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Investigation Of Emotional Numbing And Other Potential Risk Factors Of Chronic Ptsd In Veterans

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BY

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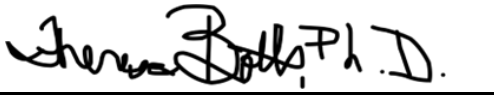

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ABSTRACT

The current study sought to examine potential risk factors contributing to the chronicity of posttraumatic stress disorder. Participants consisted of 70 EKU students as well as veterans from Eastern Kentucky. Students and veterans voluntarily took an online survey and students received credit in their summer psychology courses. The PTSD Checklist-DSM5 (PCL-5) was used to measure PTSD symptomology and severity, the Life Events Checklist was used to measure types and frequencies of trauma, the revised UCLA loneliness scale and the Six-Item Lubben Social Network scale was used to measure levels of isolation due to the Covid-19 pandemic, the Brief Hypervigilance Scale was used to measure symptoms of hypervigilance, the Acceptance and Action Questionnaire was used to measure experiential avoidance, and the Big Five Inventory was used to measure personality traits. Results supported the hypotheses with significant correlations regarding emotional numbing, hypervigilance, avoidance, agreeableness, and neuroticism. Implications of these results are discussed.

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I. Introduction

The current study aims to better understand the impact of emotional numbing (EN) severity and other potential risk factors for chronic PTSD symptom severity in military veterans. Empirical studies have shown significant improvements for victims suffering from posttraumatic stress disorder (PTSD), supporting evidence for more effective future treatments and interventions (Foa et al., 2009). However, many victims never fully recover and struggle with functional impairments such as vision, hearing, behavioral, or physical development disorders associated with lingering symptoms of depression, anxiety, chronic pain, and social withdrawal (Zlotnick et al., 2004). PTSD research has mainly focused on the role symptoms of emotional numbing have on emotional functioning and its significance to the chronicity of the disorder. Few studies have identified several major risk factors related to the development of chronic PTSD, including emotional numbing symptoms, attachment insecurity, associated social support deficits, and personality traits (Breslau & Davis, 1992; Franz et al., 2014; Ruscio et al., 2002; Talbert et al., 1993; Troop & Hiskey, 2013).

Most studies examining emotional numbing have agreed that this concept is operationally defined based on the three avoidance diagnostic symptoms listed in 'Cluster C' which indicates numbing symptoms within the *DSM-IV* (APA, 2000). These three indicators included having a decreased interest in activities, individuals feeling distant from their close ones and peers, and feeling numb or emotionally constricted (Feeny et al., 2000; Flack Jr. et al., 2000; Roemer et al., 1998; Ruscio et al., 2002). However, more recent research by Orsillo and colleagues (2007) has expanded our

initial understanding of PTSD emotional deficits and has exposed limitations within this measurement. For example, the original conceptualization that emotional numbing was intertwined with the inability to feel pleasure and social withdrawals does not account for the possibility that numbing symptom reports may differentiate between positive and negative emotional experiences. Some researchers theorize that emotional functioning in people with PTSD may have hyper-responsive (avoidant) characteristics involving negative emotional stimuli and hypo-responsive (numbing) characteristics involving positive emotional stimuli rather than supporting the DSM's nonspecific numbing definition of emotional responses (B. T. Litz & Gray, 2002). Despite these advancements, there is a limited number of studies investigating emotional numbing as a construct, and no adult studies have assessed emotional numbing further than utilizing the DSM-IV Cluster C symptom ratings.

Furthermore, few studies have investigated the psychophysiological correlates based on self-reported symptoms. To gain a greater understanding of emotional numbing as a phenomenon related to chronic PTSD, there is a dire need for more studies to utilize thorough multi-modal evaluation measures by carefully assessing sufferers' emotional, relational, and psychophysiological experiences. Finally, it is crucial to investigate veterans' lingering symptoms of chronic PTSD. Understanding potential risk factors contributing to the chronicity of the disease can contribute to a better understanding of treatment plans and a faster reintegration into normalized civilian life. These potential risk factors include emotional numbing severity, avoidance through hyperreactivity, isolation, lack of social support after the COVID-19 pandemic,

scoring high on a personality scale for neuroticism, and scoring low on a personality scale for agreeableness.

The novelty of the present investigation is that data collection will be performed during the Summer of 2023 while veterans are still recovering from the effects of the COVID-19 Pandemic of 2020. These findings will add to the current literature by providing empirical evidence regarding potential risk factors contributing to chronic PTSD and symptom severity in veterans. The practical applications of these findings include the potential to discover the importance of assessing specific risk factors to enhance treatment efforts and reduce drop-out rates of veterans receiving treatment for PTSD after returning from war.

Literature Review

The following section will review the theoretical and empirical research on the history of PTSD and studies that suggest emotional numbing is an understudied yet important phenomenon within chronic PTSD. After, this section will look over evidence about the relationship between reported measures of emotional, psychophysiological, social, and relational functioning, personality, and self-reported emotional numbing symptoms. Several research goals and predictions are proposed using data collected from veterans from Eastern Kentucky and who were enrolled in summer psychology courses at EKU.

Veterans of War

In response to the September 11, 2001 terrorist attacks, the military campaigns Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) were launched

against global terrorism (Townsend, 2014). Since the attack of 9/11, over 2.4 million veterans have been deployed to Afghanistan and Iraq, and 772,000 veterans have or are utilizing health care provided by the Veterans Administration (VA) (Department of Veterans Affairs, 2011). These operations include everyday dangers from hazards while assigned to security detail and threats of ground combat, for OEF/IOF veterans, leaving camp and exiting the baselines of departure zones meant life or death while entering the battlefield. Veterans encountered dangers while traveling as established main supply routes were easily invaded by enemies (Osran et al., 2010). In addition, all roads were classified as hazardous due to the ever-present danger of improvised explosive devices (I.E.D.s) and vehicle-born explosive devices (V.B.E.D.s), leading to possible injuries or fatalities from bullets or shrapnel (Osran et al., 2010). While on deployment, OEF/OIF veterans often developed close bonds within their platoons as the constant threats of unseen explosives, military base bombings, and unclear battlelines created a psychological war of stressors among these veterans (Osran et al., 2010; Spelman et al., 2012). Veterans often describe that the bonds formed on deployments may never be formed again, while others express that there are no closer friends than those they have served in combat with. The bonds these veterans develop around one another stem from their consistent dependency on each other for protection and safety, a shared purpose or goal of protecting something larger than themselves (their country) and sharing similar experiences with war-related stressors.

Returning to civilian life after leaving the combat zone often has several difficulties. First, after living in a constant state of hypervigilance, veterans returning

home may sense danger similar to leaving the base while participating in daily activities such as going to the store. Second, despite returning to civilian life, OEF/OIF veterans are often plagued with war zone memories that can become prominent in both conscious and unconscious states. Unfortunately, several OEF/OIF veterans resist seeking treatment for their struggles returning to civilian life as they believe no civilians could understand what they are experiencing after the effects of combat. Instead, veterans may turn to self-medicating through alcohol, opioids, and marijuana to deal with the reintegration process (Hoggatt et al., 2017). As these substances are depressants, veterans returning from combat are at a high risk of suicide when suffering from symptoms of PTSD (Gradus, 2018; Zefferman & Mathew, 2021). Third, moral violations, such as taking a life, are strongly associated with depressive symptoms suggesting that veterans' depressive symptoms are related to violations of moral behavior norms (Zefferman & Mathew, 2021). The return to civilian life for veterans is often described as unsettling and psychologically restless resulting in various reactions including but not limited to nightmares, depression, anxiety, social isolation, and the loss of a purpose serving a greater cause (Zefferman & Mathew, 2021).

Posttraumatic Stress Disorder

PTSD is the most common and prevalent mental health disorder among military veterans seeking treatment at the Veterans Health Administration (VHA) medical centers (Ramsey, Dziura, Justice, Altalib, Bathulapalli, Burg, Decker, Driscol, et al., 2017; Townsend, 2014). Significant changes from the DSM-IV-TR to the DSM-5 define

PTSD as a disorder developed after either directly living through or witnessing events that threaten life, physical integrity, and safety or being exposed secondhandedly if the traumatic events are directly affecting a loved one or exposure repetition. Studies on veterans deployed overseas during Operation Iraqi Freedom and Operation Enduring Freedom have found that traumatic events were likely to occur despite the encounter being combat-related trauma or not (Hoge et al., 2004; Jensen & Wrisberg, 2014; Sipos et al., 2014; Townsend, 2014).

According to the American Psychiatric Association (APA) (2013), PTSD is a chronic mental health disorder characterized by an individual facing one or more traumatic events. The U.S. Department of Veterans Affairs (USDVA) found that people who experience direct trauma exposure, are exposed for extended periods, encounter severe levels of trauma, receive severe injuries during the event(s), believe that family members or themselves were in danger, or those who expressed severe symptoms such as excessive crying, feelings of helplessness, and feelings of dissociation were more likely to develop PTSD compared to those experiencing traumas indirectly (U.S. Department of Veterans Affairs, 2014). In addition, the USDVA reported that rates of PTSD are significantly higher in combat veterans: Vietnam veterans reported rates between 15 to 30%, Gulf War veterans have 12% rates, and Operation Iraqi/Enduring Freedom veterans have rates between 11 to 20% (Denby-Brinson & Haran, 2018; U.S. Department of Veterans Affairs, 2014). Exposure to combat trauma often triggers PTSD; however, post-deployment and nontraumatic deployment factors may also contribute to the symptom severity of PTSD (Possemato et al., 2014). In a study on

OEF/OIF veterans, post-deployment lack of social support while overseas due to extensive times of separation of contact with loved ones was predictive of increased psychiatric symptoms such as depression and anxiety (Possemato et al., 2014).

Additionally, long work days in uncomfortable and stressful climates due to wartime negatively impact veterans' coping abilities for dealing with difficult stressors (Possemato et al., 2014). Possemato and colleagues (2014) found that lack of employment, lack of social support, high scores of stressful life events, and high levels of alcohol usage were predictive of overall PTSD severity in OEF and OIF veterans of combat. The formation of PTSD is found to be causally linked to mental disturbances as it shows individuals the negative aspects of living, such as feeling unsafe, insecure, and overall the unpredictability of life (Sharpless & Barber, 2011).

