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Assessing Perceptions of Posttraumatic Stress Disorder Among a Cohort of Noncontracted ROTC Cadets

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Abstract

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MFS, National University, 2010

BS, Armstrong Atlantic State University, 2004

Dissertation Submitted in Partial Fulfillment

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Abstract

Stigmatization has shown to negatively impact service members with Posttraumatic Stress Disorder (PTSD). Published research has shown stigma to significantly affect service members through increased suicide, homicide, unemployment, homelessness, and criminal justice system interaction rates. Additionally, stigma also affects overall readiness and cohesion of the military organization. However, little research has focused on the perceptions of Reserve Officer Training Corps (ROTC) cadets about service members with a combat-related stress disorder in which they will eventually be charged with leading. The purpose of this quantitative study was to measure a cohort of ROTC cadets and determine their perceptions about service members serving with PTSD. Socialization theory was used as the lens to measure ROTC cadets' acceptance into the military culture. The study population consisted of 14 cadets within 5 ROTC battalions in Louisiana. Fisher's exact test revealed no significant relationships among ROTC cadets' overall perceptions. However, valuable insight was discovered regarding religion and branch of service the cadets intended to commission with as potential significant variables regarding their perceptions about PTSD. Further research, including a larger population size, is still needed to determine how these perceptions impact currently serving service members. Implications for positive social change include improved knowledge about PTSD and the stigma associated with negative perceptions, which will improve education through socialization into the military culture and reduce suicide, homicide, criminal justice system interaction, homelessness, and unemployment rates in addition to improving the overall readiness and cohesion of the Armed Forces.

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Chapter 1: Introduction to the Study

Background

Research on the effects of posttraumatic stress disorder (PTSD) on individuals has resulted in a plethora of evidence that significantly associates service members with low self-esteem, depression, substance abuse, and sometimes violent behaviors (National Center for PTSD, 2016). This study focused on the stigmatization within the military organizational culture of service members with PTSD. This stigma is typically exemplified by stereotypes of cowardice or limited physical or mental agility, which, incidentally, can erode the organization's cohesion and morale.

Veterans returning home from wartime service and meeting the threshold for clinical diagnosis of PTSD experience mental and physical health issues well beyond the short-term period of the traumatic experience and initial diagnosis specifically with dissociative and hyper-arousal symptoms (Asnaani, Reddy, & Shea, 2014). Previous research identified four mechanisms of discrimination; (a) direct person-to-person discrimination (discrimination that occurs based on open prejudicial attitudes towards another), (b) structural discrimination (disadvantaging specific individuals through the use of laws, social policies, and/or practices), (c) interactional discrimination (excessive changes in behavior when interacting with another based upon misinformed expectations), and (d) operational discrimination (perceived threats of discrimination based on the knowledge that one has a stigmatizing stereotype) in which stigmatization of individuals with mental illness developed (Link & Phelan, 2014). Link and Phelan (2014)

found that individuals with mental illness were 69% more likely to experience discriminatory practices in society.

According to Schrieber and McEnany (2015) stigma "ascribes negative attributes to the labeled person, who consequently experiences rejection as a result of the attribute" (p. 54). The authors noted reductions to stigma can be driven by education, prevention, early intervention, innovative treatments in the form of telecare or virtual care, and cultural change.

Sharp et al., (2015) found stigma to be the prevalent challenge when determining why approximately 60% of military personnel do not seek help for PTSD. The authors (2014) noted common statements by military personnel with PTSD and why they do not seek help, for example, "my unit leadership will treat me differently…unit members will have less confidence in my abilities…I will be seen as weak and cowardly" (p. 156). Sharp et al.'s. (2015) findings are in line with a previous report conducted by Tanielian and Jaycox (2008), which found numerous stigmatizing factors that significantly influence a service member's decision to seek help for PTSD.

Organizational barriers, such as fears about confidentiality and being removed from duty, were also found to significantly prevent service members from seeking treatment (Osorio, Jones, Fertout, & Greenberg, 2013). Mallick, Mitchell, Millikan-Bell, and Gallaway (2016) found that (a) a PTSD diagnosis has a direct influence on a squad leader's (first-line supervisor) perceptions about the service member; (b) a significant positive relationship existed between a squad leader's leadership style and the stigmatization perceived by the diagnosed service member; and (c) that most squad

leaders felt it was their responsibility to manage service members diagnosed with behavioral health issues, including PTSD, through each phase of treatment.

Other research, such as that of Yaser et al. (2016), acknowledged that the lack of treatment for individuals with PTSD was due to poor mental health literacy meaning that individuals do not know about treatment or lack the support necessary for getting treatment. Reavley and Jorm (2011) found that young people (15-25 years) were most likely to distance themselves from individuals with mental illness. Yaser et al.'s (2016) research is important to this study because many of the Reserve Officer Training Corps (ROTC) cadets are young adults ranging from 18 to 24 years of age upon commissioning and leading service members in both garrison and field environments. These cadets who have viewed perceptions towards PTSD will shape their leadership and influence within their units.

Military readiness is essential for successful mission completion. Breslau, Setodji, and Vaughan (2016) found that unit cohesion was diminished by PTSD. However, unit cohesion increased when compared to alcohol misuse, which the researchers attributed to the social tradition of unit members consuming alcohol together.

Society also reinforces stigmatization of individuals with mental illness (Parrott & Parrott, 2015). Parrott and Parrott (2015), popular culture has consistently portrayed people with mental illness negatively, especially in crime drama television shows and movies. The authors reviewed 65 randomly selected television crime drama episodes and 983 characters and found that characters labeled as having a mental illness were more

likely to be portrayed as committing a crime and violence. Additionally, these characters were also more likely to be victimized by crime.

Problem Statement

The Global War on Terror (GWOT) has become the longest war in United States history, resulting in the deployment of over 2.2 million troops; the U.S. Army has provided 1.5 million, or four out of every seven, troops deployed (American Public Health Association [APHA], 2016; Baiocchi, 2013). The National Center for PTSD (2016) noted that researchers in the field have found a 10-18% PTSD diagnosis rate among service members returning from combat deployments. The same researchers also found a 3-25% depression rate in the same population. The APHA (2016) states that veterans with mental illness are more likely to be chronically homeless and unemployed.

Service members in today's military are suffering from PTSD or combat-related stressors at higher rates due to continuous combat service in support of the GWOT (National Center for PTSD, 2016). Many of these service members must deal with stigma from both the civilian population and their fellow service members, significantly reducing access to treatment as previously noted in Yaser et al.'s (2016) study and other societal opportunities, such as employment (Tanielian & Jaycox, 2008; Buelna, 2016). These service members internalize a sense of weakness and shame as a result of a military organizational culture that sees mental illness and psychological treatment as a weakness (Tanielian & Jaycox, 2008; Buelna, 2016).

Although mental illness comes with significant stigmatization throughout society according to Link and Phelan (2014), the focus of this research study was to identify what

factors influence the perceptions of ROTC cadets about service members suffering with PTSD, service members they intend to lead. While these cadets are merely beginning their socialization into the military organizational culture, many may already have developed a perception about service members with PTSD. The purpose of the ROTC program is not only to socialize and integrate cadets into the military culture but to train them to be effective leaders in the field. Many of the service members they will eventually lead will have some form of PTSD or combat-related stress (National Center for PTSD, 2016). Therefore, it was important to identify the factors that influence the perceptions of these potential leaders about service members currently serving with PTSD.

Research Questions and Hypotheses

RQ#1: What is the relationship between race, age, gender, military background, religion, family history of mental illness, type of institution (public, private, or historically black (HBC)), branch of service, and prior experience of gun victimization (personally victimized by gun violence, family member victimized by gun violence, or know someone who was victimized by gun violence) on ROTC cadets' perceptions of service members with PTSD?

The following hypotheses will be measured in this study:

$H0_1$: Race has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_2$: Gender has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_3$: Military background has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_4$: Religion has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_5$: Family history of mental illness has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_6$: Type of institution has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_7$: Age has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_8$: Prior experience in gun victimization has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_9$: Branch of service has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

Purpose of the Study

The purpose of this quantitative, nonexperimental, cross-sectional study was to identify the relationships between several variables and ROTC cadets' perceptions about service members with PTSD currently serving in the Armed Forces. A survey questionnaire was developed to elicit data from a cohort of *noncontracted* ROTC cadets within the state of Louisiana. (Noncontracted means that the cadets in this study had not

formally signed a contract of service with any branch of the Armed Forces and therefore were not subject to the Department of Defense's Human Subjects review for research.) The survey instrument consisted of sociodemographic questions about age, gender, race, ethnicity, previous military background (personal or familial), branch of service, religion, mental health history (family history), and institution type (public, private, or HBC). Additionally, a Likert five-point scale was used to obtain data on the respondent's understanding of PTSD and how they viewed service members with PTSD who were currently serving. The Likert five-point scale required respondents to answer the questions within a range of how strongly they agreed or disagreed with several concepts. The total population for this study was $N \approx 150$ from the five collegiate ROTC battalions within the state of Louisiana. The target sample size for this study was $N = 48$, based upon statistical analysis assumptions and statistical power parameters. These five battalions divide the state of Louisiana into five regions, of which, each senior ROTC commander oversees several institutions. The survey instrument was accessed using Survey Monkey in which all data were converted into IBM SPSS software for analysis. This ensured anonymity and confidentiality as well as removed external threats to validity, since the respondents completed the survey instrument in their own settings.

Theoretical Framework

This research study used the socialization theory in the context of positivist etiology. The socialization theory is used to explain the process by which individuals learn and accept organizational norms and values within a social context. Rew, Arheart, Thompson, and Johnson (2013) explain socialization theory as "a social learning theory

that posits that normative behaviors are learned in social contexts and are influenced by bonding with primary sources of socialization, such as family, school, and peers" (p. 278). In this study, focus was on the socialization process by which first- and second-year ROTC cadets are introduced to the military cultures' norms, values, and beliefs, and how the cadets accepted them as part of the organization. More specifically, this study focused on the organizations' cultural beliefs about PTSD.

George Herbert Mead, a philosopher and one of the founders of pragmatism, is credited with the development of the socialization theory. According to Athens (2016), Mead viewed human beings as subsystems of a bigger system-society. The same could be said by looking at organizations such as the military. The military organization is a subsystem of society; however, individual service members are individual sub-units that, collectively, make-up the military organization (social organism), and thus become subsystems of the military subsystem. Mead's sociality, in this instance, would be applied to the military organization and the collegiate ROTC organization. The ROTC organization acts as a gateway for individuals to enter the larger military organization, where the socialization process begins. In this instance, the cadets are instructed and trained in acceptable military values, traditions, and cultural beliefs, reinforced by field and practical exercises. These norms, values, and beliefs are transmitted through symbology, language, and peer communication in a very structured environment. Thus, individuals entering this socialization process with already learned values, customs, and beliefs may be negatively or positively influenced by the new value system of the military culture.

Socialization theory relates to this study because it attempts to obtain the personal perceptions of ROTC cadets prior to completing the socialization process into the military culture. The ROTC program provides individuals seeking commissioning into the Armed Forces with leadership training and socialization into the military culture. Given that everyone enters this program with his or her own beliefs and values, in order to participate effectively within the military, all must first be taught expectations, policies, and procedures as well as the shared value and belief systems of the military organization. Part of this process is to instruct individuals in combat-related injuries and stress and how to identify problem behaviors to guide fellow service members. The goal of this study was to capture cadets' perceptions of service members with PTSD as they enter the socialization process.

Operational Definitions

Several terms were utilized throughout this study. To ensure a comprehensive understanding of various terminology, the following terms are defined:

Reserve Officer Training Corps (ROTC): A collegiate-based program where students seeking a commission in the United States military service can participate in addition to their normal courses of study where they participate in military specific socialization, training, leadership seminars, and practical exercises in leading others following military doctrine (military.com).

Deployment: A term used to signify a service member's duty outside the boundaries of the continental U.S. where they do not have family member support. They

vary in types depending on the type of mission required such as training, humanitarian, or combat (Tanielian & Jaycox, 2008).

Global War on Terrorism (GWOT): A term used to define a period after September 11, 2001 in which a declaration was made for military forces to operate globally in response to terrorism (Tanielian & Jaycox, 2008).

Operation Enduring Freedom (OEF): An operation under the GWOT where military service members are actively serving in Southwestern Asia, specifically Afghanistan.

Operation Iraqi Freedom (OIF): An operation under the GWOT where military service members are actively serving in the Middle East, specifically Iraq.

Operation New Dawn (OND): An operation under the GWOT where military service members are serving in the Middle East, specifically in Iraq but during a period after September 2010 when the withdrawal of U.S. forces began.

Redeployment: A term used to signify the return of service members back to the continental U.S. with family support.

Assumptions

It was assumed that all participants in this research study answered the survey instrument honestly and completely. It was also assumed that the participants already held some views towards PTSD, comorbidity, and the symptoms and/or behaviors associated with an individual who has a PTSD diagnosis.

Delimitations

The sample for this research study was limited to only ROTC cadets who had not yet contracted with a military branch. Additionally, all communications between the researcher and participants were done only through ROTC commanders. The researcher did not know any of the participants, which allowed for full anonymity. Lastly, the survey instrument used for this research study was accessed using the internet and the Survey Monkey website. Some of the participants may have been hesitant to complete the instrument if they did not have access to the internet or felt uncomfortable with the scope of the research.

Limitations

Human understanding of ideas and concepts are subject to change through experience and education over time. This study was cross-sectional, meaning that it yielded a snapshot at one specific time of the participants' perceptions about the variables. The research was limited in that no measure of variance such as a pre-test/post-test was conducted. Since this study relied on self-reports of participants, the research was limited by the accuracy and completeness of the data provided. As mentioned earlier, the sample for this research study consisted only of noncontracted ROTC cadets in the state of Louisiana. The researcher excluded contracted ROTC cadets because of the extremely difficult and time-consuming process of gaining approval from the Department of Defense (DoD) Human Subjects Office. Additionally, most contracted ROTC cadets are considered college juniors or seniors and have fully adapted to the military socialization process. Noncontracted ROTC cadets were mostly at the freshman level of

their collegiate careers. The goal of this study was to assess a snapshot of participants' perceptions at the beginning of the ROTC socialization process using their own knowledge and understanding of the variables. Since the researcher collected numerical data to conduct analysis, a quantitative methodology was the most appropriate choice to answer the research question.

Significance of the Study

As previously mentioned, service members returning home from the wars in Afghanistan and Iraq have increasingly suffered from significant traumatic events (National Center for PTSD, 2016). Norton, Dunn, Carney, and Ariely (2012) noted that stigma is a powerful concept, which provides a false justification to discriminate; the power of stigma fosters a normalized culture toward discriminatory behaviors because of accepted labels and stereotypes towards those who are stigmatized. According to Sharp et al. (2015), service members suffering from PTSD are stigmatized as mentally ill, and oftentimes refuse to seek treatment because they believe it to be a sign of weakness, which is reinforced by the direct, operational, interactional, and structural discrimination mentioned previously in Link and Phelan's (2014) research.

Crawford et al. (2015) acknowledged that a significant number of service members returning home from combat service do not seek or receive help for PTSD and/or other combat-related traumatic stress. The National Center for PTSD (2016) has noted an exponential growth in PTSD diagnosis rates among current combat veterans. Unfortunately, although the military has attempted to change its organizational culture regarding PTSD and the stigma associated with the diagnosis, there remains a significant

number of combat veterans who still serve their country and need help, but who either refuse treatment or do not receive it due to a fear of being shunned or ostracized by their peers and leaders (Mittal et al., 2013; Loew et al., 2014).

Although many researchers in the field of PTSD have conducted studies regarding public perceptions about service members with PTSD, the perceptions of military personnel about their fellow service members with PTSD, and about the numerous ways to combat the stigma and negative perceptions, little to no research has been conducted regarding the perceptions of ROTC cadets about service members with PTSD. This gap in the literature was significant because the individuals who completed a collegiate level ROTC program sought to be commissioned officers within the military, eventually leading service members with PTSD. Military leaders cannot lead subordinates effectively without trust and compassion. Understanding future military leaders' views about service members with PTSD will establish empirical data that can be used to create programs for newly registered cadets to improve the military culture regarding PTSD and their views about service members who are diagnosed. This study was expected to add knowledge to the field and to give military leaders and stakeholders information needed to improve the military culture on this issue.

