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Relationship between Preparedness Training and Posttraumatic Stress Disorder Severity in Combat Veterans

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Walden University
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Abstract

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MS, Walden University, 2012

BA, Western Washington University, 2008

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Psychology

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Abstract

In the past decade, the military has deployed approximately 1 million members into combat, and a factor that plagues the military veterans returning from combat is the prevalence of posttraumatic stress disorder (PTSD). A factor to examine is preparedness training before combat because the research has shown that postcombat resilience training has been effective in reducing symptoms of PTSD. Using the social cognitive theory, the purpose of this study was to determine whether self-reported preparedness training before deployments was related to lower severity of self-reported PTSD. Based on prior research, age and gender are other variables that this study examined. Participants were a sample population of veterans who completed a quantitative survey, which included demographics, the Posttraumatic Stress Disorder Check List, and the Training and Deployment Preparation survey, Section H of the DRRI-2. Data collected from the survey were input into the SPSS program and analyzed using multiple linear regressions. Results reflected that preparedness training had an inverse correlation relationship to self-reported PTSD severity, age had a predictive relationship, and gender did not show a significant relationship. It appears that preparedness training for combat does help reduce self-reported severity of PTSD in veterans returning with PTSD symptoms. Providing preparedness training before combat may help in reducing this phenomenon. The results of the present study, developing procedures and therapeutic measures to help veterans in need can be generalized into the mainframe of social and behavioral change for all individuals dealing with PTSD, including first responders.

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Dedication

This dissertation and research project are dedicated my fellow veteran and military men and women of all war and peacetime situations that helped, and continue to protect our country and our freedom. The support that our veterans and active duty military member's do, to protect our country need more recognition, so, in finishing this project, I dedicate it to them. I especially want to dedicate this project to all those that participated in its conclusion, regardless of the outcome, and without their support, this project would not have been possible. Furthermore, I want to dedicate this research project to the wives, partners, children, parents, and friends who have been an inspiration of support for their veteran and military counterparts.

Acknowledgments

I want to acknowledge my wife first off, for standing by my side and helping me get through this dissertation and research project successfully, for, without this support, the achievement may not have occurred. Family support is crucial to the completion of any academic achievement and to be successful their support becomes a necessity. My children also need to be acknowledged for their support no matter how small they think this support was for them; it still aided in the completion.

We must also never forget those that helped our achieving this goal in the academic structure of life. I especially want to acknowledge Dr. Nina Nabors, my dissertation chair, and Dr. Ann Romosz, my dissertation committee member (Methodologist), and Dr. Karen M. Gil, (URR) who without their knowledge, expertise, and fortitude, I could not have completed this dissertation project. I want to acknowledge all my professors at Walden University, who helped with the structuring and building blocks in the completion of this dissertation project, all the staff at the library, writing center, and research department, and any others I may have missed.

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Chapter 1: Introduction to the Study

Introduction

A prevalence of posttraumatic stress disorder (PTSD) exists in military veterans returning from combat. Kubany, Ralston, and Hill (2010) stated that PTSD is the result of a stressor outside the normalcy of human experiences, such as combat, that creates an intense negative emotional response. The *DSM-5* defines *PTSD* as the fear of death, whether actual or threatened, injuries classified as serious, or a sexual violation, such as rape. Regardless of the cause or trigger, the symptoms can affect an individual's work, social interactions, and relationships (American Psychiatric Association, 2013). Symptoms can include "difficulty falling or staying asleep, irritability, or outbursts of anger, difficulty concentrating, hypervigilance, and exaggerated startle response" (p. 220).

Approximately 2 million military members have deployed to combat in the past 9 years, and 5% to 17% of these members complained of symptoms associated with PTSD when they returned to the United States (Peterson, Luethcke, Borah, Borah, & Young-McCaughan, 2011). According to Kline et al. (2013), the prevalence of PTSD does not discriminate. It affects both men and women and can occur at any age. Kline et al. discussed the results of their research, which showed that the prevalence of PTSD post deployment in men was 8.7% and the prevalence of PTSD for women was 18.7%. Macera, Aralis, Highfill-McRoy, and Rauh (2014) found that a greater number of self-reported PTSD occurred post combat deployment in men between the ages of 25 and 34 years, and among women 25 years of age and younger.

Research has indicated that few training programs have been established to address the symptoms of PTSD in returning combat veterans. Escolas, Pitts, Safer, and Bartone (2013) discussed one program called Hardiness training, which is a postdeployment training program for combat veterans who appeared to develop symptoms of PTSD after exposure to combat. Hardiness training places "emphasis on optimism, problem-solving, self-efficacy, self-regulation, emotional awareness, flexibility, empathy, and strong relationships" (p. 1).

Earlier resilience training programs included Battlemind training, which was a post-WWI program for veterans suffering from what is now known as symptoms of PTSD (Hermann, Shiner, & Friedman, 2012) and the more current Ready and Resilient (R-2) training (Army Regulation 600-63, 2015). Although nomenclature has changed, Hardiness training and Battlemind training are essentially the same type of resilience training programs as the R-2 training currently used by the U.S. Army. The R-2 training involves educating the military and civilians about measures used in determining high-risk behaviors and teaching healthy alternatives that help produce positive outcomes. The R-2 strategy builds on mental, physical, emotional, behavioral and spiritual resilience in soldiers, their families, and civilians assigned to an Army post (Army Regulation 600-63, 2015). A look at precombat training, to build on the resilience of the military member, may help determine whether a relationship exists between combat training and the severity of self-reported PTSD in combat veterans.

Background of the Problem

Research to date into the underlying causes for the prevalence of PTSD among military veterans shows the issue is serious enough to warrant finding solutions for reducing the prevalence of self-reported PTSD. Gould et al. (2015) discussed a training method designed to de-escalate volatile situations in combat and that, when used, can be beneficial to those deployed into theaters of combat. Gould et al. (2015) further stated that using this training method could aid all military members when faced with extreme adverse situations in combat situations.

A previous study to that of the Gould et al. (2015) discussed a need for predeployment resilience training, Adler et al. (2013) discussed the need for resilience training and stated that the training should occur before deployments and should start at the basic training level. Adler et al. (2013) further stated that resilience training if repeated throughout the member's military career could keep the members prepared for combat deployment.

In determining when preparedness resilience training is conducted, research such as that of Kent, Rivers, and Wrenn (2015) and Riggs and Sermanian (2012) supported the conclusions of Gould et al. (2015) and Adler et al. (2013) reporting that resilience and psychological training are currently conducted postdeployment. Furthermore, the need is to conduct preparedness resilience training before deployment to provide the best liklihood of preventing the development of PTSD.

To determine other factors that may associate with the prevalence of PTSD among veterans, Macera et al. (2014) tested for several variables such as gender,

demographic location, and military occupation, for the likelihood of PTSD in men and women after combat deployments. The researchers determined that a greater number of women younger than the age of 25 years were more likely to develop PTSD after combat exposure. The majority age range of men who developed PTSD after combat exposure was 25 to 34 years. The results indicated that PTSD could affect both men and women, and it occurred in the majority of younger veterans. A study by Kline et al. (2013) found that when testing for PTSD after combat, women screened higher than men for PTSD. Kline et al. (2013) stated that the rationale for the higher rate might relate to the lack of preparedness training. Cigrang et al. (2014) added to the discussion of the need for mental health training for individuals before deployment. The researchers suggested by receiving resilience training military members may avoid the complications of returning home with symptoms of PTSD.

The results presented in the literature reflected an underlying need to determine whether preparedness resilience training before combat deployments could reduce the prevalence of PTSD severity in returning combat veterans.

Statement of the Problem

The problem that I addressed in this study is the prevalence of self-reported PTSD among military veterans returning from combat situations. Barrett (2011) justified why a quantitative study can be useful in the field of health psychology. Barrett, citing moral/ethical, and preemptive physical and mental reasons, discussed the importance of providing preparedness resilience training for all military members going into combat, to help in reducing the prevalence of self-reported PTSD severity in combat veterans. Carr

et al. (2013) stated that predeployment preparedness resilience training lacks research, which indicates a gap in knowledge and literature.

Purpose of the Study

In this quantitative study, I addressed the gap in extant literature regarding the association between the severity of self-reported PTSD among combat veterans and predeployment preparedness training thus adding to the current body of work on PTSD related to preparedness training. In this quantitative study, I determined whether preparedness training (independent variable) was associated with or related to the prevalence of self-reported PTSD (dependent variable) in a sample of military members previously deployed in combat situations.

I also looked at both the age and gender of combat veterans who have self-reported PTSD. My purpose in including this information was to determine whether a veteran's gender and age associate with self-reported PTSD symptoms and whether gender and age associated with combat training.

Research Questions and Hypothesis

The study aided in filling the gap in the existing literature by examining the association between preparedness training or lack thereof and the self-reported severity of PTSD in a sample of returning veterans (Hourani, Council, Hubal, & Strange, 2011). I will discuss the methodology in detail in Chapter 3.

RQ1: Is there a predictive relationship between preparedness training and self-reported PTSD severity in a sample of combat veterans?

H_0: Preparedness Training as measured by the DRRI-2 has no significant

relationship to self-reported PTSD severity as measured by the PCL-M in combat veterans.

H_1: Preparedness training as measured by DRRI-2 is significantly related to self-reported PTSD severity as measured by PCL-M in combat veterans.

RQ2: Does a predictive relationship exist between preparedness training, gender, and age in self-reported PTSD severity in combat veterans?

H_0: Preparedness training as measured by DRRI-2, gender, and age do not significantly relate to self-reported PTSD severity as measured by PCL-M in combat veterans.

$H_{1:}$ Preparedness training as measured by DRRI-2, gender, and age are significantly related to self-reported PTSD as measured by PCL-M in combat veterans do have a predictive association.

