2017

PTSD with Substance Use Disorders Female Versus Male Veterans: An Archival Study

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Clinical Psychology

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Abstract

The present study examined men and women veterans diagnosed with posttraumatic stress disorder (PTSD) and substance use disorder (SUD). Women in the general public have been found to be at greater risk for a diagnosis of PTSD with life-long symptoms. Current literature involving military men and women veterans is at odds over which gender is more likely to have both PTSD and SUD. This study assessed the variables of gender and diagnosis. It also studied whether the age of female veterans affects their likelihood of having both PTSD and SUD. Archival data were gathered from the Veterans Administration (VA) for veterans seeking care at the VA during Fiscal Years 2011 and 2012. These data were stored on the VA Information Resource Center database; data came from VA medical diagnoses using the International Classifications of Diseases -9 (ICD-9). Participants were 38,656 women veterans and 785,052 male veterans. A chi-square test for goodness of fit revealed that male veterans were more likely than were female veterans to have the comorbid diagnosis of PTSD and SUD. This analysis revealed that women veterans in the 45 – 54 age groups were at greatest risk for the comorbid diagnosis. Women may not seek treatment at the VA because they lack childcare, it is dominated by mainly male veterans, and/or they may have a misconception of services for women. Part of social justice is including women veterans because they have historically been underserved by mental health and research. This study highlights the need for more research into improving health and mental healthcare for women at VA facilities.

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Acknowledgements

I wish to express my sincere gratitude to Dr. Hannah Lerman, PhD, for her steadfast guidance and expertise in women's issues in psychology for these many years.

I wish to thank Dr. Michael Plasay, PhD, for his guidance and expertise in veterans' issues.

I wish to thank my mom and Eric for their unending support.

Gabriel, this is for our future; I am grateful to have you as my child.

This study was to show fellow women veterans that we do matter and can find a way to have a voice through our work.

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Chapter 1: Introduction to the Study

Background

U.S. military personnel are currently serving in more than 28 conflict zones (U.S. Department of Defense, 2012). Military service during conflict puts an individual at risk for both physical and psychological trauma. Today, more women serve during wartime and in war zones than in past wars and conflicts (Vogt, Pless, King, & King, 2005). Constituting 15% of the total military active duty population, 11% of these women currently serve in the conflict zones of Afghanistan and Iraq (Iraq and Afghanistan Veterans of America, 2011). Regardless of their job titles, these women are at the same risk as their male counterparts for harm or possible death. The focus of past research about mental health issues involving the military has been on males. According to Forneris, Butterheld, and Bosworth (2004), women veterans are an understudied population. According to Smith et al. (2008), the male and female soldiers of the current Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) are experiencing higher rates of posttraumatic stress disorder (PTSD) than in previous conflicts such as the Vietnam War or Operation Desert Storm. It would be helpful for us to learn whether women veterans are more or less likely to have PTSD and substance use disorder (SUD) concurrently than their male counterparts. According to Vogt (2007), the current state of the literature shows mixed results. In some instances, women veterans have been recorded as being more likely to have both disorders concurrently, whereas other data show that male veterans are more likely to have these dual diagnoses (Vogt, 2007).

Najavits, Weiss, and Shaw (1997) found that women from the general population were at greater risk of developing such comorbidity. Najavits et al. found that having either only PTSD or only SUD placed a woman at greater risk for developing the other disorder concurrently. Nunnink et al. (2010) found that, within a sample of 36 women veteran participants who served in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF), 31% were screened as being positive for PTSD, 47% screened positive for high-risk drinking, and 2% screened positive for substance use (Nunnink et al., 2010). These figures might be in part because women veterans are more likely to develop PTSD as a result of sexual trauma (Stewart, Grant, Ouimette, & Brown, 2006). Because of this, women can be diagnosed with PTSD without having combat exposure (Luterek, Bittinger, & Simpson, 2011). Women can be exposed to trauma both from combat and/or sexual trauma.

Researchers have investigated how younger veterans tend to have mental health issues. Golub et al. (2013) looked into data from the National Survey on Drug Use and Health (NSDUH). They believed that data from the NSDUH showed that younger female veterans were at greatest risk for serious psychological distress (SPD) and those younger men and women who were OIF/OEF veterans whose income was $20,000 or less were at greatest risk for SUD.

Research shows that military veteran men are more likely to have comorbidity (Maguen, Ren, Bosch, Marmar, & Seal, 2010). In their study, Maguen et al. looked specifically at men and women veterans who had enlisted, served during OIF and OEF

from April of 2002 through March of 2008, and were either in or around the defined combat zones or directly supported the mission outside of the combat zone. Their data showed men were at greater risk for experiencing PTSD (22%), for substance use (3%), and for alcohol use disorder (8%), whereas women were diagnosed with PTSD (17%), substance use (2%), and alcohol use disorder (3%) in lesser percentages. The conflicting data about comorbidity and gender in the different sets of studies makes it necessary to look further for information about which gender is more likely to be assigned dual diagnoses (Maguen et al., 2010; Nunnink et al., 2010). Research into gender differences has focused on the variable of gender and often left age as an understudied variable (Grella et al., 2009; Greenfield et al., 2007). Current research has shown that younger women veterans are at greatest risk for SUD (Golub et al., 2013).

Diagnosis With the International Classification of Diseases

Veterans seeking care through the Veterans Administration (VA) are diagnosed in accord with the International Classification of Diseases, Clinical Modifications (ICD CM), and Procedural Coding System-9 (ICD PCS; U.S. Department of Veterans Affairs, 2013b). The mental health diagnoses from the ICD-9 have similar naming conventions as the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (*DSM-IV*; American Psychiatric Association, 2000). They are based on a classification system for the diagnosis of mental illness (Berrios, 1999; Moller, 2009). Differences exist between the two systems of classification. The American Psychiatric Association maintains and updates the *DSM-IV*; the World Health Organization (WHO) maintains and updates the

ICD (Andrews, Slade, & Peters, 1999). One major difference is that the ICD is updated annually and the *DSM-IV* has remained the same for more than a decade (Moller, 2009). Another difference is that, for diagnostic purposes, the ICD-9 may require only one symptom to be present, whereas the *DSM-IV* requires multiple symptoms to be present (Moller, 2009). For PTSD, for example, the *DSM-IV* requires an individual to have distress or impairment in order to be diagnosed with this disorder, and the ICD-9 does not (Andrews et al., 1999). Use of the ICD-9 classification provides a lower threshold for diagnosis than the *DSM-IV* provides. This difference makes it more likely for an individual to be diagnosed with a disorder using this system (Andrews et al., 1999). This factor is important to keep in mind when looking at the data for veterans diagnosed with PTSD and SUD. Because the ICD classification has a lower threshold than the *DSM-IV*, there may be a larger percentage of veterans diagnosed with PTSD and SUD than would be found in the civilian population using *DSM-IV* criteria.