Summary

The United States has been engaged in its longest lasting war, the GWOT, where many military personnel across all branches of service, both active duty and reserve, have participated directly. The National Center for PTSD (2016) indicates a significant increase in PTSD diagnoses among these service members as well as significant increases

in veteran suicides. Additionally, according to local and national media outlets, there has been an uptick in the numbers of public shootings perpetrated by combat veterans suffering from PTSD. While today's military is an all-volunteer force, it is important that we understand the full nature of PTSD, its symptoms, and how this illness influences violence in society. While these service members have diligently served to defend the safety and security of the United States, public officials and researchers in the field own a stake in integrating them back into society and providing them with the services and support needed both to protect the public and to be successful.

Chapter 1 discussed PTSD as a problem needing to be addressed in contemporary society. Additionally, what significance this research study has within the field of PTSD research, how the socialization theory shapes the views of PTSD in societal context, and how this research study intended to close the gap in PTSD research. Chapter 2 provides a comprehensive review of the literature regarding research into PTSD, its comorbidities, symptoms, associated behaviors, and common perceptions others have towards veterans with PTSD.

Chapter 3 discusses the procedures in which this research study will obtain data, analyze the data to develop conclusions, identify limitations to the research, and explain the research question to be answered as well as what hypotheses were tested. Chapter 4 provides the results of the research, answering the research question and how the tested hypotheses were measured. In addition, a statistical description of the sample is provided as well as numerous tables to provide an illustration of each tested hypothesis measured statistically. Lastly, Chapter 5 provides my interpretation of the results from this research,

recommendations for further research in the field, and how this research impacts Walden University's mission of positive social change.

Chapter 2: Literature Review

Introduction

Service members in today's military are suffering from PTSD or combat-related stressors at higher rates due to continuous combat service in support of the GWOT (National Center for PTSD, 2016). Many of these service members must deal with stigmatizing perceptions from both the civilian population and their fellow service members, which significantly reduces the likelihood of getting treatment and access to other societal opportunities, such as employment (Tanielian & Jaycox, 2008; Buelna, 2016). The purpose of this quantitative, nonexperimental, cross-sectional study was to identify the factors that influence ROTC cadets' perceptions about service members with PTSD currently serving in the Armed Forces.

A comprehensive review of the literature covered the following topics: prevalence of PTSD (to determine current rates of PTSD onset diagnoses among service members returning home from combat duty), common behaviors associated with individuals suffering from PTSD, the stigma and perceptions about individuals with PTSD within society (to fully understand the challenges these individuals face and explain why certain reactions to various stimuli occur), and socialization theory (to provide a framework for this research study). The scope of research for this study was limited to the past 5 years; however, older literature was used in some instances due to its significant value.

Research Strategy

Comprehensive searches were conducted using the following library databases: EBSCO, PsycINFO, Academic Search Premier, JSTOR, ProQuest, and The Published

International Literature on Traumatic Stress (PILOTS). Numerous combinations and permutations of the following keywords were used when conducting the searches:

- PTSD
- veterans
- combat illness
- perceptions of mental illness
- stress in the military
- stigma of mental illness
- treatment of PTSD
- prevalence of PTSD
- predictors of PTSD
- management of PTSD.

In addition to these databases, publications from the following organizations were used to identify pertinent literature: The Department of Veterans Affairs National Center for PTSD website, the National Institute of Mental Health website, and the American Psychological Association's (APA). The same databases were used to develop the framework for this study.

Posttraumatic Stress Disorder

PTSD, as it is known today, was relatively unknown for many years (Birmes, Hatton, Brunet, & Schmitt, 2003). According to the Department of Veteran's Affairs (2018), in earlier wars such as World War I and World War II, PTSD was once referred to as "Soldier's Heart," "Shell Shock," and/or "Battle Fatigue." However, PTSD has

become much more prevalent in research studies of trauma and mental processes (Department of Veteran's Affairs, 2018; National Center for PTSD, 2016).

Mention of PTSD has been traced back to biblical times, although historically, PTSD was considered nothing more than cowardice. Birnbaum (2007) wrote that "the earliest documented case of PTSD is found…in early Israelite society around 1500 BCE" (p. 75). It can be found in the Old Testament in the story of Jacob and Joseph. In this story, Jacob suffers from hypervigilance, irritability, isolation, and disassociation towards his family as a result of the traumatic loss of his favorite son, Joseph. According to the story, Joseph was cast into a pit by his jealous brothers and presumed dead by Jacob. Nevertheless, Joseph did not die; rather, he rose to power in Egypt where his jealous brothers sought food during the great famine unbeknownst to them that it was Joseph from whom they begged.

According to the American Psychiatric Association, *DSM-5* (2013), PTSD is a disorder in which an individual has "directly experienced a traumatic event, witnessed a traumatic event occurring to others, learned that a traumatic event occurred to a close family member where the event was violent or accidental, or experienced repeating or extreme exposure to aversive details about the traumatic event" (p. 271). The *DSM-5* (2013) also noted presence of one or more intrusion symptoms, such as recurring distressing dreams, thoughts, memories, and/or flashbacks that result in a dissociative reaction in addition to the traumatic exposure. Additionally, persistent avoidance of stimuli associated with the event, negative alterations in cognition and mood, and marked alterations in arousal and reactivity must also be present to consider the condition PTSD.

The duration of symptoms must be present for at least one month or more causing significant distress in the individual, such as impairment of social, occupational, or other areas of functioning. Lastly, the disturbance cannot be attributable to substance use.

Critical evaluation of the story of Joseph and Jacob by using the criterion enumerated with PTSD has provided researchers with the first known and documented case of PTSD. Birnbaum (2007) noted that Jacob's receipt of Joseph's bloody coat and emotional outbursts from his strong attachment to Joseph meets the first criterion for PTSD. The traumatic experience is exacerbated by the violent nature of Joseph's death. Jacob then fails to confirm the notion of Joseph's death, instead reacting helplessly, which confirms the satisfaction of the first criterion for PTSD. Jacob continues to re-experience the traumatic events of Joseph's "assumed" death and exclaims, "I will continue to mourn until I join my son in the grave" (Genesis 37:34, The New International Version). In this statement, Jacob has met the second criterion for a PTSD diagnosis.

Due to Jacob's continuous mourning and avoidance of outside stimuli, he prevents Benjamin, Joseph's brother, from leaving the safety and security of the home for fear of re-occurrence of the traumatic event onto Benjamin (Genesis 42:3, The New International Version). It was Joseph's other brothers who sold him to slavery, killed a goat, and doused Joseph's robe with goat's blood to trick Jacob into believing Joseph was dead (Genesis 37:12-31, The New International Version). Jacob feared Benjamin would suffer the same fate if he ventured out with his brothers. These re-occurring thoughts meet the second criterion for a PTSD diagnosis as well. It can be argued that Jacob's lack

of discussion about Joseph's untimely death amongst the rest of the family or any mention of it until the great famine approximately 20 years later suggests an avoidance of stimuli associated with the traumatic event, meeting the third criterion for a PTSD diagnosis.

Lastly, throughout the story of Joseph and Jacob, mentions of Jacob's irritability and hypervigilance can be found when Jacob appears irritated, blaming his surviving children for bereaving Joseph's death and responds by taking Benjamin away. Additionally, the persistent fear that Benjamin would succumb to the same fate as Joseph did has kept Jacob hypervigilant over Benjamin. Both irritability and hypervigilance meet the fifth criterion for a PTSD diagnosis. The complete story from when Joseph dies until his re-emergence in Egypt during the famine is approximately 20 years, therefore; surpassing the minimum duration of symptoms of one month.

Our knowledge of PTSD has provided insight to historical concepts that researchers and laymen dismissed as other illnesses previously. Although the story of Jacob and Joseph describes the first known case of PTSD, it is not the only one documented from ancient times. Birmes et al. (2003) mentioned a type of distressing illness written in the *Epic of Gilgamesh*. In this story, Gilgamesh experienced prolonged and significant depressive emotions following the violent death of his companion during battle. Gilgamesh witnessed his companion's violent death, suffered from recurring recollections, and had prolonged feelings of despair.

Ntafoulis (2016) noted "research into PTSD focuses on cultural and historical variables due to controversy and dispute amongst mental health experts" (p. 458).

Ntafoulis (2016) mentions well-known literature that hints at combat stress related illnesses; works such as Shakespeare's *Henry IV* in which Hotspur's wife describes what is now considered PTSD. Descriptions of hysterical blindness in the story of Epizelus where he loses his eyesight during battle without sustaining any physical injury but witnessing a comrade's death next to him provide more historical examples (Ntafoulis, 2016). During the Byzantine period, mentions of "cowardice" or battle sickness began to emerge increasingly more as found in many of the memoirs written by Byzantine commanders.

The Byzantine army described battle as either brave or cowardly. Although combat stress was unmentioned, it was often expressed as cowardice during battle because soldiers would freeze and fail to fight. Terms used to describe Byzantine soldiers' behaviors, such as "stunned and insane…wits had been deranged by a stroke of lightning," "lost his mind and could not speak," and "upon unreasonable retreat, an army should not be deployed for three years; enough time for the cowardice to go away and memory of the retreat to be erased" align with our understanding of combat-related stress (Ntafoulis, 2016, p. 461).

Ustinova and Cardeña (2014) mentioned more historical contexts which depict combat-related stress such as is the case of Italian Sophist Gorgias writings in *Encomium of Helen* where he writes, "involuntary acts of transgression under certain circumstances were inevitable…unable to resist panic in battle" (p. 740) as observations of those in battle. Additionally, the great author Homer depicted in his writings of the *Iliad* where "soldiers were stricken or frozen with horror and burst into tears at the sight of the

enemy" (Ustinova & Cardeña, 2014, p. 741). Gorgias writings were instrumental in the development of Hippocratic medicine, which also includes mental illnesses such as PTSD.

It truly was not until the First World War that intellectuals began researching traumatic stress and combat-related stress. Seiden and Seiden (2012) note Ernest Hemingway's many short stories depicting post-battle stress, most of which were derived from Hemingway's own experiences as a Red Cross ambulance driver during the war. Seiden and Seiden (2012) acknowledge Hemingway's wounds from artillery shelling and his continuous witnessing of death and limb loss at the hands of the war. A few examples of Hemingway's writings are those of Nick Adams, Hemingway's protagonist alter ego. In many stories, Nick wandered in a "hypomanic" state; coming home estranged and "dissociative;" and suffering from "insomnia" and obsessive "hypervigilance" (Seiden & Seiden, 2012).

As other terms have been used to describe posttraumatic stress as "cowardice," "battle fatigue," or "shell shock," (Lasiuk & Hegadoren, 2006) what remains is that all of these terms have been used to described the same illness; a prolonged mental alteration as a result of experiencing a traumatic event in which the individual suffers from negative alterations of mood, function, and arousal. Lasiuk and Hegadoren (2006) note PTSD was not fully recognized and accepted until 1980 when the American Psychiatric Association added the illness to its *Diagnostic and Statistical Manual of Mental* Disorders, 3rd ed.

Prevalence of PTSD

PTSD is an invisible wound that permeates through time as a result of experiencing a traumatic event. The National Center for PTSD (2016) stated approximately eight million adults will suffer from this illness in any given year. Additionally, 10% of women and 4% of men will, at some point in their lifetimes, suffer from PTSD. Most interestingly is that these facts are based upon normal, everyday lives of the total population of the United States. The most common traumatic events leading to a PTSD diagnosis in society are sexual assault victimization, death of a close loved one, or serious motor vehicle accident (National Center for PTSD, 2016; *DSM-5*, 2013).

In the Armed Forces, these rates substantially increase. According to the National Center for PTSD (2016) researchers have reported a rate of 10% to 18% PTSD diagnosis of service members returning from a combat deployment. Additionally, the National Center for PTSD (2016) have also found a three to 25% depression rate among the same cohort. Since the United States is currently participating in its longest war in history, Operation Enduring Freedom (OEF) in support of the GWOT, there is a significant need to fully understanding PTSD and its associated effects. The APHA (2016) not only stresses the need for PTSD research but purports that a significant number of combat veterans will most likely become chronically unemployed and homeless as a result.

As previously mentioned, of the 2.2 million service members who have been deployed in support of GWOT, 1.5 million of them came from the United States Army, a ratio of four out of every seven soldiers has deployed at some point in their careers (APHA, 2014; Baiocchi, 2013). Baiocchi (2013) noted as of December 2011, “73% of

active component soldiers in the U.S. Army have deployed to combat in either Iraq or Afghanistan" (p. 1). Alarmingly, this statistic does not account for National Guardsmen who have also been activated to federal status and deployed to Iraq or Afghanistan.

Additionally, Baiocchi (2013) noted that U.S. Army soldiers have a significantly larger cumulative deployment time when compared to the other branches of service. Research on length of deployments or times a soldier has deployed is based upon cumulative deployment time or aggregated months to determine average deployment time. Between September 2001 and December 2011, Baiocchi (2013) reported U.S. Army soldiers had an average cumulative deployment time of 12-13 months; however, he acknowledged since 2008, U.S. Army soldiers had sustained a 28% increase in cumulative deployment times.

Richardson, Frueh, and Acierno (2010) conducted a critical review of MEDLINE and PsycINFO databases regarding literature on combat-related PTSD to discover PTSD prevalence estimates. Richardson et al. (2010) conducted this review in order to estimate "accurate" PTSD prevalence rates globally given the large coalition of military forces involved in GWOT. Richardson et al. (2010) noted the point comparison of PTSD prevalence rates since the Vietnam War to be around 2-17%; however, current conflict research has determined PTSD prevalence rates to be around 4%-17%. Interestingly, Richardson et al. (2010) noted UK Iraq war veterans only had an estimated PTSD prevalence rate of 3-6%, suggesting that non-U.S. western nations are less likely to result in high PTSD diagnoses. Richardson et al. (2010) acknowledged that numerous historical conflicts result in differing lengths of deployments, intensity, and public support.

Additionally, Richardson et al. (2010) noted a lack of consensus on conceptualizing PTSD as there are many different screening tools that are used in order to make a diagnostic determination.

Richardson et al. (2010) suggested the differing prevalence rates between service members of different military branches may be the result of mediating factors such as combat exposures, intensity of the exposure, previous traumatic experiences, and individual perceptions of threat, which may be influenced by cultural and/or genetic factors. Most importantly, Richardson et al. (2010) emphasized most combat veterans do not develop PTSD; however, of those who do develop the disorder, onset is typically influenced by other factors rather than combat exposure alone, mainly the result of cognitive assessments of the dangers and support levels within the unit.

The *DSM-5* (2013) mentioned the first criterion for a PTSD diagnosis is direct traumatic experience, witnessing a violent traumatic experience, learning of an accidental or violent traumatic experience of a close loved one, or experiencing repeated to aversive details surrounding a traumatic event. According to the Department of Defense (DoD), a "hostile casualty" is one in which a service member is injured as a result of combat service (Goldberg, 2014). Interestingly, the DoD does not include service members suffering from self-inflicted wounds or "combat fatigue." The DoD describes a basic "casualty" as any service member who "is lost to his/her unit in the theater of operations due to medical reasons" (Goldberg, 2014, p. 1).

A hostile casualty is further categorized into three subcategories: killed-in-action (KIA), died-of-wounds (DOW), or wounded-in-action (WIA, Goldberg, 2014). Goldberg

(2014) analyzed the rates of KIAs, DOWs, and WIAs from 2003 to 2010 in order to determine significant rates and/or changes from previous literature. By combining KIAs and DOWs, common practice in research mentioned by Goldberg (2014), the rates are determined by comparing to troop years of exposure, where troop years of exposure are represented by the equivalent of a single soldier serving in a wartime theater for one year. Goldberg (2014) reported the rates by theater of operation in Iraq and Afghanistan. The results of Goldberg's (2014) analysis showed a significant increase of hostile casualties in Iraq and Afghanistan, particularly in the period of 2007 to 2009, which were the years of troop surges in both theaters. Additionally, significant increases in WIAs occurred in both theaters of operation, with the most substantial increases during the troop surges as well (Goldberg, 2014).

Goldberg's (2014) findings are important to the proposed research study in that more soldiers served in these theaters of operations where they either were directly traumatized, witnessed a close "battle buddy" succumb to the violence of war, or were persistently exposed to aversive details of traumatic events. From 2003 to 2010 in Iraq, Goldberg (2014) found a 3,500 KIA/DOW rate and 34,000 WIA per 100,000 service members in Iraq and, from 2001 to 2013, a 1,000 KIA/DOW rate and 18,000 WIA rate per 100,000 service members in Afghanistan. These statistics do not include the number of service members who suffered from "combat fatigue," which has synonymously been used to describe combat stress-related illnesses to include PTSD.