Research Design

The quantitative study, determined whether predeployment preparedness training (independent variable) was associated with or related to the prevalence of self-reported PTSD severity (dependent variable) in military members who deployed into combat situations. In this study, I also assessed the role of age and gender of combat veterans who have self-reported PTSD. My purpose in researching this information was to determine whether preparedness training when factoring gender and age also associated with the prevalence of self-reported PTSD.

Using the quantitative method of study allows for a clear nonbiased research method in which data are gathered and then processed to determine the outcomes of the

research question asked in the study. Slevitch (2011) stated that using the quantitative method allows the researcher to explore a problem without influencing the outcomes of the research and without being unduly influenced by the subject of the research. Using this research method for the predictive relationship between variables works best to keep the study unbiased.

The choice for using quantitative instead of qualitative methodology for this study, described by Goertzen (2017), described quantitative methods as a way to measure statistical data or information using numbers easily analyzed by using this method. Goertzen also stated that using the quantitative method helps to expose behaviors and trends. In this study, I evaluated a trend in returning veterans with the symptomology of PTSD and help in determining whether precombat training as a precursor to deployment helps to reduce the prevalence of PTSD. Using the ideology of quantitative research methodology helped determine the research questions and how I determined the population I selected. The design uses the multiple linear regressions modeling to determine the predictive variables for this study.

Theoretical Framework

The theoretical framework for this study was the social cognitive theory. According to Wilroy and Turner (2016), the social cognitive theory, reciprocal determinism, plays a key part in a person's life because it involves the interactions of personal, behavioral, and environmental influences. Constructs of this theory include self-efficacy, observational learning, outcome expectations, expectancies, emotional arousal, behavioral capability, reinforcement, the locus of control, and self-regulation.

These constructs as building blocks for precombat preparedness training could allow military members and veterans to be effective in their lives before, during, and after combat deployments. Wilroy and Turner stated that self-efficacy aids in the ability of a person to perform tasks and that self-efficacy also influence determinants of behaviors. When a person's self-efficacy is at its highest, this drives the person to expect the best outcome, and if the person's self-efficacy is lower, this drives the person to desire to give up when challenges arise (p. 2).

Assumptions, Limitations, and Scope Delimitations

One assumption would be that the participants filling out the questionnaire are military veterans who served in a combat situation. A second assumption within the study was that the participants would answer the survey questions honestly.

A limitation of this study was the way in which the survey was distributed. The study relied on Survey Monkey as the method of distribution. The second limitation of this study was that of participants possibly misunderstanding the survey questions. The questions were worded in the simplest form. However, if a participant did not understand a question, the instructions to the participants were to bypass the question. Also, a third limitation was the possibility of researcher bias. In avoiding researcher bias, the survey addressed the correct population, asked the appropriate questions, ensured a proper collection method, applied the SPSS software correctly, and interpreted the data honestly (Penwarden, 2015).

The scope of the study involved the use of a nonexperimental research design using dichotomous responses to questions on a survey. Using multiple linear regression

analysis, I used one dependent variable such as self-reported PTSD severity to find a relationship for more than one independent variable such as preparedness training, age, and gender (Uyanik & Güler, 2013). Uyanik and Güler (2013) stated that using this type of regression analysis can ask the question of whether or not the dependent variable relates to the independent variables, and, if so, can the power of that relation be identified? Using this method for this study helped in providing an examination of the possible associations between preparedness training and the prevalence of self-reported PTSD in combat veterans.

Slevitch (2011) stated that using the quantitative method allows the researcher to explore a problem without influencing the outcome of the research and without being unduly influenced by the subject of the research. The study required a voluntary sample of 107 veterans, which came from the completed questionnaires from Survey Monkey. I collected questionnaires and surveys and uploaded data into the SPSS program to process the data into a cohesive data set of information.

One of the delimitations for this research study was the decision not to use an in-person interview process for gathering information for the study. The reasoning for this delimitation was that the in-person interview demands a clinical setting and a clinically trained researcher, which is out of the purview of Health Psychology. A second delimitation was my study only examined research about the prevalence of PTSD among military combat veterans. The rationale for using only the veteran population was that not all military members have served in a combat situation.

Definitions of Terms

Health psychology: *Health psychology* focuses on how biological, social, and psychological factors influence health and illness. Health psychologists study how patients handle illness, why some people do not follow medical advice and the most effective ways to control pain or change poor health habits. They also develop health care strategies that foster emotional and physical well-being (American Psychological Association, n.d.).

Posttraumatic stress disorder (*PTSD*): The *DSM-5* defines *PTSD* as the fear of death whether actual or threatened, injuries classified as serious, or a sexual violation, such as rape. Regardless of the cause or trigger, the symptoms can affect an individual's work, social interactions, and relationships (American Psychiatric Association, 2013). Symptoms can include "difficulty falling or staying asleep, irritability, or outbursts of anger, difficulty concentrating, hypervigilance, and exaggerated startle response" (p. 220).

Ready and resilient training (*R-2*): The R-2 training involves educating the military and civilians about measures used in determining high-risk behaviors and teaching healthy alternatives that help produce positive outcomes. The R-2 strategy builds on mental, physical, emotional, behavioral and spiritual resilience in soldiers, their families, and civilians assigned to an Army post (Army Regulation 600-63, 2015).

Veteran: For this research, the term *veteran* refers to an individual who has served in the military services and been in a combat situation.

Significance of the Study

The prevalence of combat veterans receiving a diagnosis of PTSD following combat deployment is rising; there was a need to understand all the factors associated with the development of PTSD (Groer, Kane, Williams, & Duffy, 2015). The results of this quantitative study provided information regarding the relationship, if any existed, between predeployment preparedness training to increase resilience and the prevalence of PTSD in combat veterans.

Understanding the relationship between preparedness training and the prevalence of PTSD could determine whether there exists a need to provide predeployment resilience training to all military members, regardless of job classification. Ensuring that predeployment training occurs may help in reducing the prevalence of a PTSD diagnosis in returning combat veterans, which could lead to significant social change for those serving in the military

Summary

Because of the prevalence of combat veterans receiving a diagnosis of PTSD after returning from theaters of war, a need exists to understand all factors associated with PTSD (Groer, Kane, Williams, & Duffy, 2015). The results of this quantitative study provide information regarding the relationship, if any exists, between predeployment preparedness training and the prevalence of PTSD in combat veterans.

Understanding the relationship between preparedness training and the prevalence of PTSD could determine whether a need exists to provide predeployment preparedness training to increase resilience in all military members, regardless of job classification.

Ensuring that predeployment training occurs may help in reducing the prevalence of PTSD severity in returning combat veterans. Using the theoretical framework of the social cognitive theory and the research questions that used the multiple linear regression analysis model helped with completing this study.

Chapter 2 includes an in-depth review of the literature that addresses PTSD in returning combat veterans of various types of preparedness resilience training. Chapter 3 includes a detailed description of the methodology that I used to conduct this study. The methodology includes an SPSS analysis of the participant's responses to the questions on the questionnaire and surveys. In Chapter 4, I detail the research conducted and the results of the analysis. Chapter 5 includes the discussion, recommendations, and conclusions to this research study.

Chapter 2: Literature Review

Introduction

In a review of the literature, I examined the role of preparedness training and resilience training in preparing military members for combat deployments to reduce the prevalence of PTSD in returning combat veterans. In this review of the literature, I will provide a working definition of resilience training. I will review types of resilience training used successively outside the military, and the resilience training used postcombat by the U.S. Army. Further, I will highlight the need for further research into resilience training before combat. The key elements to understanding the need for resilience training before combat deployments are to understand PTSD and the history of combat-related PTSD.

The articles that I present in this literature review came from electronic database sources such as PsycINFO, PsycArticles, ProQuest, and Academic Search Complete, from the Walden University Library. Additional sources came from Internet sources such as Medscape, American Psychological Association (APA), Google Scholar, The Department of Defense Regulations, and Procedures, and The Department of Veterans Affairs. The search terms that I used in conducting this literature review were terms such as the *DOD Regulations and Procedures, military training programs, military veterans, post-traumatic stress disorder, resilience training,* and *Veterans Administration.*

Theoretical Foundation

The theoretical foundation for this study was the social cognitive theory. According to Wilroy and Turner (2016), the social cognitive theory, reciprocal

determinism plays a key part in a person's life because it involves the interactions of personal, behavioral, and environmental influences. Constructs of this theory include self-efficacy, observational learning, outcome expectations, expectancies, emotional arousal, behavioral capability, reinforcement, the locus of control, and self-regulation. Wilroy and Turner stated that self-efficacy aids in the ability of a person to perform tasks and that self-efficacy also influence the determinants of behaviors. When a person's self-efficacy is at its highest, this drives the person to expect the best outcome, and if the person's self-efficacy is lower, this drives the person to desire to give up when challenges arise (p. 2).

Using the social cognitive theory and matching it to the research questions should help with determining whether preparedness resilience is training military members before combat help in reducing the prevalence of PTSD in returning combat veterans. The working model that supports the social cognitive theory is the biopsychosocial model. Rizzo et al. (2012) discussed how members returning from combat develop the risk for higher rates of psychosocial health conditions. The biopsychosocial model works for the study as it pertains to the biological, psychological, and sociological aspects of the resilience of individuals (Kent, Rivers, & Wrenn, 2015). The biopsychosocial model is known best for its philosophical aspects such as understanding that social, psychological, and biological factors affect human behaviors (Astakhova & Hogue, 2014). Astakhova and Hogue (2014) stated the conceptual idea that human experience is more complex than simple linear cause and effect thinking is known as the biopsychosocial model, and

posited that the use of the biopsychosocial model is gaining acceptance in many fields of psychology including health psychology.