Characterized by difficulties in daily functioning, such as diminished work abilities and problems maintaining relationships, distress, and other coinciding disorders, PTSD is a devastating disorder. PTSD can have a wide range of comorbid mental and physical health disorders. The most common comorbidity of PTSD is major depressive episodes, with roughly one-third to one-half of victims diagnosed (Blanco et al., 2013; Kessler et al., 1995). PTSD is also associated with interpersonal issues such as relationship distress (Riggs et al., 1998), poor social connectedness, and maintaining employment (Wisco et al., 2014). The psychological effects of trauma include a broad range of emotions involving different responses of anger, sadness, happiness, and fear to emotional circumstances (Robinson, 2010). Robinson (2010) found that individuals living with PTSD and rated high in emotional numbing demonstrated a minor tendency

to rate less happiness in response to pleasant images and that a strong positive correlation was demonstrated between individuals with high emotional numbing and depression scores (r = .73, p <, .001). Many individuals exposed to traumatic events can cope without developing long-lasting and severe impairment in their daily lives. Consequently, approximately 12% of the population in America still suffers from long-lasting and severe symptomology, meriting a PTSD diagnosis throughout their lives (Kessler, 2000; Robinson, 2010). PTSD is a major public health issue rising in public recognition due to its commonly disabling nature and growing popularity as an empathetic disorder to be diagnosed.

PTSD and Emotional Numbing

Unlike the roles of hyperarousal and reexperiencing symptoms common in PTSD, the role of emotional numbing within chronic PTSD symptoms is not as understood (B. T. Litz & Gray, 2002). Emotional numbing is a classified symptom used to describe when an individual's emotional experiences are lower than would previously be expected, dampened, or missing altogether. The absence of emotions is often attached to experiences of dissociation, detachment, or lack of a sense of identity from their everyday lives. However, accumulating evidence suggests that the subset of emotional numbing may be essential to developing and maintaining posttraumatic pathology (Robinson, 2010). The *DSM-IV-TR* categorizes emotional numbing within Cluster C as "Avoidance" (APA, 2000), yet research with factor analyses has revealed that symptoms of emotional numbing are distinctive from those of avoidance (Bensimon et al., 2013; Foa et al., 1995). According to the APA (2000),

symptoms of the emotional numbing subset include feelings of detachment or estrangement from others, diminished interest or pleasures in activities important to the individual, and emotional restriction (i.e., the inability to register feelings of happiness or love). More recent changes to the symptom criteria of the *DSM-5* PTSD separate emotional numbing and avoidance symptoms into separate symptom clusters categorized under negative alterations in cognitions and mood as symptoms of the subset 'emotional numbing' have been found to provide a more significant predictor for diagnosing PTSD compared to any other cluster of symptoms (Foa et al., 1995).

Today, emotional numbing is included in a fourth symptom cluster consisting of negative alterations within an individual's mood or cognition due to a traumatic event. The fourth cluster distinguishes four main difficulties associated with traumatic events: anhedonia, social withdrawal, the constricted experience of positive emotions, and continuous experiences of negative emotions such as guilt, shame, horror, fear, and anger (2013). It is still unclear if emotional numbing is restricted to a specific type of emotion as some researchers have found that emotional numbing is restricted to positive emotions (Kashdan et al., 2007), while more recent research suggests that emotional numbing is restricted to negative emotions (Allwood et al., 2011; Kerig et al., 2016). Symptoms of emotional numbing appearing early on have acted as predictors of PTSD development more than the predictions presented by depression and dissociation, which are factors often associated with negative readjustment (Feeny et al., 2000). These symptoms have been found to be strongly associated with PTSD chronicity in Vietnam veterans (Marshall et al., 2006). Furthermore, these symptoms

have been found to distinguish between random groups of adults suffering with or without chronic PTSD (Breslau & Davis, 1992). As there remains uncertainty about what emotional numbing is and that almost all research on emotional numbing symptoms in chronic PTSD has focused on combined numbing and avoidance symptoms or nonspecific types of emotions being numbed, there is a need for greater research focused more precisely on this high-risk construct.

A significant amount of research has expressed that emotional numbing is a substantial factor in the development and longevity of PTSD. For example, Harvey and Bryant's (1998) prospective study on survivors of motor vehicle accidents found that the diagnosis of emotional numbing one month after the trauma was the strongest predictor of diagnosing PTSD over five months later. In another study on trauma survivors, the emotional numbing symptom severity levels reported two weeks after the trauma predicted emotional numbing severity levels three months later (Feeny et al., 2000). Similarly, another study found an association between how much individuals may experience numbing symptoms during a traumatic event and the later development of symptoms and their severity levels (Roemer et al., 1998). Pietrzak and colleagues (2010) hypothesize that hyperarousal and reexperiencing symptoms have a larger psychological impact on functioning right after a traumatic event, while emotional numbing has a larger impact and becomes more noticeable months after the trauma has taken place. Studies have shown that in young adults (Breslau & Davis, 1992) and adults (McFarlane, 2000) exposed to trauma that emotional numbing symptoms are the persistent dominating symptoms of chronic PTSD cases.

Negative psychosocial consequences are suggested to follow in the aftermath of symptoms due to emotional numbing. For example, several studies researching combat veterans and victims of traffic collisions have consistently found a strong negative association between emotional numbing symptoms, poor social support, and the quality of close relationships (Galovski & Lyons, 2004; Kuhn et al., 2003; Riggs et al., 1998; Ruscio et al., 2002). Additionally, the symptom severity of individuals suffering from emotional numbing is related to higher levels of anxiety, subconscious stress-mediated complaints, psychological distress, somatization, and hostility (Escalona et al., 2004; K. E. Thompson et al., 2004). These findings suggest that emotional numbing symptomatology is a significant risk factor for negative posttraumatic readjustment.

According to Davidson and van der Kolk's (1996) clinical accounts, emotional numbing is likely the most disruptive PTSD symptom. Individuals who cease suffering from traumatic intrusions continue to lack motivation and report feeling senseless or cold. Keane and colleagues (1989) study on PTSD treatment outcomes concluded that exposure therapy had little significant improvement in emotional numbing symptoms. In addition, few studies have examined how the early stages of emotional numbing symptom severity impact individuals' response to PTSD treatment (Taylor et al., 2001). These findings indicate a clear need for more research into the phenomenon of emotional numbing and how it influences individuals over time to better understand and treat symptoms. Despite its clear need for research, symptoms related to

emotional numbing are the least studied component of PTSD (Asmundson et al., 2004; B. T. Litz & Gray, 2002).

Researchers must account for numerous obstacles associated with investigating emotional numbing. Researchers Litz and Gray (2002) bring awareness that the *DMS* has poorly operationalized emotional numbing. For example, symptoms of 'restricted range of affect' are vague regarding what 'affects' are restricted while numbing (B. T. Litz & Gray, 2002). These symptoms include terms such as the 'markedly diminished ability to feel emotions' and the 'numbing of general responsiveness,' implying that all emotions would be restricted (B. T. Litz & Gray, 2002). However, according to the *DSM* (2013), positive emotions such as sexuality, tenderness, and intimacy are significantly affected more than others.

Due to its ambiguous terminology within the *DSM*, two theoretical models have developed to explain the role of emotional numbing within PTSD. The first of these models was developed by Foa and colleagues (1992; 1996). Emotional numbing was described as a type of non-effortful avoidance that occurs when other types of avoidance strategies have failed at reducing distress due to intrusive and arousal symptoms. According to Foa's model, emotional numbing is similar to dissociation as it involves shutting down all positive and negative affective experiences to defend against painful emotions. Comparatively, Litz and colleagues (B. Litz, 1992; B. T. Litz et al., 2000; B. T. Litz & Gray, 2002) challenged this ideology with their model as researchers rejected that emotional numbing involves reducing any negative emotions. Instead, they believe emotional numbing includes a selective processing

deficit affecting only positive affective stimuli. Furthermore, the selective processing deficit only affects positive stimuli due to the exhaust of attentional resources when an individual's attention is focused on environmental perceptions of threat (B. T. Litz & Gray, 2002). Therefore, Litz and colleagues determined that the term 'numbing' is a poor description of what should describe an experience and expression deficit affecting positive emotions exclusively.

There is obvious importance regarding emotional numbing symptoms in the psychopathology of PTSD, which underlines the need for researchers to understand the nature of emotional numbing symptoms and their underlying mechanisms. However, to develop more valid instruments for measuring the construct of emotional numbing, there must be a definition that is fundamentally agreed upon, which expresses the kinds of responses that would be considered an aspect of the construct. As it stands today, the primary assessment measures for symptoms of emotional numbing are dependent upon symptom criteria within the DSM, which has been and remains a topic of debate today.

Our current abilities to understand and reduce the distress caused by emotional numbing are limited by how the construct has been operationally defined and measured, as well as the fact that there is a small amount of empirical research focused on investigating this topic. Research has demonstrated that combat veterans, in particular, suffer from high PTSD rates with a probability of maintaining a lifetime diagnosis anywhere between 12% to 35% depending on the severity of traumatic combat exposure (Wisco et al., 2014). Wisco and researchers (2014) evidence suggests

that combat veterans are a significant population to study emotional numbing in relation to PTSD. Of veterans suffering from trauma, chronic PTSD is most likely to occur among men who suffer battle trauma more than any other trauma type (Prigerson et al., 2001). Prigerson and colleagues (2001) found that when comparing men exposed to combat trauma versus exposure to various other types of traumas, men suffering from combat exposure were more likely to develop chronic PTSD and have unresolved symptoms of emotional numbing months later. Tsai and colleagues (2015) correlational study examining the factor structure of the *DSM-IV* criteria for PSTD in 1,500 veterans found that when compared to all other symptom clusters, emotional numbing was most strongly associated with comorbidities of depression and poor mental health functioning. The strong association between poor mental health and emotional numbing demonstrates the critical need to improve our understanding of emotional numbing and its relationships to other domains of functioning to develop more effective interventions for people living with chronic PTSD.