Factors affecting PTSD onset

The National Center for PTSD (2016) noted several factors that have significant influence on the onset of a PTSD diagnosis. The following list of factors are believed to influence the onset of PTSD:

- Longer deployment times
- Severity of combat exposures
- Severity of sustained physical injury
- Mild to major traumatic brain injury (mTBI)
- Rank of the individual
- Education level
- Unit morale and support structure
- Marital status
- Reservist/guardsmen vs. active duty
- Prior traumatic experiences
- Gender
- Ethnicity

While this list of significant factors to determine higher risk of PTSD onset is extensive, the National Center for PTSD (2016) suggested there are still a lot of influences that researchers in the field have yet to discover.

The *DSM-5* (2013) enumerated significant risks and prognostic factors for PTSD dividing them into three categories: pretraumatic, peritraumatic, and posttraumatic. Pre-traumatic factors are further divided into temperamental, environmental, and

genetic/physiological categories. Temperamental pretraumatic factors include early emotional problems and/or previous history of mental disorders (*DSM-5*, 2013). Environmental pretraumatic factors include lower socioeconomic status, lower educational attainment, prior exposure to a significant traumatic event, childhood adversity, cultural characteristics, lower intelligence, minority status, and/or history of family psychiatric issues (*DSM-5,* 2013). Genetic/physiological pretraumatic factors include younger age and gender.

The *DSM-5* (2013) lists peritraumatic factors as solely environmental including severity of the trauma, individual perceptions of the threat, level of sustained injury as a result of the traumatic event, interpersonal violence during the traumatic event, and witnessing or participating in atrocities or killing another during wartime service. Dissociation is also a peritraumatic factor if dissection occurs during the traumatic event and continues after its conclusion. Posttraumatic factors are listed as environmental and temperamental, whereas temperamental posttraumatic factors include disproportional coping or dysfunctional coping strategies to the traumatic event, significant negative assessments of the experienced event, and/or the development of an acute stress disorder (*DSM-5*, 2013). Environmental posttraumatic factors include continuous exposure to stimuli or "cues" that remind the individual of the traumatic event causing distress in functioning, other adverse events within a personal or social context, and financial problems (*DSM-5*, 2013).

Mitchell, Gallaway, Millikan, and Bell (2013) discovered unit cohesion was the strongest indicator of positive posttraumatic growth following a combat deployment.

Mitchell et al. (2013) conducted a study in which 1,663 infantry soldiers were surveyed six months after redeploying from Iraq. The focus of the study was to identify significance in the reduction of negatively influence posttraumatic outcomes through positive individual resilience techniques. By utilizing a six-point Likert scale of 21 items, which scored a Cronbach's alpha of reliability of .96, the researchers were able to identify some significant factors that provided positive posttraumatic growth compared to significant predictors of higher PTSD onset risk, such as combat exposure, unit cohesion, and known risky demographic characteristics of ethnicity, marital status, and rank.

Interestingly, the frequencies of combat exposure had a broad range of 3.4% of participants indicating they had been involved in close hand-to-hand combat to 74.9% indicating they received incoming fire from the enemy (Mitchell et al., 2013). The more the participants felt that other members of their units depended on each other, stood up for one another, and supported each other, the better chance an individual would positively grow psychologically so that risk of PTSD onset would be reduced. Additionally, Mitchell et al. (2013) found combat exposure also significantly affected positive posttraumatic growth.

Although most PTSD research has focused on the Army and Marine Corps, particularly because of their ground combat missions and their higher propensity to be involved in close combat with the enemy, members of the other branches of the Armed Forces; Air Force, Navy, and Coast Guard, have also participated in increasing combat roles during GWOT. Macera, Aralis, Highfill-McRoy, and Rauh (2014) researched PTSD

among Marine Corps and Navy personnel after participating in combat or combat support missions in Afghanistan, Iraq, and/or Kuwait during 2008 to 2009.

Macera et al. (2014) reviewed data provided by 31,534 service members on a Post-Deployment Health Reassessment (PDHRA); an instrument used by practitioners to screen for PTSD. The sample was further divided into 29,640 men who served mostly in combat occupational specialties and 1,894 women serving mostly in support occupational specialties. In this study, combat exposure was not found to significantly determine a difference in PTSD positive screenings compared to gender. Macera et al. (2014) did find females were more likely to have a positive PTSD screening then their male counterparts but could not attribute this to combat-related factors, suggesting external factors to combat may influence PTSD among females more so than males.

McLay et al. (2014) studied whether being fired upon by the enemy and returning fire affected risk of PTSD onset. In a sample of 1,239 records at the Naval Medical Center in San Diego of service members returning from combat-related deployments between January 2005 and October 2007, data was analyzed from responses to a Post-Deployment Health Assessment Test (PD-HAT) which included the Post-Traumatic Disorder Checklist Military version (PCL-M). McLay et al. (2014) used stepwise linear regression analysis to determine severity of depression and PTSD symptoms by whether the service members were shot at by the enemy, whether they shot at the enemy, or whether they had been exposed by a blast. Results revealed all three variables were significant predictors for PTSD onset. However; service members who were shot at by

the enemy and responded in kind were significantly more likely to have PTSD symptoms than those who only experienced one of the variables while deployed.

Xue et al. (2015) conducted a meta-analysis of 32 articles published by April 2014 relating to risk factors of combat-related PTSD in which 25 were cohort studies and seven were cross-sectional studies. The meta-analysis identified 18 factors that can significantly be used to predict combat-related PTSD onset. Xue et al. (2015) categorized these factors into three broad categories: pretrauma period factors, trauma period factors, and posttrauma period factors.

Of the pretrauma period factors: gender, ethnicity, educational attainment, military rank, type of military service, military occupation, quantity of individual deployments, cumulative length of individual deployments, quantity of adverse life-events prior to traumatic experience, prior trauma exposure, and prior psychological problems were found to be the most significant pretrauma period predictors to PTSD onset. Among trauma period factors: combat exposure, discharging a weapon, witnessing someone being killed or wounded, severe trauma experience, and deployment-related stressors were the most significant predictors (Xue et al., 2015). Lastly, among post-trauma period factors: post-deployment support level was the only significant factor to predict PTSD onset (Xue et al., 2015).

Mayo, MacGregor, Dougherty, and Galarneau (2013) studied the role of military occupation compared to PTSD and depression on military personnel. In a sample of enlisted Navy and Marine Corps personnel without a history of mental illness whose first deployment occurred between January 2005 and November 2008 in support of OIF,

Mayo et al. (2013) found significant results regarding military occupations as predictors to PTSD onset. Data was collected from a total sample of 40,600 enlisted personnel, of which, 32,196 served in the Marine Corps and 8,404 served in the Navy. Using multivariate logistical regression analysis, Mayo et al. (2013) found service members who served in occupations that were directly related to a combat function or those personnel serving as healthcare specialists which support combat operations were significantly more likely to incur a PTSD diagnosis or, at minimum, suffer from severe depression (Mayo et al., 2013).

Vogt et al. (2011) studied gender as a significant variable to PTSD diagnoses. They hypothesized that female service members with combat experience would be more likely to suffer from PTSD than their male counterparts. Vogt et al. (2011) focused on this variable due to the changing dynamics of female service member's involvement in combat operations. Historically, female service members were excluded from combat occupations in the Armed Forces following the Women's Armed Services Integration Act of 1948 (Vuic, 2010). However, with the new asymmetrical battlefield, the military services have seen a significant increase in the numbers of female service members taking a direct combat role even while assigned to combat support and combat service support occupations. As a result, on December 3, 2015, then Defense Secretary Ashton Carter announced that effective January 2016, all military occupations and positions would be open to female service members without exception (Pellerin, 2015).

Vogt et al. (2011) obtained a stratified random sample nationally of 2,000 OEF/OIF personnel from the Defense Manpower Data Center (DMDC) that included

50% Active military, 25% Reservists, and 25% National Guardsmen. Additionally, each subgroup contained 50% females. After screening the sample, Vogt et al. (2011) determined 1,833 individuals to be eligible for the study having deployed to combat between October 2007 and July 2008. Of the 1,833 participants eligible, only 595 completed online surveys. Using the data collected from the online surveys, gender differences were compared to several demographic and military characteristics, which included age, education, race/ethnicity, marital status, parenting status, income, employment, pre-deployment duty component, length of deployment, time since returning from deployment, rank, time of military service, deployment operation, branch of service, and current military status. Additionally, Vogt et al. (2011) compared gender differences to various behavioral and exposure variables such as combat experience, aftermath of battle, perceived threats, austere working and living environments, prior stress exposure, sexual harassment experiences while deployed, posttraumatic stress symptomatology (PTSS), depression and substance abuse, and mental health functioning.

Data on behavioral and exposure variables were collected from multiple Likert scales asking participants to weigh how often they experienced the variable or how much they agreed with the variable. The depression and substance abuse variable as well as the mental health functioning variable were measured using validated screening instruments; the 24-item Behavior and Symptom Identification Scale (BASIS-24) and the 12-item veterans RAND short form (VR-12), respectively. Vogt et al. (2011) found that although there were slight gender differences regarding combat exposure, PTSS, depression, substance abuse, perceived threats, and mental health functioning, none of the differences

were significant. Vogt et al. (2011) suggested that these differences, however slight and insignificant, provide evidence to imply policies barring women from combat to be inconsequential.

Hines et al. (2014) studied military subgroups as a factor to influencing PTSD onset. By reviewing literature on PTSD prevalence within military personnel populations, Hines et al. (2014) found some significant correlations. In total, Hines et al. (2014) found 49 research articles focused on PTSD prevalence among military combat veterans within Ovid, MEDLINE, and PubMed databases in May 2012. This extensive analysis of PTSD prevalence research studies yielded significant subgroups of military personnel that suggest a high likelihood of PTSD onset. The subgroups found to have significant effects on PTSD onset were theater of deployment, combat deployment, gender, enlistment status, and type of military service.

According to Hines et al. (2014) 4.8% to 9.6% of service members deployed to Afghanistan developed PTSD, 12.9% Iraq veterans, and 10.4% prevalence rate for veterans of both theaters of deployment with a confidence interval (CI) of 95%. For combat deployment, Hines et al. (2014) found those directly involved in combat had a prevalence rate of 12.4% whereas non-combat deployments resulted in a 4.9% prevalence rate. There was no significant difference in PTSD prevalence rates among males and females rating at 11.8%. Enlistment status, whether the service member was regular military or a reservist, resulted in 11.4% for regular active duty military personnel but increased to 14.5% for reservists and National Guardsmen. Lastly, type of military service; Army, Navy, Marine Corps, and Air Force, resulted in 13.2% for Army

personnel, 10.4% for Marine Corps personnel, 7.3% for Navy personnel, and 2.6% for Air Force personnel respectively. These prevalence rates mirror the proportionality of veterans deployed. As suggested by the National Center for PTSD (2016), APHA (2014), and Baiocchi (2013) the Army has had the most burden of deployments during GWOT followed by the Marine Corps, Navy, and Air Force.

Symptoms and Comorbidity

The *DSM-5* (2013) listed PTSD under the category of trauma and related disorders. The diagnostic criteria for PTSD include adolescents, adults, and children over six years-old. For an individual to be diagnosed with PTSD, the *DSM-5* (2013) stated several criteria must be met. First, an exposure to a traumatic event in one of four ways; (1) direct experience (2) witnessing the event (3) learning of the event occurring to close relatives or friends in which the event was either violent or accidental, or (4) experiencing repetitive details of a violent traumatic event. Secondly, the *DSM-5* (2013) required the presence of at least one "intrusive" symptom associated with the traumatic event such as repetitive memories surrounding the event which causes distress, recurrent dreams of a distressing nature where the content is directly related to the traumatic event, flashbacks causing dissociation whereby the individual relives the event as if it is re-occurring in real-time, extensive psychological distress when the individual is exposed to "cues" triggering memories or other images of the traumatic event, or significant physiological responses to cues symbolized by the traumatic event.

Thirdly, continuous avoidance of various stimuli associated with the experienced traumatic event identified either by avoiding external objects that remind the individual

of the distressing event or by avoiding internal associations of the distressing event in the form of memories, thoughts, or feelings (*DSM-5*, 2013). Fourth, negatively affected cognition or significant mood alterations that show substantial worsening after the traumatic event. These negative alterations must be measured in at least two of the following ways: (a) memory loss of important aspects surrounding the traumatic event (b) exaggerated continuous negative self-image, of others, or of the environment (c) distorted thoughts about the reasons the event occurred or the resulting consequences that persist leading the individual to blame themselves or others for the occurrence (d) a continuous negative emotional state (e) significant diminishing of interaction in activities or interests (f) marked feelings of detachment from others, and/or (g) a consistent inability of experiencing happiness or joy (*DSM-5*, 2013).

Fifth, significant arousal and reactivity of behaviors associated with the traumatic event measured in at least two of the following ways: (a) disproportional irritability and anger with little to no provocation observed through actual aggression (b) recklessness and self-destructive behaviors (c) hypervigilance (d) easily startled (e) inability to concentrate, and/or (f) insomnia or restless sleep (*DSM-5*, 2013). The *DSM-5* (2013) noted the duration of symptoms must last more than one month. Additionally, the *DSM-5* (2013) mentioned the symptoms must also significantly impair functioning in social, occupational, and/or other important social contexts. Lastly, the *DSM-5* (2013) required the symptoms not be associated with the physiological effects of substance use or another mental defect.

The *DSM-5* (2013) acknowledged "PTSD is associated with high levels of social, occupational, and physical disability" (p. 278), where "functioning is significantly impaired across social, interpersonal, developmental, educational, physical health, and occupational domains" (p. 279). Additionally, several other mental disorders commonly co-exist within individuals suffering from PTSD. The *DSM-5* (2013) listed the most common co-existing disorders as adjustment disorders, acute stress disorder, anxiety disorders, obsessive compulsive disorder, major depressive disorder, personality disorders, dissociative disorders, conversion disorders, psychotic disorders, and traumatic brain injury. The *DSM-5* (2013) noted that "individuals with PTSD are 80% more likely than those without PTSD to have symptoms that meet diagnostic criteria for at least one other mental disorder" (p. 280). Additionally, the *DSM-5* (2013) noted conduct disorders and substance abuse disorders are the most common comorbid disorders among military combat veterans closely followed by depressive disorders.

Behaviors

PTSD has been an accepted, diagnosed mental disorder since 1983 (*DSM-5*, 2013). Mental illness and gun violence have been at the forefront of the contemporary debate within public policy in understanding their interactions and how to best suppress gun violence in society. However, according to Gold (2016) mental illness as it pertains to gun violence only becomes an immediate issue in public when the media sensationalizes these incidences. Gold (2016) further indicated the media coverage of such incidences exacerbates erroneous common beliefs that mental illness causes gun violence.

McGinty and Webster (2016) note firearm violence, specifically suicide and homicide, are the "fourth and fifth leading cause of death across all age groups" (p. 4). McGinty and Webster (2016) note that of the 20% of the total United States population who suffer from some form of mental illness, anxiety disorders are the most common at approximately 18.1%, followed by mood disorders and impulsive-control disorders, respectively. Most importantly, McGinty and Webster (2016) acknowledged empirical evidence suggesting most mentally ill persons are not violent at all, rather, other factors in addition to having a mental disorder are the determining motivations of violence, such as low socioeconomic status and substance abuse.

Knoll and Annas (2016) claimed high-profile mass shootings, such as the Columbine High School massacre, Aurora, Colorado theater shooting, and Sandy Hook Elementary School shooting are far and few between. Knoll and Annas (2016) further claimed that these types of mass shootings only become relevant to the public through sensational media coverage where the perpetrator is labeled mentally ill. This reinforces, as McGinty and Webster (2016) mention, an erroneous assumption that mental illness "causes" gun violence or violence in general. A plethora of research focusing on mental illness and violence has concluded that mental illness does not cause violence, but rather other factors that co-exist with mental illness are significantly more likely predictors to violence such as having a history of emotional or physical abuse and substance use.

The *DSM-5* (2013) listed numerous comorbid illnesses associated with PTSD, some of which are anxiety, mood, impulse-control, and depressive disorders as well as substance abuse. The *DSM-5* (2013) also noted that 80% of individuals with PTSD are

likely to have symptoms associated with a comorbid mental illness. This information is important to pubic officials, community leaders, and society in further understanding PTSD and the many interactions it has related to contemporary violence, especially with a significant increase in PTSD diagnoses among military veterans returning to their communities after serving in combat.