Problem Statement

Women are a small percentage of the U.S. veteran population (Iraq and Afghanistan Veterans of America, 2011). Furthermore, they remain an understudied population (Forneris et al, 2004). Women veterans have been shown to be at greater risk for dual diagnoses of PTSD and SUD (Nunnink et al., 2010). Younger women, especially, have been shown to be at greater risk for SUD and SPD (Golub et al., 2013). At the same time, male veterans have been shown to be at greater risk for diagnoses of PTSD, substance use, or alcohol use disorder (Maguen et al., 2010). It is important to

consider whether women veterans are more likely to have dual diagnoses. The available data are contradictory. The confusion in the literature needs to be resolved to facilitate planning for appropriate treatment (Vogt, 2007). Research into gender differences has tended to focus on the variable of gender and often has left out any consideration of the variable of age (Grella et al., 2009; Greenfield et al., 2007). Data from the NSDUH found that younger women were at greater risk for psychological distress and SUD especially if they were in a lower income group (Golub et al., 2013).

Nature of the Study

In this study, I used archival data (Vartanian, 2011). First, clinical information about this population is protected and would have been difficult to find individual participants for this study who would admit to having mental health issues. Also, veterans who have PTSD or SUD are an at-risk population. This means that participation in research could cause distress. Research has shown that this is an issue for veterans diagnosed with PTSD (Gariti, Sadeghi, Joisa, & Holmes, 2009). Second, archival data is a vast resource of information that has already been collected (Vartanian, 2011). Its existence is often overlooked. It is an information trove that contains valuable information waiting to be scientifically studied (Vartanian, 2011).

Research Question and Hypotheses

Research Question 1

Are women military veterans more likely than male military veterans to have comorbid PTSD and SUD?

$H_{1(0)}$: Men and women veterans are equally likely to have comorbid PTSD and SUD as diagnosed by the ICD-9 CM, and ICD-9 PCS (U.S. Department of Veterans Affairs, 2013b), and who sought care at the VA during Fiscal Years 2011 and 2012, as provided to me in publicly available information through the Freedom of Information Act (FIOA).

$H_{1(1)}$: Women veterans are more likely to have comorbid PTSD and SUD than male veterans as diagnosed by the ICD-9 CM and ICD-9 PCS, and who sought care at the VA during Fiscal Years 2011 and 2012, as provided to me in publicly available information through the FIOA. The expected frequencies using chi-square test for goodness of fit are that women will have dual diagnoses 55% compared to men for whom the frequency of such diagnoses are expected to be 45%.

Research Question 2

Does age affect the rate of comorbidity for women veterans?

$H_{2(0)}$: Age differences among women veterans has no effect on comorbid diagnoses as diagnosed by the ICD-9 CM and ICD-9 PCS (U.S. Department of Veterans Affairs, 2013b) as provided to me in publicly available information through the FIOA.

$H_{2(1)}$: Age differences among the women will show a greater likelihood of comorbid diagnoses among the younger women as diagnosed by the ICD-9 CM and ICD-9 PCS (U.S. Department of Veterans Affairs, 2013b) as provided me in publicly available information through the FIOA. The frequency is expected to show that younger women will have higher frequencies of comorbid diagnoses than the other women.

Statistical Analyses

The ICD-9 has multiple codes for substance use and dependence (U.S. Department of Veterans Affairs, 2013b). For this study, I used the ICD-9 codes for mental and behavioral disorders due to psychoactive substance use (WHO, 2013). I omitted diagnoses referring to tobacco and volatile solvents. The included codes were F10 alcohol, F11 opioids, F12 cannabinoids, F13 sedatives or hypnotics, F14 cocaine, F15 other stimulants including caffeine, F16 hallucinogens, and F19 multiple drug use and use of other psychoactive substances.

Research Objectives

My goal in this study was to learn whether women who are military veterans showed a greater likelihood of having the comorbid diagnoses than did male veterans. The available data are contradictory on this matter (Maguen et al., 2010; Nunnink et al., 2010). In addition, I investigated whether the age of the women veterans was likely to affect the possibility of a comorbid diagnoses. Research has shown that younger women tend to be at greater risk yet the variable of age itself is often not included because the focus is on gender. Golub et al. (2013) found that younger women were at greater risk for SUD and psychological distress. Golub et al. used date from NSDUH with participants aged 21 to 34 years. When discussing age, researchers have tended to show that older women aged 55 years and older have the best success with recovery and abstinence (Greenfield et al., 2007; Grella et al., 2009). Grella et al. (2009) further found that 81% of the participants were aged 18 to 24 years and were ethnic minorities. This suggests that

the younger people in these studies are at greater risk of having psychological distress and/or SUD.

Purpose of the Study

The purpose of this archival study was to learn whether women veterans were more or less likely than male veterans to have comorbid PTSD and SUD. In order to compare differences in the occurrence of comorbid diagnoses of PTSD and SUD between military men and women, I used a cross sectional study design. I compared the two genders on the frequency with which they were diagnosed with PTSD and SUD. I further looked at the ages of women veterans diagnosed with PTSD and SUD in order to explore whether there were differences due to age.

I used publicly available data from the Department of Veterans Affairs. This data included the mental health diagnoses of military veterans who used the VA for PTSD and SUD treatment. For this study, the VA database allowed me to access a large body of data that is specific to the population of veterans. This data were stored on the VA Information Resource Center (VIReC) database. It allowed for specifically selecting the variables of diagnoses and age. In this database, each veteran was counted uniquely once for one instance of diagnoses regardless of how many times the veteran utilized care during a single fiscal year.

Theoretical Basis

Social cognitive theory states that human behavior results from an interaction of the individual's self-view, societal and cultural influences, and natural biological

processes (Bandura, 2000). Bandura (2000) asserts that the environment directly affects the cognitive process for an individual. Experience allows cognition to give meaning to an event. People learn that when an event occurs, their action can cause reactions from society and internally for self-view and self efficacy. If the external reaction for an individual is positive, it may create greater self efficacy. If the external reaction is negative, it may create a lower self efficacy. Mental processes prepare the individual for what can be expected as outcomes from and reactions to their actions.

Participation in war and conflict can be traumatic. Women veterans may cope differently than do male veterans in the face of trauma. There might be gender differences in treatment seeking behavior, substance use, and the rates of PTSD that are experienced. Schiff, El-bassel, Engstrom, and Gilbert (2002) looked into the application of cognitive theory to the relationship of stress and coping. They used only women participants who were enrolled in a methadone treatment program. Schiff et al. felt that there would be a link between PTSD and an individual's ability to process and cognitively appraise events that represent "threat, harm, or challenge" (p. 303). Their contention was that the individual's cognitive appraisal is the whole basis for the behavior. This appraisal prepares the individual to be mentally able to cope or not be able to cope with a traumatic event. In their study, Schiff et al. found that women with PTSD tended to use illicit drugs as their coping mechanism in an attempt to repress emotion or memories. For this study men were not included as participants.