Correlations of Emotional Numbing in PTSD

Research has examined the nature and correlations of emotional numbing to better understand the numbing phenomenon. Historically research on numbing symptoms has been scarce, yet over the past quarter century, research interest in this topic has increased (Felmingham et al., 2014; Orsillo et al., 2007; Tull & Roemer, 2003). The following section will review the theoretical and empirical research findings

describing the emotional, psychophysiological, and social/relational functioning measures associated with PTSD and emotional numbing symptoms.

Emotional Functioning Deficits in Emotional Numbing. PTSD is commonly believed to be a recurring disorder characterized by states of heightened emotional reactivity, such as through reexperiencing or hyperarousal, as well as diminished emotional responding, such as through numbing symptoms (Foa et al., 1992; B. T. Litz et al., 2000). Multiple studies have attempted to explain the nature of PTSD and emotional processing by utilizing numerous different methodologies, often combined, to better understand this phenomenon. Such methods include self-report measures of emotional valence rated on scales from positive to negative, emotional arousal or intensity rated from low to high, discrete emotions, threat-related neural patterns, and psychophysiological measures (Robinson, 2010).

Some researchers believe that the complex dependent nature of emotional functioning in the context of traumatic events is disguised by emotional numbing (B. Litz, 1992; B. T. Litz & Gray, 2002; Orsillo et al., 2007; Robinson, 2010). However, Litz and colleagues (1992; 2002) argued that victims suffering from PTSD are still completely capable of expressing and experiencing all feelings and states of emotions that were available prior to the traumatic event. These researchers hypothesized that emotional dysfunctioning after the onset of PTSD is first characterized by a previously acquired negative predisposition toward negatively valenced stimuli, with a low tolerance toward the intensity of a stimulus and a greater degree of tolerance toward emotional intensity (B. T. Litz & Gray, 2002; Robinson, 2010). The second

characterization was that high stimulus intensity levels are required to access any positive emotional states (B. T. Litz & Gray, 2002; Robinson, 2010). These proposals suggest that the capacity for emotional processing in people with PTSD may not globally dampen or diminish as "emotional numbing" would indicate. Rather, the psychophysiological and information processing systems are likely sensitized to perceiving possible environmental threats, creating a greater need for positive stimuli to generate positive emotions and less of a need for negative stimulus intensity to generate negative emotions.

Empirical evidence studying emotional numbing suggests that a victim's ability to experience or express positive emotions is restricted when exposed to trauma reminders (Amdur et al., 2000; B. T. Litz et al., 2000; Robinson, 2010). Other research suggests that whatever the context of the traumatic event, positive stimuli are suppressed (Spahic-Mihajlovic et al., 2005). Consistent with Litz and colleagues' (1992) predictions, other researchers have also found elevated reported levels of negative emotions among individuals with PTSD (Amdur et al., 2000; Orsillo et al., 2004). In addition, Frewen and colleagues (2012) studied PTSD in women and their responses to positively valenced scripts and found that symptoms of emotional numbing were associated with low positive impact. Similarly, Felmingham and colleagues (2014) studied 23 civilians suffering from PTSD due to motor vehicle incidents or physical assault. They found that participants with PTSD less intensely rated facial expressions that were happy than other controlled trauma-exposed participants.

Despite this progress, researchers have produced unclear result patterns resulting in inconsistent findings on the arousal indications. For example, Litz and colleagues (2000) found reduced reactivity in smiling zygomatic muscle when exposed to positively valenced images in veterans primed to combat conditions. However, they found no distinctions between self-report ratings of arousal, skin conductance, or muscle activity that contracts the skin (such as in the eyebrows) in response to these images compared to veterans primed with neutral conditions (B. T. Litz et al., 2000). In addition, researchers did not find evidence supporting heightened arousal to negative stimuli in the group with PTSD despite being primed with trauma-related stimuli. Unlike Litz, Amdur, and colleagues (2000) study on combat veterans and a control group without PTSD found that despite self-reported differences in arousal to negative and positive images, psychophysiological and self-reported arousal are not associated with one another.

Furthermore, other studies utilizing neural activity correlations suggest that emotional reactivity may diminish all types of emotion. For example, in a study by Frewen and colleagues (2012) using positively and negatively valenced scripts read to women in a PTSD group and a control group, those with PTSD demonstrated a lower activation of the dorsomedial prefrontal cortex (controlling executive functioning) to both scripts. Findings suggest that emotional numbing symptoms may be more reliably measured by observing involuntary behavior. For instance, Litz and Gray (2002) utilize psychophysiological stimuli responses to avoid cases where individuals suffering from emotional numbing have difficulty expressing and identifying their emotions. Yet,

other studies, such as in the case of Marx and colleagues (2012), found that self-reports of distress are reasonable measures of physiological distress, particularly in participants with PTSD exposed to trauma-related content. Thus, these contradicting findings show that it is still undetermined whether psychophysiological arousal corresponds with those of self-reports and to what extent these indicators are related to emotional numbing.

Psychophysiological Functioning Deficits in Emotional Numbing.

Psychophysiological functioning is critical to examine to improve our general understanding of emotional numbing for various reasons, including limitations in measuring subjective data. Studies have demonstrated that patients are often unable to self-monitor and recall their emotional experiences accurately, likely affected by emotional suppression (B. T. Litz et al., 1997; Tull & Roemer, 2003). Suppression of emotions is especially troublesome as self-report questionnaires require patients to reflect on prior experiences over periods of serval months or years utilizing phrases from the DSM such as “since the event have you had feelings of numbness” (APA, 2013; B. T. Litz et al., 1997; Tull & Roemer, 2003). Research has shown that a chronic pattern of emotional concealment could lead to the development of emotional numbing diagnoses through constant avoidance of reminders of the events and suppression of one's feelings. For example, Roemer and colleagues (2001) study on Vietnam veterans suffering from combat-related chronic PTSD found that when compared to veterans already re-adjusted to civilian life, people living with chronic PTSD admittedly reported holding back internal emotional experiences.

A major highlight in the diagnosis of PTSD is psychophysiological dysregulation and associated symptoms such as being constantly on alert, being easily startled, or experiencing rapid heart rate and breathing. Numerous studies have found that participants who report heightened psychophysiological activity, such as hyperarousal symptoms, were predictors of the onset of PTSD and symptom severity (Breslau & Kessler, 2001; Elsesser et al., 2005). Researchers have suggested that emotional numbing might develop due to an individual's efforts to manage hyperarousal symptoms and reexperiencing due to spending large amounts of energy behaviorally, cognitively, and emotionally (B. Litz, 1992). Management of symptoms may include the reduction of emotional resources to the extent that numbing is experienced through suppression of emotional responsiveness and affective capacity (B. Litz, 1992). Consistent findings have been demonstrated with studies on combat veterans who fought in Vietnam, as self-reported symptoms of hyperarousal accounted for greater variance in symptoms of emotional numbing in PTSD than avoidance symptoms (Flack Jr. et al., 2000; B. T. Litz et al., 1997).

Emotional numbing or “blunting” has been described as the muted or limited emotional responses to events or stimuli. The symptom of emotional numbing has been associated with severity and chronicity in various disorders and is a core defining feature of PTSD. Emotional numbing as a coping mechanism has been investigated as a consequence of hyperreactivity to negatively valanced stimuli requiring more intense positive stimulation to access a full range of pleasant feelings (B. T. Litz & Gray, 2002). Studies on populations clinically diagnosed with depression, anxiety (Byllesby et al.,

2016), borderline personality disorder (Moncrieff et al., 2020), traumatic brain injury (Osran et al., 2010), and schizophrenia (Favrod et al., 2015; J. Thompson et al., 2020) have supported this idea. Researchers have found that emotional numbing/bluntness can be dealt with through various methods such as cognitive behavioral psychotherapy (Favrod et al., 2015), support groups (Moncrieff et al., 2020), adjustment in antidepressant medication usage (Moncrieff et al., 2020; J. Thompson et al., 2020), and re-engagement with close loved ones and activities (Favrod et al., 2015). The effects of emotional blunting have been found to range from temporary periods lasting a few minutes to chronic periods lasting six months to years.

The relationships between emotional numbing and hyperarousal might also be explained through the association between these variables and strategic emotional suppression (experiential avoidance) (B. T. Litz et al., 1997). Experiential avoidance refers to attempts to change the type or frequency of internal emotional experiences, both in cognitive and emotional avoidance (Dunning, 2016; Hayes et al., 1996). Initial and limited use of experiential avoidance can reduce distress; however, chronic usage often results in adverse effects as alterations and avoidance of internal experiences increase the same avoidance intensity and severity which they are trying to reduce (Freeman, 2005; Gross & Levenson, 1993, 1997; Wegner et al., 1987).

The link between emotional numbing and experiential avoidance has been observed among Vietnam veterans with combat PTSD. Roemer and colleagues (Roemer et al., 2001; Tull & Roemer, 2003) found that combat veterans withheld their emotions more than well-adjusted veterans. As a result of intentional chronic

avoidance, these individuals exhibited more emotional numbing symptomology. In addition, hyperarousal may also be related to experiential avoidance as emotional expression suppression has been linked to increases in physiological arousal (Gross & Levenson, 1993, 1997; Tull & Roemer, 2003). Thus, experiential avoidance among victims suffering from PTSD may be attributed to hyperarousal symptoms and act as risk factors of overall symptom severity (Gross & Levenson, 1993, 1997; Tull & Roemer, 2003).

Social Functioning Deficits in Emotional Numbing. The relationship between social functioning in emotional numbing is not yet clear, but it may help understand the longevity of PTSD in chronic sufferers. Researchers are also unsure how emotional numbing is triggered and maintained. However, many researchers predict that numbing may be precipitated by a direct result of trauma, emotional dysregulation, insecure attachment styles, social withdrawal, or a combination of any of the factors may be the cause. The traditional diagnostic definition of emotional numbing includes both concepts in its 3-symptom diagnosis, including feelings of detachment or estrangement from others, restricted range of affect, and diminished interest in activities (APA, 2013; Costa & McCrae, 1992; Hassija et al., 2012; Pietrzak et al., 2014). In addition, the concept of 'loss spiral' may contribute to understanding the association between these two constructs as this refers to the idea that one who initially has limited resources is unable to cope effectively with traumatic experience losses, which leads to a cycle of even further loss (Hobfoll, 1989).