Posttraumatic Stress Disorder in Military History

Understanding PTSD in military history requires clarification of the definition of *PTSD*. A full definition of *PTSD* can be found in Chapter 1, which includes the definition provided by the *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition (*DSM-5*). The *DSM-5* defined *PTSD* as the fear of death, whether actual or threatened, injuries classified as serious or a sexual violation, such as rape (APA, 2013). Regardless of the cause or trigger, the symptomology, not induced by any outside factor, such as a medical condition, drugs, alcohol, or medications, the symptoms can affect an individual's work, social interactions, and relationships (APA, 2013).

Approximately 2 million military members deployed to combat in the past 9 years, and 5% to 17% of these members had complained of symptoms associated with PTSD when they returned to the United States (Peters, Luethcke, Borah, Borah, & Young-McCaughan, 2011). Benson-Martin (2013) stated that 10% to 20% of individuals who experience a traumatic event might develop PTSD. Benson-Martin also stated, "There is now strong evidence to suggest that psychological debriefing or critical incident stress management is no longer beneficial and could delay recovery" (p. 3). Gould et al. (2015) discussed preventing the prevalence of PTSD by implementing resilience training before combat deployment, which could be beneficial to returning combat veterans. Gould et al. further stated that to prepare combat veterans who will face extreme adversities, learning better skills such as active coping, positive emotional response and

coping appraisal could benefit them during and after combat. Providing resilience training to the military members before combat could have an influence on helping to prevent the prevalence of PTSD in returning combat veterans.

The prevalence of PTSD in previous wars affected many veterans. According to Sayer et al. (2009), military members who fought in wartime conflicts such as World War I, World War II, the Korean War, the Vietnam Conflict, and the Iraq and Afghanistan conflicts, might develop PTSD. Sayer et al. concluded that 66% to 91% of the 44 participants used in the study met the criteria for PTSD. Sayer et al. looked at resilience training during basic training. Sayer et al.'s study differs from this study because I will look at combat resilience training after the completion of basic training.

World War I to the Korean War

The nomenclature for PTSD has changed throughout the history of military combat and the veterans affected by PTSD. The term *shell shock* coined during WWI referred to the symptoms now recognized as PTSD (Stagner, 2014). Stagner (2014) reported that the term shell shock was deemed fit at the time because it represented the symptoms of a combat soldier who suffered from such things as hearing loss, loss of eyesight, and loss of appetite and smell. Stagner also stated that many veterans who sought help for neuropsychiatric issues received treatment at local hospitals for the symptoms recognized today as PTSD.

Friedman (2015) discussed the need for family and friends to understand the complications that family members face related to symptoms of PTSD in returning veterans. Friedman stated that during World War II, over half of the military members

who fought in combat displayed signs of exhaustion after leaving combat. Friedman stated that during World War II, the term *shell shock* was not an accurate description of the symptoms displayed by combat soldiers, so the word changed to combat stress reaction (CSR), also recognized as battle fatigue. The research reflects as the progression of PTSD became prevalent, the nomenclature changed to reflect that change occurring in returning combat veterans.

Vietnam to Iraq and Afghanistan Wars

During the Vietnam War, the nomenclature for PTSD changed once again. Auxemery (n.d.) stated that the returning combat veterans affected with PTSD symptoms fall under the classification of the post-Vietnam syndrome. Auxemery also stated that as the Iraq and Afghanistan wars progressed, the nomenclature for symptoms of PTSD in returning veterans was called the Gulf War Syndrome and that as each war continued to change, the nomenclature in the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*-5) would also have to change.

The American Psychiatric Association published the first *Diagnostic Statistical Manual* (*DSM-1*) in 1952 and used the term *gross stress reaction* (*GSR*) to identify symptoms that combat veterans faced (Friedman, 2015). Friedman stated that the nomenclature in the *DSM-I* would have to change because traumatic exposure is conducive to psychiatric problems. Friedman discussed that the nomenclature needed changing due to the increase in the number of combat veterans discharged with GSR.

The purpose was now to determine what else constituted PTSD symptomology. In 1968, a revision in the DSM-II was written to quantify the PTSD symptomology. The

DSM-II added, "adjustment to adult life, which included three additional examples of trauma like, unwanted pregnancy with suicidal thoughts, fear linked to combat military, and Gansor syndrome" (Friedman, 2015, "Development of PTSD Diagnosis," para. 12). The complete revision of the *DSM-II* to the *DSM-III* occurred in 1980. Because of continued research using Vietnam veterans, Holocaust survivors, and survivors of other traumatic events, the criteria, and nomenclature for PTSD changed in 1987.

The *DSM-I* to *DSM-IV (TR)* had established that the symptomology of PTSD fell into the category of anxiety disorders. In 2013 the nomenclature for PTSD changed in the *DSM-5* to trauma and stress-related disorders (Friedman, 2015). The symptomology of PTSD changed, and the location in the *DSM-V* had changed so this means that the support for individuals from first responders, such as doctors, nurses, police officers, and medivac units to our military members needs to be reviewed for ways to prevent the prevalence of PTSD. Resilience training for first responders has been used successfully for combatting the prevalence of PTSD. Resilience training, also known as hardiness and battlemind training is training that builds on individuals self-efficacy, problem-solving skills, self-regulation, relationships, empathy, and awareness (Escolas et al., 2013; Hermann et al., 2012).

Age and Gender in Military History

In recent military history, the age and gender of military combat veterans have increased. The Afghanistan War, Operation Enduring Freedom (OIF), and the Iraq War, Operation Iraqi Freedom (OIF) posited that more women went into combat situations. Since the recent lifting of the military's ban to exclude women in combat, OIF and OEF

reported that more than 11% of troops going into combat were women (Polusny et al., 2014). According to Kline et al. (2013), the prevalence of PTSD does not discriminate. It affects both men and women and can occur at any age. Kline et al. discussed the results of their research, which showed that the prevalence of PTSD post-deployment percentages in men was 8.7% and the prevalence of PTSD for women was 18.7%. Macera et al. (2014) found that the prevalence of PTSD occurred post-combat deployment in men between the ages of 25 to 34 years, and women 25 years of age and younger. To demonstrate the continued research of age and the prevalence of PTSD in women veterans, Smith, Tyzik, and Iverson (2015) discussed that women's roles in the military and deployment into combat situations have increased. They stated that due to this fact, the prevalence of PTSD is growing higher in the age range of 45 to 64 for women veterans post-deployment in well-being and functioning.

To validate gender differences in predeployment training, Carter-Visscher et al. (2010) examined gender differences in psychological factors to determine if risk and resilience stressors had different effects among men and women before deployment. The study concluded that the potential for PTSD risk factors before deployment was slightly higher among woman than among men. The participants of the study expressed feelings of being less prepared for deployment, which may contribute to the poorer mental health between both genders before deployments. Carter-Visscher et al. tested their hypothesis on National Guard troops only and reported that because of this fact, one implication is that the study is not generalizable to other military branches and these tested results may differ. Gender differences discussed by Carter-Visscher et al. (2010) reflect that regardless of stressors, training and preparedness before combat deployments may help to reduce PTSD risk factors.

Resilience Training

To evaluate whether or not resilience training programs could have an effective outcome on the prevalence of PTSD in combat veterans, I looked at resilience training from outside the spectrum of the military and reviewed successful programs used by first responder organizations such as police and firefighters. In a review of first responders who report to the scene first exposed to traumatic events like murders, suicides, fires, traffic accidents, and violent incidents (Pietrantoni, & Prati, 2008) resilience training programs designed to help prevent the psychological impact they may face were found effective.

Resilience Training for First Responders

Police officers face a barrage of physiological and psychological issues as first responders. To help with prevention of issues like chronic negative emotions, anger, psychological burnout, and PTSD a program called the coherence advantage stress resilience, and performance enhancement program (CASRPH) was developed (McCarty & Atkinson, 2012). According to McCarty and Atkinson, the program helps strengthen operational resiliency to prevent conditions like sleep disturbances, anxiety, anger, depression, and issues with relationships, which could include PTSD by providing tools and techniques to empower them. McCarty and Atkinson also reported that the use of the program helped police officers in the performance of their duty, and helped officers stay resilient when faced with an unknown event.

Firefighters also face the unknown when facing adversity in the performance of their duties. To test the theory of the ability to incorporate an effective resilience

program, involving first responders including firefighters the development of the first responder resiliency (FRRC) program began in January 2013 (Gunderson, Grill, Callahan, & Marks, 2014). Gunderson et al. stated that the six-week program included a classroom curriculum teaching a variety of skills like nutrition, exercise, self-support, and reaching out showed promise. Gunderson et al. also stated, after introduction to the program, 15 first responders, asked whether they thought the program was successful, 14 agreed, they felt the program was a success and if implemented into other organizations could have beneficial outcomes. The review of first responders programs shows there are programs if implemented might be useful within the military structure.

First responders are also members of the military. Military members in the medical field classify as first responders. These military members also face adversity and can develop the prevalence of PTSD. Maguen et al. (2008) posited that these military members might be at the double risk for the prevalence of PTSD because they have to take on a dual role as a warrior and healer in the field. To affirm the idea that these first responders might face more trauma in the field, Maguen et al. (2008) studied 328 U.S. Air Force medical personnel before their deployments to Iraq. Maguen et al. concluded that pre-deployment stressors were evident and this puts these military members at a potentially higher risk of developing PTSD. The review of this study reflects a need to understand what training will help reduce the prevalence of PTSD in first responders.

Resilience Training in the Military

Defining the context of combat resilience training involved examining the meaning of resilience training from the military standpoint. Simmons and Yoder (2013)

stated that the best definition of resilience training comes from military culture. Simmons and Yoder described military culture as including physical and mental development that derives from "the attitudes, values, and goals, that influence behavior, which is embedded in customs, practices and leadership traditions" (p. 2). Simmons and Yoder also stated that the military culture teaches mental stability, toughness, duty, and honor to help military members survive within this culture and showed that culture within the military structure provides a good definition of how resilience training benefits veterans.