Research has shown that few women veterans diagnosed with SUDs have sought treatment from the VA (Stecker, Xiaotong, Curran, & Booth, 2007). Within the civilian population, women have been found to be more likely to have PTSD than men (Stewart et al., 2006) and those diagnosed with SUD are more likely to have psychiatric comorbidity than men (Stecker et al., 2007). For this study, the diagnoses that I studied specifically were SUD and PTSD.

Operational Definitions

Archival data: Archival data refers to data that has previously been collected. For this study, the data were data retrieved from the Department of Veterans' Affairs (DVA) utilizing the FIOA. The data that were studied included gender as it related to comorbid diagnoses of PTSD and SUD. For women veterans specifically, age was also analyzed. The years I examined were Fiscal Years 2011 and 2012.

Combat exposure: This refers to being involved in any war or conflict related event that puts the individual in danger of physical harm, mental harm, or death (Laufer, Gallops, & Frey-Wouters, 1984; Miller, Greif, & Smith, 2003).

Comorbidity: This refers to dual or multiple diagnoses that are given to a single individual. In this study, I referred to dual diagnoses that require the occurrence of substance abuse in conjunction with another psychiatric diagnosis (American Psychiatric Association, 2000). For this study, comorbidity referred to the diagnoses of PTSD and SUD concurrently.

Military veteran: For this study, *military veteran* or *veteran* refers to men and women who have served in the U.S. armed services and use the VA for health care.

Posttraumatic stress disorder: For this study, this was diagnosed using the ICD-9 code F43.1. The criterion stated in the ICD-9 is that there must be evidence of a traumatic event that was exceptional and symptoms arose within 6 months of this traumatic event. There may be intrusive memories of the event through memory, waking imagery, or dreams, and the individual may have obvious emotional detachment, numbed affect, and avoidance of stimuli, although these are not required for diagnosis. The affective disturbances, mood disorder, and behavioral disturbances may contribute to diagnosis but are not the import of diagnosis (WHO, 2013).

Substance dependence: This is diagnosed using the ICD-9 code F1*x*.2, dependence syndrome. The criterion includes three or more of (a) strong desire or compulsion to take the substance; (b) inability to control substance taking behavior onset, stop use, or amount used; (c) withdrawal when substance is reduced or not used; (d) tolerance to the substance that requires increased dosing to achieve effects originally created from lower doses; (e) neglect of other activities or interests such as social or occupational, and increased time spent obtaining, taking, or recovering from the substance; and (f) continued use of the substance despite physiological or psychological harm such as disease or cognitive impairment caused by the substance. Dependence may be for one specific substance, for a type of substances such as hypnotics, or a range of substances dependent on availability (WHO, 2013).

Substance use disorder: This is diagnosed using the ICD-9 code F1*x*.1, harmful use. The *x* denotes the specific substance type. For example, F10 indicates alcohol use. Diagnosis is indicated by damage to health that is either physical or psychological. Harmful use should not be diagnosed if dependence syndrome or another substance or alcohol disorder is indicated (WHO, 2013).

Assumptions

I assumed that the archival data used were valid and reliable. I assumed that each individual was counted uniquely once in the data retrieved through the FIOA. The VA care provider was assumed to have made an accurate diagnosis and that the ICD-9 code assigned is correct. I also assumed that the data were collected ethically and that there were controls for biases (Creswell, 2003). The assumption of reliability was that the measures used were consistent and designed to measure what the researchers used them for. For this study, that meant that all VA care providers coded the veteran presenting with PTSD or SUD symptoms equally the same regardless of age or gender.

Limitations

The first limitation was the number of women veterans in comparison with the number of male veterans (Iraq and Afghanistan Veterans of America, 2011). It was difficult to search for and show significance of correlation with a disparity in numbers. Use of the chi-square calculation helped to resolve problems related to the expected unequal sample size. The second major limitation was that archival data relied on the operational framework of the original researchers (Vartanian, 2011). For this study, the

data were dependent on the specific request submitted by me and the specific method of retrieval determined by the retriever of data from the VA wide database. In addition, these data fell under the controls set by the original researchers that may not be fully in line with the current study's use (Vartanian, 2011).

Scope and Delimitations

I looked at as large a body of data as possible to see if there was a correlation between gender and diagnosis. Specifically, the population was limited to military veterans who had comorbid diagnoses of PTSD and SUD. This study was also limited to the archival data that was available.

Significance of the Study

Military women and women veterans are still not being considered often enough in research (Arcel & Kastrup, 2004; Forneris et al., 2004). Women seemingly respond differently than men do to stress (Taylor et al., 2000). According to Bradley, Green, Russ, Dutra, and Westen (2005), there is research about co-occurring psychological disorders for individuals with PTSD, but there is little data on treatment efficacy for comorbid diagnoses with PTSD. According to Golub et al. (2013), younger women veterans are at greater risk for SUD and psychological distress. According to Vogt (2007), there is data that shows that women diagnosed with PTSD are less likely to have a SUD than men. Vogt stated that the data also shows the opposite: Women with PTSD show higher rates of SUDs than men. According to Vogt, the disparity in what the data shows needed to be addressed. By addressing this issue, women veterans can have greater awareness of their

risk for comorbidity. Research can also show the need for future research about women veterans who are diagnosed with PTSD.

Summary

Women are a small but important part of our military veteran population. Within the population of women, more than ever before are serving in conflict zones. They are still under represented in research. Some research results have shown that men are more likely to have comorbid PTSD and SUD, whereas other research has shown the opposite with women having greater likelihood for such diagnoses. Some research has shown that younger women veterans are at greatest risk for SUD and experiencing psychological distress. Archival data are a resource that can allow for providing additional data about which gender may be more likely to have dual diagnoses.

This study looked at as large a body of data as possible in order to look for correlation between gender and comorbidity. Although the data are at odds regarding which gender has a greater likelihood of having dual diagnoses, I hypothesized that women would show more comorbidity. In addition, I hypothesized that age would show differences of likelihood for comorbidity with younger women being diagnosed most. In Chapter 2, I will review the literature about military veteran gender and PTSD, gender and comorbidity, and age as a possible factor.

Chapter 2: Literature Review

Recent numbers have shown that in 2013, the population of women veterans was at 2,248,579 (Department of Veterans Affairs, 2013a). Women veterans have indicated that they tend to view the health care and mental health services available to them at the VA negatively (Kelly et al., 2008). The women believe that services are created mainly for male veterans. In addition, women have the perception that few services are specifically designed to deal with women's specific health issues (Vogt et al., 2006). Because the number of women veterans is rising, so is their need for health and mental health care at the VA. Research specifically including women veterans helps raise awareness of their specific health and mental health care needs.