Regarding social functioning, without pre-existing social support, PTSD development is more likely to take place. Lack of social support results in emotional numbing symptoms after a traumatic event, further damaging and contributing to the loss of social relationships. Therefore, researching and identifying social functioning patterns in emotional numbing may contribute to enhancing intervention strategies for people living with chronic PTSD.

Research has found that impaired social functioning may contribute to PTSD chronicity. For example, Brewin and colleagues (2000) conducted a meta-analysis to identify potential risk factors for developing PTSD and found that the impact of social support was more strongly correlated in military groups in comparison to civilian groups. Likewise, Schnurr and colleagues (2004) investigated independent factors contributing to the development and maintenance of PTSD. They found that low levels of social support and emotional regulation contributed to chronic PTSD.

Similarly, Sippel and colleagues (2018) investigated the frequency of social connectedness distress due to issues in peer relations and the days spent with supportive loved ones within 30 days of veterans seeking treatment for PTSD. In addition, researchers sought to examine the symptom clusters with the two social connectedness indices found in the five-factor model. Numbing symptoms associated with PTSD were expected to be related to having a low number of days spent in contact with supporting loved ones. Participants included 4,296 U.S. military veterans seeking residential treatment in 35 VA medical facilities from April 2012 to May 2013. Veterans completed self-report questionnaires assessing demographics, substance

use, psychiatric symptoms, and combat status, among other evaluation protocol outcomes determined by the VA program. Ordinal regression models of PTSD symptom clusters found that of 2,600 veterans, 49.3% of veterans served in OIF/OEF/OND, 28.3% served in Vietnam, 23.8% served in the Persian Gulf, 16 % served in both Vietnam and the Persian Gulf, 0.2% served in the Korean War, and 0.1% served between Korea and the Vietnam war. Results suggested that dysphoric arousal and emotional numbing PTSD symptom clusters were differentially associated with social connectedness and less support from loved ones. These findings suggest that PTSD dysphoric arousal and emotional numbing symptom clusters are related to worsening social connectedness after reintegration. These results support the proposition that social connectedness and PTSD are associated (King et al., 2006; Laffaye et al., 2008).

Historically, researchers have found that combat veterans commonly suffer from interpersonal relationship difficulties, particularly males (Nezu & Carnevale, 1987; Roberts et al., 1982). Riggs and colleagues (1998) compared Vietnam veterans with and without PTSD and found that more than 70% of people living with PTSD reported high levels of relationship stress. Similarly, Prigerson and colleagues (2001) found that men with combat-related PTSD were more likely to participate in partner abuse or get divorced when compared to other trauma types. It is plausible that veterans with PTSD have a significantly higher degree of relationship distress due to reactivity through anger and emotional detachment, which interferes with an individual's ability to maintain relationships. Some researchers suggest that emotional numbing symptoms may interfere directly with relationship processes, such as conflict

resolution and the ability to bond with one another (Riggs et al., 1998). Consistent with these predictions, Galovski and Lyons (2004) found that in relationships where one partner is a veteran suffering from PTSD, physical and psychological partner abuse was correlated with self-reports of emotional numbing symptoms and anger.

Numerous studies on veterans exposed to trauma have found positive correlations between PTSD symptomology and insecure attachment style (Forbes D et al., 2010; Franz et al., 2014; Ghafoori B et al., 2008; Nye EC et al., 2008). Mediation analyses have also suggested that insecure attachment style mediates chronic PTSD symptom severity. Researchers have theorized that attachment insecurity indirectly influences chronic PTSD symptoms. Insecurely attached individuals may perceive their surrounding environment as more stressful when compared to securely attached individuals, possibly contributing to PTSD vulnerability. Franz and colleagues (2014) longitudinal study analyzing aging twins in the Vietnam era (Kremen WS et al., 2013) found medium effect sizes between measures of anxious and avoidant attachment styles at age 55 and PTSD symptomology six years later. Consistent with these findings, Besser and colleagues' (2009) study on civilian Israelite victims of terrorist attacks found that participants exposed to trauma reported greater levels of anxious attachment compared to non-trauma-exposed participants. These results also revealed that the DSM Cluster C avoidance/numbing symptoms are significantly associated with high levels of attachment anxiety. These findings call into question whether emotional numbing is also associated with attachment-related avoidance.

Thus, emotional numbing and associated social functioning deficits such as detachment or anger significantly interfere with an individual's ability to maintain secure attachment (Tone & Tully, 2014). Furthermore, these concept interferences can result in difficulties for individuals in feeling compassion or empathy toward family and others (Tone & Tully, 2014). Limited empirical studies have examined the relationship between relational functioning and emotional numbing and have merged the two constructs by only utilizing the traditional three-symptom scale or the Cluster C avoidance (numbing) scores (Besser et al., 2009; Galovski & Lyons, 2004; Riggs et al., 1998). The development of more sensitive emotional numbing measures is required for future studies to better understand the association between emotional numbing and social functioning.

PTSD and Personality

Not every individual exposed to a traumatic event will develop PTSD, suggesting that individual differences in personalities may act as risk factors influencing PTSD symptom severity (Engelhard et al., 2003). Research has found that dysfunctional personality traits positively correlate with PTSD, while functional personality traits are negatively correlated (Bramsen et al., 2000; Clark & Owens, 2012; Gil & Caspi, 2006; Jakšić et al., 2012; Talbert et al., 1993). The commonly utilized five-factor personality model and Big-Five personality traits include neuroticism, openness, extraversion, conscientiousness, and agreeableness (Costa & McCrae, 1992; Minkov et al., 2019). Multiple studies have investigated personality traits in relation to PTSD symptom severity and have found significant positive correlations between

neuroticism and PTSD development as well as negative correlations in extraversion, openness, and agreeableness (Jakšić et al., 2012; Stevanović et al., 2016).

Neuroticism. Within the Five Factor Model of Personality, neuroticism comprises factors including impulsiveness, hostility, depression, anxiety, vulnerability to stress, and self-consciousness (Costa & McCrae, 1992). The trait neuroticism has been associated with symptom severity and chronicity in PTSD. Researchers have investigated these constructs in two common approaches. One approach involves investigating the degree of PTSD symptoms, and studies have found that individuals with high levels of neuroticism also reported more symptoms overall. Engelhard and researchers (2003) found that high symptoms and neurotic personality reports have been found true in studies on populations exposed to traumas of burn (Roca et al., 1992a), plane crashes (Chung et al., 1999), earthquakes (Lewin et al., 1998), bushfires (McFarlane, 1989), combat exposure (Hyer et al., 1994), and civilian parents exposed to traumas of war (Mook et al., 1997). The other approach involves investigating the differences between groups diagnosed with PTSD and groups without a PTSD diagnosis. Engelhard and researchers have also found that groups diagnosed with PTSD report higher neuroticism levels, comparatively. In addition, higher levels of neuroticism have been found true in populations exposed to trauma, such as receiving HIV diagnosis (Kelly et al., 1998), being caught in a bushfire (McFarlane, 1992), and being exposed to combat (Casella & Motta, 1990). Results have expressed that neuroticism is less related to symptoms of avoidance or reexperiencing (McFarlane,

1992; Roca et al., 1992) than initially believed and has a more significant association with symptoms of arousal (Charlton & Thompson, 1996; Ormel & Wohlfarth, 1991).

Several different potential factors may influence the risk of PTSD development. Historically, research on PTSD and neuroticism has been limited to retrospective data (particularly hospital records), long intervals of time between the study and the trauma onset, and consequently to populations of chronic symptom patients. Nevertheless, several studies have found neuroticism to be a possible risk factor for developing symptoms of PTSD, suggesting individuals with higher scores of the trait neuroticism are more reactive to trauma (Breslau et al., 1991; Engelhard et al., 2003; Janssen et al., 1997; Kelly et al., 1998; Laura Bowman, 1999; McFarlane, 1989). Kirby and colleagues (2011) findings suggest neuroticism is one of the strongest predictors of PTSD development. Individuals who score highly in the trait neuroticism are less likely to utilize social support, more likely to favor threats over compromise, and have a better handle on emotionally regulated coping styles which are all associated with poor mental health (Borja et al., 2009; DeLongis & Holtzman, 2005; Folkman et al., 1986; Kendler et al., 2002; Leskelä et al., 2009; Penley & Tomaka, 2002). These results indicate that an individual's level of neuroticism might intensify the association between PTSD and the severity impact of traumatic events.

Agreeableness. Within the Five Factor Model of Personality, agreeableness is comprised of factors including straightforwardness, cooperation levels, altruism, modesty, sensitivity toward others, and one's ability to forgive and trust others (Costa & McCrae, 1992). A study by Caska and Renshaw (2013) investigated personality traits

as moderators of combat trauma in 214 veterans serving in the National Guard during Operation Enduring and Operation Iraqi Freedom between the years 2001 to 2008. The majority of Caska's participants were married Caucasian males ranging from ages 20 to 59. Participants were mailed surveys comprised of questions from the PTSD checklist, the Big Five Inventory, and the Deployment Risk and Resilience Inventory which they were compensated for completing and mailing back. Findings provided evidence that lower levels of agreeableness moderated PTSD (r = -.30) as well as conscientiousness (r = -.17), openness (r = -.10), and extraversion (r = -.06) in relation to the aftermath of combat experiences. Caska's results imply that personality traits influence individuals' responses to trauma, particularly in the case of combat-related experiences after the event, which can no longer cause physical harm (Caska & Renshaw, 2013). This suggests personality traits act as significant risk or resilience factors regarding individuals' responses to trauma.

Distinct from neuroticism, the trait agreeableness is associated with self-efficiency, positive effect, and the often utilization of social support (Caska & Renshaw, 2013; DeLongis & Holtzman, 2005; Penley & Tomaka, 2002). High levels of trait agreeableness have been found to predict posttraumatic growth, while low levels of this trait predict worsening PTSD symptomology. Researchers have found that individuals high in agreeableness implement the greater use of problem-focused coping styles (Caska & Renshaw, 2013; O'Brien & DeLongis, 1996; Watson & Hubbard, 1996; Williams et al., 2009) as well as emotion-focused coping strategies (Caska & Renshaw, 2013; Penley & Tomaka, 2002). Multiple studies have also found that low

levels of agreeableness are associated with PTSD symptom development, while higher levels are associated with posttraumatic growth (Caska & Renshaw, 2013; Fauerbach et al., 2000; Hyer et al., 1994; Talbert et al., 1993). These findings suggest that personality characteristics can affect an individual's ability to recover from PTSD either positively or negatively, which is essential knowledge that could impact current intervention strategies positively.