To determine if resilience training is affected before combat deployment, Adler et al. (2013) studied the impact of resilience training on military members who were completing basic training. The results reflected mixed on whether or not the military members had gained any additional resilience psychologically after completing resilience training. Some reported they had more understanding of what was expected of them so they worked harder and others reported they felt that there was no difference in their demeanor and the resilience training was not beneficial to them. The concept of resilience training takes on many names. There are other terms for resilience training, which are Battlemind training and comprehensive soldier fitness (CSF) program (Simmons & Yoder, 2013). Simmons and Yoder stated the term Battlemind defined as a method of empowering military members to use psychological skills to deal with stressors associated with combat deployments. The Battlemind training program and the skills taught by the military became effective in 2007.

The CSF program was initiated by the Army in 2008 after searching for ways to help military members returning from combat avoid symptoms of PTSD (Simmons & Yoder, 2013). The CFS training program includes teaching skills like, emotional fitness, and relationship building, which could help military members make a smooth transition back to civilian life after military service (Seligman & Fowler, 2001). The Army is presently the only military organization that uses CSF resilience training. The success of the CFS program, convinced the U.S. Army to continue expanding on this idea, and to prepare military members for their personal and professional lives in the military, in 2009 the University of Pennsylvania and the U.S. Army collaborated and developed the Master Resilience Training Program (MRT). The program's design was to teach non-commissioned officers (NCO) the skills and techniques to teach subordinate military members the skills and techniques. The hypothesized idea was that this might help military members to face adversity, prevent anxiety, and lower the prevalence of PTSD (Reivich, Seligman, & McBride, 2011).

Upon entering the U.S. Army, military members begin an entry program of CSF resilience training, which teaches both mental and physical skills designed to empower them to face challenges in both personal and professional lives, which is applicable in a combat situation. Cornum, Mathews, and Seligman, (2011), stated that the Army's CFS program would be a good program for teaching the same concepts of resilience training to empower all military members to be effective in their careers. Cornum et al. also stated that this training is useful to other military organizations such as the Navy, Air Force, Marines, and Coast Guard. The use of resilience training could be effective in

developing better job performance, and better personal relationships for military members.

To expand the usage of Battlemind training, Simmons and Yoder (2013) and Carr et al. (2013) discussed the use of Battlemind training by the US Army. Carr et al. stated that Battlemind training expanded to include two other important aspects of training like self-confidence and mental toughness. The expansion to include the two aspects mentioned by Carr et al. in 2008 came to fruition when the Army decided to change the training from a requirement for members after deployment to a regular training requirement Armywide (Williams, 2008). Castro, Adler, McGurk, and Bliese (2012), tested the effectiveness of resilience training by using the Battlemind method of training with 1645 post-combat veterans.

To determine whether Battlemind training could be effective for military use, Castro et al. (2012) stated that four months after returning from Iraq and completing a 1-hour session of Battlemind training, the veterans reported fewer instances of PTSD and depression. After returning from combat and receiving Battlemind training, the participants reported feeling better about life satisfaction. Castro et al. reflected that Battlemind training is effective following deployments. Cigrang et al. (2014) evaluated 318 airmen post-deployment, ranging from 19 to 46 years of age; of those 318 airmen, 62.4% of them provided information 6 to 9 months after deployment. Cigrang et al. reported that upon completion of the measures used to determine symptomology after combat deployments, there were significant increases in reports of PTSD symptoms, depression, drinking, and relationship issues.

According to Castro et al. (2012) and Cigrang et al. (2014), the Army had instituted Battlemind training after combat deployments as a resilience training method, which has been successful. Whereas, other military organizations have not used resilience training such as Battlemind training after combat deployments, which reflected the increase of PTSD in returning veterans.

To demonstrate a need for pre-combat resilience training or Battlemind training before combat, Cigrang et al. (2014) stated that providing airmen with knowledge by providing prodromal indicators on factors like PTSD and major depression during deployment and providing resources on intervention during and after combat could help mitigate the prevalence of PTSD. The Cigrang et al. study reflected that with resilience training before combat deployments, veterans could return home from combat stable and ready to resume a functionally cohesive life with their families.

In preparing military members for combat, there is little emphasis on preparedness combat training or resilience training before combat. The issue of preparedness training before combat discussed by Price, Gros, Strachan, Ruggiero, and Acierno (2013), reported that those veterans who perceived they had better training before deployment were better equipped to handle stressful situations and those veterans reported a lower prevalence for PTSD post-combat deployment. Price et al. (2013) concluded in their findings that their results provided some evidence for the need for preparedness or resilience training before combat deployments. The evidence showed in the results that there was a lower association between combat exposure and treatment for those veterans seeking help for the prevalence of PTSD post-combat. The study Price et

al. (2013) gave information on the growing need to determine the prevalence of PTSD post-combat, and that the possibility of lowering this prevalence could relate to better or more combat preparedness.

The prevalence of PTSD in returning combat veterans shows the need to find ways to protect the veterans when returning home. Implementing protective factors, augmented by training helps the military members learn to cope with stressful situations. These protective factors, when learned by military members, could help prepare veterans for any stressors faced when sent into combat (Escolas et al., 2013). In the study by Escolas et al., they determined that learned protective factors by a military member could relate to a lower prevalence of PTSD in returning combat veterans. Another method of prevention could be the use of mindfulness training. Stanley, Schaldach, Kiyonaga, and Jha (2011) reported that in light of military members already finding it difficult to prepare themselves for a deployment, teaching methods to help relieve this anxiety might prove beneficial. Stanley et al. (2011) took this idea and used it to attempt to promote psychological resilience using mindfulness training on cohort U.S. Marine reservists. The Stanley et al. (2011) study concluded that after receiving mindfulness or resilience training, those U.S. Marines reservists who took surveys to evaluate their levels of stress acceptance proved significant in that their scores were lower for comorbidities of PTSD and depression factors.

The studies reviewed in this chapter reflect the aspects of training methods to help returning combat veterans through resilience training cope with the symptoms of PTSD. Several of the studies reported that this training would be beneficial if conducted before

combat deployments. The literature review was conducted to address the gap within the research of a need to provide preparedness training to build the resilience of veterans before combat deployments to aid in reducing self-reported PTSD severity of returning combat veterans.

Summary

I provided information on the prevalence of PTSD post-combat and the different types of measures used to determine the comorbidities and high rates of PTSD, depression, and alcoholism. There are many aspects of resilience training for combat veteran's post-combat deployment. What the research did not provide was adequate information on preparedness training to increase resilience before combat deployments.

In Chapter 3, I discuss the quantitative methodology used to determine a relationship between the prevalence of PTSD in returning combat veterans and combat resilience training. Chapter 3 includes a description of the study, the sample population, and the survey instruments used to collect data and data analysis.

Chapter 3: Research Method

Introduction

In this quantitative study, I addressed the gap in the known literature regarding the association between self-reported PTSD in combat veterans and predeployment preparedness training thus adding to the current body of work on PTSD related to preparedness training.

In this chapter, my focus was on the research design, the sample, the method of collection for the measurement tool used to obtain survey responses, and the programs used to find the relationship of the dependent variable to the independent variable. My purpose in this study was to determine whether there exists a predictive relationship between the degree of predeployment training and self-reported PTSD severity.

Research Design and Sample

In this quantiative study, I determined whether predeployment preparedness training (independent variable) was associated with, or related to, the prevalence of self-reported PTSD (dependent variable) in military members who deployed into combat situations. In this study, I also assessed the role of age and gender of combat veterans who have self-reported PTSD. My purpose in researching this information was to determine whether preparedness training, gender, and age-associated with the prevalence of self-reported PTSD.

Using the quantitative method of study allows for a clear nonbiased research method in which data are gathered and then processed to determine the outcomes of the research question asked in the study. Slevitch (2011) stated that using the quantitative

method allows the researcher to explore a problem without influencing the outcomes of the research and without being unduly influenced by the subject of the research. Using this research method for the predictive relationship between variables works best to keep the study unbiased.

The choice for using quantitative methodology instead of qualitative methodology for this study can be found in by Goertzen (2017), who described quantitative methods as a way to measure statistical data or information using numbers easily analyzed by using this method. Goertzen also stated that using the quantitative method helps to expose behaviors and trends. The study evaluated a trend in returning veterans with the symptomology of PTSD and helped in determining whether precombat preparedness training as a precursor to deployment helps to reduce the prevalence of PTSD. Using the ideology of quantitative research methodology helped determine the research questions and how the population selected was determined. The design used the multiple linear regressions modeling to determine the predictive variables for this study.

Study Population

The military is a large population, and due to the size, this will require sampling within the population. The sample size for the study used the method of convenience sampling, which is a sampling method that uses the characteristics and behaviors of the sample and categorized as a method of sampling using non probability. The use of convenience sampling provided this research study the opportunity to seek out a select group of veterans within the entire population. The sampling frame for the veterans selected to participate was drawn from veterans who have served in the military, served

in a combat situation, and veterans who have either received or not received preparedness training. Participants who wished inclusion into this study had to fill out the surveys and the Informed Consent Form completely. Excluded from this study were veterans who did not provide a date of combat deployment or who did not deploy into a combat situation.

Sampling Procedures

The best use of a sampling measure was the Multiple Linear Regression with 5% error (Alpha of 0.05), power (1 – β) of .95, and an estimated effect size of $f^2 = .15$. The confidence interval (CI) set at 95%. The use of a power analysis calculator provided by G*Power 3.1.9.2 Software was used to determine the effect size of the sample population to conduct this research study. I obtained the effect size by use of an *F*-test, multiple linear regressions with a fixed model, R^2 increase and power analysis of a priori, the sample size is predicted to be $N = 107$.

Procedures for Recruitment, Participation, and Data Collection

The use of social media such as Facebook and the e-mail system allowed access to the veteran population for this study. I used e-mail invitations to participate in this study to the various organizations I affiliated with, such as The American Legion, Disabled American Veterans, Veterans of Foreign Wars, and AMVETS.