Elbogen et al. (2014a) studied a random sample of U.S. veterans who served in combat after September 11, 2001. The sample resulted in 1090 participants that included all fifty states and all military branches. Using the National Post-Deployment Adjustment Survey (NPDAS), the Alcohol Use Disorder Identification Test (AUDIT), the Quality of Life Interview (QLI), and the Conflict Tactics Scale (CTS), Elbogen et al. (2014a) collected data on several variables, including PTSD cut score, alcohol misuse, age, financial stability, history of violence, combat exposure, and community-based violence. Multiple logistic regression was used to identify associations among the variables. Elbogen et al. (2014a) found PTSD was not a significant cause or predictor to violence, rather it was simply nuanced whereas alcohol misuse was substantially more likely to be the strongest predictor to violence among veterans with PTSD. Interestingly, Elbogen et al. (2014a) found that individuals with PTSD and no alcohol use were slightly more likely to engage in violence then those without PTSD.

MacManus et al. (2013) compared data from criminal records located in a national criminal records database with 13,856 randomly selected U.K. military veterans to identify risk factors of violence. The cohort completed a self-report questionnaire eliciting data on socioeconomic demographics, experiences and behaviors before

enlisting in the military, experiences since enlisting, and health and behaviors after redeployment. Several reliable and valid scales were used to further determine variables or mental health such as the General Health Questionnaire-12 (GHQ-12), the Post-Traumatic Stress Disorder Checklist (PCL), and the AUDIT. MacManus et al. (2013) found violent offending to be the most predominant type of offending among the studied veterans. Additionally, MacManus et al. (2013) found most of the violent offending occurred during post-deployment periods when compared to during service and pre-service periods. Lastly, violent offending was significantly determined by pre-military service offending and low military rank with combat exposure significantly increasing the risk.

Kimbrel et al. (2014) developed a three-factor measurement model that included an externalizing substance use disorder (SUD) factor, a distress factor, and a fear factor, in which to determine the strongest predictable factor to violence and suicide among combat veterans. The SUD factor included incarceration, alcohol use, substance use, and nicotine dependence. The distress factor included PTSD, depression, difficulties in controlling violence, suicidality, and suicide attempts. The fear factor included panic disorders, social phobias, specific phobias, and obsessive-compulsive disorders. The study included a sample size of 1,897 Iraq/Afghanistan-era veterans.

Data was collected through several self-report questionnaires as well as a structured diagnostic interview. Self-report questionnaires included the Structural Clinical Interview for *DSM-IV-III* Axis I Disorders (SCID-I), Beck Scale for Suicide Ideation (BSI), and Violence and Incarceration Questionnaire (VIQ). Kimbrel et al.

(2014) concluded externalizing SUD factors to be a slight predictor of violent behavior but a stronger predictor of incarceration; however, the distress factor, which includes PTSD was a significantly strong predictor of violent behavior among these veterans.

Brown, Williams, Bray, and Hourani (2012) conducted two studies: one consisting of 16,146 active duty (AD) service members from all branches of service and the other consisting of 15,212 reserve component (RC) service members from six branches-Army National Guard (ARNG), Army Reserve (AR), Navy Reserve (NR), Marine Corps Reserve (MCR), Air Reserve (ArR), and Air Guard (AG). Both samples completed the Department of Defense Survey of Health-Related Behaviors among Active Duty Military Personnel (HRB), consisting of questions regarding alcohol and tobacco use, drug use, mental health, risk taking, impulsive behavior, and deployments. Brown et al. (2012) also included the PCL, which is a 17-item self-report survey focusing on criteria for PTSD.

Several analytical techniques were used in this study to include analysis of variance (ANOVA), odds ratios (ORs), and prevalence estimates. Brown et al. (2012) found positive associations between PTSD, excessive alcohol use, drug use, aggressive behavior, and risk-taking behaviors. Specifically, Brown et al. (2012) found 51% of the sample with cut scores within PTSD diagnostic range to heavily use alcohol. There was a slight difference in problem behaviors between the AD and RC sample; however, combat experiences mediated this difference.

Barrett, Teesson, and Mills (2014) interviewed 102 participants four times over a nine-month period. All participants had met the criteria for SUD and PTSD. The focus of

this qualitative study was to identify the relationships between SUD, PTSD, and violent behavior. Barrett, Teesson, and Mills (2014) noted limited research had been conducted on this focus longitudinally but such research was needed because PTSD develops over time and is commonly comorbid with SUD. Generalized estimating equation were used for analysis. Brown, Teesson, and Mills (2014) found a significant relationship between SUD, PTSD, and violent behaviors. Specifically, the more severe the PTSD symptoms the more likely the individual will perpetrate violent acts. Additionally, the more severe the PTSD symptoms the more likely the individual will abuse substances such as drugs and/or alcohol.

Utilizing multivariate analysis, Brown, Teesson, and Mills (2014) discovered hyperarousal symptoms of PTSD to be the most predominate influence on the perpetration of violence. According to the *DSM-5* (2013) hyperarousal is included in criterion E where "marked alterations in arousal and reactivity associated with a traumatic event begins or worsens after the traumatic event as evidenced by two or more of the following: (a) irritable behavior and angry outbursts (b) reckless or self-destructive behavior (c) hypervigilance (d) exaggerated startled response (e) problems with concentration, and/or (f) sleep disturbances" (p. 272). Brown, Teesson, and Mills (2014) conclusions are important in understanding the appropriate focus regarding treatment based upon symptomatology of PTSD.

Gonzalez, Novaco, Reger, and Gahm (2016) recognized anger as a significant behavior that has increased among combat veterans returning home. Gonzalez et al. (2016) conducted a study of 2,077 service members who participated in combat in either

Iraq or Afghanistan and were referred to behavioral health services at a large military installation. During the clinical intake procedures, demographic measures coded the service members' age, gender, ethnicity, military service component, and highest rank attained.

The Combat Exposure Scale (CES) consisting of a 7-item scale that assesses an individual's wartime stressors was used to measure combat exposure; The Deployment Risk and Resilience Inventory-Deployment Social Support (DRRI-DSS) consisting of a 12-item scale assessing perceived social support; the Primary Care-Posttraumatic Stress Disorder Screen (PC-PTSD) consisting of a 4-item instrument to screen for PTSD symptomatology; the Patient Health Questionnaire-9 (PHQ-9) Depression Scale consisting of a 9-item measure of major depressive disorder (MDD) symptoms enumerated in the DSM-V; the Dimensions of Anger Reactions (DAR) consisting of a 7-item measure assessing anger, frequency, duration, and antagonism; and a risk of harm to others asking a single measures on the frequency of wanting to harm another person were included in the intake process.

Gonzalez et al. (2016) found 40% of respondents reported "getting angry with someone and kicking, smashing, or punching something" (p. 12). Anger significantly intensified when PTSD was comorbid with MDD, which as mentioned by the *DSM-5* (2013) was a commonly comorbid illness. Out of the 2,077 participants, 937 were found to have PTSD and of that sample, 72% or 675 also screened positive for MDD. These statistics are alarming given the higher rates of PTSD onset according to the National

Center for PTSD (2016) and the *DSM-5* (2013) acknowledgement that 80% of those with PTSD likely have a comorbid illness.

Novaco and Chemtob (2015) conducted a two-part study to identify strength of anger associated with combat-related PTSD. In the first study, Novaco and Chemtob (2015) studied 1,200 male Vietnam veterans who served in combat operations beginning in August 1964 to May 1975. Using the data found in the National Vietnam Veterans Readjustment Survey (NVVRS), Novaco and Chemtob (2015) could ascertain a combat exposure variable and PTSD index. Using the Psychiatric Epidemiology Research Interview (PERI), Novaco and Chemtob (2015) created an anger index in addition to using a previously validated Mississippi Scale Anger/Aggression index (MSC). Novaco and Chemtob (2015) found anger and aggression to be strongly associated with PTSD with 58.4% of the sample having reported they "beat someone up," 21.8% "threatening another with a knife or gun," and 13.3% "actually using a knife or a gun" (p. 487).

Novaco and Chemtob (2015) also conducted a clinical evaluation of 259 combat theater males from a total selected sample of 316 sampling units from the previous sample of 1,200. Novaco and Chemtob (2015) found PTSD to be prevalent in 25% of the sample where "irritability" and "anger" were significantly associated with a PTSD "clinical" diagnosis. Novaco and Chemtob (2015) acknowledge the cross-sectional design and sample of male only veterans were a significant limitation as well as the study's reliance on self-reporting of retrospective information; however, they did find a lack of accountability of anger independent of PTSD. Lastly, Novaco and Chemtob (2015) noted anger is a significant readjustment problem for current OIF/OEF veterans

and is substantially increased when service members with PTSD also suffer from depression, which is one of the most commonly associated comorbid illnesses with PTSD (*DSM-5*, 2013).

Miles et al. (2015) conducted a study focused on inpatient treatment at a large veteran's hospital for trauma-related illnesses. The study was conducted from December 2009 to July 2013 where a total sample of 479 veterans participated. The sample was inclusive of OIF, OEF, and OND for male participants, and OIF, OEF, OND, First Gulf War, Vietnam, or peacetime for female veterans. Miles et al. (2015) cited a low frequency of females serving in the Armed Forces as a deciding factor to include women from other historical operations. Miles et al. (2015) using an inpatient treatment setting, observed the sample as well as elicited quantitative data from the participants on a self-report basis. Miles et al. (2015) focused on the associations between PTSD, emotional dysfunction, and impulsive aggression. The Clinician-Administered PTSD Scale (CAPS) with the Life Events Checklist (LEC) was used to determine PTSD diagnosis. All other diagnostic variables were determined through clinician interviews.

Miles et al. (2015) noted the entire sample met the criteria for lifetime PTSD diagnosis. Miles et al. (2015) also found several comorbid illnesses among the sample such as mood disorders, substance dependence, and alcohol dependence in addition to 64% of the female participants and 15% of the male participants having Bipolar Disorder (BPD). Interestingly, 65% of males and 49% of females stated they had at least one episode of "uncontrolled anger" or "physically attacking" someone within six months of the study. Miles et al. (2015) conducted a *t* test to analyze mediation among the variables

and found BPD, mood disorders, mild traumatic brain injuries, psychotic disorders, and other Axis II disorders had no effect on the level of impulse aggression; however, substance and alcohol dependence had a significantly higher effect on impulsive aggression episodes within the sample.

Bolu et al. (2015) studied 37 males diagnosed with PTSD at the Gulhane Military Medical Academy Psychiatry Clinic between January and July of 2010. Additionally, 25 control group participants were included who had no major medical or psychiatric illnesses. Both groups were given a socio-demographic form to complete, a Semi-Structured Clinical Interview (SCID), the Buss-Perry Aggression Questionnaire (BPAQ), the Edinburgh Handedness Inventory (EHI), and were given transcranial magnetic stimulation. Bolu et al. (2015) specifically studied PTSD hyperarousal symptom subtypes using electrophysical cranial measurements and the reactivity associations with aggression. Bolu et al. (2015) noted aggressive and impulsive behaviors were subtype symptoms of the hyperarousal cluster among PTSD diagnoses.

Bolu et al. (2015) explained an individual's cortisol silent period is conceptualized by a physiological period in which cortisol, a natural stress hormone, is not produced and motor threshold is conceptualized as a level in which muscular movement becomes involuntary through stress stimulation. In comparing the patient group (participants with PTSD) and the control group, Bolu et al. (2015) found a significant difference, including lower thresholds of motor control in addition to shorter periods of cortisol silence. This suggests that individual's suffering from PTSD have a substantially difficult time controlling impulsiveness through muscular control and

increased productions of cortisol, typically associated with extreme excitability when stress stimulation is introduced. Such stress stimulations for these participants can be equivalent to perceived or actual threats.

MacManus et al. (2015) conducted a meta-analysis on the prevalence of violence and aggressive behaviors among military personnel following deployments to Iraq and Afghanistan. Additionally, MacManus et al. (2015) studied the relationship between deployment and combat exposure, and the role PTSD has on predicting violence. MacManus et al. (2015) reviewed 17 research studies published between January 2001 and February 2014 in the United States and United Kingdom. All 17 articles included violent behavior conceptualized as physical or threatened violence against another. Additionally, the articles included samples from all components of military service.

MacManus et al. (2015) determined pooled estimates at a 95% confidence interval that 10% of studied individuals perpetrated physical assault within one month of redeployment and 29% of studied individuals perpetrated some form of physical aggression within one month of redeployment. MacManus et al. (2015) noted a significant number of studies reviewed showed physical aggression and violence increased when the frequencies and intensities of combat exposure increased. Lastly, MacManus et al. (2015) found alcohol use to be a significant mediating effect between physical violence and aggression upon redeployment measuring an approximate 35.9% negative effect.

Angkaw et al. (2013) studied a cohort of 72 veterans from a larger cross-sectional study conducted at the San Diego Veterans Affairs Hospital. The cohort completed the

Retrospective Overt Aggression Scale (ROAS) to determine aggression, the CAPS to determine PTSD threshold, and the Beck Depression Inventory (BDI) to determine depressive symptoms. Using Pearson's bivariate correlation analysis, Angkaw et al. (2013) determined preliminary relationships among PTSD, depression, and aggression. Additionally, Angkaw et al. (2013) using multiple regression analysis to test mediation among aggression variables.

Aggression variables were conceptualized as verbal aggression, physical aggression towards self, physical aggression towards objects, and physical aggression towards others. Angkaw et al. (2013) found significant correlations between PTSD, verbal aggression, physical aggression towards objects, and physical aggression towards others; however, no significant correlation existed between PTSD and physical aggression towards self. Angkaw et al. (2013) conducted mediating analysis using Barron and Kelly's four-step multiple regression method.

Angkaw et al. (2013) found PTSD significantly predicted verbal aggression, PTSD significantly predicted depressive symptoms, and depression symptoms significantly predicted verbal aggression while controlling for PTSD. The second mediation analysis resulted in PTSD having no significant prediction on physical aggression towards self; however, PTSD significantly predicted depressive symptoms and depressive symptoms significantly predicted physical aggression towards self. The third mediation analysis yielded PTSD significantly predicted depressive symptoms and physical aggression towards objects, but depressive symptoms did not significantly predict physical aggression towards objects. The fourth mediation analysis resulted in

PTSD significantly predicting physical aggression towards others and depressive symptoms, but depressive symptoms did not significantly predict physical aggression towards others (Angkaw et al., 2013). Angkaw et al. (2013) noted the findings were "consistent with existing literature where PTSD and depression were independently associated with physical aggression towards others…depression did not mediate the relationships between PTSD and physical aggression towards others or objects" (p. 1048).

Elbogen et al. (2012) examined data obtained from a national sample of 1,388 Iraq and Afghanistan veterans to determine whether PTSD or traumatic brain injuries sustained while deployed could predict higher rates of criminal justice system exposure. Elbogen et al. (2013) found 9% of the sample reporting criminal arrests for violent offenses. Elbogen et al. (2012) further evaluated variables linked to PTSD diagnosis using bivariate analysis and found those individuals reporting criminal arrests also significantly reported having significantly more periods of irritability or impulsive anger episodes. Elbogen et al. (2012) conducted multivariate analysis, finding significant correlations among criminal arrests for violent offenses, PTSD, younger age, male, witnessing family violence, history of criminal arrest, and alcohol/substance misuse; however, combat exposure and traumatic brain injury was not significantly correlated with arrest.

Elbogen et al. (2014b) conducted a longitudinal study of a national random sample consisting of 1,097 veterans across all 50 states who participated in OIF/OEF. The sample represented all branches of the Armed Forces. The first study was conducted

in 2009 and the second in 2011. Elbogen et al. (2014b) studied protective mechanisms to prevent violence among veterans with PTSD. Although Elbogen et al's. (2014b) study focused on prevention, its usefulness to this study is paramount in explaining the significant link PTSD has with aggression and anger, and subsequent physical violence. During the first study, Elbogen et al. (2014b) noted 27% of the sample reported participating in some form of aggression or violence. Elbogen et al. (2014b) acknowledged several risk factors significantly associated with predicting violence and aggressive behaviors among veterans with PTSD, to include age, witnessing family violence, history of prior arrest, PTSD, combat exposure, traumatic brain injury, and alcohol or drug misuse. Elbogen et al. (2014b) included protective measures such as stable employment, ability to meet basic needs, resilience, social support, self-determination, proper sleep, and self-care.

Elbogen et al. (2014b) noted significant associations existed between PTSD and violent or aggressive behaviors; however, they found an increase in protective measures significantly reduced violent or aggressive behaviors among veterans with PTSD who were considered high risk for such behavior. This suggests that although veterans with PTSD consistently suffer from symptoms associated with impulsiveness, hostility, and aggression, these high risk and dangerous behaviors can be mediated through proper treatment and therapy.