One major affect of war is the occurrence of PTSD. Often, PTSD can occur simultaneously with SUD (Goldstein, Luther, Jacoby, Haas, & Gordon, 2008). Notably, SUD was found seldom likely to occur alone (Goldstein et al., 2008). Women veterans are at risk of having diagnoses of both PTSD and SUD (Booth, Mengeling, Torner, & Sadler, 2011). According to Vogt (2007), however, the current data are in conflict. Some research has shown that women who are diagnosed as having PTSD have a smaller likelihood of having a SUD than men. Other research has shown the opposite: Women veterans with PTSD show higher rates of SUDs than men do (Vogt, 2007).

In this chapter, I review the literature on women and PTSD. Substance abuse by military veterans is discussed, as also is veteran gender and comorbidity. I examined whether the current literature showed the effects of veteran demographics on diagnosis.

Finally, I examined whether the current literature showed definitively which gender is at greater risk for comorbid PTSD and SUD.

PTSD and Women

The main focus in the study of PTSD in women has been related to trauma, mainly related to sexual or physical abuse (Cieslak, Benight, & Lehman, 2008). The Risk for PTSD (2007), printed in the *Harvard Mental Health Letter*, a newsletter, stated that women are two times more vulnerable for being diagnosed with PTSD than are men.

Most research results that included women have tended to be with civilian participants rather than with military veterans. PTSD for women has often been linked to physical or mental abuse. Cieslak et al. (2008) believed that efficacy would affect an individual's ability to cope with trauma and would affect their individual cognitions about their perceived ability to cope. They conducted two studies to test the effect of self-efficacy on individuals' ability to cope and PTSD. In the first study, 66 women with a history of childhood sexual abuse were recruited from support groups, local private practitioners, correctional facilities, and university students. The age range was 18 to 55 years, with the majority of women being Caucasian (75.7%). A small percentage was African American (9.1%), Latin American (7.6%), and Native American (7.6%). All participants were required to have a minimum of eighth-grade reading level ability. Measures used were the Posttraumatic Cognitions Inventory, the Sexual Abuse Coping Self Efficacy Scale, and the Impact of Events Scale – Revised. The women in both studies had similar scores for PTSD, coping efficacy, and self-blame. The differences in

scoring for the first study appeared to be from "negative cognitions about self . . . and world" (Cieslak et al., 2008, p. 792) with college students, the youngest participants scoring lower than women from the community or from correctional facilities. The second study used both men (n = 25) and women (n= 45) participants who had experienced a motor vehicle accident. These participants were assessed at 7 days, 1 month, and 3 months post-accident. The same measures were used except the Motor Vehicle Accident Coping Self Efficacy scale replaced the Sexual Abuse Coping Self Efficacy Scale. Results were similar to the first study where PTSD was related to an individual's negative perception of self and the world. Cieslak et al. believed that their studies showed that PTSD development was related to individual efficacy and how it affects coping skills. No data regarding gender differences for coping or efficacy were reported for the second study. No data regarding age was reported for both studies.

Research regarding military service and PTSD in the past has tended to focus on men. Women veterans with PTSD were less likely to be studied. In addition, women are a small percentage of the veteran population. This has been one reason that women have been excluded from much research that has focused on veterans' issues or needs. This is so, despite the fact that the literature has tended to show that women are at greater risk for developing and maintaining a lifetime diagnosis of PTSD (Turner, Turse, & Dohrenwend, 2007; Vogt, 2007). This means gender differences probably exist between men and women and the way that they cope with trauma such as the use of substances.

This may also mean that women veterans rate of trauma and of its effects are different than that of their male counterparts.

Women Veterans and PTSD

Gender and the affects of war such as PTSD are often overlooked as variables for veterans (Lapierre, Schwegler, & LaBauve, 2007; Solomon & Mikulincer 2007). Current data has reported that women appear to be more vulnerable to PTSD than are men (The Risk for PTSD, 2007). Combat zones have been defined in the past as being places from which women were excluded (Turner et al., 2007). The fact that women have not been included in combat may be one possible reason that women have often excluded from veteran specific research about PTSD and its affects.

Turner et al. (2007) looked into gender differences for PTSD for Vietnam veterans. Women during this war served mainly in support roles such as nurses. This study had no data regarding the impact of combat exposure on women. They studied 1,200 men and 432 women participants who served during the Vietnam War. Testing was done using the Mississippi Scale for Combat Related PTSD. Participants were grouped according to their Military Occupational Specialty and their actual level of exposure to combat during the war. In addition, the participants were stratified by age, ethnicity, education, and gender. The authors found that, when PTSD was diagnosed in women, most cases resulted from witnessing trauma (Turner et al., 2007). The participants saw the death and injury caused by the combatant males although they did not have actual direct combat exposure. Men tended to have PTSD from direct combat exposure.

While the physiological affects of PTSD have been studied in women as a result of sexual, accident, and other trauma, the effects of PTSD on women veterans specifically is an area where data is lacking. Forneris et al. (2004) used 92 participants. All were women veterans. Forty-two of the participants already had an existing diagnosis of PTSD and 42 had no existing diagnosis of PTSD. No specific demographic data such as age, race, or education was included in the research report. The participants completed the Trauma Questionnaire and their medical records were reviewed to confirm a history of PTSD (Forneris et al., 2004). Most participants' trauma came from a sexually traumatic event. One important finding from the Forneris et al. (2004) study was that the heart rates of women veterans with PTSD was more elevated than women veterans without PTSD or women diagnosed with other psychiatric disorders. The reason for the elevated heart rate is hypothesized by the authors to be a symptom of PTSD. These findings were in accord with previous research that utilized mainly or only male participants and showed that men with PTSD were more likely to have an elevated heart rate than men without this diagnosis.

Booth et al. (2011) looked specifically at women veterans with PTSD and SUD. They utilized information from 1,004 women veteran participants who were aged 20 to 52 with an average age of 40, and who had requested medical care at two Midwest Department of Veterans Affairs (DVA) medical centers or nearby clinics. The women were asked during interviews to report the occurrence of unwanted sexual occurrences and substance use including alcohol, legal and illegal substance use (Booth et al., 2011).

Booth et al. (2011) measured substance use with the Substance Abuse Outcomes Modules for both drugs and alcohol. Depression was measured by the Composite International Diagnostic Interview Short Form. PTSD was measured by the Posttraumatic Symptom Scale (PSSI) (Booth et al., 2011). The sexual relationships were examined by the use of a three item questionnaire in response to which the participants described the nature of all the sexual relationships they had before, during, and after their military service. Booth et al. (2011) found that 62% of the women had experienced both attempted or completed rape experiences during their lifetimes. The authors found that many women had already experienced unwanted sex prior to military service and they had continued having such experiences throughout and after serving in the military. Sixty-four percent of the participants had SUD during their lifetimes and 32.1% had been diagnosed with PTSD.