Through the social media venue, emails and announcements posted asked for participants. Veterans who elected to participate had access to a link to Survey Monkey where they then completed the informed consent and surveys. Veterans who wished to participate in the study, who responded to the posts via e-mail and Facebook accessed a link in the e-mail to the survey monkey site. They accessed the informed consent form

(see Appendix A) which they had to review. Continuing with the survey demonstrated their consent to participate in the study.

Participants checked answers on the survey, and the responses to the questions selected by the participants were input into the SPSS Program for analysis. Staying within compliance guidelines outlined by the National Institute of Health (NIH), participants will be required to fill out an Informed Consent Form, along with the accessible survey on the Survey Monkey website. The rationale for conducting an online survey for this research study helped to deter the possible psychological implications that may occur when using an in-person interview process within a sensitive population such as veterans.

The use of online social media has been used successfully in past research studies. One study using Facebook as a venue to recruit participants was McAleese, Clyne, Mathews, Brugha, and Humphries, (2016), who reported that using Facebook resulted in a higher number of participants for the study, which was consistent with their research of studies using the same venue. Another study using online social media with success was that of De Bernardo and Curtis, (2013) who utilized both an online and paper survey to recruit participants for their study. De Bernardo and Curtis (2013) reported that using the online method of selection resulted in obtaining 735 participants, whereas the paper survey only resulted in 535 participants. De Bernardo and Curtis (2013) stated that other studies have used the internet to find participants in under-represented and difficult populations and the result of their study revealed the same expected outcome and that the use of the Internet is a viable option for access to different populations and as a good

research tool. The De Bernardo and Curtis (2013) study reflect that the use of the online method of data collection resulted in more participants.

The use of Survey Monkey required time to retrieve the responses from the participants, which required approximately two weeks. When using this type of closed-ended questionnaire, the timeline is uncertain. The uncertainty could be due to slow access to the questionnaire on the survey site, and connectivity to the survey site, which could cause a slower than a normal timeline.

Instrumentation

The type of measurement tools required needs to meet both reliability and validity for selection for use in this study. The instruments used for this research study, show reliability, and validity in countless studies within the civilian and military industries. Table 1, Instrumentation Data, displays the variables, type of variable, type of scales used, and type of data.

Table 1

Instrumentation Data

Variable	IV/DV	Scale	Data type
Preparedness Training	IV	DRRI-2, Section H	Continuous
Severity of PTSD	DV	PCL-M for DSM IV	Continuous
Age	IV	Demographic questionnaire	Continuous
Gender	IV	Demographic questionnaire	Categorical

Independent Variables

The DRRI-2, Sections H: Training and Deployment Preparation

The checklist used to determine the independent variable of preparedness training, is the DRRI-2, Section H: Training and Deployment Preparation (see Appendix B). The use of the DRRI-2 scale was to determine if a veteran had pre-combat training. The DRRI-2 checklist, designed by the Department of Veterans Affairs is an update to the original DRRI, first developed in 2003, designed to assess deployment-related factors in returning combat veterans (Vogt, Smith, King, & King, 2012). Vogt et al. (2013) reported that the DRRI-2, when developed was to address the psychological factors of the health and well-being of returning combat veterans. To validate the use of DRRI-2 measurement tool for continued accuracy the DRRI-2, used in a study of non-clinical veterans is reliable in many settings (Maoz, Goldwin, Lewis & Bloch, 2016). The study

by Maoz, Goldwin, Lewis, and Bloch (2016) reflect both reliability and validity in the use of the DRRI-2.

The DRRI-2 is a 10-question survey useable to veterans as self-administered. The questions are in Likert scale design, and the ranges are (1) strongly disagree; to (5) strongly agree. The scoring of the DRRI-2 is completed by adding the total of the responded questions and then using the scale 10 (lowest prepared) to 50 (highest prepared). Using the scores, the determination of being less prepared or more prepared for combat will help in finding a relationship between pre-combat training and the prevalence of PTSD.

Demographic Questionnaire

The demographic questionnaire reflects the independent variables that relate to age, gender, military affiliation, relationship status, ethnicity, wartime served, a diagnosis of PTSD, and receiving information on PTSD before combat (see Appendix C).

Dependent Variable

PTSD Checklist - M (PCL-M for DSM-IV)

The use of the PCL-M for DSM-IV is to measure symptoms of PTSD in combat veterans (see Appendix D). The PCL-M for DSM-IV is a survey measuring tool of 17 questions designed as either self-administered or administered in a clinical setting to assess the severity of PTSD in returning veterans (Price, Gros, Strachan, Ruggiero, & Acierno, 2013). Price et al. (2013) discussed the measurement tool as being both valid and reliable for use with veterans for the determination of the severity of PTSD with a test-retest of validity scoring of (r = 0.96). The PCL-M for DSM-IV scores on a Likert

scale ranging from 1 (not at all) to 5 (extremely). Using the responses to the questions taking the highest scores allows for the severity of self-reported PTSD. To determine the scoring for the PCL-M for DSM-IV sum all the scores 1 to 17, for military veterans, those that score 50 points and higher are determined to have a higher prevalence of PTSD.

Research Questions and Hypothesis

The study aided in filling the gap in the existing literature by examining the association between the degree of preparedness training and the severity of self-reported PTSD in returning veterans (Hourani, Council, Hubal & Strange, 2011).

RQ1: Is there a predictive relationship between the degree of self-reported preparedness training and self-reported PTSD severity scores in combat veterans?

H_0: Preparedness training as measured by the DRRI-2 has no significant relationship to self-reported PTSD severity as measured by the PCL-M in combat veterans.

H_1: Preparedness training as measured by DRRI-2 significantly related to self-reported PTSD severity as measured by PCL-M in combat veterans.

RQ2: Does a predictive relationship exist between self-reported preparedness training, gender, and age in self-reported PTSD severity in combat veterans?

H_0: Preparedness training as measured by DRRI-2, gender, and age has no significant relationship to self-reported PTSD severity as measured by PCL-M in combat veterans.

H_1: Preparedness training as measured by DRRI-2, gender, and age are significantly related to self-reported PTSD severity as measured by PCL- M in combat veterans do have a predictive relationship.

Data Analysis

Preliminary Data Analysis

Assumptions within the study needed to be addressed before analyzing data. The study assumed that one variable, the self-reported severity of PTSD (dependent), has a predictive relationship to the variables self-reported combat training, age, and gender (independent), this assumption was that the dependent variables and independent variables be linear. The use of a histogram plot reflects the assumptions that any errors between the observed and predicted values are normally distributed. A third assumption was ensuring no multicollinearity existed within the data. To review what multicollinearity is by definition, this is when independent variables correlate in perfect or near perfect high numbers **(**Zainodin & Yap, 2013). The use of a statistical method of measure looked at variance inflation factors (VIF) to detect an absence of multicollinearity. Zainodin and Yap (2013) stated that this is the best diagnostic method for detecting multicollinearity. The removal of outliers, cases with standardized residuals of greater than 3.3 or less than -3.3 (Pallant, 2016) that will affect the outcome helps to produce non-skewed results.

Main Data Analysis

The analysis of the data for this study involved using version 25 of the SPSS program. Descriptive statistics for the variables of preparedness training and prevalence

of PTSD accounting for the means and standard deviations have been provided. Frequencies reported the age, gender, and geographic information. The PCL-M and DRRI-2, Section H: Deployment and Preparation scales reliability were confirmed using internal consistency analysis. The use of multiple linear regression analysis models determined if preparedness training, gender, and age had any predictive relationship to the prevalence of PTSD in returning combat veterans. The study looked at which, dependent variable had the highest significance relating to the criterion variable. The use of multiple linear regressions helped to explore the predictive relationship of the independent variables to the singular dependent variable (Pallant, 2016).

Threats to Validity

The validity of a research project occurs in a couple of ways; which are external validity (EV), and internal validity (IV). External validity refers to research study generalizations, which means that results or conclusions taken from a smaller group generalize back to the larger population (Salkind, 2012). Salkind referred to IV as manipulated (independent), and measured (dependent) variables that contain accurate statements made about causal relationships between two variables. The understanding that validity must exist in research helps when a set of threats exists.

External Validity

Conducting a research study from a sample of a larger population could result in the threat that the outcome of the research is not generalizable to the larger population. Extrapolating the data from the research questions helped prevent this threat, which make the data from this study generalizable to other populations. Another threat to external

validity was characteristics of experiences in veterans responding to the questions from different combat arenas. An example could be that Vietnam veteran's experiences may differ from those of Iraq and Afghanistan veterans because of the difference in time and place. The threat to validity occurs if the veteran's experiences based on age, gender and location (Fontana & Roderick, 2008) were different and survey questions posed to the veterans caused memory flashbacks. This threat is not an issue because the survey questions only refer to what arena of combat they served in, not a question of what they felt serving in combat. If veteran's taking the survey had any feelings or memories that affected their decision to take the survey, they had the option to drop out of the research study.

Internal Validity

Possible threats to internal validity of this study involved history, maturation, and selection. When determining what these threats may involve, the challenge is to ensure that the results of the validity are not biased (Walter, Dunsmuir, & Westbrook, 2015). History becomes an issue if the veteran finds the survey online, fills the survey out, and then is determined later to have a diagnosis of PTSD by an evaluating agency, and the participant determines he/she wants to retake the survey. To avoid the possibility of threat, each participant was to initial and date the Informed Consent form agreeing to take the survey, and no survey that has the same initials were used.

The threat of maturation might occur if a veteran decided to seek out help for the symptoms of PTSD in the form of post-combat resilience training like the Army R-2 program. The elimination of this threat can occur because question #6 on the DRRI-2

Training and Deployment Survey asks if the veteran had any training before a combat deployment. The study used heterogeneous questions to fulfill data needs, which posed a threat to validity in selection bias. Expunging selection bias occurs because the study uses a convenience sample from a larger population and all participants who fill out the survey have an equal chance of inclusion into this study.