Predictions

Hypothesis 1: Veterans who have been on more deployments will score higher on emotional numbing.

Hypothesis 2: Veterans who have been deployed multiple times will score higher on social isolation than those who have not been deployed.

Hypothesis 3: Younger veterans will score higher on social support than on experimental avoidance.

Hypothesis 4: Veterans with high scores in hypervigilance will report increased emotional numbing symptom severity.

Hypothesis 5: Veterans who report high levels of overall PTSD symptom severity will also report high levels of the personality trait Neuroticism.

Hypothesis 6: Veterans who report high levels of overall PTSD symptom severity will also report low levels of the personality trait Agreeableness.

Hypothesis 7: Veterans who report higher levels of PTSD symptom severity will also report multiple traumatic experiences.

II. Method

This study aimed to determine what symptoms act as risk factors for chronic PTSD symptoms severity in veterans. To accomplish this, an online survey was created and administered using Qualtrics Management Software. The survey was split into sections beginning with the PTSD Checklist –DSM5 (PCL-5) and continuing with the Life Events Checklist (LEC), Revised UCLA Loneliness Scale, Six Item Lubben Social Network Scale (LSNS-6), Brief Hypervigilance Scale (BHS), Acceptance and Action Questionnaire (AAQ-TS), and the Big Five Inventory (BFI) consisting of scaled response and open-ended questions.

Participants

My participants consisted of 70 veterans with ages ranging from 18 to 58. Of the 70, four were omitted due to a less than 50 percent completion of the survey.

Measures

Posttraumatic Stress Disorder Checklist –DSM5 (PCL-5). The first section of the survey is an itemized list of 41 questions total enquiring about stressful or scary events and their impact on PTSD symptom severity. In the first 15 questions, participants were to mark "Yes" or "No" in response to whether they have ever experienced each potentially life-altering event. The 16th question asks participants which of the events marked "Yes" currently bothers them the most. If any of the 15 events are marked yes, participants will continue to the following 25 questions pertaining to PTSD symptoms and self-rated symptom severity. The first 20 questions asked participants how often each PTSD symptom bothered them in the past month, and participants were to rate

their answers on a Likert scale from zero “Not at all” to four “Extremely Often.” The final five questions ask participants to mark “Yes” or “No” if any of the above symptoms interfere with different types of relationships, activities, and general happiness.

Life Events Checklist (LEC). The second section consists of an itemized list of potential traumas one may experience in their lifetime. There are a total of 17 possible traumas, such as natural disasters, assault, combat exposure, or life-threatening illnesses (Weathers et al., 2013). Participants were to mark whether they had ever personally experienced, witnessed, learned about, was exposed to as part of a job, or were unsure if they had experienced each trauma type at any point in their lives.

Revised UCLA Loneliness Scale: Loneliness was assessed by the modified three-item UCLA loneliness scale. The items related to how often participants felt lonely. Participants are asked to respond with hardly ever = 1, some of the time = 2, often = 3 and the items are summed, resulting in overall scores between 0 and 9 with higher scores denoting higher loneliness.

Six-Item Lubben Social Network Scale (LSNS-6): Isolation was assessed by utilizing the six-item Lubben Social Network Scale. The LSNS-6 consists of three items relating to family and three items relating to friendships (i.e., How many relatives do you see or hear from at least once a month?). Participant responses range from zero = “none” to five = “nine or more” for each item. The scores are summed for an overall score between zero and 30, with scores less than 12 reflecting isolation.

Brief Hypervigilance Scale (BHS). The fourth section is an itemized list of five self-report questions. Participants were asked to reflect over the past month about how much or how often each hypervigilance symptom statement relates to them (i.e., "I notice that when I am in public or new places, I need to scan the crowd or surroundings") (Bernstein et al., 2015). Each question was rated on a five-point Likert scale ranging from "0" = "Not at all like me/Never true" to "5" = "Very much like me/Always true."

Acceptance and Action Questionnaire – Trauma Specific- Portuguese Version (AAQ-TS). The fifth section is an itemized list of 15 self-report questions. Participants are asked how much they agree with each statement about the effects of trauma on their lives (i.e., "The trauma(s) I experienced ruined my life; "I stop taking care of my responsibilities when I am reminded of the trauma(s)") (Pinto-Gouveia et al., 2015). Each question was rated on a seven-point Likert scale ranging from "1" = "Never true" to "7" = "Always true."

Big Five Inventory (BFI). The final section of the survey comes from the 44-item personality measure that examines five different traits: Neuroticism, Extraversion, Openness, Conscientiousness, and Agreeableness. Each item is a statement about the self (e.g., "I see myself as someone who… 'Tends to find fault with others', 'Is generally trusting'") to which the participant must respond on a 1-5 Likert scale (Keller**,** 2017;

Donohue and Kentle, 1991). For this study, only 17 items for personality traits Neuroticism and Agreeableness will be used.

Design

This study mainly consists of a quantitative research design. The study utilizes a stepwise multiple regression analysis at the factor level of each measure to allow for clear indications of what characteristics of PTSD are the strongest predictors of chronic symptom severity. The dependent variable is PTSD Severity. The independent variables are Emotional Numbing, Experiential Avoidance, Hyperarousal, Social Support, Neuroticism, and Agreeableness. Veterans with more severe symptoms of chronic PTSD will experience more severe emotional numbing symptoms, avoidance of trauma reminders, more severe hyperarousal symptoms, higher scores for neurotic personality trait, and lower scores for agreeable personality trait.

Procedure

An IRB proposal was approved by Easter Kentucky University, and meetings were conducted to discuss study procedures before the distribution of the survey to military veterans participating in the study. Data obtained from the survey was entered into R-User Software for analysis. The study looks at the relationships between PTSD symptom severity and potential risk factors contributing to the chronicity of the disorder in veterans. A coding system was developed to clean the data in R-User software. After the data was cleaned, analyses were run for descriptive statistics and statistical correlation tests.

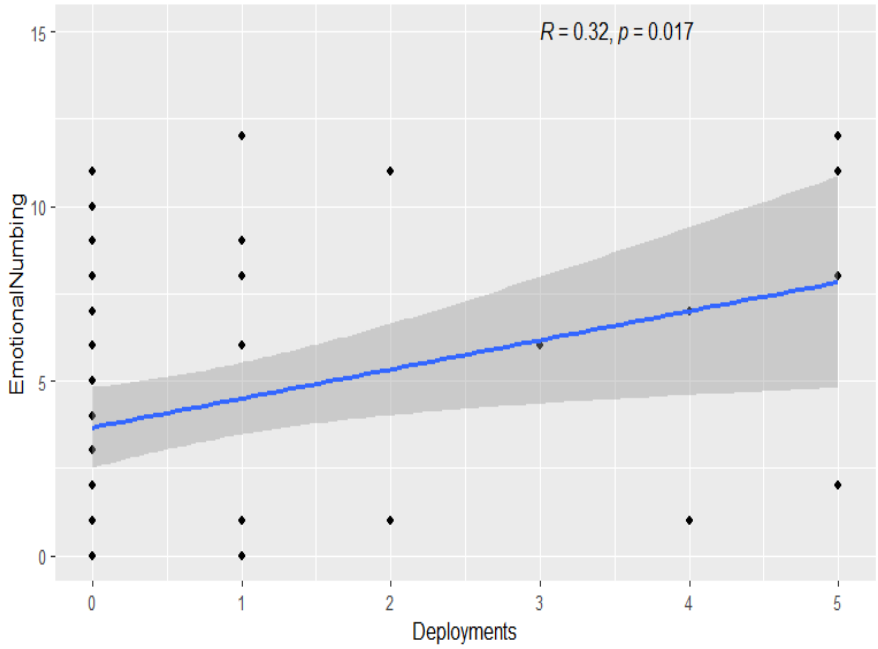
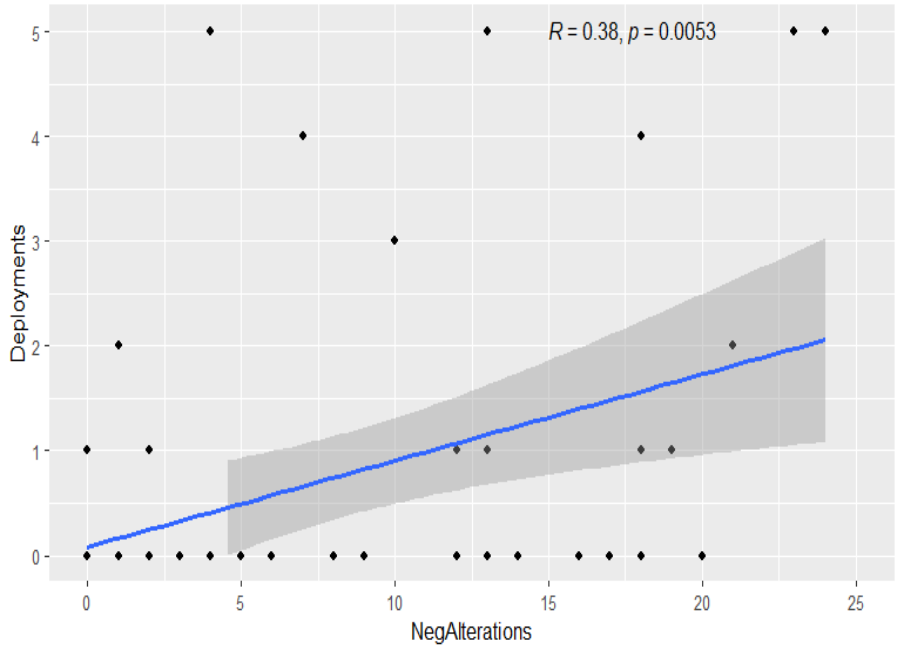


Figure 1a

There is a positive linear relationship between the number of deployments and overall emotional numbing scores.