These studies show that, for women, it is possible that the event of witnessing a traumatic event may result in PTSD. The result often can be measured by the physiological response such as an elevated heart rate. Military women are likely to have prior trauma occurring before military service. This is often exacerbated by the occurrence of trauma during their service. This repeated trauma has been linked to diagnoses of SUD in conjunction with a PTSD diagnosis (Booth et al., 2011).

Military and Veteran Substance Use

The 2008 Department of Defense Survey of Health Related Behaviors Among Active Duty Military Personnel (Kerlikowske, 2010) showed that the percentage of men

and women aged 18 to 65 in the military who reported prescription drug misuse was more than double that reported by the civilian population. For military personnel reporting, the percentage was 11.5 where the civilian population reported 4.4% (Kerlikowske, 2010). In addition, based on these reports, military women had higher rates of illegal substance use than did military men (Kerlikowske, 2010). The variable of age was not discussed in this study.

Golub et al. (2013) looked into SUDs and psychological distress comparing OIF/OEF veterans to civilians using data from the NSDUH. They felt that veterans were not seeking or receiving treatment. Golub et al. (2013) looked at a RAND study that showed women veterans in that sample had the greater prevalence of PTSD. In addition, they noted that the RAND study showed that these men and women veterans were part of the general population meaning they were no longer serving actively in the military. These veterans may not have sought care through the VA (Golub et al., 2013). The researchers felt this pointed to why psychological distress and SUD treatment was an unmet need for veterans. In addition, Golub et al., (2013) found that younger women minorities who were Hispanic or African American were at greatest risk for being diagnosed with mental health disorders.

Benjamin, Bell, and Hollander (2007) compared alcohol abuse in the Army to the level of such abuse in the civilian population. They felt that hospitalization related to alcohol consumption would be an indicator of abuse or addiction. For their study they categorized the basis of hospitalizations as being due to a) alcohol dependence, b)

nondependent alcohol abuse, or c) co-occurring alcohol and drug use (Benjamin, et al, 2007). Data about Army personnel were collected from the Army Injury and Health Outcomes Database. Data about civilians were collected from the National Hospital Discharge Survey that is conducted annually. Both populations were compared on the percentages of alcohol related diagnoses for the years 1980 through 1995 (Benjamin et al., 2007). In order to account more equitably for age, civilian data was only collected for the age range of 17 to 55. Comparisons between civilian data and military data controlled for variables such as race and gender (Benjamin et al., 2007). The data showed that Army and civilian people seemed to have about the same level for the diagnosis on alcohol dependence until about 1988. After this time, Benjamin et al. (2007) felt that differences may have occurred due to changes in civilian health care and funding cuts for civilian substance use programs. The rates of Army personnel's non-dependent alcohol hospitalizations then became higher than that of civilians. From 1984 to 1988, the percentage was as much as four times higher for Army personnel (Benjamin et al., 2007). Civilians were much more likely to have co-occurring alcohol and drug use. Benjamin et al. (2007) felt that this might have occurred because entry into the military required drug screening and may have discouraged individuals with existing substance use to join the military.

Research has also shown that veterans are more likely than civilians to be dependent on prescription medication (Benjamin et al., 2007). This study reported that younger women veterans are at greater risk for mental health disorders (Golub et al.,

2013). Research has also shown that civilians are more likely to use non-prescription drugs. While Benjamin et al. (2007) found that Army personnel had higher rates of alcohol related hospitalizations than civilians did, they found no concrete indication of alcohol dependence. Benjamin et al. (2007) believed that this difference between civilians and military personnel may have been due to stricter Army drug testing. The authors felt this may have lead to alcohol having been substituted for the illicit substances.

Gender and comorbidity

Regarding SUDs, women again have remained understudied (Tuchman, 2010). Women have tended to seek treatment less often than men because of the added burden of needing childcare (Benda, 2006; Tuchman, 2010). This has led to under reporting the numbers of women who have SUD. In their review, Stewart et al. (2006) found that women tended to have higher rates of comorbid PTSD and SUD. Homeless women veterans were less likely than men to be re-admitted to inpatient care for substance abuse but also were more likely to be victimized on the streets while under the influence of substances (Benda, 2004).

Nunnink, Goldwaser, Heppner, Pittman, Nievergelt, and Baker (2010) looked at women veterans enrolling in a Southern California Veterans Health Administration facility from April to October of 2006 who had taken part in either OEF or OIF. They found 36 women for this study, which was 8% of the total study population. For men, they were able to identify 399 participants. All participants gave demographic

information such as their age, gender, ethnicity, branch of service, and discharge type (Nunnink et al, 2010). In addition participants answered two questions: a) were they exposed to combat, and b) were they ever treated for alcohol related problems. Instruments used were the Alcohol Use Disorders Identification Test, the Drug Abuse Screening Test-10, and the Davidson Trauma Scale to screen for PTSD (Nunnink et al., 2010). They found in this sample of women, 92% reported combat exposure, 47% screened positive for at risk of alcohol use problems, 6% screened positive for substance use problems, and 31% screened positive for PTSD. Nunnink et al., (2010) felt that their study showed a need to screen all women veterans for both PTSD and alcohol use because the data showed that they were probably at risk for both.

According to Stecker et al. (2007), women veterans who are diagnosed with substance abuse disorders (SUD) also often had PTSD as a co-occurring disorder. Their study had two hypotheses, a) there would be gender differences between men and women seeking intensive outpatient (IOP) substance use treatment in the VA, and b) there would be differences between the women seeking IOP and those not seeking treatment (Stecker et al., 2007). The authors felt this study was necessary because they believed they would find women to have more psychiatric comorbid diagnoses but fewer medical diagnoses than men. There were 8,329 total participants. Of these participants, 247 were women. Participants were recruited nationwide and medical diagnoses were measured using the Charlson Comorbidity Index (Stecker et al., 2007). Age was not indicated for any of the participants of this study. The authors found that few of the women diagnosed with SUDs

actually utilized the IOP. As with the homeless women veterans, one issue for the women was the fact of having a child to care for. Additionally, women were reluctant to attend group therapy where the other participants were mostly men and women were in the minority. Stecker et al., (2007) found that women who did seek IOP had a higher level of both psychiatric and medical comorbidities. Men in this study were found to be at a greater likelihood to seek and utilize the IOP treatment for both mental health and physical health issues.

There is research showing that women are at greater risk of being diagnosed with SUD (Nunnink et al., 2010). It has been found that women veterans may be at risk for both PTSD and alcohol abuse, and are also likely to have been exposed to combat at some point during their military service. In addition, they appear less likely to seek treatment than male veterans.

