things I have done or should have done.
- ☐ 2. I feel quite guilty most of the time.
- ☐ 3. I feel guilty all of the time.

6. Dizzy or lightheaded.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

7. Heart pounding or racing.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

8. Unsteady.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

9. Terrified.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

10. Nervous.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

11. Feelings of choking.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

12. Hands trembling.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

13. Shaky.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

14. Fear of losing control.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

15. Difficulty breathing.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

16. Fear of dying.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

17. Scared.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

18. Indigestion or discomfort in abdomen.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

19. Faint.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

20. Face flushed.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

21. Sweating (not due to heat).

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

**APPENDIX K**  
**BECK ANXIETY INVENTORY**

## Beck Anxiety Inventory

Veteran's Name: \_\_\_\_\_ Date: \_\_\_\_\_

Veteran's DOB: \_\_\_\_\_ Last four digits of SSN: \_\_\_\_\_

Staff: \_\_\_\_\_ Location: \_\_\_\_\_

A list of common symptoms of anxiety will be presented. Please read each item carefully. Indicate how much you have been bothered by each symptom during the PAST WEEK, INCLUDING TODAY.

1. Numbness or tingling.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

2. Feeling hot.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

3. Wobbliness in legs.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

4. Unable to relax.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

5. Fear of the worst happening.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

6. Dizzy or lightheaded.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

7. Heart pounding or racing.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

8. Unsteady.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

9. Terrified.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

10. Nervous.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

11. Feelings of choking.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

12. Hands trembling.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)



13. Shaky.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

14. Fear of losing control.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

15. Difficulty breathing.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

16. Fear of dying.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

17. Scared.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

18. Indigestion or discomfort in abdomen.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

19. Faint.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

20. Face flushed.

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

21. Sweating (not due to heat).

- ☐ 1. Not at all
- ☐ 2. Mildly (it did not bother me much.)
- ☐ 3. Moderately (it was very unpleasant; but I could stand it.)
- ☐ 4. Severely (I could barely stand it.)

**APPENDIX L**  
**INSTITUTIONAL REVIEW BOARD APPROVAL**



University of Central Florida Institutional Review Board  
Office of Research & Commercialization  
12201 Research Parkway, Suite 501  
Orlando, Florida 32826-3246  
Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

### Approval of Human Research

From: **UCF Institutional Review Board #1**  
**FWA00000351, IRB00001138**

To: **Lloyd Duran**

Date: **July 11, 2016**

Dear Researcher:

On 07/11/2016 the IRB approved the following minor modifications to human participant research until inclusive:

Type of Review: IRB Addendum and Modification Request Form  
Modification Type: Revised Protocol was uploaded. VA Addendum and modification approval was uploaded.  
Project Title: The Effects of Social Support and Working Alliance on Latino-American Male Combat Veterans  
Investigator: Lloyd Duran  
IRB Number: SBE-14-10489  
Funding Agency:  
Grant Title:  
Research ID: N/A

The scientific merit of the research was considered during the IRB review. The Continuing Review Application must be submitted 30 days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

If continuing review approval is not granted before the expiration date of , approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a signed and dated copy of the consent form(s).

All data, including signed consent forms if applicable, must be retained and secured per protocol for a minimum of five years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained and secured per protocol. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Kanielle Chay

IRB Coordinator

**APPENDIX M**  
**INTERACTION MODELS: RESULTS**

Table 18

*PTSD Interaction Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized	Standardized			
	B	SE			
Constant	31.278	13.645		2.292	.029
CES	2.266	.579	1.415	3.912	.001
MSPSS	.518	.235	.852	2.203	.035
CES x MSPSS	-.033	.010	-1.549	-3.270	.003
$R^2 = .443$					
$Power = .991$					

Table 19

*BSSI Interaction Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized	Standardized			
	B	SE			
Constant	27.224	12.939		2.104	.05
CES	-.890	.549	-.940	-1.619	.123
MSPSS	-.296	.223	-.823	-1.325	.202
CES x MSPSS	.013	.010	.988	1.300	.210
$R^2 = .139$					
$Power = .267$					

Table 20

*Depression Interaction Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized	Standardized			
	B	SE			
Constant	-15.120	13.204		-1.145	.263
CES	2.415	.561	1.614	4.307	.001
MSPSS	.969	.227	1.708	4.261	.001
CES x MSPSS	-.480	.010	-2.378	-4.846	.001

$R^2 = .482$   
*Power* = .991

Table 21

*Anxiety Interaction Regression Model Results*

Model	Coefficients		$\beta$	$t$	$p$
	Unstandardized	Standardized			
	B	SE			
Constant	11.039	13.277		.831	.412
CES	1.969	.564	1.394	3.493	.001
MSPSS	.628	.229	1.172	2.746	.010
CES x MSPSS	-.032	.010	-1.696	-3.245	.003

$R^2 = .299$   
*Power* = .877



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