Perceptions of Individuals with PTSD

As previously mentioned, serious behaviors and emotional issues confront individuals with PTSD. These concerns are much more serious when looking at military

personnel because of their tactical training. Historically, the military culture identified mental illness such as PTSD to be a weakness and many service members would be ostracized by their superiors, peers, and subordinates for simply talking about having PTSD, and more so when seeking help to treat symptoms. This section of the literature review focuses on identifying common perceptions or misconceptions regarding individuals with PTSD.

Purtle (2016) studied how perceptions of PTSD help shape social construction through public policy. Purtle (2016) conducted an ethnographic content analysis by reviewing bills introduced to Congress that contained the term "PTSD" or "Post-Traumatic Stress Disorder." Purtle (2016) found "more than 90% of bills focused on PTSD targeted military populations" (p. 11). Purtle (2016) also found vocabulary coining PTSD as a "national interest," which is normally reserved language for foreign affairs. Only eight bills introduced to Congress were found focused on civilian populations following the September 11th attacks, and of those, none of them specifically mentions PTSD, rather, just enumerates a need to mitigate traumatic stress symptoms among the public in general (Purtle, 2016).

As Purtle (2016) pointed out, when an individual is addressing PTSD, the immediate assumption is it is a military problem which is not necessarily the case. In fact, as the *DSM-5* (2013) noted, civilian populations are also susceptible to PTSD diagnoses if they directly witness a traumatic event such as a car accident, a sexual assault, terrorist attack, or the loss of a very close loved one including a pet. When legislators continuously introduce bills into public policy targeting a specific focus, in this case

PTSD, a misconception is formed and reinforced by the populace as the bill becomes even more popular, which then allows it to become law.

Parrott and Parrott (2015) conducted a content analysis of crime drama television shows between 2010 and 2013 to discover stereotypes of mental illness. Conceptualizing character portrayals of mentally ill persons through both cultivation and framing theories; Parrott and Parrott (2015) discovered significant negative stereotypes that influenced the public's perceptions and attitudes towards individuals with mental illness. Parrott and Parrott (2015) reviewed five common key aspects (mental illness labeling, violence victimization or perpetration, crime victimization or perpetration, physical characteristics, and social standing) within 65 episodes of popular shows, such as Law & Order, NCIS, CSI, Bones, and Criminal Minds.

Parrott and Parrott (2015) identified 52 characters as being labeled mentally ill; the most prevalent illness being alcohol or drug misuse, schizophrenia, and generic mental illness. Other characters were identified mentally ill if they showed erratic behavior but was not diagnosed with known disorders, such as extreme internet addiction. Of the characters labeled mentally ill, gender was divided equally, but Caucasian was significantly represented more compared to other races or ethnicities. Parrott and Parrott (2015) also found 51% of mentally ill labeled characters to have been perpetrators of a violent act, 46% fell victim to a violent act, 60% committed a crime, 42% showed signs of poor hygiene, 44% portrayed delusional thinking, 48% were identified as middle class, 32% as low class, and 33% were unemployed.

Cultivation theory purports the more time an individual spends watching television, the more likely the viewer's perceptions of the real-world will be aligned with television portrayals. Framing theory purports a significant influence of an audience's attitudes regarding specific character traits based upon specific focusing of character portrayals (Parrott & Parrott, 2015). By analyzing the data found in Parrott and Parrott (2015), popular television crime dramas influence how their audiences perceive the real world. This suggests a common social perception that mentally ill individuals are violent criminals who lack education, employment, and are delusional. This perception creates real world ostracism for those who are mentally ill and thus creates negative strain in social contexts.

Purtle, Lynn, and Malik (2016) conducted a content analysis of news articles mentioning PTSD published in the *New York Times* between 1980 and 2015. Purtle et al. (2016) noted traumatic-related illness are a public health issue and media outlets serve as a medium to inform and influence the public about the issue. While reviewing 871 articles included in their research, Purtle et al. (2016) discovered a significant increase in the quantity of articles mentioning PTSD from only two in 1980 to 70 in 2014. It was also discovered that 50.6% of all reviewed articles focused on military populations identifying combat as the most common traumatic exposure in 38% of the articles followed by 8.7% due to sexual assault. Additionally, 29.5% of the articles reviewed focused on crime perpetrated by individuals with mental illness, of which 18% focused on perpetrators with PTSD and 11.5% perpetrators with substance misuse (Purtle et al., 2016).

Purtle et al. (2016) acknowledged public awareness had substantially increased regarding PTSD due to the significant increase in print articles published on the topic; however, cautioned that the significant focus on combat veterans influenced inaccurate perceptions within society. Purtle et al. (2016) found three specific results that would create negative implications towards those with PTSD: (a) portrayals of individuals with PTSD failed to reflect the epidemiology of the illness (b) PTSD was "negatively framed in many of the articles, commonly focusing on crimes committed by military personnel with PTSD" (p. 636), and (c) the majority of the articles focused on the causes and consequences of the disorder rather than risk factors, treatment, or management.

The issue of PTSD misconception crosses all cultural boundaries. Although U.S. legislators and news outlets focus on military personnel as being the subculture susceptible to PTSD, other nation-states and cultures are susceptible to PTSD due to experiencing similar traumatic events. Additionally, understanding PTSD and the perceptions about those with PTSD also affect cultural and social prosperity globally.

Yaser et al. (2016) interviewed 150 Afghani refugees residing in Australia. They provided a vignette describing a fictional character with PTSD which contained several questions to elicit participants' understanding of PTSD. The participant interviews included the Mental Health Literacy survey, the Afghan War Experience Scale (AWES), the Impact of Events Scale (IES), and the Hopkins Symptoms Checklist (HSCL). Yaser et al. (2016) found 46% of the participants met the threshold for PTSD symptomatology. After reviewing the vignette, Yaser et al. (2016) found only 30.7% of the participants thought the character had PTSD, whereas 26% thought the character was suffering from

extreme fear. This result is significant in that it reinforces historical perceptions of cowardice, fear, and weakness.

Sadik, Bradley, Al-Hasoon, and Jenkins (2010) conducted a nonexperimental random field research survey of 418 Iraqis residing in two neighborhoods within Baghdad. The research focused on Iraqi beliefs and perceptions about those with mental illness. Sadik et al. (2010) found 60% of the participants thought mental illness was caused by brain disease, 50% caused by genetic inheritance, 66% believed mental illness was caused by a "bad" event, 33% believed mental illness was the result of God's punishment, and 66% thought weakness was a direct cause of mental illness.

Yaser et al. (2010) elicited Iraqi attitudes towards individuals with mental illness in which 83.38% of participants thought people with mental illness are largely to blame for their condition, 59.41% believed they could identify an individual with a mental illness by the appearance, 43.59% believed people with mental illness were dangerous, and 54% believed people with mental illness were incapable of meaningful friendships. These findings reinforce the common perception that mentally ill people are dangerous, slovenly, and are incapable of relationships; characteristics oftentimes portrayed in the media as characteristics associated with mentally ill individuals and characters.

Reavley and Jorm (2011) interviewed 3,021 Australians aged between 15 and 25 years old to ascertain young people's perceptions of individuals with mental disorders. Each participant was presented with a vignette describing a case of PTSD, depression, schizophrenia, social phobia, suicidal thoughts, or depression with alcohol misuse. The total sample reviewing the vignette describing PTSD was 506. Reavley and Jorm (2011)

found 68% of the participants believed individuals with PTSD were unpredictable, 64.8% said they would not tell anyone if they suffered from PTSD, 49.7% believed an individual with PTSD could "snap" out of it, 50.4% thought PTSD was "not a real medical illness" (p. 1036), and 43.9% believed PTSD to be a sign of personal weakness. Reavely and Jorm's (2011) findings about young people's perceptions about individuals with PTSD increases the overall perception of dangerousness, weakness, and increased stigmatization.

Reavley and Jorm's (2011) research is relevant to the proposed study because ROTC cadets are most commonly younger individuals, typically in their teens just after graduating high school. Additionally, due to the sustained wars in Iraq and Afghanistan, all branches of the Armed Forces have been increasing their organizational size through numerous recruiting efforts, seeking younger generational individuals; therefore, swelling the ranks with individuals close to the same ages as the ROTC cadets. Some of these new recruits may have already served in a combat zone and have returned with PTSD and both the service members and cadets will need to work together as a cohesive unit. Given that GWOT has entered its eighteenth year, it is very likely that every potential recruit and cadet have heard of PTSD. Additionally, their knowledge of PTSD, whether limited or substantial, may influence their perceptions about those who have PTSD.

Loew et al. (2014) studied 272 active-duty soldiers' perceptions of one's own value to their own work in the military, current military operations, and to general military service. Each participant met the diagnostic threshold for PTSD using the PCL. The participants were then asked to measure their own combat exposure levels,

conceptualized as firing at the enemy or being fired at by the enemy, using the Combat Exposure Scale (CES). Interestingly, Loew et al. (2011) found that when controlling for combat exposure, the more the participants believed in the military mission, the less severe their PTSD symptoms were. This is important to ensuring small unit cohesion, of which many military operations heavily rely.

Link and Phelan (2014) defined stigma power as the "ability to keeping others down, in or away, where stigmatizers seek to exploit, manage, control, or exclude specific individuals, typically based on a particular characteristic" (p. 24). Link and Phelan (2014) explained three generic ends that people who stigmatize others seek to attain. Exploitation or domination by "keeping people down" through wealth, power, and high social class.

Specifically, Link and Phelan (2014) described the have's use of available resources as tools to exploit the have nots, citing African American slavery in U.S. history as an example. "Keeping people in," according to Link and Phelan (2014) can be obtained through enforcement of social norms, such as constructing rules used to regulate specific groups. This can be done simply by regulating gun access for the mentally ill. Lastly, "keeping people away" can be completed through the labeling process by which individuals with a mental illness are labeled as mentally ill, thus establishing a sort of contagion from which individuals would quarantine themselves.

Sharp et al. (2014) acknowledged how stigma regarding a service member's PTSD diagnosis acts as a barrier to treatment. Just as Link and Pelan (2014) explained the "power" of stigma, Sharp et al. (2014) found over 60% of military personnel

experiencing PTSD symptoms fail to seek treatment. This statistic is in line with Link and Phelan's (2014) idea of "keeping people away." Sharp et al. (2014) conducted a meta-analysis of 20 peer-reviewed articles focused on stigma and military personnel with mental illness. Sharp et al. (2014) found a significant portion of the reviewed articles contained common themes regarding military personnel with mental illness and their beliefs that unit leadership would train them differently, view them as weak, and unit members would lack confidence in these service members' abilities.

Schreiber and McEnany (2015) described stigma as "negative attributes towards the labeled person who consequently experiences rejection as a result of the attribute" (p. 54). Schrieber and McEnany (2015) acknowledged over 2.5 million service members have deployed to combat operations since 2001 in support of GWOT. Additionally, over one million have participated in combat operations multiple times. As the APHA (2014) and the National Center for PTSD (2016) noted, prevalence rates for PTSD onset for returning service members have significantly increased over the past decade. Many of these service members remain in military service to continue their careers. However, members of their own units see them differently, oftentimes, creating an environment of stigmatization in which service members with PTSD feel rejected, thus creating barriers to treat and manage their illnesses. Schreiber and McEnany (2014) found stigma to be a significant barrier for these service members regarding treatment for PTSD, reinforcing Sharp et al's. (2014) findings.

Osório, Jones, Fertout, and Greenberg (2013) analyzed secondary data of 23,101 service members across all three military services in the United Kingdom (UK). Osório et

al. (2013) focused on comparing the effects of PTSD symptomatology, perceived stigma, and treatment seeking behavior. Osório et al. (2013) found as PTSD symptoms increased in severity, a significant increase in perceived stigma occurred, creating a substantial barrier to seeking treatment. Osório et al. (2013) attributed the increase of perceived stigma to service member's beliefs that their unit leadership would treat them differently or see them as weak. They also believe a diagnosis would hurt their careers and be embarrassing.

The military organization relies heavily on unit cohesion and readiness to complete missions both on the battlefield and in garrison. As Osório et al. (2013), Sharp et al. (2014), and Schreiber and McEnany (2014) point out, perceived stigmatization is a significant barrier to seeking treatment, and such stigma is the result of heightened beliefs that service members will be viewed as weak, will be treated differently, and will ruin their careers if they seek treatment. But what does this stigma do within the small unit that the military service so heavily relies upon to conduct business?

Breslau, Setodji, and Vaughan (2016) conducted a longitudinal study of 1307 Marines deployed to Iraq or Afghanistan from 2010 to 2011. The data was the result of an evaluation of a U.S. Marine Corps program named Operation Stress Control and Readiness (OSCAR). This program was implemented to train Marines how to identify stress and to intervene early to prevent and treat behavioral problems. Breslau et al. (2016) examined associations of unit cohesion with high-risk alcohol use, Uniformed Code of Military Justice (UCMJ) violations, PTSD, and depression to determine whether unit cohesion had any effect on behavioral health outcomes.

Unit cohesion was measured using the Deployment Risk and Resilience Inventory (DRRI), high-risk alcohol use was measured using AUDIT, PTSD was measured using the PCL, and depression was measured using the Patient Health Questionnaire (PHQ). Non-judicial punishment was measured through a self-report survey asking if they had been formally charged of any violation of the UCMJ. Breslau et al. (2016) used multilevel multiple logistic regression models to analyze the data.

Breslau et al. (2016) found significant effects between unit cohesion and all four behavioral health outcomes; however, high-risk alcohol uses significantly increased as unit cohesion increased. Breslau et al. (2016) attributed this to the camaraderie between fellow service members. When they became more cohesive, they tended to do all activities together as part of a team, even outside of their military duties. Breslau et al. (2016) noted increased unit cohesion significantly reduced the instances of UCMJ violations, depression, and PTSD symptomatology severity. This suggests that if unit cohesion is low, service members within the team will be more apt to have behavioral health issues.

Although Breslau et al. (2016) found unit cohesion had a significant positive effect on PTSD symptomatology, but they failed to determine how PTSD effected unit cohesion when stigma and negative perceptions were introduced. If unit cohesion is low due to perceived stigma from service members with PTSD, then according to Breslau et al. (2016), these service members had an increase in behavioral health issues. Since Breslau et al. (2016) measured PTSD and depression as two mental health variables, and both illnesses are commonly comorbid, it stands to reason that service members with

PTSD who are part of a unit that lacks strong cohesion and morale, will be more susceptible to suicidal thoughts or homicidal actions.

Mallick, Mitchell, Millikan-Bell, and Gallaway (2016) studied 458 enlisted leaders identifying as squad leaders and assigned to two Brigade Combat Teams (BCTs). Mallick et al. (2016) examined the associations between squad leader responsibilities and their perceptions regarding duty requirements when dealing with a squad member with mental health issues. Mallick et al. (2016) found squad leaders significantly perceived they were responsible for the care and management of squad members with PTSD in relation to treatment.

Mallick et al. (2016) also found unit cohesion increased significantly when the squad leader openly accepted this responsibility, improving mission readiness within the squad substantially, even among squad members who did not have PTSD. This result contradicts previous research suggesting unit cohesion decreases due to perceived stigmatization. Specifically, Mallick et al. (2016) discovered squad leaders' dedication to assisting their squad members through behavioral management in the form of mitigation (66%), identification (63%), treatment (71%), and reintegration (61%).

Reserve Officer Training Corps Program

During World War I, President Woodrow Wilson signed into law the National Defense Act (NDA) of 1916. This act was one of the most expansive legislative orders in U.S. military history, expanding the size of the military four-fold. However, this act also established the ROTC program in which a ready reserve of commissioned officers could be pulled as needed (NDA, 1916). Specifically, the mission of the ROTC program is to

"produce commissioned officers in academic disciplines that correlate with the specialty needs of the military" (Army Regulation (AR) 145-1, 1996, p. 2). According to AR 145-1 (1996) three terminal learning objectives exist: (1) attract, motivate, and prepare selected students to serve as commissioned officers in active and reserve components; (2) provide cadets with the basic principles and concepts of military art and science; and (3) develop strong leadership, personal integrity, honor, responsibility, and an appreciation for national security.

The ROTC program is extracurricular to a student's normal course of academic study. It is specific to only those students who have volunteered to serve in the Armed Forces upon completion of their Baccalaureate degree. The ROTC program can be found in a university's "military science" department, where the director is typically a reserve or retired commissioned officer and the instructors are reserve or retired Non-commissioned officers (NCOs). The ROTC program achieves the aforementioned objectives through lecture, practical exercises, and field training exercises (Gilson, Dix, & Lochbaum, 2016). Although most of the training is conducted through manuals, policies, and regulations, socialization between cadre and fellow cadets occurs as well. The ROTC program may also include veterans who have previously served and have chosen to participate in the program in order to become commissioned officers.