Demographics

Goldstein et al., (2008) looked at 3,505 homeless veterans because this population is at greatest risk for co-occurring substance use and mental illness. The data was gathered by the Department of Veterans Affairs (DVA) outreach program workers. The region included all of Pennsylvania and Delaware, parts of West Virginia, New Jersey, and Ohio. Of these veterans, 46% lived in homeless shelters and 18% lived with acquaintances. Data were gathered by interviews conducted by DVA mental health workers consisting mostly of social workers and psychiatric nurses. The participants were rated based on an unstructured assessment using both self report information and medical

record review (Goldstein et al., 2008). The participants were then categorized as a) having an addiction, b) having psychosis, or c) having a personality disorder. Goldstein et al. (2008) found that 93% of the veterans had at least one diagnosis. Veterans with personality disorders were found not to have SUDs. Veterans who had an addiction or psychosis-based disorder were found to have had comorbid diagnoses. The largest numbers of participants were found to have an addiction (92%), followed by psychosis (6.5%), and personality disorders were least likely (1.6%). The average age was 48.2 years. Only 3.9% were married. The majority of participants were African Americans (52.8%), followed by Caucasian (46.2%), and a small percent were listed as other (3.6%). Goldstein et al. (2008) reported that the majority of participants were male (*N*=3230). About half of the participants (51.2%) had been employed within the past three years. Only 2.7% of the participants were diagnosed with PTSD, and of those participants 95% had reported substance use (Goldstein et al, 2008). The main outcome of the study was the surprising number of veterans with comorbidity and the high percentage of SUDs among the homeless veterans. This study included both male and female participants. There was no specification to how many were male versus female. There was no specific indication of gender differences because this phenomenon was not part of the research.

In the Nunnink et al., (2010) study, women (*N*= 36) were mainly Caucasian, (41.7%). They were young, aged 20 to 25 (41.7%). Of these women 91.7% had been exposed to combat and reported no previous treatment for alcohol related problems. This study found that women were at high risk for both PTSD and SUD. Of this population,

there were no data on which demographic variable indicated the most risk for PTSD or SUD.

These studies showed that veterans who are homeless often have issues with substance use. Along with SUD, there tended to be at least one or more co-occurring diagnoses. These veterans tend to be younger in age (Goldstein et al., 2008; Nunnink et al., 2010). Women in this sample were at risk for both PTSD and SUD (Nunnink et al., 2010). The women were found to be at more risk for both PTSD and SUD, especially when the substance was alcohol.

Current literature regarding PTSD and SUD

To look specifically at what the current literature showed about comorbidity, it was necessary to include civilian studies. Currently, there have been few studies that have compared gender effects within the veteran population. Some studies specifically looked at women veterans (e.g. Booth et al., 2011; Nunnink et al., 2010; Stecker et al., 2007). Some looked at a specific substance such as alcohol (e.g. Benjamin et al., 2007). Finally, some utilized a mainly male population (e.g. Goldstein et al., 2008). The consensus among most researchers is that women veterans need to be included in research.

There is a larger body of research within the civilian population. Stewart et al. (2006) reviewed 15 studies of non-military men and women with comorbid PTSD and SUD. Their review of the literature found that women were more likely to have both disorders than were men. Their review also found that men and women were equally

likely to have PTSD. This is contrary to many other studies that have shown women at greater risk for the diagnosis of PTSD (Stewart et al., 2006).

Zlotnick, Zimmerman, Wolfsdorf, and Mattia (2001) looked into gender differences for civilian patients with PTSD. There were 1,130 civilian participants who were interviewed using the Structured Clinical Interview for *DSM-IV* (Zlotnick et al, 2001). All participants were aged 18 or older. The participants came from a general hospital's outpatient departments. In addition, 26 participants were randomly selected to be re-evaluated. Of the participants, 99 women and 39 men were currently diagnosed with PTSD (Zlotnick et al., 2001). The participants were mainly Caucasian (84.8%) and the average age was 35.48 years. Zlotnick et al., (2001) found that these women were more likely to have PTSD from sexual trauma, and the men were more likely to have comorbid PTSD and SUD.

Vogt, Vaughn, Glickman, Schultz, Drainoni, Elwy, and Eisen (2011) looked into gender differences among OEF/OIF veterans who had been deployed during their military service. The sample was a nationwide stratified random sample that was selected from the Defense Manpower Data Center roster (Vogt et al., 2011). In this sample, half had served in the regular military (Army, Navy, Air Force, Marines), one quarter was from the National Guard, and one quarter were from the reserve forces of the regular military. Of this sample, half were women. All of the women were deployed for OEF/OIF from the first of October 2007 through the end of July 2008. A total of 595 surveys were completed from the 1,833 that were sent out. There were 252 men and 340

women total (Vogt et al., 2011). Demographically, the women tended to be about three years younger than the men, and were more likely to belong to an ethnic minority group. The men tended to be married, have a higher average income than the women, and tended to have served in the Marines (Vogt et al., 2011). The measures were the Deployment Risk and Resilience Inventory, combat experience was measured with a 15 item Likert scale; aftermath of battle was measured by a 15 item Likert scale; perceived threat was measured by a 15 item Likert scale; difficult living and working environment was measured by a 20 item Likert scale; prior stress exposure was measured by a 17 item Likert scale; deployment sexual harassment was measured by a 7 item Likert scale; posttraumatic stress symptomology (PTSS) was measured by a military version of the PTSD checklist; depression and substance abuse were measured by the Behavior and Symptom Identification Scale and mental health functioning was measured by the Veterans RAND Short Form (VR-12) (Vogt et al., 2011). The authors found that the men in their sample had slightly higher rates of combat related stress than did the women. Vogt et al. (2011) noted that the difference was slight with men reporting PTSS at 31.34% and women reporting PTSS at 30.16%. Women reported prior life stressors at 2.97% with men reporting prior life stressors at 2.30%. Women reported having experienced sexual harassment or assault at 8.95% with men reporting at 7.34% (Vogt et al., 2011). Men reported more substance abuse than did the women.

Peirce, Kindbom, Waesche, Yuscavage, and Brooner (2008) looked at the relationship PTSD had in a group of substance dependent civilian men and women who

were seeking treatment. They utilized 1,440 participants enrolled in two outpatient substance abuse treatment programs at Johns Hopkins Bayview Medical Center during the years of 1995 through 2001 (Peirce et al., 2008). The average age was 37 years, 66% were ethnic minorities, 48% were women, 15% were married or partnered, and 27% reported current employment. The average education level was 11.27 years. The average age for women was 35.42 years and for men was 38.46 years and the education level for women was 11.09 years and men was 11.45 years (Peirce et al., 2008). Assessment was conducted two to three weeks after initial participation in treatment, and when participants were found to be free from intoxication and withdrawal symptoms. PTSD diagnosis was made with the Structured Clinical Interview for *DSM-IV* (Peirce et al., 2008). What Peirce et al. (2008) found was that the women were more likely to develop PTSD with the odds ratio of 2.92. The most frequent traumatic event was sexual assault, followed by combat. Women were found more likely to develop PTSD if they had been exposed to any type of traumatic event (Peirce et al., 2008).