Participants reported their number of deployments (0 - 5 or more) and their emotional numbing scores were calculated (0 – 12). In line with Hypothesis 1, there was a significant moderate positive correlation ($r = 0.32$, $p < .01$*). This suggests that veterans who have been deployed have higher levels of emotional numbing compared to veterans who have newly enlisted. These results seemed to be driven by a small number of veterans who had been deployed already (see Figure 1a).

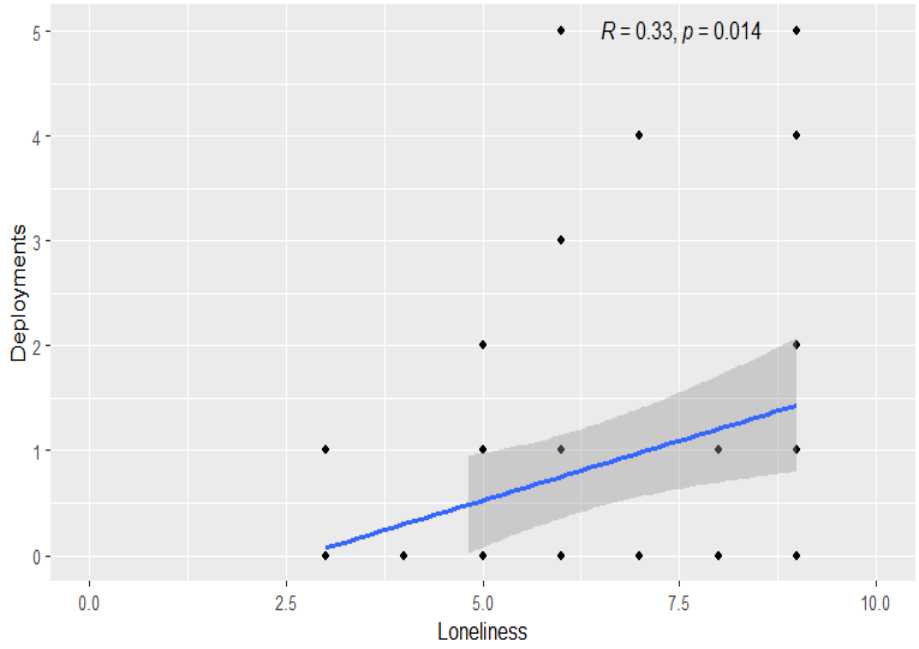


Number of Deployments Predict Negative Alterations

Figure 1b

There is a positive linear relationship between the number of deployments and overall negative alteration scores.

Participants reported their number of deployments (0 - 5 or more) and their total negative alteration scores were calculated (0 – 24). In line with Hypothesis 1, there is a moderate positive correlation ($r = 0.38$, $p < .001$**). This suggests that veterans who have been deployed more often have higher levels of negative alterations in cognition and mood compared to veterans who have not been deployed yet. These results seem to be driven by a small number of veterans who have been deployed already (see Figure 1b).

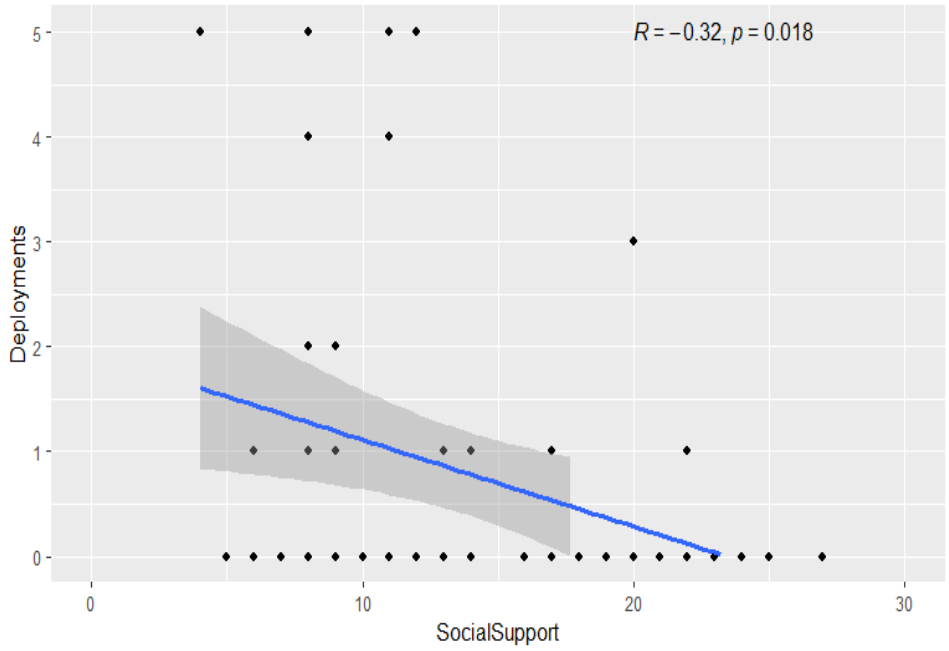


Number of Deployments Predict Loneliness Levels

Figure 2a

There is a positive linear relationship between the number of deployments and overall levels of loneliness.

Participants reported their number of deployments (0 - 5 or more) and their total loneliness scores were calculated (0 – 9). In line with Hypothesis 2, There is a significant moderate positive correlation ($r = .33$, $p < .01$*). This suggests that veterans who have been on more deployments also report more loneliness overall. These results seem to be driven by a small number of veterans who have been deployed already (see Figure 2a).

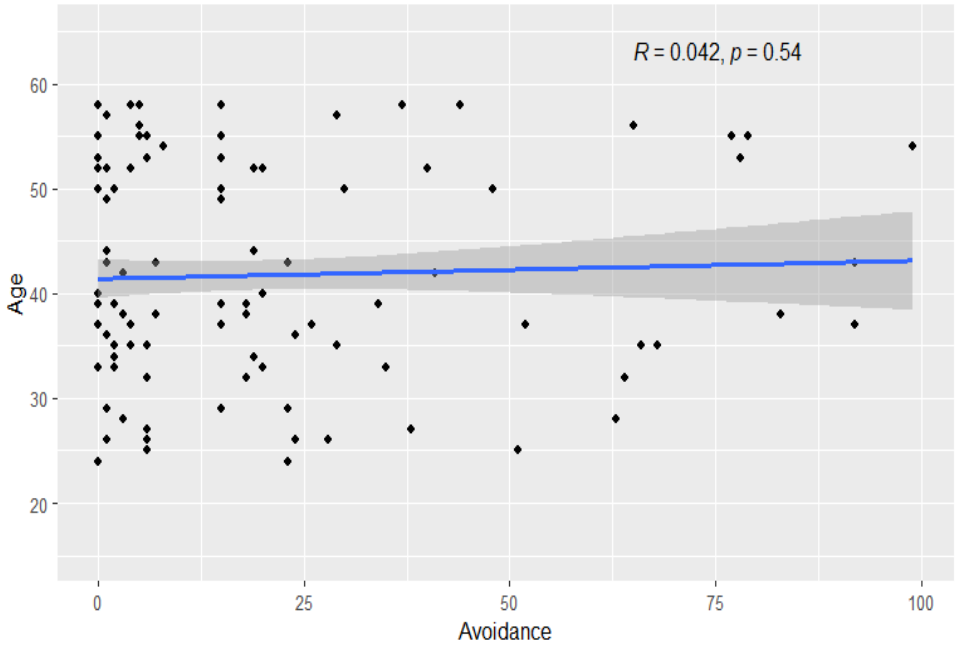


Number of Deployments Predict Levels of Social Support

Figure 2b

There is a negative linear relationship between the number of deployments and overall levels of social support.

Participants reported their number of deployments (0 - 5 or more) and their total social support scores were calculated (0 – 30). In line with Hypothesis 2, There is a significant moderate negative correlation ($r = -0.32$, $p < .01$*). This suggests that veterans who have been on deployments have lower rates of social support. These results seem to be driven by a small number of veterans who have been deployed already (see Figure 2b).

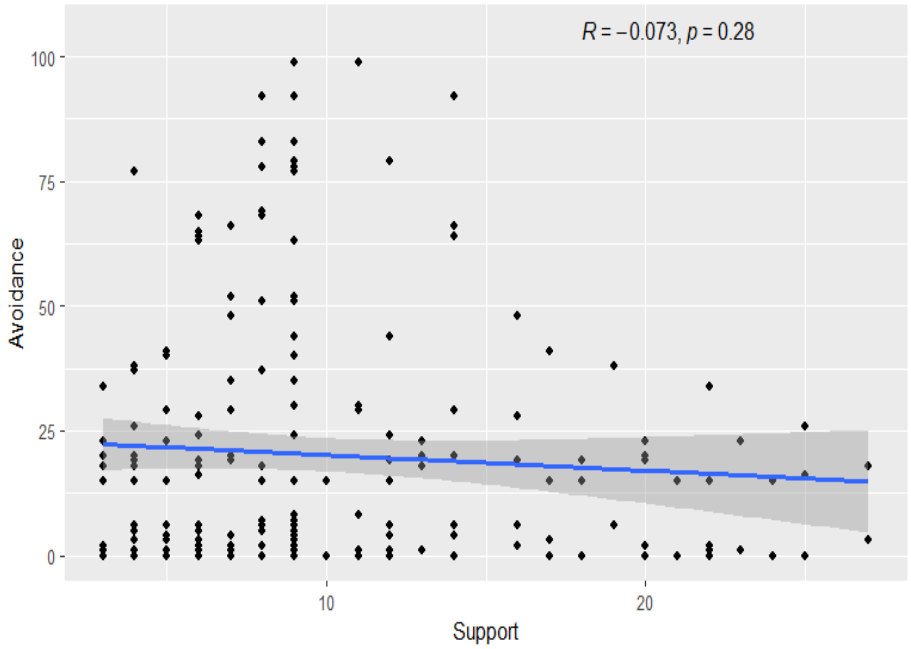


Age Does Not Predict Levels of Experiential Avoidance

Figure 3a

There is no relationship between veterans' age and overall levels of experiential avoidance.