Socialization Theory

Chen and Yao (2015) noted that newcomers into an organization must understand the organizational norms, values, and morays; and that they will learn and apply these concepts through interactions with peers and through experience. Specifically, Chen and

Yao (2015) acknowledged each newcomer to an organization is one of many different entities in which the organizational efficiency is dependent upon the smooth interaction and operation of all different entities into a single machine. This is like a jigsaw puzzle with 500 separate pieces. Each piece is required to create the whole picture; however, each piece is different in shape and must be arranged to form the whole picture. Chen and Yao (2015) noted the socialization process is the arrangement of pieces, such as each member of the organization interacts with each other and through experiences learn the appropriate methods, procedures, and policies in order to create the whole efficient organization.

Dailey (2016) mentioned the socialization process as the "primary process in which people learn the ropes of an organization and adapt to their own organizational role" (p. 185). Dailey (2016) claimed that socialization into an organization is synonymous with "assimilation" where immigrants into a new society assimilate to the new customs and traditions to fit in. Dailey (2016) mentioned how organizations have implemented rotational programs in which new employees rotate positions in order to maximize the socialization process to assist newcomer's understandings of each role within the organization. This rotational program is very similar to that of the ROTC program, where cadets "rotate" various leadership positions in order to obtain a full understanding of roles and responsibilities at each echelon of leadership.

On any given day, a ROTC cadet will hold the position of team leader, responsible for only two to three cadets under them, and then will be provided an opportunity to move up to squad leader, platoon leader, or company commander, thereby,

obtaining more authority and responsibility. This allows the cadets to experience the stresses that come with each leadership role so upon commissioning, they will be more proficient leaders in their respective units.

Grusec and Davidov (2010) noted socialization can be accomplished through four basic principles: (1) observational learning; (2) intent participation; (3) rituals; and (4) routines. Grusec and Davidov (2010) stated people observe other members' behaviors, mannerisms, and communication amongst each other. This continuous observation engrains ideals of normality in such a way that these behaviors become second nature to the individual seeking a role within the organization. Additionally, intent participation, where members of the organization seek to include new members becomes reinforcing and provides the newcomer with experience. As the newcomer becomes an accepted member of the organization, they will then be included in the organizational culture and tradition through rituals and routines.

The ROTC cadets follow these same four principles as mentioned by Grusec and Davidov (2010). The cadet's first semester in the program is the beginning of the socialization process. They learn basic principles and procedures through lecture and observation of the older cadets. Once the older cadets and cadre feel as though the new cadets are ready, they will be included in various training exercises. Once fully accepted by their peers, they will then be included in cultural rituals, such as formal ceremonies and balls. These new cadets will reinforce this knowledge throughout their time in the ROTC program and eventually provide knowledge to newer cadets entering after them thus providing an established routine.

As Athens (2016) mentioned, socialization is basically interaction with others within a social system. Following George Mead's theory on sociality as a fundamental principle to socialization, Athens (2016) explained socialization requires a social unit, in this case, an ROTC cadet, to interact with other social units (peers) within a social system (ROTC program). Sociality refers to the simultaneous membership into two or more social systems concurrently, meaning one can be concurrently socialized into two or more organizations. ROTC cadets are a social unit whose socialization into the ROTC program enables acceptance; however, they are also social units within the university in which they attend, the department for which they are declaring their major, and the branch of service for which they plan to serve.

Social Change

Walden University's catalog defines positive social change as a "deliberate process of creating and applying ideas, strategies, and actions to promote the worth, dignity, and development of individuals, communities, organizations, institutions, cultures, and societies. Positive social change results in the improvement of human and social conditions" (Walden University, 2018, Social Change section, para. 1). Therefore, social change can be defined as making something different in society that allows individuals within that society to live together. The idea of social change is to positively affect the lives of individuals so that they harmoniously live with each other, creating a more prosperous and peaceful existence.

The goal for this study was to affect positive social change, specifically to the perception's individuals have about combat veterans with PTSD. Currently, combat

veterans suffering from PTSD related illness are seen as cowardly, dangerous, and they are further stigmatized by being excluded from various social institutions such as meaningful employment (Loew et al., 2014). This stigmatization becomes depressive upon the individual in which they lack hope, self-assurance, self-worth, and self-confidence (Schreiber & McEnny, 2015; Sharp et al., 2015). This further perpetuates frustration and stress resulting in potential homicidal and suicidal tendencies in addition to other social problems such as homelessness, unemployment, and substance abuse (APHA, 2014; *DSM-5*, 2013).

Through this research study, knowledge about the current perceptions ROTC cadets have about service members with PTSD were identified in order to create programs to educate and assist in positively changing stereotypes and provide opportunities to those who have served honorably. This research study positively affected the knowledge and understanding of stakeholders within the ROTC program with data important to socializing positive concepts about PTSD and other combat-related stressors, and in turn, affect doctrine within the program, thus improving cadet's leadership abilities and military readiness.

Summary

This chapter provided an overview of literature related to PTSD, specifically its historical contexts, its prevalence within the military organization, its associated behaviors and symptoms, current perceptions, and stigmatization surrounding PTSD diagnoses. Additionally, a brief description of the ROTC program and socialization theory was provided.

A review of the literature on PTSD has found that PTSD is a relatively new concept. However, what is now known as PTSD, could be found in early writings as far back as the Bible in the story of Jacob and Joseph. Additionally, as society progressed, ancient writings from military officers in the Byzantine Empire took notice of mental reactions due to traumatic events in their soldiers. Ernest Hemmingway even took notice to the mental distress of service members fighting in World War I as well as notice his own reactions from traumatic experiences in the same conflict.

Over the years, researchers have found more and more symptoms as a result of an individual's traumatic experiences and how other illness interact with those reactions. Additionally, as wars became more frequent and longer in duration, governmental agencies noticed an exponential increase in mental distress among the ranks of U.S. service members, creating a focus on research in prevalence of PTSD diagnoses, its comorbid symptoms, treatments, and resulting behaviors. Today, PTSD research is one of the top priorities of the Department of Defense and the Department of Veteran Affairs in the hopes of successfully reducing high suicide rates among service members and veterans alike in addition to changing the military organizational culture to one that promotes seeking help and reducing stigmatization. The goal of contemporary research on PTSD within the military is to improve readiness and lethality within all branches of the military so that service member who faithfully defend freedom are provided the best care possible while at the same time improve the deadly lethality of the U.S. military the world has come to rely on.

While research focused on PTSD perceptions or stigmatization have mainly focused on currently serving service members or veterans no longer serving, research has not focused on the perspective of ROTC cadets. This was a necessary gap which this research fills because ROTC cadets will eventually become commissioned officers charged with leading many service members who may suffer from PTSD or combat-related illness. It is evident that PTSD is a serious social issue that affects other social problems as well. It was important to understand, in detail, behaviors and symptoms associated with PTSD and how one is affected by the illness in order to properly educate the public and provide a better quality of life to those affected.

Chapter 3 focuses on how I collected the necessary data to measure and analyze ROTC cadet's perceptions about service members with PTSD and identified significant affects, whether positive or negative. Additionally, Chapter 3 also discusses ethical issues to consider during this research, what procedures were used to recruit participants, collect data, and analyze the data. The research question was reviewed as well as the hypotheses to be tested. Lastly, a comprehensive discussion on how each variable was measured to answer the research question and determine whether to accept the hypotheses or not.

Chapter 3: Research Methodology

The purpose of this study was to assess ROTC cadets' Perceptions about service members with PTSD. This chapter provides a comprehensive explanation of how I conducted this research study. Topics include the research design, the participants, sampling strategy, data collection, and data analysis. Ethical considerations will also be addressed. Details provided in this chapter will allow others to replicate this study in the future.

Research Design

This research study was quantitative and cross-sectional in nature. I took a snap-shot of ROTC cadets' perceptions at one point in time. Frankfort-Nachmias, Nachmias, and DeWaard (2015) claimed that the cross-sectional design is "the most widely used in social science research and frequently employed in survey research" (p. 105). These perceptions were helpful in determining whether more attention needs to be given to educate ROTC cadets about PTSD. This research study analyzed the relationship between nine independent variables (IVs) and one dependent variable (DV). The IVs for this study were as follows:

- Gender (GENDER)
- Race/ethnicity (RACE)
- Age (AGE)
- Religion (RELIG)
- Type of higher education institution attending (HIGHED)
- Previous military experiences (MILEXP)

- Branch of service (BRANCH)
- Prior gun violence experiences (GNVIOLEX)
- Family history with mental illness (FMHSTMEN)

The DV for this study was ROTC cadets' perceptions about service members with PTSD (OVRLPERCEP). The DV was measured using the mean ($\bar{M}$) of the sum ($\sum$) of two sub-scores representing general perceptions (GENPERCEP) and individual perceptions (INDPERCEP).

Participants of the Study

The participants for this study were noncontracted ROTC cadets enrolled in one of five separate ROTC battalions within the state of Louisiana. There were no other specific parameters for participation in this study; however, assumptions made about the participant pool were: (a) they were at least 18 years-old (b) have earned a high school diploma or equivalent (c) have no criminal history, and (d) were legally authorized to be in the United States. These assumptions were made based upon admission requirements into the ROTC program. Although I did not have a definitive population size, it was estimated that the population of all noncontracted ROTC cadets from all five ROTC battalions in the state of Louisiana was close to 150.

Sampling Strategy and Sample Size

I maintained communication between each of the five ROTC battalion commanders and distributed the digital link to access the data collection instrument to each of them. Each commander then provided the access link to all noncontracted ROTC cadets under their charge. Since the data collection process relied on the dissemination of

the access link by a third party, the sample for this study was a sample of convenience. The total sample size needed for this study was N= 48 based upon statistical power parameters and statistical analysis assumptions to ensure validity and reliability.

According to Faul, Erdfelder, Lang, and Buchner (2007) the G*Power statistical calculator determines appropriate sample size based upon the type of statistical analysis and power settings used. Frankfort-Nachmias et al. (2015) state α = .05 is the most common value of significance reducing the probability of Type I errors or accepting the research hypothesis (H_1) when the null hypothesis (H_0) is true. Furthermore, setting 1-β to .80 or 80% is also the most common among social science research and reduces the probability of making a Type II error or rejecting the H_1 when it is true. The G*Power statistical power calculator (Faul et al., 2007) for Fisher's Exact Test (chi-square), with an effect size (f^2) of .50 (large), alpha (α) of .05, statistical power (1-β) of .80 or 80%, and degrees of freedom (df) of 4, resulted in a minimum sample size of 48 (N= 48).

McDavid, Huse, and Hawthorn (2013) explain research studies contain various threats to validity categorized as internal and external threats to validity. Internal threats to validity consist of several variables focused from the sample to the data collection instrument. External threats to validity consist of variables that focus on the external environment, effects from the sample, and/or included items within the research study. For this study, many of these internal and external threats to validity do not apply. For instance, maturation, mortality, and history was not an internal threat because I did not conduct a time series study, rather, this study was focused on only one point in time for measurements. Additionally, testing did not apply to this study as well because there was

no pretest or posttest to compare. Instrumentation could have been a potential threat to the internal validity if the method of how the variables were measured after data collection began changed; however, this was not the case. Statistical regression was not a threat because data screening and cleaning procedures were conducted prior to analysis and did not affect interpretation of the results.

External threats to validity were effectively minimized in this research study because each voluntary participant was able to participate in their own comfortable surroundings with no interaction between the researcher and participants. However, given that each of the five ROTC commanders provided guidance to their participating cadets, some may have perceived this guidance as a mandatory order to complete the survey questionnaire even though the informed consent notice and Commander's invitation stated otherwise. This is the structured nature of the military organization. I did my best to ensure that each participant knew that participation in this research study was strictly voluntary.

Additionally, Green and Salkind (2014) and Field (2013) note two assumptions must be met for Fisher's Exact Test (chi-square). First, the variables must be measured at the ordinal or nominal level. Second, the variables should consist of two or more categorical, independent groups. By ensuring adherence to these statistical assumptions, threats to statistical conclusion validity will be minimized.

Research Questions

The following research question and hypotheses were posed for this study:

What is the relationship between race, age, gender, military background, religion, family history of mental illness, type of institution (public, private, or HBC), branch of service, and prior experience of gun victimization (personally victimized by gun violence, family member victimized by gun violence, or know someone who was victimized by gun violence) on ROTC cadets' perceptions of service members with PTSD?

$H0_1$: Race has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_2$: Gender has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_3$: Military background has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_4$: Religion has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_5$: Family history of mental illness has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_6$: Type of institution has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_7$: Age has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_8$: Prior experience in gun victimization has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

$H0_9$: Branch of service has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

Ethical Considerations

No major ethical concerns were anticipated during this research study. There was no one-on-one interaction between the participants and the researcher. All communication was through each of the five battalion commanders. The access link for the survey questionnaire was disseminated by the commanders to their assigned noncontracted cadets. Once the cadet accessed the link, an informed consent notification was populated, and each participant was required to select whether they chose to continue to the questionnaire.

Procedures

I recruited potential participants for this study by initially contacting the five ROTC battalion commanders in the state of Louisiana. After briefing each commander on my research study and sending them a copy of my prospectus, I then electronically sent them a letter of cooperation form to sign, providing me authorization to recruit noncontracted ROTC cadets within these five battalions. I also sought authorization through the Institutional Review Boards (IRB) at each respective institution where the five ROTC battalions were located. Once I obtained approval from each of the IRBs and the letter of cooperation signed by all five ROTC commanders, an application for final approval was submitted to the Walden IRB. Walden IRB provided final approval for this study on June 14, 2018 with approval number: 06-14-18-0541645.

Upon receipt of Walden IRB approval, I disseminated the access link to each of the five ROTC commanders to disseminate to their noncontracted cadets. Once each participant entered the link into their address bar, an informed consent form populated. Each participant read through the informed consent and chose to continue to the survey by selecting the "continue" box. The question provided at the end of the informed consent form was required to access the survey instrument. If the participant chose to continue, the survey instrument populated on their screen; however, if the participant chose not to continue, a screen populated thanking them for their participation.

Once all participants completed the survey questionnaire, I exported the data to an excel spreadsheet and uploaded the data into SPSS statistical analysis software for Fisher's Exact Test (chi-square). Prior to conducting statistical analysis for significant relationships between the variables, a thorough screening of the data was conducted in which cases with missing data were removed from the analysis. Additionally, outliers were identified and removed from analysis, followed by a thorough statistical description of the sample. Once the data cleaning steps were completed and the sample was described statistically, Fisher's Exact Test was conducted to determine relationships between the variables.

All research, data collected, data analyses, and research notes will be stored on an encrypted universal serial bus drive and in binders stored in a box. All data, research, and documents pertaining to this research will be retained for a period of five years. After the five-year period, all research documents related to this study will be destroyed. All hard copy documents stored in binders will be shredded and then burned. All documents

stored on the universal serial bus drive will be deleted and the drive will then be formatted to remove any remnants of research documentation.

Measures

Participants completed a survey questionnaire uploaded into Survey Monkey, a third-party online survey vendor. The survey questionnaire consisted of nine demographic questions that included AGE, GENDER, RELIG, RACE, BRANCH, HIGHED, MILEXP, GNVIOLEX, and FMHSTMEN. Participants also completed 15 questions in a Likert five-point scale asking how strongly they agreed or disagreed with a specific statement. These fifteen questions were used to measure participants' overall perceptions about service members with PTSD. The survey questionnaire is a modified version of Peer Mental Health Stigmatization Scale (PMHSS) developed by McKeague, Hennessy, O'Driscoll, and Heary (2015). This instrument was available in the public domain and therefore permission was not required for its use.

The PMHSS instrument had a Cronbach's alpha (α) of .806, meeting the generally acceptable value for reliability of .7 to .8, according to Field (2013). While the PMHSS featured by McKeague et al. (2015) focused on the stigma awareness and stigma agreement models within children and adolescents, a modified rewording of the questions within the scale for this study focused on stigmatizing perceptions of ROTC cadets towards service member with PTSD. No major changes to the question structure were made. This ensured any threats to construct validity were minimized.

Data Collection

The data for this study was collected using a survey questionnaire that focused on several variables to identify potential significant relationships. This survey questionnaire is a modified version of the PMHSS published by McKeague et al. (2015). It consisted of nine demographic questions to measure the IVs for this research. The IVs for this research were AGE, GENDER, RACE, RELIG, HIGHED, MILEXP, BRANCH, GNVIOLEX, and FMHSTMEN. Each of the IVs were measured in nominal form. There were 15 questions used to measure the DV which were configured into a Likert five-point scale, which required participants to select how strongly they agreed or disagreed with each statement. Questions one through seven, 10, and 11 were used to measure participant's GENPERCEP about service members with PTSD. Questions eight, nine, and 12 through 15 were used to measure participant's INDPERCEP of service members with PTSD.