Back, Brady, Jackson, Salstrom, and Zinzow (2005) looked at the impact of stress on substance use. They felt that research showed that there were gender differences for substance use, so they looked specifically into differences by gender for cocaine use. There were 39 civilian participants with 21 women and 18 men. All met the *DSM-IV* TR criteria for cocaine dependence and were all aged 18 or older. The average age for women was 36.2 years and for men was 32.8 years (Back et al., 2005). In addition, all had to be free from cocaine for at least three days prior to study participation (Back et al.,

2005). Measures were the Structured Clinical Interview for the *DSM-IV* TR, the Timeline Follow-Back was used to measure cocaine use, and the Inventory of Drug-Taking Situations was used to measure situations where the individual would most often use cocaine. Stress was measured by assessing the subjective stress based on a 10 point Likert scale and by the Anxiety Inventory a 20 item Likert scale. Physiological stress was measured by heart rate and skin conductance (Back et al., 2005). In a lab setting participants completed a psychologically stressful and a physically stressful task. The Mental Arithmetic Task was used for psychological stress, and the Cold Pressor Task was the physically stressful task. What Back et al. (2005) found was that women had greater perceived stress whereas men had higher physiological responses to the stress but reported less perceived stress. Back et al. (2005) also felt that this was a strong indicator for women's substance use in reaction to stress whereas they thought that the men tended to use substances for pleasure.

Within the literature for comorbid PTSD and SUD, there is a disparity. Some data has shown women are at greater risk. Other data shows men are at greater risk. Within this literature, there does appear to be support for women at greater risk of comorbidity from sexual trauma. In addition, there appears to be support that shows women at greater risk for perceived stress. There is literature that shows younger women veterans are more likely to have psychological distress and SUD.

Summary

Past research has looked mainly at civilian women and PTSD in relation to sexual or physical traumas. How an individual copes with trauma may mediate the development of PTSD. Women veterans in some instances may be traumatized from witnessing an event (Turner et al., 2007). Women veterans tend to have the same physiological response to trauma as do men (Forneris et al., 2004). Often these women have trauma prior to military service that is continued throughout and after their time in the military.

Substance abuse for women veterans has been reported as being higher than males (Kerlikowske, 2010). For both genders, those in the Army had higher rates of alcohol related hospitalizations than that of the civilian population. When it comes to comorbid PTSD and SUD, studies that focus specifically on women veterans found them to be at high risk for both (Nunnink et al., 2010; Stecker et al., 2007). There was minimal information about demographics variables. What did exist showed that homelessness was the leading indicator of risk (Goldstein et al., 2008) and that having a diagnosis of addiction or psychosis put individuals at greatest risk for comorbid diagnoses. There was minimal information about age. The study that did include age showed younger women to be at greater risk for receiving these diagnoses (Vogt et al., 2011). Much of the current literature has focused on the civilian population. In some instances, the data does show men at greater risk for PTSD and SUD, while other studies show the opposite. Women with PTSD tended to have trauma from childhood, and the literature indicates that

perceived stress is also a risk factor that affects women more than men. In some studies younger women veterans have been shown to be diagnosed with SUDs.

Chapter 3: Research Methodology

The purpose of this archival study was to see if the data showed whether women veterans may be more likely than male veterans to have comorbid PTSD and SUD. The numbers of veterans eligible for health or mental health treatment in 2010 was 1.3 million but only 31% of these eligible veterans sought treatment (Congressional Budget Office, 2012). To study the phenomena and compare genders, I used archival data hoping to reveal any differences in the numbers of women versus men who were diagnosed with both disorders concurrently. In this chapter, I outline the study, how statistical analysis was done, and the population of participants.

In order to compare differences in the occurrence of comorbid diagnoses of PTSD and SUD between military men and women, I used a cross-sectional design. I compared the two genders on the frequency with which they were diagnosed with PTSD and SUD. The independent variables (IVs) were the veterans' gender. The dependent variables (DVs) were the frequency of comorbid diagnoses of PTSD and SUD. The moderator variable was age for women veteran participants only to examine if it had an interaction with diagnosis.

Description of the Study

I aimed to compare the rates of comorbid PTSD and SUD of men and women veterans using archival data. The data were retrieved from the national database of the VA, VIReC, using the FOIA. According to government data, more than 2 million military veterans were deployed for operations OIF and OEF between October of 2001 and March of 2003 (Congressional Budget Office, 2012).

Design of the Study

I used a cross-sectional design to compare the men and women veterans on the frequency with which they were diagnosed with PTSD and SUD. I used the ICD-9 codes for mental and behavioral disorders due to psychoactive substances (WHO, 2013). Diagnoses referring to tobacco and volatile solvents were omitted. The included codes were F10 alcohol, F11 opioids, F12 cannabinoids, F13 sedatives or hypnotics, F14 cocaine, F15 other stimulants including caffeine, F16 hallucinogens, and F19 multiple drug use and use of other psychoactive substances. Posttraumatic stress was diagnosed using the ICD code F43.1 (WHO, 2013). A chi-square test for goodness of fit showed which gender showed the greater frequency of diagnoses. Women were then looked at separately by age see if this variable had an effect on frequency.

Statistical Analyses

The chi-square test for goodness of fit looked at the variables of gender, diagnosis, and women separately age. The goal was to see whether the numbers showed that women are at greater likelihood of having the comorbid diagnoses than men, and to see women were at greater risk for such diagnoses if they were younger.

I used data that are publicly available at the Department of Veterans Affairs. The FOIA allows citizens access to federal agency records (U.S. Department of Justice, 2011). The VA falls under this category and allowed access to information regarding veterans' health and mental health records. Data for the Fiscal Years 2011 and 2012 was requested. I expected that the data would include information about thousands of individual participants.

Private information such as names, dates of birth, or other personal identifying information was not allowed to be publicly accessed (U.S. Department of Justice, 2011). For this study, identifying information about specific individuals was not necessary. Only data related to gender, diagnosis, and age were requested.

Expected Frequency

The chi-square test for goodness of fit determines whether the expected frequency is the same as the observed frequency. For this study, the expected frequency for $H_{(1)}$ is that women would have the dual diagnoses of PTSD and SUD at the rate of 55% and men with the frequency of 45%. Furthermore, the prediction was that younger women would have the highest frequency of the dual diagnoses.

For this study, the age ranges were as follows (a) < 24 years, (b) 25–34 years, (c) 35–44 years, (d) 45–54 years, (e) 55–64 years, (f) 65–74 years, (g) 75–84 years, and (h) 85+ years.