Participants reported age (18+) and their total levels of experiential avoidance (15 – 105). Against Hypothesis 3, there is a weak positive to no correlation ($r = 0.042$, $p > .1$). This suggests that the age of veterans had little impact on experiential avoidance (see Figure 3a).

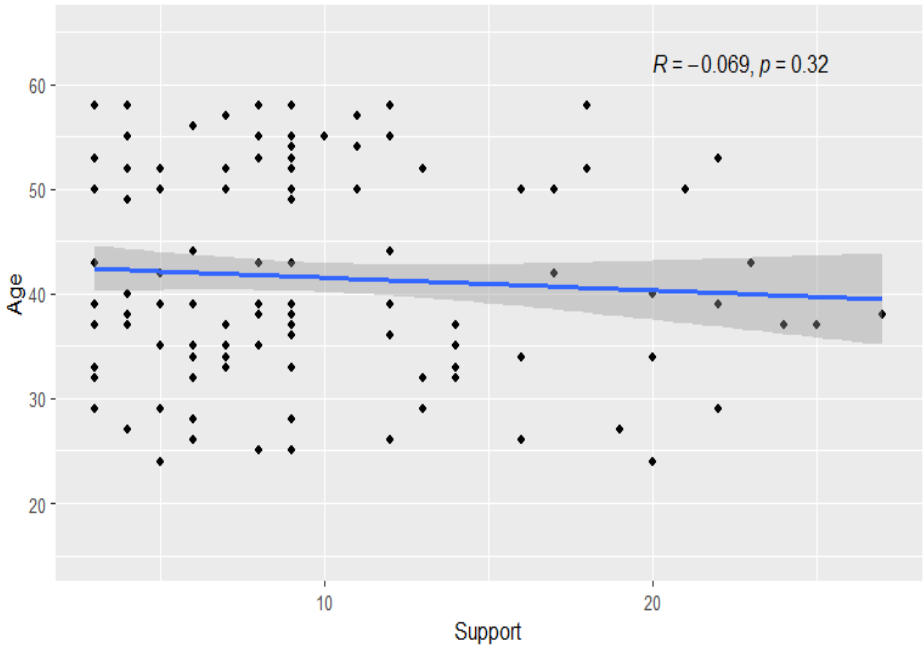


Social Support Does Not Predict Levels of Avoidance

Figure 3b

There is no linear relationship between the level of social support and overall levels of experiential avoidance.

Participants reported their levels of social support (0 - 30) and experiential avoidance (15 – 105). Against Hypothesis 3, there is a weak negative to no correlation ($r = -.07$, $p > .1$). This suggests that veterans who rated higher on avoidance of their traumas have little impact on the amount of social support received (see Figure 3b).

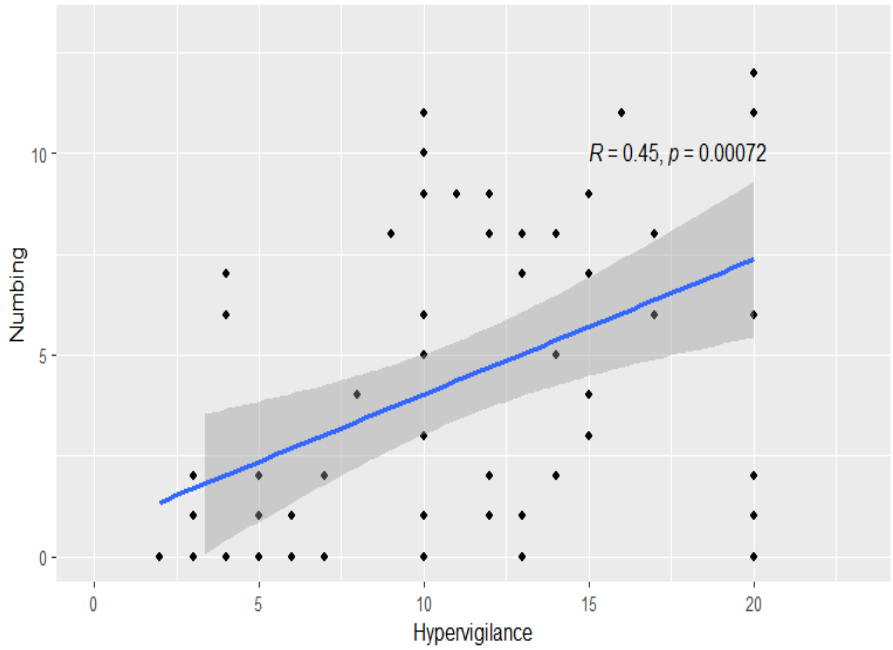


Age Does Not Predict Levels of Social Support

Figure 3c

There is no relationship between age and overall levels of social support.

Participants reported their age (18+), and their total social support scores were calculated (0 – 30). Against Hypothesis 3, there is a weak negative to no correlation (r = -.069, p > .1). This suggests that veteran age and levels of social support are not related (see Figure 3c).



Higher Levels of Hypervigilance Predicts Higher Levels of EN

Figure 4

There is a positive linear relationship between the overall levels of emotional numbing and levels of hypervigilance.

Participants reported their levels of emotional numbing (0 - 12) and their levels of hypervigilance (0 – 20). In line with Hypothesis 4, there is a significant strong positive correlation ($r = 0.45$, $p < .001$**). This suggests that veterans who reported higher levels of constant hypervigilance also reported having greater levels of emotional numbing (see Figure 4).

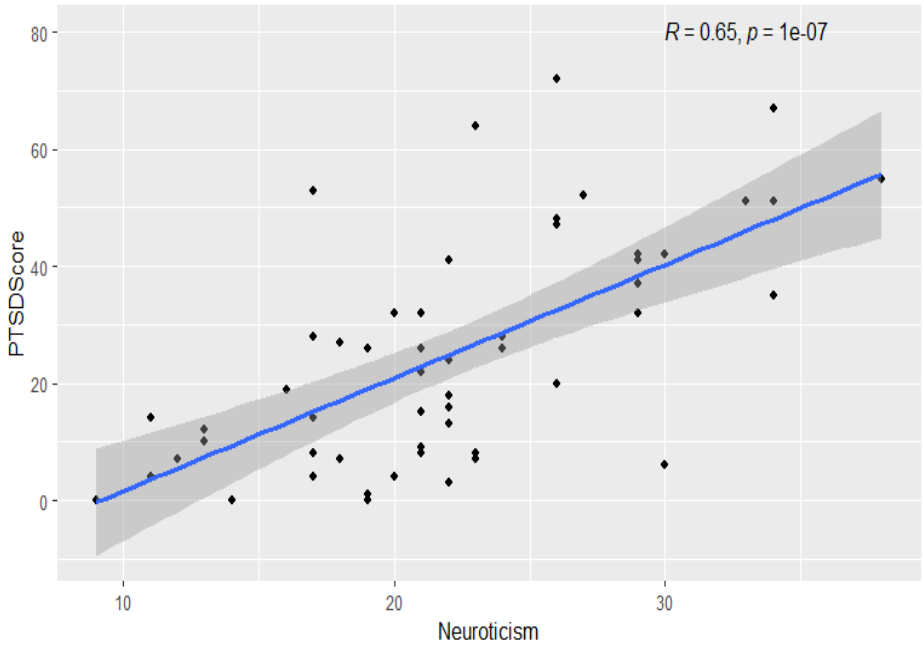
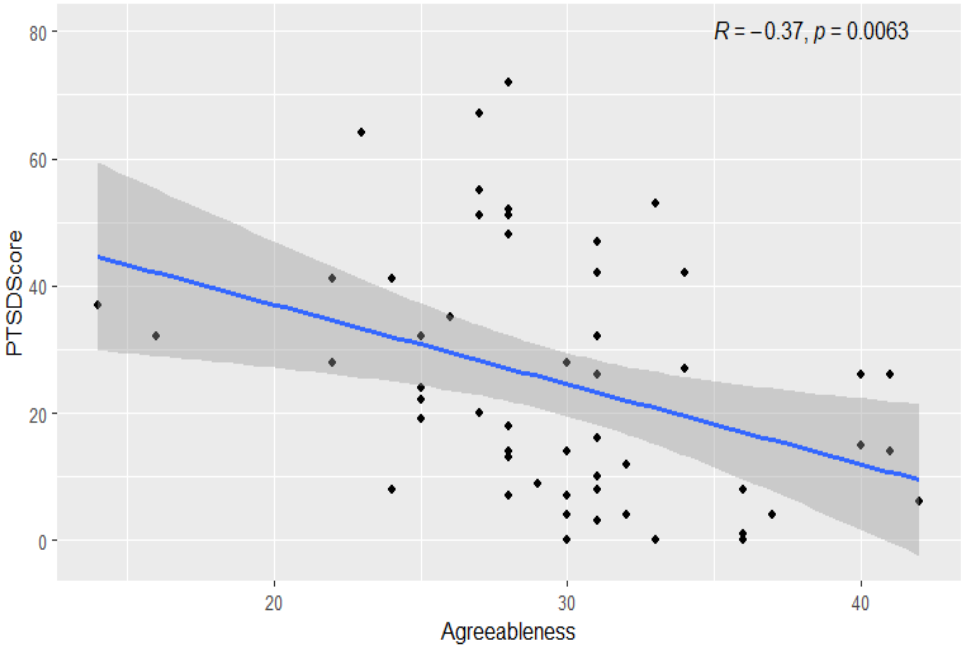


Figure 5

There is a positive linear relationship between the level of PTSD symptom severity and personality trait neuroticism.

Participants reported their overall levels of PTSD severity (0 - 80) and their total scores for neuroticism (0 – 40). In line with Hypothesis 5, There is a significant strong positive correlation (r = 0.65, p < 0***) in veterans with high scores of overall PTSD symptom severity also have higher levels of personality trait neuroticism (see Figure 5).