Data Analysis

This study utilized a quantitative design and survey approach to analyze noncontracted ROTC cadets' perceptions of service members with PTSD. Nine hypotheses were presented to determine whether the IVs had a significant relationship with the DV.

- $H0_1$: Race has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_2$: Gender has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

- $H0_3$: Military background has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_4$: Religion has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_5$: Family history of mental illness has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_6$: Type of institution has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_7$: Age has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_8$: Prior experience in gun victimization has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_9$: Branch of service has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

As previously mentioned, the PMHSS consisted of a total of 24 questions where nine were nominal demographic questions used to collect data on the IVs. The remainder 15 questions were used to collect data on ROTC cadets' perceptions about service members with PTSD. Specifically, questions one though seven, 10, and 11 focused on GENPERCEP with a range of 9-45. Questions eight, nine, and 12 through 15 focused on INDPERCEP with a range of 6-30.

The $\bar{M}$ of the $\sum$ of GENPERCEP and INDPERCEP was used to determine OVRLPERCEP. Therefore, OVRLPERCEP had a range of 7.5-37.5. A negative

OVRLPERCEP was represented by a value > 23.75, whereas, a positive OVRLPERCEP was represented by a value < 13.75. If an OVRLPERCEP value falls within a range of 13.75-23.75, then this DV was neutral or lacking polarity. All data collected was inputted into *SPSS* statistical software to conduct analysis. Fisher's Exact Test was utilized to determine relationships between the variables.

Summary

Chapter 3 discussed the research design, sampling strategy and size, procedures, hypotheses to be tested, measures, and data collection methods in order to provide a systematic method of conducting the research study. Additionally, ethical considerations were identified and mitigated. This chapter ensured potential future researchers can replicate the research study for reliability and validity.

This study was a quantitative designed used to measure and analyze numerical data to determine the significance of relationships among the IVs and the DV. The targeted population for this study was noncontracted ROTC cadets and the sample was recruited from five ROTC battalions in which each battalion commander assisted the researcher in obtaining the sample. All participants for this study were repeatedly notified that participation was voluntary. This was necessary due to the nature of the military culture where the cadets may have felt that their commanders were ordering them to participate.

Additionally, all the variables were clearly defined and how they were measured was also provided. The Fisher's Exact Test was identified as the statistical method of analysis and a comprehensive description of how the statistical power was measured to

ensure validity and reliability in the results. Lastly, the source of the instrument to collect the data was provided as well as the Cronbach's alpha statistic was provided, which is a statistic used to measure reliability of the instrument.

Chapter 4 discusses the results of data analysis, provides a statistical description of the sample used for this study, explains the coding procedures for variables that contained more than one choice, briefly reviews the data collection instrument, and provides statistical tables used to determine whether the tested hypotheses were accepted or not as well as an explanation on why each hypotheses was or was not accepted.

Chapter 4: Results

Introduction

The purpose of this study was to identify any significant relationships between the IVs and the DV as it relates to noncontracted ROTC cadet s' perceptions about service members with PTSD. This chapter provides the results of statistical analysis of relationships between nine IVs and the DV, using Fisher's Exact Test statistics. Because of the low sample obtained ($N = 14$), this statistical analysis was chosen to ensure accuracy in determining any significance between the variables tested. In addition to the results, I provide a description of the sample obtained, the research hypotheses, whether I chose to reject or accept the H_0, and why. Originally, I planned on using multiple linear regression to conduct analyses; however, due to the low sample size for this study, the use of Fisher's Exact Test was more appropriate.

Data Collection

Data were collected using a survey questionnaire that was accessed through Survey Monkey where participants responded to nine demographic variables: age, race, ethnicity, religion, branch of service, type of higher education institution attending, previous military experience, family history of mental illness, and previous gun violence victimization experience. The participants also responded to 15 questions modified from the PMHSS, which were used to measure perceptions of PTSD. These 15 questions were measured using a Likert five-point scale where the participants answered how strongly they agreed or disagreed with each statement.

Participants for this study were recruited from five ROTC battalions. Each battalion commander provided a letter of invitation to all noncontracted ROTC cadets under their command, explicitly stating that participation was voluntary. I obtained a letter of cooperation from each battalion commander and approval from each institution's IRB to utilize their cadets in my study.

Once the sample completed the survey, I exported the results into a Microsoft Excel spreadsheet and coded each variable by the assigned numerical values. I checked each participant's survey for missing data. No cases were eliminated due to missing data. The estimated population from which the sample was derived as $N \approx 150$. The total sample size for this study was $N = 14$.

Once all the data were properly coded to their numerical values, I created a data set workbook in IBM SPSS, where all variables were labeled and defined. Once the data set workbook was developed, I transposed all numerically coded values for each case into the SPSS workbook to their corresponding variables. I double-checked each case in the workbook against the data spreadsheet to ensure that no data were missing and that all entries were accurate.

Sample Description

Power analysis for this study indicated a sample size of $N = 48$; however, after numerous attempts to elicit more participation from the cadets over a period of 8 months, the resulting sample size for this study was $N = 14$. Therefore, I had to determine a more accurate statistical analysis for this study and found that Fisher's Exact Test was the most

appropriate. By reviewing the statistics provided in Table 1, some important information can be determined regarding this study's sample.

First, it is important to note that some statistics were omitted from the table because of the variable being constant when compared to the DV. This is occurred because one of the main requirements of crosstabulation for Chi-Square is that each variable consist of at least two categorical measures to satisfy a minimum of two by two table of comparison. In this sample, only one respondent selected "Hispanic" as their race and one respondent selected "other" as their race. Additionally, only one respondent selected "public" for their institution type, one selected "Judaism" and one selected "not practicing" for their religion, and one selected "US Navy" for their branch of service. These selections remained constant when measured against the DV in this study and were omitted from the descriptive table.

Second, it appears that within this sample, observations were significantly leptokurtic regarding "Christian" for religion and significantly platykurtic regarding respondents having a family history of mental illness. For observations to be significantly kurtotic, a kurtosis statistic must be greater than 1.96 or less than -1.96, as this is the standard statistical value for kurtosis. Likewise, a statistical value of greater than 1.96 or less than -1.96 for skewness is also significant; however, in this sample, there is no significant skewness.

Table 1
Descriptive statistics for the sample

		N	Mean	SD	Kurtosis	Skewness
Age						
	17-25	14	25.75	4.38	.057	-.288
Gender						
	Male	5	25.40	3.13	.875	.515
	Female	9	25.94	5.11	-.139	-.467
Race						
	White	6	25.08	2.50	1.02	.314
	African American	6	26.67	5.65	1.38	-.919
	Hispanic[a]	1				
	Other[a]	1				
Type of institution						
	Public[a]	1				
	Private	9	23.94	4.08	-.127	-.139
	HBC Private	4	29.63	2.95	.606	.680
Religion						
	Christian	10	27.00	4.47	2.27	-1.078
	Judaism[a]	1				
	Not Practicing[a]	1				
	None	2	24.50	.00	.00	.00
Military experience						
	No	3	27.00	2.78	.00	.782
	Yes	11	25.40	4.77	-.256	-.125
Branch of service						
	US Army	13	26.19	4.22	.861	-.477
	US Navy[a]	1				
Gun violence experience						
	No	10	26.05	4.01	.037	.375
	Yes	4	25.00	5.81	.685	-1.166
Family history of mental illness						
	No	9	24.72	4.87	.327	.197
	Yes	5	27.60	2.86	-3.232	-.520

[A] Overall Perception remains constant when compared with these variables; omitted.

Coding

To conduct an accurate Fisher's Exact Test analysis on each of the IVs on the DV, I had to create a data collection workbook in IBM SPSS software. To do this, I inputted

the numerical values corresponding to the selections on the survey questionnaire the respondents completed. However, for the IVs of MILEXP, GNVIOLEX, and FMHSTMEN, multiple choice could be selected. Therefore, I coded each choice within those IVs with a "0" for no or not selected and "1" for yes or selected. Once I completed inputting these numeric values by choice for each of the variables, I coded MILEXP, GNVIOLEX, and FMHSTMEN with a "0" for no or "1" for yes. If the variables MILEXP, GNVIOLEX, and FMHSTMEN have a score of "0," the respondents did not select any of the choices used to determine any type of history for the respective variable. Additionally, if the numeric value of "1" appeared for any of the three IVs, then the respondent selected at least one of the choices regarding a history of the variable.

Research Questions

The research question posed for this study was as follows: What is the relationship between race, age, gender, military background, religion, family history of mental illness, type of institution, branch of service, and prior experience of gun victimization on ROTC cadets' perceptions of service members with PTSD? Nine hypotheses were provided:

- $H0_1$: Race has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_2$: Gender has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_3$: Military background has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

- $H0_4$: Religion has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_5$: Family history of mental illness has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_6$: Type of institution has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_7$: Age has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_8$: Prior experience in gun victimization has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.
- $H0_9$: Branch of service has no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD.

After conducting the Fisher's Exact Test for significant relationships between the IVs and the DV, I concluded that there were no statistically significant relationships between any of the variables.

Results

$H0_1$ stated there is no statistically significant relationship between race and the ROTC cadets' perceptions about service member with PTSD. This hypothesis was measured by conducting a Fisher's Exact Test crosstabulation between race and overall perception. Table 2 illustrates the result.

Table 2

Race by overall perception

	X^2	*df*	Asym. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)	Point probability
Pearson chi-square	28.000[a]	24	.260	.372		
Likelihood ratio	20.848	24	.648	.506		
Fisher's exact test	29.792			.506		
Linear-by-linear association	.685[b]	1	.408	.420	.205	.005
N of valid cases	14					

Race showed no statistically significant relationship with overall perception, $X^2(24, N=14) = 29.792, p<.05$. Therefore, I accepted the null hypothesis. $H0_2$ stated there is no statistically significant relationship between gender and ROTC cadet's perceptions of service members with PTSD. This hypothesis was measured by conducting a Fisher's Exact Test crosstabulation between gender and overall perception. Table 3 illustrates the result.

Table 3

Gender by overall perception

	X^2	*df*	Asym. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)	Point probability
Pearson chi-square	5.289[a]	8	.726	1.000		
Likelihood ratio	7.159	8	.520	1.000		
Fisher's exact test	5.783			1.000		
Linear-by-linear association	.050[b]	1	.824	.860	.432	.028
N of valid cases	14					

Gender showed no statistically significant relationship with overall perception, $X^2(8, N=14) = 5.783, p<.05$. Therefore, I accepted the null hypothesis. $H0_3$ stated there is no statistically significant relationship between military background and ROTC cadets'

perceptions about service members with PTSD. This hypothesis was measured by conducting a Fisher's Exact Test crosstabulation between military experience and overall perception. Table 4 illustrates the result.

Table 4

Military experience by overall perception

	X^2	*df*	Asym. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)	Point probability
Pearson chi-square	3.606[a]	8	.891	1.000		
Likelihood ratio	4.504	8	.809	1.000		
Fisher's exact test	5.665			1.000		
Linear-by-linear association	.311[b]	1	.577	.629	.319	.044
N of valid cases	14					

Respondents having any previous military experience had no statistically significant relationship with overall perception, $X^2(8, N=14) = 5.665$, $p<.05$. Therefore, I accepted the null hypothesis. $H0_4$ stated there is no statistically significant relationship between religion and ROTC cadet's perceptions of service members with PTSD. This hypothesis was measured by conducting a Fisher's exact test crosstabulation between religion and overall perception. Table 5 illustrates the result.

Table 5

Religion by overall perception

	X^2	*df*	Asym. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)	Point probability
Pearson chi-square	33.600[a]	24	.092	.169		
Likelihood ratio	19.524	24	.723	.313		
Fisher's exact test	31.178			.313		
Linear-by-linear association	1.497[b]	1	.221	.239	.123	.003
N of valid cases	14					

Religion did not have any statistically significant relationship with overall perception, $X^2(24, N=14) = 31.178, p<.05$. Therefore, I accepted the null hypothesis. $H0_5$ stated there is no statistically significant relationship between family history of mental illness and ROTC cadets' perceptions of service members with PTSD. This hypothesis was measured by conducting a Fisher's Exact Test crosstabulation between family history of mental illness and overall perception. Table 6 illustrates the result.

Table 6

Family history of mental illness by overall perception

	X^2	*df*	Asym. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)	Point probability
Pearson chi-square	9.644[a]	8	.291	.353		
Likelihood ratio	12.704	8	.122	.353		
Fisher's exact test	8.555			.353		
Linear-by-linear association	1.388[b]	1	.239	.274	.138	.017
N of valid cases	14					

A respondent's family history of mental illness did not have a statistically significant relationship with overall perception, $X^2(8, N=14) = 8.555, p<.05$. Therefore, I accepted the null hypothesis. $H0_6$ stated there is no statistically significant relationship between the type of institution attending and ROTC cadets' perceptions about service members with PTSD. This hypothesis was measured by conducting a Fisher's Exact Test crosstabulation between type of institution and overall perception. Table 7 illustrates the result.

Table 7

Type of institution by overall perception

	X^2	*df*	Asym. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)	Point probability
Pearson chi-square	16.722[a]	16	.404	.479		
Likelihood ratio	17.708	16	.341	.251		
Fisher's exact test	20.646			.208		
Linear-by-linear association	3.534[b]	1	.060	.056	.026	.002
N of valid cases	14					

The type of higher education institution the respondents are attending have no statistically significant relationship with overall perception, $X^2(16, N=14) = 20.646$, $p<.05$. Therefore, I accepted the null hypothesis. $H0_7$ stated there is no statistically significant relationship between age and ROTC cadets' perceptions of service members with PTSD. This hypothesis could not be measured using Fisher's Exact Test crosstabulation between age and overall perception because all fourteen respondents were in the same age range, and thus, there was not another nominal value to test within the age variable to meet the two by two table requirements of chi-square. Therefore, I could not accept nor reject the null hypothesis.

$H0_8$ stated there is no statistically significant relationship between prior gun violence experience and ROTC cadets' perceptions of service members with PTSD. This hypothesis was measured by conducting a Fisher's Exact Test crosstabulation between prior gun violence experience and overall perception. Table 8 illustrates the result.

Table 8

Prior gun violence experience by overall perception

	X^2	*df*	Asym. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)	Point probability
Pearson chi-square	7.875[a]	8	.446	.736		
Likelihood ratio	9.480	8	.303	.736		
Fisher's exact test	7.536			.736		
Linear-by-linear association	.164[b]	1	.685	.717	.360	.028
N of valid cases	14					

A respondents' prior experience with gun violence had no statistically significant relationship with overall perception, $X^2(8, N=14) = 7.536$, $p<.05$. Therefore, I accepted the null hypothesis. $H0_9$ stated there is no statistically significant relationship between the branch of service and ROTC cadets' perceptions of service members with PTSD. This hypothesis was measured by conducting a Fisher's Exact Test crosstabulation between branch of service and overall perception. Table 9 illustrates the result.

Table 9

Branch of service by overall perception

	X^2	*df*	Asym. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)	Point probability
Pearson chi-square	14.000[a]	8	.082	.429		
Likelihood ratio	7.205	8	.515	.429		
Fisher's exact test	12.147			.429		
Linear-by-linear association	1.856[b]	1	.173	.214	.143	.071
N of valid cases	14					

The branch of service the respondents intend to earn their commissions had no statistically significant relationship with overall perception, $X^2(8, N=14) = 12.147, p<.05$. Therefore, I accepted the null hypothesis.

Due to the low sample size in this study, I believe that generalizability of these results is difficult to determine. To minimize any external threats to validity in this study, I ensured complete anonymity. No contact was made between the participants and myself in addition to the participants being able to complete the survey questionnaire in the comforts of their own settings; however, given the required minimum sample size for power analysis was $N = 48$ and I only was able to obtain a sample size of $N = 14$ in this study, it would be erroneous to state that the results are generalizable to the entire target population. This would be a real threat to the validity of this study. Further research needs to be conducted on this target population to provide a more reliable and valid result.

Summary

This chapter briefly discussed a change in data analysis due to difficulties obtaining a large enough sample size for this study. Additionally, an in-depth explanation was provided of how three of the IVs were coded due to multiple selection possibilities. A statistical description of the sample was given, explanation for missing statistics due to some selections being constant was provided, and kurtosis and skewness was identified. Lastly, this chapter provided the overarching research question for this study and the results of each Fisher's Exact Test crosstabulation. I determined there was no statistically significant relationships between race, gender, religion, previous military experience,

family history of mental illness, branch of service, type of institution, or previous experience with gun violence with ROTC cadets' overall perceptions of service members with PTSD. I was unable to test the relationship between age and overall perception because the age variable did not meet the requirements for a two by two crosstabulation as all fourteen respondents were in the same age group.