Ethics and Human Subject Protection

This study did not commence in any manner without approval from the Walden IRB. Following the guidelines outlined by the National Institute of Health (NIH), participants will be required to fill out an informed consent form. Survey Monkey will provide the necessary tools to build the surveys and Informed Consent Form. Protection of the participant's confidentiality, and to ensure names are not accessible to outside sources, Survey Monkey provides an encryption service. Using a secure socket layer (SSL) secure encryption between the participant and the survey creator secures all data.

Using the media venue of Facebook and the e-mail system, the Informed Consent Form and surveys are accessible for completion and acknowledgment. Appendix A is the Informed Consent form that will be viewable to all participants of this study as it provides information on the safekeeping of confidential information. After completing the Informed Consent form, it will receive a participant number to keep an accurate account of the number of surveys completed. At the conclusion of the study, information about a participant considered private and confidential was removed for their protection.

Conclusion

In this chapter, I addressed the type of methodology for this study, the population, and survey sample and size. The chapter included the method for protecting the participant's confidentiality and information on a secured hard drive using an anti-spyware program. Also, the chapter discussed the use of NIH guidelines to protect human subjects. Appendix A is the Informed Consent Form used to meet the requirements of the NIH's Protection of Human Subjects; Appendix B is DRRI-2, Training and Deployment Survey; Appendix C is the Demographic Questionnaire, and Appendix D is the PCL-M Survey.

Chapter 4: Results

My purpose in this quantitative study was to address the gap in extant literature regarding the association between the severity of self-reported PTSD in combat veterans and predeployment preparedness training thus adding to the current body of work on PTSD related to resilience training. In this quantitative study, I determined whether preparedness training (independent variable) was associated with or related to the prevalence of self-reported PTSD (dependent variable) in a sample of military members previously deployed in combat situations.

I also looked at both the age and gender of combat veterans who have self-reported PTSD. My purpose of including this information was to determine whether a veteran's gender and age were associated with self-reported PTSD symptoms and whether gender and age are associated with combat training.

Research Questions and Hypotheses

RQ1: Is there a relationship between preparedness training and self-reported PTSD severity in a sample of combat veterans?

H_0: Preparedness Training as measured by the DRRI-2 has no significant relationship to self-reported PTSD severity as measured by the PCL-M in combat veterans.

H_1: Preparedness training as measured by DRRI-2 is significantly related to self-reported PTSD severity as measured by PCL-M in combat veterans.

RQ2: Does a relationship exist between PTSD severity, preparedness training, gender, and age in returning combat veterans?

H_0: Preparedness training, gender and age do not significantly relate to self-reported PTSD severity as measured by PCL-M in combat veterans.

H_1 Preparedness training, gender, and age, does significantly relate to self-report PTSD as measured by PCL-M in combat veterans.

Data Collection

Once Walden University's IRB had given consent to collect data, data were collected from the procedures accepted by the IRB's approval. I then set up a schedule of allotted time to accept survey responses to ensure I received the required number of participants based on the priori power analysis of 107 participants needed to conduct the survey as described in Chapter 3. I received 112 surveys from participants who took the online survey provided on Survey Monkey. The allotted time was 1 month from May 2018 to June 2018. I uploaded the survey to the Survey Monkey website and produced a link to the survey.

Once I received approval by the IRB, committee, and the organizations, I placed flyers to advertise participation in the study at locations such as The VFW's, AMVETS, American Foreign Legions, and the Fraternal Order of the Eagles. The flyers had internet addresses written on them, which directed them to the informed consent form. If any individuals wished to participate in the study, once the participant accessed the informed consent form and read it another link at the bottom of the informed consent allowed access to Survey Monkey surveys.

I also connected with Walden University's participant pool to seek participants, as well as connecting with various veterans groups on Facebook such as Desert Storm

Combat Group, Veterans Helping Veterans, and others. At the close of the survey on the allotted time, I proceeded to evaluate and grade each completed survey based on the procedures for obtaining a cut-off score for the DRRI-2 and the PCL-M measures. There were 105 (*n =105)* surveys used for the multiple linear analysis due to incomplete surveys. The population acquired for this study included only those military members who served in the military and had a deployment into a combat area. Surveys' received by seven participants did not provide completed information and did not see a deployment so that data did not get used in the analysis.

Preliminary Analysis

Data Cleaning

I set a date for the closing of the research survey and accepting participants for the study. At the end of the closing date to take the survey for this research project, 112 participants had completed the survey. There were seven participants removed from this study because of incomplete survey responses. I did not utilize the participant data that was removed.

Testing Assumptions

Testing the assumptions of the bivariate correlation involved a review of normality using the skewness 1 and -1 and the kurtosis value of -2 and 2. The output for PCL-M scores skewness was .520 and kurtosis of -.925. The skewness for DRRI-2 scores was skewness of -.289 and Kurtosis of -.327, which indicate that they met the assumption of normality. The next check was to check for a linear relationship. A review of the scatterplot (Figure 3) for PCL-M in the y-axis and DRRI-2 in the x-axis

shows a linear relationship meaning this assumption has been met. The final assumption was testing for homoscedasticity. The review of the scatterplot of the linear regression analysis showed that the line for fit runs in a semi straight line, which indicated this assumption has been met. There were no outliers removed from this analysis.

Testing assumptions for the multiple linear regressions involved, an examination of coefficients ensuring that the values of Tolerance and VIF were met, indicating that no multicollinearity exists in these data. Using the formula described by Pallant (2016) each variable is $1 - R^2$ for the tolerance value and should be more than (.10) to ensure low multicollinearity and the value of VIF formula is 1 divided by the tolerance value and should be less than (10) to ensure these values have no multicollinearity. The values met the formula and do not violate the multicollinearity assumption (Table 2).

Table 2

Tolerance and VIF Values

	Tolerance	VIF
Age (y)	.808	1.237
Gender	.822	1.216
DRRI-2 score	.974	1.026

Note. VIF = variance inflation factors.

To meet the assumption of normality, linearity, and homoscedasticity the normal probability-plot (P-P) of the regression standardized residual chart shows that the flow of data follows the diagonal line from top to bottom. The P-P chart indicates that the assumptions for normalcy have been met (Figure 1)

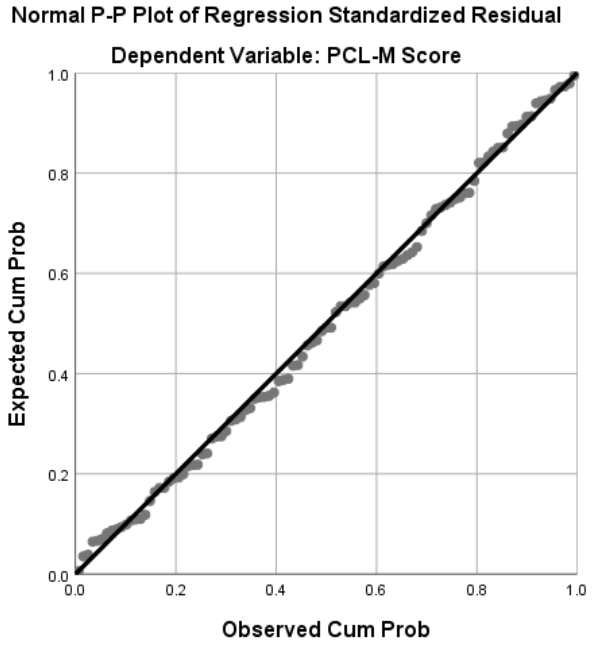

Figure 1. Normal P-P plot for regressions standardized residuals.

The presence of any outliers and independence of residuals was determined by reviewing the scatterplot (see Figure 2). To evaluate this assumption Tabachnick and Fidell (2016) defined outliers as standardized residuals that fall within the ranges of more than 3.3 or less than -3.3. The residuals fell within the requirements to eliminate the presence of any outliers for this study and therefore no data were removed

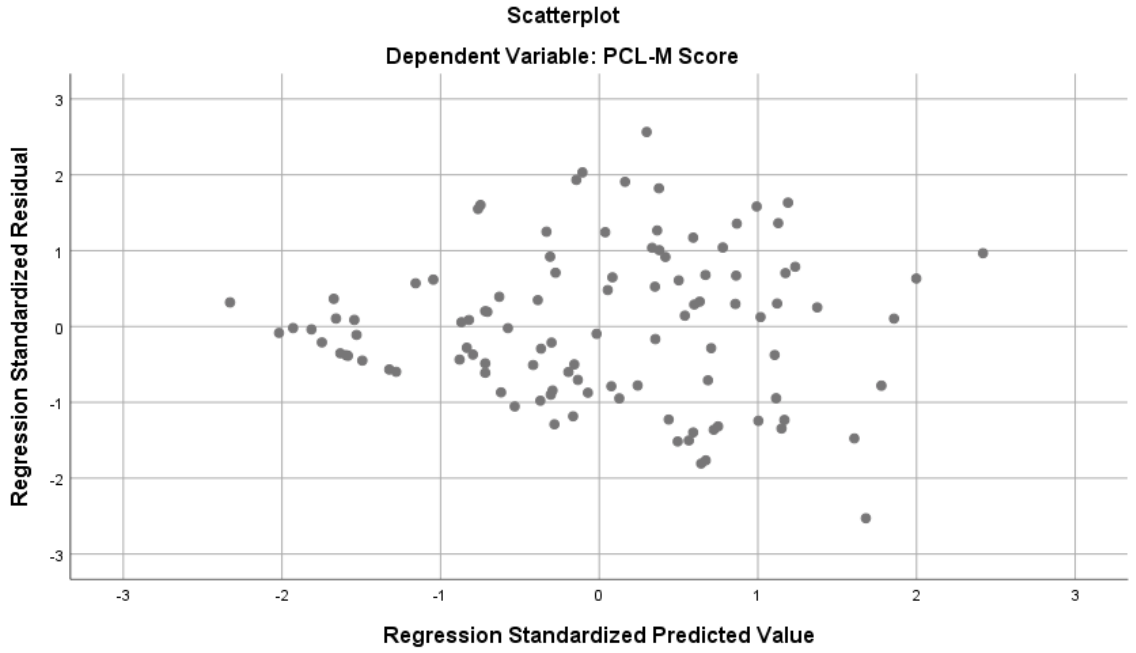

Figure 2. Scatterplot showing residuals.