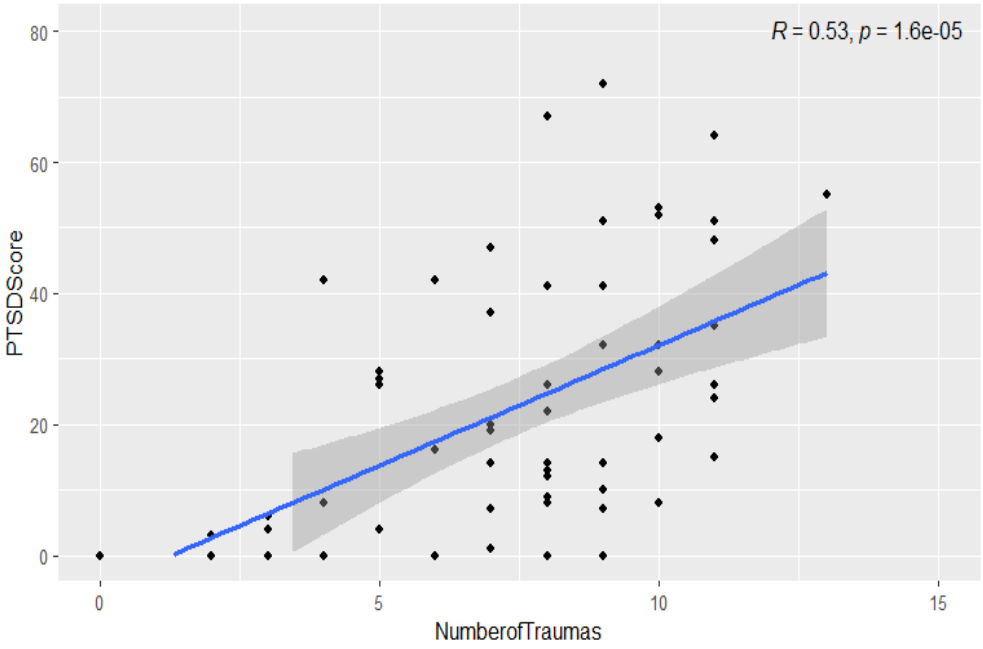


PTSD Severity Predicts Low Agreeableness

Figure 6

There is a negative linear relationship between the level of PTSD symptom severity and personality trait agreeableness.

Participants reported their overall levels of PTSD severity (0 - 80) and their total scores for neuroticism (0 – 45). In line with Hypothesis 6, there is a significant moderate negative correlation (r = -0.37, p < .001**). This suggests that higher scores of overall symptom severity in veterans also have lower levels of the personality trait agreeableness (see Figure 6).



Number of Traumas Predict PTSD Severity

Figure 7

There is a positive linear relationship between the number of traumas experienced and overall levels of PTSD severity.

Participants reported their number of traumatic experiences (0 - 15) and their overall levels of PTSD severity (0 - 80). In line with Hypothesis 7, there is a strong positive correlation (r = 0.53, p < 0***). This suggests that veterans who reported having greater overall scores of PTSD symptoms also have experienced numerous traumatic experiences personally (see Figure 7).

Figure 8

Personal effects and experiences due to the Covid-19 Pandemic of 2020.

Participants were given the option of reporting their personal experiences and feelings toward the Covid-19 pandemic isolation mandate (open-ended). Due to the lack of robustness in the given data, significant analyses were unable to be conducted in this study. Rather, a word cloud was produced to project the commonality of participant responses as the number of responses was low, and difficult to note any trends (see Figure 8).

IV. Discussion

Findings

Based on existing research related to veterans' feelings of re-entering civilian society as well as emotional numbing symptoms found in veterans diagnosed with PTSD, this study examined relational, social, and emotional correlates in a sample of veterans in Eastern Kentucky. The data and findings from this research supported the hypotheses surrounding coping practices, numbing symptoms, social interactions, and personality factors. However, the research did not find supporting hypotheses relating to age and its effects on social/relational correlates of PTSD symptomology.

In summation, the findings generated from this study suggest that the more veterans were deployed, the more likely they are to suffer from emotional numbing symptoms (in line with Hypothesis 1), isolate themselves from their loved ones and society (in line with Hypothesis 2), and have witnessed multiple traumatic events throughout their lifetime (in line with Hypothesis 7). Additionally, veterans who were found to be hypervigilant (jumpy, alert, watchful, etc...) were more likely to utilize emotional numbing as a method of coping with re-entering civilian society (in line with Hypothesis 4). Regarding personality factors, veterans who were found to be high in neuroticism (in line with Hypothesis 5) and low in agreeableness (in line with Hypothesis 6) were much more likely to experience higher levels of PTSD symptom severity overall. However, the age of veterans did not affect levels of social support and avoidance of thoughts, feelings, memories, or bodily sensations (against Hypothesis 3).

Limitations and Future Directions

There were various limitations in this study worth noting. As veterans struggle to trust civilians to understand their experiences, the more personal open-ended questions may not have been answered in a lot of detail due to the fact participants were informed the graduate student and principal investigator were not service members. Additionally, questions related to Covid isolation were open-ended and not required which created low levels of commonality among the responses. Finally, the number of participants was low (n = 70) likely because data collection was only administered for roughly four months during the summer when many individuals were on vacation and the number of courses administered for the EKU psychology department is limited. Because of participant numbers, the collected data lacked robustness which did not allow for significant generalization for the population at this time.

Future studies should investigate questions related to PTSD through a questionnaire independent of EKU psychology courses. The survey should cover a data collection period during semester months rather than summer and remain open for at least six months for better recruitment numbers. Aside from students, the investigator should reach out to various VAs to recruit from a wider range of veterans of war. Finally, Covid isolation questions should be more direct in wording and be close-ended for a better analysis of commonality.

Future researchers should also consider investigating subjective understandings of concepts such as recovery and reintegration. Changes in definitions

of PTSD should be reviewed in greater detail to investigate broader cultural trends such as the effects of direct versus secondhand exposures of trauma. Investigators should catalog the symptomology of emotional numbing and social support to search for correlations among veterans grouped by various deployment times. Lastly, expanding on the theme of veterans and lack of social support throughout different life stages could add further depth to the argument.

Implications

PTSD is the most common and prevalent mental health disorder affecting military veterans seeking treatment at the VHA's medical centers (Ramsey et al., 2017). The return to civilian lifestyles for veterans has been often described as unsettling and psychologically restless which often results in various reactions including nightmares, depression, anxiety, social isolation, and a loss of purpose for serving a greater cause (Zefferman & Mathew, 2021). By better understanding the potential risk factors associated with the chronicity of the disease, these findings will allow for a better understanding and molding of current and new treatment plans to allow for a faster reintegration into a normalized civilian life.

This study's findings related to emotional numbing can influence multiple factors related to PTSD severity and chronicity. This is essential information for the VA as these symptoms should be screened for more thoroughly to assess and begin treatment plans as soon as possible when veterans return home.

Conclusion

All but one hypothesis was supported by the findings of this study. The more veterans are deployed overseas, the more likely they will cope with PTSD symptomology through the expression of emotional numbing and less likely to reach out for help for the fear of being misunderstood by others who did not simultaneously experience the traumatic event(s). Emotional numbing and hypervigilance correlations align with research produced by Litz and Grey (2002) who suggested that numbing could result as a consequence of hyperreactivity to negative stimuli. Personality factors related to high neuroticism and low agreeableness aligned with study findings that these traits are correlated to higher developments of PTSD symptomology. These findings suggest that neurotic individuals worry and dwell more often in general while agreeable individuals are more trusting of their environments and rarely dwell on negative experiences (Caska & Renshaw, 2013; John & Srivastava, 1999).

With tragedies such as wars, natural disasters, domestic/terrorist attacks, and acts of violence, PTSD will remain a relatively consistent disorder among deployed veterans as we know it. However, with early assessments and treatment post-traumatic growth can emerge for those who have experienced trauma. This can lead to greater social and personal relationships, give back an appreciation for life, and a greater sense of self-purpose. Social support alleviates the severity of the disorder and the difficulties that follow. More research conducted on the topic can hopefully lead to discoveries useful in avoiding PTSD while overseas, treating the disorder when prevalent, and encouraging growth in veterans who respond to treatment well. Given

veterans' everyday sacrifices, supporting those returning home with PTSD should be something strived for among the general population.

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APPENDICES

Appendix A:

Informed Consent Form

Appendix A: Informed Consent

PURPOSE OF THE STUDY:

You are being invited to participate in a research study. The purpose of this survey is to obtain information regarding risk factors that influence symptom severity in veterans living with PTSD.

DURATION OF THE STUDY:

This study will take approximately 25-30 minutes of your time.

PROCEDURES:

If you agree to be in the study, we will ask you to fill out a short survey concerning reintegrating into civilian life while living with PTSD. This survey covers questions about your daily activities, self-care, friends, family, and life changes from before and after the COVID-19 Pandemic.

RISKS AND/OR DISCOMFORTS:

This experiment involves minimal risks. Although the risks are minimal, please feel free to quit the study if you experience distress and call the EKU Counseling Center at (859) 622-1303 or the Veteran Crisis Line at 1-800-273-8255 and press 1; Text Line: 838255; Support for Deaf and Hard of Hearing: 1-800-799-4889.

BENEFITS:

There are no immediate benefits from participating in this study. However, your participation in this survey will provide us with helpful insights for understanding probable risk factors for long-lasting PTSD and help modify future intervention strategies.

ALTERNATIVES:

There are no known alternatives available to you other than not taking part in this study. However, any significant new findings developed during the course of the research which may relate to your willingness to continue participation will be provided to you.

CONFIDENTIALITY:

The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the research team will have access to the records. However, your records may be reviewed for audit purposes by authorized University or other agents who will be bound by the same provisions of confidentiality.

COMPENSATION & COSTS:

You will be given 0.05 units of credit for participating in the online survey in their introductory course. You will receive no payment for your participation. You will not be responsible for any costs to participate in this study.

RIGHT TO DECLINE OR WITHDRAW:

Your participation in this study is voluntary, but we really need you to participate so that we can have sufficient data. If you wish to withdraw from the study, please contact the researcher immediately. The investigator reserves the right to remove you without your consent at such time that they feel it is in the best interest.

RESEARCHER CONTACT INFORMATION:

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Daniela Taylor at daniela.taylor@eku.edu and/or Dr. Theresa Botts at theresa.botts@eku.edu.

IRB CONTACT INFORMATION:

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the EKU Office of Research Integrity.