Chapter 5 will provide a discussion about the difficulties conducting this research study, limitations that were presented, recommendations identified by this researcher for future research in this field, and how this study provided knowledge in the field to affect positive social change.

Chapter 5: Discussions, Conclusions, and Recommendations

Introduction

The purpose of this study was to assess ROTC cadets' perceptions about service members with PTSD, specifically, whether there were any significant relationships between nine IVs: race, age, gender, religion, branch of service, type of institution, prior military experience, prior gun violence experiences, and family history of mental illness, and the DV: overall perceptions. Some of these IVs were found to be significant predictors of the onset of PTSD from previous research in the field conducted by the National Center for PTSD (2016). Additionally, previous traumatic experiences were found to be significant predictors of the onset of PTSD (*DSM-5*, 2013; Xue et al., 2015). Therefore, I chose to use previous traumatic experiences in a more specific manner by identifying prior gun violence experience as a potential significant traumatic experience.

Variables, such as type of institution, was included in this study due to the target population used in this study to determine whether it significantly related to the overall perceptions of ROTC cadets towards service members with PTSD. Branch of service was also found to be a significant predictor of PTSD (Xue et al., 2015). Lastly, prior military experiences were found to significantly affect the onset of PTSD (Hines et al., 2015).

This chapter includes a discussion of the findings, limitations, recommendations, and positive social change implications identified from this research study. Additionally, limitations that arose during this research study will be discussed. The research question that guided this study was as follows: "What is the relationship between age, race, gender, religion, branch of service, type of institution, prior military experience, prior gun

violence experience, and family history of mental illness with ROTC cadets' overall perceptions about service members with PTSD?"

The key findings from this research study were that race, gender, religion, type of institution, branch of service, prior military experience, prior gun violence experience, and family history of mental illness did not have any significant relationship with ROTC cadets' overall perceptions about service members with PTSD. Additionally, regarding age, no conclusion could be determined due to not meeting statistical requirements for analysis for this variable. Therefore, I accepted the null hypotheses for eight of the nine measures.

Interpretation of Findings

In this study, I analyzed the relationships between age, gender, race, religion, branch of service, type of institution, prior military experience, prior gun violence experience, and family history of mental illness and the DV of ROTC cadets' overall perceptions about service members with PTSD. I utilized a quantitative, nonexperimental, cross-sectional research design in which a survey questionnaire, accessed through Survey Monkey, was used to collect data from noncontracted ROTC cadets in five separate ROTC battalions. The target sample size for this study was $N = 48$; however, after numerous attempts to elicit participation, only 14 participants completed the survey.

Due to the low sample size for this study, I chose to use Fisher's Exact Test cross tabulations to get the most accurate statistical measurements between the variables. Eight

of the nine IVs in this study met the assumptions for Fisher's Exact Test. Only age did not meet the assumptions and was not able to be measured for statistical significance.

My first hypothesis stated race would have no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD. The result of this cross tabulation showed a significance statistic above the alpha of .05; therefore, I accepted this hypothesis. Although the National Center for PTSD (2016) and Xue et al. (2015) previously found race/ethnicity to be a significant factor for onset of PTSD, this result showed no significant relationship on perceptions about service member with PTSD.

My second hypothesis stated gender would have no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD. Both Xue et al. (2015) and Vogt et al. (2011) found gender to significantly predict onset of PTSD in service members; however, in this study, the significance statistic was above the alpha of .05; thus, I accepted this hypothesis.

My third hypothesis stated military background would have no statistically significant relationship on ROTC cadet's perceptions of service members with PTSD. Again, Xue et al. (2015), the National Center for PTSD (2016), and Hines et al. (2014) all determined significant correlations between military experiences and onset of PTSD. This study sought to identify any of the participating ROTC cadets' background regarding military service such as whether they, themselves were already serving in the military, or if their parents, grandparents, or siblings were currently serving or had served. The idea for this variable was to see if the ROTC cadets may have developed a pre-conceived perception of PTSD from their own experiences serving, or from stories they may have

heard from close family members. The significance statistic in this study resulted in a value above the alpha of .05; therefore, I accepted this hypothesis.

My fourth hypothesis stated religion would have no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD. Religion was not included in previous PTSD research has having any significant relationship; however, I thought including this variable may provide some insight given the target population of this study filled a gap in PTSD research. The significance statistic for this measurement resulted in a value above the alpha of .05; therefore, I accepted this hypothesis.

My fifth hypothesis stated a respondent's family history of mental illness would not have any statistically significant relationship on ROTC cadets' perceptions of service members with PTSD. Both Kimbrel et al. (2014) and Miles et al. (2015) noted a history of mental illness as a significant factor when determining susceptibility to onset of PTSD. For the purposes of this research study, I chose to include the variable as a means of determining a respondent's experience of a close loved one suffering from some sort of mental illness and if it would affect the respondent's perceptions about PTSD. The significance statistic for this measurement resulted in a value above the alpha of .05; therefore, I accepted this hypothesis.

My sixth hypothesis stated the type of institution attended would not have a statistically significant relationship with ROTC cadets' perceptions of service members with PTSD. This variable was introduced solely due to the target population in this study. Given that the population was collegiate ROTC cadets currently enrolled in the ROTC program at one of five institutions of higher education in the state of Louisiana, I thought

this variable would provide new knowledge regarding perceptions of PTSD based upon the type of institution the respondents attended. The significance statistic for this measurement resulted in a value above the alpha of .05; therefore, I accepted this hypothesis.

My seventh hypothesis stated age would have no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD. Reayley and Jorm (2011) concluded younger individuals perceived individuals with mental illnesses as unpredictable, abnormal, and dangerous. This variable was introduced in this study to see if there were any significant differences in age groups with regard to PTSD perceptions. Unfortunately, I was unable to conduct a Fisher's Exact Test cross tabulation because the entire sample was within the same age group, thus not providing any other age group to compare. This is in violation of the Chi-Square assumption that each tested variable must have at least two categories of measurement to perform a two by two cross table. Therefore, I could not reject or accept this hypothesis.

My eighth hypothesis stated prior experience with gun violence would have no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD. Xue et al. (2015), the *DSM-5* (2013), and the National Center for PTSD (2016) concluded prior traumatic experiences significantly increased the chances of an individual being diagnosed with onset PTSD. Given the target population was ROTC cadets seeking a commission in the Armed Forces, and that some may have previous military experiences or are currently serving, I thought gun violence, specifically, would be the best traumatic experience to measure with regard to PTSD perceptions since most

military veterans in today's society have experienced some form of gun violence, whether as the victim or the perpetrator in the course of their official duties. The significance statistic in this measurement resulted in a value above the alpha of .05; therefore, I accepted this hypothesis.

My ninth hypothesis stated the branch of service intended for a commission would have no statistically significant relationship on ROTC cadets' perceptions of service members with PTSD. Richardson et al. (2010), the National Center for PTSD (2016, and Xue et al. (2015) found branch of service had a significant effect on the onset of PTSD among service members to include service component and military occupational specialty as well. For the purpose of this study, since ROTC cadets have no knowledge of what occupational specialty or service component, they will be assigned during the beginning phases of the ROTC program, I chose to use only branch of service the cadets intend to seek their commission as the variable. The significance statistic in this measurement resulted in a value above the alpha of .05; therefore, I accepted this hypothesis.

The relationships between the tested variables in this study seem to be insignificant; however, this may be due to the low sample size. The low sample size is further discussed in the limitations section of this chapter. It is interesting to note that some of the variables measured in this study, specifically religion and branch of service, resulted in a significance statistic under the Pearson's chi-square test included in the results tables slightly above the alpha, suggesting these variables would be significant had the sample size been larger.

Limitations

As previously mentioned, this study relied on self-reporting from the respondents. Therefore, the results of this study are limited to the accuracy and honesty of each respondent during the data collection process. Individual biases could influence how each respondent answered the questions based upon previous experiences in measured areas such as family history of mental illness, previous gun violence experiences, and previous military experience. I diligently attempted to keep bias within this study to a minimum by ensuring all participants understood the need for accurate and honest answers. The cross-sectional, nonexperimental design of this study was also found to be a limitation in that no pre-test/post-test was given to measure changes in perceptions; rather, only a measure of one point in time was conducted.

During the research study, unforeseeable limitations occurred. One such limitation is the sample size. It was estimated that the total target population of noncontracted ROTC cadets in the five ROTC battalions in the state of Louisiana was $N \approx 150$, and thus, the minimum sample size for Fisher's Exact Test was $N = 48$. However, only 14 cadets responded to the survey questionnaire over a seven-month period of data collection. I attempted numerous times through telephone calls and electronic mail to contact the five battalion commanders to reiterate to their cadets the importance of participation in this study unsuccessfully. Therefore, the low sample size in this study significantly limited the ability to conduct accurate analyses of the variables, which limited the conclusions that could be determined.

Additionally, due to the low sample size in this study, one hypothesis could not even be tested. Specifically, for the age variable, the entire sample was within the same age group and I was unable to have a second category within the age variable to create a two by two cross table for chi-square to measure the relationship age had on ROTC cadet's overall perceptions. Lastly, as previously mentioned, two of the IVs, religion and branch of service, may have had a significant relationship with ROTC cadet's overall perceptions of service members with PTSD because the significance statistic was just slightly above the alpha of .05. This suggests that the results in these specific analyses may have been limited by the low sample size as well.

Recommendations for Further Research

Over the past few decades, research into PTSD regarding its resulting behaviors, factors that significantly affect onset of PTSD, its symptomatologies, management and treatment, and comorbidities have increased significantly as society begins to recognize the need for understanding regarding this mental illness. This is especially true due to the long-lasting wars in both Iraq and Afghanistan and the increasing numbers of veterans who have served in one or both theaters. However, most of this PTSD research has been conducted focusing on Vietnam veterans, discharged veterans of the Persian Gulf War, Operation Iraqi Freedom, and/or Operation Enduring Freedom, or currently serving service members who have deployed to a combat theater.

Little, if any, research has focused on ROTC cadets who are seeking a commission into one of the four branches of the Armed Forces. This study sought to close this gap by measuring ROTC cadets' perceptions about service member with PTSD

since, once they successfully complete the ROTC program, they are commissioned as officers in the Armed Forces and charged with leading troops under their command. Many of these troops may have served in one or more theaters of combat on multiple occasions and have been deemed fit for duty to continue serving in the military. It is essential for military cohesion and readiness that each member of the military have a full understanding of mental health issues within its ranks to include PTSD and combat-related illnesses so that the military team can maintain cohesion and remain a lethal force against today's threats.

After conducting this research study, several recommendations for further research were determined. First, expanding this study into a longitudinal, experimental study that includes a pretest of cadets as the enter the ROTC program and then a post-test upon completion before being assigned to their respective units might show a significant relationship between the variables and how the ROTC cadets' perceptions changed over the socialization within the ROTC program. Additionally, another recommendation would be another longitudinal, experimental study where cadets entering the ROTC program are pretested concerning their initial perceptions of PTSD and then post-tested after serving a period in their respective units. This would allow not only a comparison of the changes to cadets' perceptions of PTSD but also their perceptions after having served with service members with PTSD.

Conducting a qualitative study in which the researcher interviews numerous cadets on their assumptions and perceptions of service members with PTSD along with several vignettes in which the cadets must explain their thoughts would provide insight

into the cadets' thought processes of service members with PTSD as well as common themes among the cadets regarding PTSD. This recommendation for further research in the field could be included in a mixed method study that uses a survey questionnaire to elicit raw numerical data regarding the cadets' perceptions as well as their personal interviews.

Another recommendation is to expand the current study to more than one state or region using the same or similar survey questionnaire to elicit raw numerical data. The data could then be measured by state or region rather than in just one location. This would also assist in ensuring a larger sample size. Another recommendation would be to include all cadets, not just noncontracted; however, the ability to obtain approval from the DoD Human Subjects Office could be very time consuming and impractical.

Conducting a comparison study between the various types of traumatic experiences could also expand knowledge in the field to determine whether specific types of trauma affect the onset of PTSD differently. For example, prior gun violence was used in this research study; however, creating several variables of traumatic experiences such as prior gun violence, prior car accident, prior physical or sexual assault, prior explosions, or prior observations of vivid tragedy could all be used to measure effects on PTSD onset and/or perceptions about individuals with PTSD.

Lastly, comparing data between ROTC cadets in general and the civilian student population at institutions of higher education may also provide relevant data on differences in perceptions about individuals with PTSD. This may be useful in further understanding the thought processes between individuals who are or plan to be in the

military with those who do not. These may yield important information that would assist stakeholders in creating educational materials targeting specific populations to improve PTSD knowledge.

Implications for Positive Social Change

As previously mentioned, the GWOT has become the longest war in United States history resulting in the deployments of over 2.2 million troops, where the U.S. Army significantly provided 1.5 million, or four out of every seven troops deployed (APHA, 2016; Baiocchi, 2013). The National Center for PTSD (2016) notes researchers in the field have found a 10% to 18% PTSD diagnosis rate among service members returning from combat deployments. Additionally, the same researchers also found a three to 25% depression rate in the same population.

The APHA (2016) states veterans with mental illness are more likely to be chronically homeless and unemployed. Consequently, service members in today's military are suffering from PTSD or combat-related stressors at higher rates due to continuous combat service in support of the GWOT (National Center for PTSD, 2016). Many of these service members must deal with stigmatizing perceptions from both the civilian population and their fellow service members, significantly reducing access to treatment and other societal opportunities, such as employment (Tanielian & Jaycox, 2008; Buelna, 2016).

This research study sought to find empirical data that would significantly assist stakeholders in understanding how current ROTC cadets perceived their fellow service members with PTSD. Since they will eventually be charged with leading many service

members with PTSD who have been deemed fit for duty, it is imperative that this data present accurate information to educate these future leaders to ensure military cohesion and readiness to sustain the lethality of today's military. Unfortunately, the suicide risk among service members have significantly risen from historical levels. According to the Center for Deployment Psychology (2018), current suicide rates for active component military personnel is at 20.2%, 24.7% for the Reserves, and 27.1% for the National Guard, per 100,000 daily.

These current suicide rates among our nation's veterans is troublesome. As the National Center for PTSD (2016), the *DSM-5* (2013), and the APHA (2014) all state, empirical-based knowledge surrounding combat-related stressors and PTSD, to include their comorbidities and factors influencing them, are imperative and necessary to combat this ever-increasing problem. This includes the stigmatizing affects these service members feel among their peers and how the negative stigma affects seeking treatment. Lastly, research in the field should also be focused on providing more accurate material to educate the Armed Forces to identify fellow service members who need help and assist them in seeking treatment to prevent increased suicide as well as potential homicide.

Conclusions

This study focused on noncontracted ROTC cadets' perceptions about service members with PTSD. Originally, multiple linear regression analysis was to be used to determine the effect the IVs had on the DV; however, due to the limiting sample size, and adjustment was made to conduct Fisher's Exact Test cross tabulations to measure the relationships between the IVs and DV. This adjustment due to low sample size allowed

for a more accurate testing strategy to assess ROTC cadets' perceptions about service members with PTSD. The IVs included age, gender, race, religion, type of institution, branch of service, prior military experience, prior gun violence experience, and family history of mental illness. The DV was the overall perception ROTC cadets had towards service members with PTSD determined by using the $\bar{M}$ from the $\sum$ of individual perceptions and general perceptions.

The results showed no significant relationships between any of the IVs with the DV. However, two of the IVs, religion and branch of service, were only slightly above the alpha of .05 when looking at Pearson's chi-square statistic of significance. Unfortunately, due to the low sample size in this study, only the Fisher's Exact Test statistic for significance could be used to ensure the most accurate inference. After completing the analysis for this study, it is concluded that there is potential for continued research to show significant measurement between the IVs on the DV when the sample size is larger. Researchers need to continue to focus on ROTC cadet's perceptions about service members with PTSD to provide empirical data and knowledge in the field to provide policy makers and stakeholders accurate information to improve education regarding PTSD and its effects on those who suffer from this diagnosis.

As previously mentioned, military suicide rates have exponentially increased since the GWOT began and the stigmatization these service members feel substantially prevent seeking treatment because they are worried about being treated differently by their peers, seen as weak and cowardly, which pushes these same individuals further into depression and other comorbid illnesses. With more research in the field comes more

knowledge on how to prevent this stigmatization, improve military unit cohesion, reduce military suicide rates, improve identification of those who need help, and build a stronger, more lethal military who can overcome today's greatest threats.

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