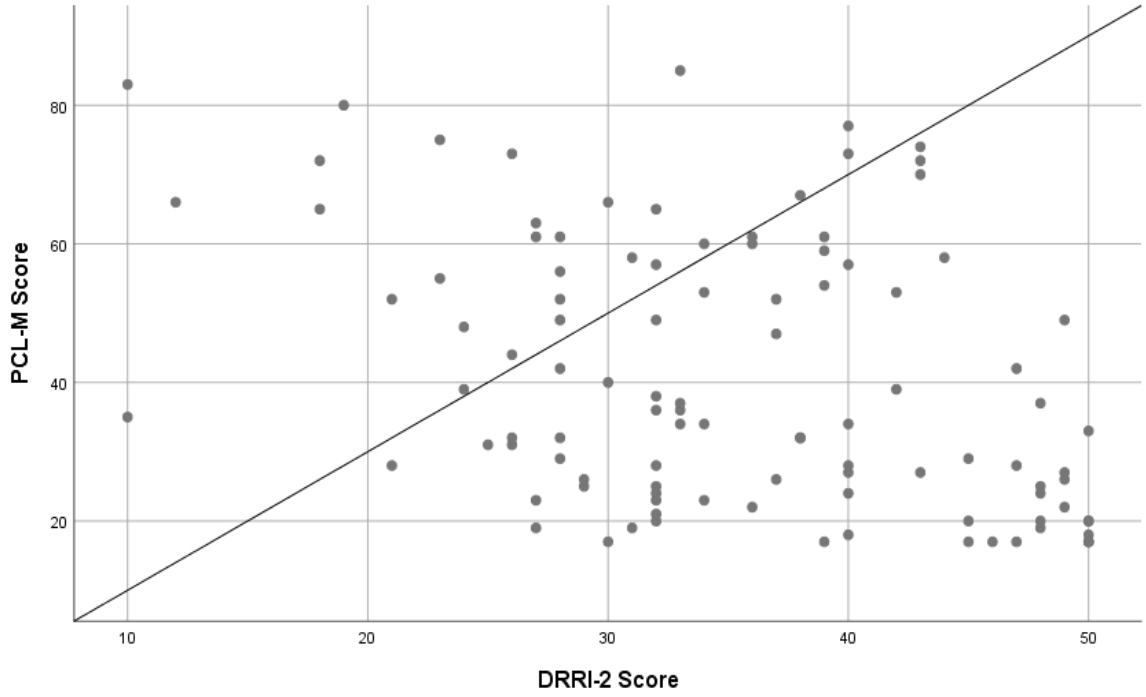

Figure 3. Scatterplot showing results of bivariate analysis.

Reliability of Measures

The Cronbach's Alpha analysis was used to check the reliability of the two measures utilized in this research (DRRI-2 and PCL-M). According to Pallant (2016), a Cronbach's α score greater than (.8) is preferred as a target value for reliability. The Cronbach's Alpha for the DRRI-2 is .917 and Cronbach's Alpha for the PCL-M is .974, which meets the criteria for reliability. The reliability for using these two measures is high and therefore reliable enough to use in this study.

Main Analysis

Descriptive Statistics

The data collected was input into Version 25 of the SPSS program and a descriptive analysis was run excluding gender as a variable. The analysis reported a wide range in age among the participants, and of the 105 participants, 81% were men and 19% were women. The scores of the two measures ranged from lowest to highest (Table 3).

Table 3

Descriptive Statistics

			DRRI-2	
		Age (y)	Score	PCL-M score
N	Valid	105	105	105
	Missing	0	0	0
Mean		53.52	35.27	40.73
SD		14.828	9.631	19.251
Range		61	40	68
Minimum		25	10	17
Maximum		86	50	85

A point bi-serial correlation was run between PCL-M scores and gender (Table 4) to determine if an association existed between the two variables. The results of the bi-serial analysis indicated a negative correlation between PCL-M scores and gender, which is statistically significant at ($r_{pb,}$ = -.284, n = 105, p = .003). Gender was included in the multiple regression, but a point bi-serial correlation was run separately because gender is a dichotomous variable. The negative correlation between PCL-M scores and gender indicates that women's PCL-M scores were higher (M = 52.15, SD = 16.34) than for men (M = 38.05, SD = 18.98).

The results of the correlation run between PCL-M scores and age demonstrated an inverse relationship (Table 4). The relationship between age and PCL-M scores reflected

in the analysis that as the PCL-M scores increased, the ages of the participants decreased meaning that the PCL.M scores were higher in the younger participants.

Table 4

Correlations

		PCL-M score	Age (y)	Gender
PCL-M score	Pearson correlation	1	-.380**	-.284**
	Sig. (2-tailed)		.000	.003
	N	105	105	105
Age (y)	Pearson correlation	-.380**	1	.413**
	Sig. (2-tailed)	.000		.000
	N	105	105	105
Gender	Pearson correlation	-.284**	.413**	1
	Sig. (2-tailed)	.003	.000	
	N	105	105	105

Bivariate Correlation

A Bivariate analysis was run and the data analysis demonstrated a significant inverse relationship between risk for PTSD based on PCL-M scores and DRRI-2 scores at $r = p < .01$. Examining the correlation can be explained by the scoring of the two measurements. Scores for the PCL-M measure range between 17 and 85. The higher the number on the PCL-M measure the greater the risk for self-reported PTSD. Scores for the DRRI-2 range between 10 and 50. The lower the score on the DRRI-2 measure the lower the chances the veteran had no prior preparedness training. Thus, we can determine by the results of the correlation that as the veteran's scores on the DRRI-2 decreased indicating little to no preparedness training, scores on the PCL-M increased indicating a higher risk for self-reported PTSD (Table 5).

Table 5

Bivariate Correlations

		PCL-M Score	DRRI-2 Score
PCL-M Score	Pearson Correlation	1	-.393**
	Sig. (2-tailed)		.000
	N	105	105
DRRI-2 Score	Pearson Correlation	-.393**	1
	Sig. (2-tailed)	.000	
	N	105	105

Note: ** Correlation is significant at the 0.01 level (2-tailed), PCL-M = Posttraumatic Check List-Military version, DRRI-2 = Section H of Training and Deployment Preparation

Research Question 1 and Hypothesis

The first research question asked if there is a relationship between preparedness training and self-reported PTSD severity in a sample of combat veterans. The null hypothesis stated training as measured by the DRRI-2 has no significant relationship to self-reported PTSD severity as measured by the PCL-M in combat veterans. A Pearson Bivariate correlation was run to determine if a relationship existed between PCL-M scores and DRRI-2 scores. The results determined that there is an inverse correlation between the two variables with $r = -.393$, $n = 105$, $p = .001$. These results show that a strong inverse correlation exits between PCL-M scores and DRRI-2 scores (Table 5). Therefore, we must reject the null hypothesis and accept the alternative hypothesis stating

that a significant relationship exists between preparedness training and PTSD severity in combat veterans.

Multiple Regression Analysis

A multiple regression was conducted using PCL-M scores as the criterion variable, and age, gender, and DRRI-2 scores as the predictor variables. The analysis was performed using a multiple linear regression in version 25 of the IBM SPSS program. Using Mahalanobis distance criterion of $p < .001$ there were no outliers and no missing case data were noted (Table 6).

The regression analysis was conducted using the criteria outlined by Pallant (2016). PCL-M scores were input as the criterion variable and age, gender, and DRRI-2 scores as the predictor variables. The next steps outline the procedures selected to complete the regression analysis. Method=enter, Statistics: Estimates, confidence intervals (95%), model fit, descriptives, part and partial correlations, and collinearity diagnostics. Residuals: casewise diagnostics and outliers outside 3 standard deviations. Options: exclude cases pairwise. Plots: y = zresid, x = zpred, selected standardized residuals plots and normal probability plots. Save: Mahalanobis and Cook's was selected.

Table 6

Predictor of Higher Severity of Self-Reported PTSD using DRRI-2, Age, and Gender

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	102.864	9.658		10.650	.000

Age	-.428	.117	-.330	-3.647	.000
Gender	-7.916	4.376	-.162	-1.809	.073
DRRI-2 Score	.706	.165	-.353	-4.284	.000

Research Question 2 and Hypothesis

The second research question asked if there was a relationship between preparedness training, gender, and age in self-reported PTSD severity in combat veterans. The results with a confidence level of 95% and an alpha at <.05 are the base line for checking for a relationship. In the final model, two variables were statistically significant, with the preparedness training (DDRI-2) recording a higher beta value (beta=.70, SE .17, p<.001) than age (beta=-.43, SE .12, p<.001). Data analysis demonstrated a significant inverse relationship between PCL-M scores and DRRI-2 scores and age (Table 6). The model summary predicted that 33 % of the variance is explained by the variables at $R^2 = .332$, F (3, 101) = 15.967, $p < .05$. Therefore, the null hypothesis for preparedness training and age for predicting PTSD severity is rejected, and the alternative hypothesis is accepted stating that preparedness (DDRI-2) and age do show a significant predictive relationship to PTSD severity. The null hypothesis for gender is accepted indicating no significant relationship.

Summary

The purpose of this analysis was to answer the research questions and determine if there was a relationship to any of the variables to the severity of PTSD in returning combat veterans. The results did find a predictive relationship between the variables, age

and DRRI-2 scores to PTSD severity. One variable, gender did not show a significant relationship to self-reported PTSD severity in the regression analysis. The interpretation and implications of these findings will be addressed in Chapter 5.

Chapter 5: Discussion, Recommendations, and Conclusions

Introduction

My purpose in this quantitative study was to determine whether preparedness training was associated with or related to the prevalence of self-reported PTSD in a sample of military veterans previously deployed in combat situations.

I also examined both the age and gender of combat veterans who have self-reported PTSD. My purpose in including this information was to determine whether a veteran's gender and age are associated with self-reported PTSD. The results showed a predictive relationship between the variables, age, and preparedness training to PTSD severity. Gender did not show a significant relationship to self-reported PTSD severity in the regression analysis, although it was significant in the bivariate analysis.

Interpretation of the Findings

The study results illuminate the findings looking at predictors for a higher severity of PTSD among returning combat veterans. The results examined preparedness training, gender, and age as predictors for the higher PTSD severity among combat veterans. The results showed that preparedness training did show a relationship to PTSD severity. These findings are in some ways consistent with the literature. In a previous study, using a larger population of combat veterans, Cigrang et al. (2014) reported a significant increase in PTSD among returning combat veterans. This study concurred with the Cigrang et al. results even with a smaller population of combat veterans. Although I was unable to locate prior published studies assessing the relationship of preparedness training and PTSD severity in combat veterans, these findings are consistent with the

related literature. Pederson et al. (2016) presented their results stating that preparedness training did have a relationship to the severity of PTSD in first responders. Pederson et al. concluded that those first responders who had extensive preparedness training had lower PTSD severity than those who lacked training. The findings of my dissertation may be one of the first to demonstrate the relationship between preparedness training in combat veterans and PTSD severity.

Looking at gender in this study, the results showed that the gender of a combat veteran did not show a significant predictive relationship to the severity of PTSD in the regression analysis although it was significant in the bivariate analysis. These findings are also consistent with the literature. A study looking at gender in relationship to PTSD severity concluded that when data were researched and analyzed there was no significant predictor differences of severity for PTSD in the male or female veteran (Mouilso, Tuerk, Schnurr, & Rauch, 2016). Results from Krupnick 2017 also coincided with the results of this study in relation to gender as not having a predictive relationship to PTSD severity in combat veterans. Examining age as a predictor in a relationship to PTSD severity were consistent with studies such as that of Smith, Tyzik, and Iverson (2015), who determined that age was a factor in the severity of PTSD in the female population (aged 45 to 65 years) of veterans. In another study, the results reflected that the age of veterans who reported a higher severity of PTSD in veterans was younger than 65 years (Konnert & Wong, 2015).

The results could be in part due to the framework for this study, which is social cognitive theory. Wilroy and Turner (2016) discussed how self-efficacy, when at its

highest a person would expect the best outcome, and when at its lowest there is the tendency to give up. This interpretation would see veterans' survey responses based on their own previous experiences at the time of combat. These results, preparedness training, and age showing a predictive relationship and gender not showing a predictive relationship could be founded on self-efficacy.

A recommendation would be to teach self-efficacy to military members before combat deployments, which in turn may help in reducing the higher levels of PTSD severity in returning combat veterans. The study by Blackburn and Owens (2015) hypothesized that with a higher level of self-efficacy returning combat veterans would have lower rate of PTSD severity. The results of the Blackburn and Owens regression analysis concluded that lower levels of self-efficacy did predict higher rates for PTSD severity in returning combat veterans.

Limitations of the Study

The study produced two out of the three outcomes that were targeted based on the method and procedures for conducting this study. Although, there were several limitations, that might have affected all of the desired outcomes. First, the time limitations affected the overall acceptance for surveys that participants filled out. The time limit was set for a 1-month time limit, which influenced the number of respondents to this study. An extended number of months to take the survey would allow more participants from this large population to complete the survey. Therefore, to generalize this study for the larger population of veterans, increasing the time limit to 2 months or 3 months longer more participants would have been accepted. Second, veterans who

completed the survey, which included several measures, the DRRI-2 for training, and the PCL-M for self-reporting PTSD might have felt anxiety when addressing the questions, and filled them out with less than honest responses because it was online and not monitored by a researcher. Third, the study was conducted on an individually based survey response, posted online, which gave only those veterans who had computers and/or access to one to participate in the study. This limitation excluded those veterans who may have wanted to participate in this study, but did not have access to a computer, and addressing this limitation would have allowed a much larger population to participate, which could influence the results of this study. Finally, the study was conducted online and those individuals, who experienced slower than normal Internet speeds, slowing down their response time, might have not been able to complete the survey or were discouraged or no longer motivated in completing the survey.

Recommendations

The results of this research study were to help in determining additional predictor variables that are lacking in previous research on the severity PTSD in returning combat veterans. The research study conducted shows that the evidence following the SPSS analysis did provide a statistical predictive relationship between preparedness training and age. Researchers need to conduct more in-depth research into these relationships using a larger veteran population. Additional studies determining a predictive relationship to PTSD severity, preparedness training, age, and gender, would help clinicians provide better care to those veterans with higher severity of PTSD. The results of age as a predictive relationship help in developing more strategies of care for veterans

by understanding the age implications and provide care based on the veterans age. A recommendation could be to further research the relationship between age and preparedness training in combat veterans before deployment.

The link between PTSD severity and gender was not significant in the regression analysis although it was significant in the bivariate analysis. As there is inconsistency with the literature on this relationship (Kline et al, 2013) a recommendation to evaluate this further by conducting more research into this relationship using a higher number of combat veterans is warranted.

Implications for Social Change

The results of the study confirmed that a relationship to PTSD severity and preparedness training does exist. There are detrimental effects to veterans sent into combat situations without proper preparedness training. It has been established that the effects of PTSD on combat veterans is significant. These detrimental effects include suicidal tendencies, inability to continue a normal relationship with family and friends, and inability to maintain job security. It is important to address all factors that may help returning combat veterans reintegrate back into society. Using this study as a springboard to understanding the need for preparedness training before combat can help potentially reduce PTSD severity in returning combat veterans.

The results of this study also confirmed that age is a predictive factor for determining the self-development of reported PTSD severity post combat. Understanding that age is a predictive factor for the severity of PTSD provides focus that the military can use to help this factor become less severe by providing veterans

knowledge based on their age prior to being deployed into a combat situation. The knowledge that this study provides gives psychologists and therapists the ability to focus their assistance to the veteran and adjust their support structure based on the amount of preparedness training and age of the veterans.

The benefits of developing a therapeutic process to help veterans based on the amount of prior training and age, has the potential to aid in having a larger success rate of help to the veterans. This will help the veteran become better integrated back into society and empowering them to set their own goals on what they wish to achieve further in life, and this in turn could help the veterans family and friends easily assimilate with the current and future needs of the veterans. Furthermore, developing procedures and therapeutic measures to help veterans in need, can be generalized into the main frame of social and behavioral change for all individuals dealing with PTSD including first responders.

Conclusion

The results of this study were aimed in filling the gap in the literature regarding preparedness training and the self-reported PTSD severity, in returning combat veterans. Although, other factors such as age and gender were looked at in this quantitative study, the target research result was that of pre-combat preparedness training and extending these findings into the literature. Participants to this study were veterans who completed an online survey provided by Survey Monkey, and who had previously deployed into a combat situation. The goal of the study was to examine the predictive relationship to self-reported PTSD severity and preparedness training. The results showed that there

was a predictive relationship between preparedness training and age in self-reported PTSD severity, but the gender of veterans did not predict a relationship to self-reported PTSD severity in returning combat veterans.

I found through the literature review that this study was one of the first to address the relationship between preparedness training and PTSD severity post combat. The participant sample for this study was minimal however, and further research is needed on a larger scale to validate or invalidate the results of this study. The findings do potentially help the VA and other treatment organizations because it suggests that preparedness training and age is predictive of PTSD, and that helps these facilities in finding treatment options for returning combat veterans. Furthermore, this study helps society in aiding in the future knowledge of treatment by understanding more of the factors predictive of self-reported PTSD severity.

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Appendix C: Demographic Questionnaire

This questionnaire is a part of a doctoral research project conducted by Charles F. Snay, who is a graduate student at Walden University. The questionnaire is strictly voluntary, and all information is confidential. Please respond to the following questions. You are encouraged to answer all questions as completely and honestly as you can. If at any time, you become uncomfortable with any questions you may leave any question blank. Veterans, Service members, and their loved ones can call **1-800-273-8255** and Press 1. You can also send a text message to 838255, or chat online to receive free, confidential support 24 hours a day, seven days a week, 365 days a year, even if they are not registered with VA or enrolled in VA health care.

NOTE: For the purpose of this study, questions about resilience training refer to training involving physical and mental preparedness before combat deployments.

1. What is your age? _____

2. Gender? ☐ Female ☐ Male

3. What is your relationship status? ☐ Single ☐ Married ☐ Divorced ☐ Partnered ☐ Widowed

4. What is your Ethnicity? ☐ American Indian / Alaskan Native ☐ Asian / Pacific Islander ☐ African American ☐ Caucasion / White ☐ Hispanic ☐ Other (please specify) _____

5. What branch of the military did you serve during a war time conflict (check all that apply)? ☐ Air Force ☐ Army ☐ Coast Guard ☐ Marines ☐ Navy

6. What wartime conflict did you serve? (check all that apply)	☐ World War II ☐ Korean Conflict ☐ Viet Nam War ☐ Gulf War ☐ Operation Iraq Freedom ☐ Operation Enduring Freedom ☐ Operation New Dawn ☐ Other (please specify) _____
7. Do you currently have a diagnosis of PTSD?	☐ Yes ☐ No
8. Did you receive any information on Posttraumatic Stress Disorder (PTSD) before any deployments?	☐ Yes ☐ No