Research Question and Hypotheses

Research Question 1

Are women military veterans more likely than male military veterans to have comorbid PTSD and SUD?

$H_{1(0)}$: Men and women veterans are equally likely to have comorbid PTSD and SUD as diagnosed by the ICD-9 CM, and ICD-9 PCS (U.S. Department of Veterans Affairs, 2013b), and who sought care at the VA during Fiscal Years 2011 and 2012, as provided to me in publicly available information through the Freedom of Information Act (FIOA).

$H_{1(1)}$: Women veterans are more likely to have comorbid PTSD and SUD than male veterans as diagnosed by the ICD-9 CM and ICD-9 PCS, and who sought care at the VA during Fiscal Years 2011 and 2012, as provided to me in publicly available information through the FIOA. The expected frequencies using chi-square test for goodness of fit are that women will have dual diagnoses 55% compared to men for whom the frequency of such diagnoses are expected to be 45%.

Research Question 2

Does age affect the rate of comorbidity for women veterans?

$H_{2(0)}$: Age differences among women veterans has no effect on comorbid diagnoses as diagnosed by the ICD-9 CM and ICD-9 PCS (U.S. Department of Veterans Affairs, 2013b) as provided to me in publicly available information through the FIOA.

$H_{2(1)}$: Age differences among the women will show a greater likelihood of comorbid diagnoses among the younger women as diagnosed by the ICD-9 CM and ICD-9 PCS (U.S. Department of Veterans Affairs, 2013b) as provided me in publicly available information through the FIOA. The frequency is expected to show that younger women will have higher frequencies of comorbid diagnoses than the other women.

Participants

For this study, data came from publically available data utilizing the FOIA. These data were gathered and stored solely by the VA. The stored data did not include active duty men and women. The participants were both genders with men being the greater number in the population.

There were 2,248,579 women veterans as of 2013 (Department of Veterans Affairs, 2013c). The total veteran population was 21,972, 964 at that time (Department of Veterans Affairs, 2013a). The age range goes from younger than 20 years to older than 85 years of age (Department of Veterans Affairs, 2013d). The largest number is the age range of 65 to 69 with 3,127,803 being in this category (Department of Veterans Affairs, 2013d). The next largest group is age 60 to 64 years. Ages 59 to 20 years were grouped in four year increments and decrease in numbers as the age became younger (Department of Veterans Affairs, 2013d). Because the older age ranges from 30 to 69 have the largest population, it is likely the men and women diagnosed with PTSD and SUD in this study will fall into that age range. The total number of wartime veterans for all age groups was 16,475, 283 in 2013 (Department of Veterans Affairs, 2013d). The total number of participants for this study was 835,057. Of these, 11,349 genders were not indicated and they were not included. There were 38,656 female veteran participants and 785,052 male participants in this study.

Archival Data

The reason archival data was chosen for this study is because clinical information about the military veteran population is protected. Veterans who have PTSD or SUD are an at risk population. This means that participation in research could cause distress. Research has shown that this is an issue for veterans diagnosed with PTSD (Gariti et al., 2009).

Archival data is a resource of information that has already been collected (Vartanian, 2011). Its' existence is often overlooked. It is valuable information waiting to be scientifically studied (Vartanian, 2011). The data was entered into a Microsoft Excel Spread

sheet. Individuals were counted only once per fiscal year. Diagnosis by ICD-9 code and age for women veterans will be requested. This information will then be put into the SPSS for analysis using Chi square test for goodness of fit.

Summary

This study acquired data from VIReC to compare rates of comorbid PTSD and SUD by gender for male and female veterans. Veteran data is nationally stored on VIReC. It used a cross sectional design to compare these veterans based on ICD-9 codes. Codes related to substance use and PTSD was used; codes for tobacco and volatile solvents were omitted.

Analysis was performed using a chi-square test for goodness of fit looking at the variables of gender and diagnoses. Data from women military veterans in the system was then further analyzed by age. Individuals were counted only once per fiscal year, and data was analyzed by the SPSS using chi-square test for goodness of fit.

The FOIA allows access to VA data regarding diagnosis and gender. The variable of age was also requested for women veterans only. The ICD-9 codes for substance use and dependence, and posttraumatic stress were used. The Fiscal Years 2011 and 2012 were requested since the expected number of participants for these two years will be in the thousands. A chi-square test for goodness of fit was used to discover whether women were more likely than men to have the dual diagnoses, and to further look at age as a variable to see if that impacts the likelihood of dual diagnoses for women.

Chapter 4: Results

In this study, I examined whether women military veterans are more likely than male military veterans to have comorbid PTSD and SUD. I also examined whether the age of the women affects the rate of comorbidity. The purpose of this archival study was to see whether the data would show whether women veterans were more likely than male veterans to have comorbid PTSD and SUD. To study the phenomena and compare genders, a look into archival data revealed whether there were differences in the numbers of women versus men who were diagnosed with both disorders concurrently.

Data were gathered from the VIReC database using the FOIA. The request was logged by the VA as request number 16-04477-F. Data were delivered to me in a 22-page Excel spreadsheet. In this chapter, I review the data and analyze the results using the SPSS. Further data were requested through the VA via personal email to vaconcvas@va.gov. These data were the actual total percentages of women and men veterans for the Fiscal Years 2011 and 2012. In this chapter, I analyze these data.

Participants

Data were provided for 835,057 possible participants. These were the veterans for whom data was counted only once per fiscal year, regardless of how many times they sought treatment subsequently during the fiscal year after the initial visit. For 11,349 of these, gender was not indicated; data from them was not used in any of the analyses. That left data from 38,656 women veterans and 785,052 male veterans. The data from these individuals were used for the analysis. The available data on women veterans included only age. Data

on socioeconomic status and branch of service was not available through the FOIA. Women were grouped by age as follows: (a) < 24 years, (b) 25–34 years, (c) 35–44 years, (d) 45–54 years, (e) 55–64 years, (f) 65–74 years, (g) 75–84 years, and (h) 85+ years.

Data Analysis

Data were analyzed using the IBM SPSS Statistics 21 provided by Walden University through a download available through the Walden University Research Resources. The first attempt to run the data created an error warning: "There is insufficient work space memory to process all the cases: Break up the request."

The participant aggregates for both men and women were equally reduced by 50%. The same error warning for insufficient workspace memory to process all the cases was generated in the second attempt to run the data. Again, the aggregates for both the men and women were reduced by 50% equally among each group to prevent the SPSS error that the participant size was too large to run. The second attempt was successful and yielded the chi-square goodness of fit results.

Percentages

For Fiscal Year 2011, women constituted 7.3% and men 92.7% of the total population of veterans. For Fiscal Year 2012, women were 7.6% and men 92.4% of the total population.

What the Data Showed

The participants showed significant differences between genders for having a comorbid diagnosis of PTSD and SUD: $X^2(3, n = 834{,}912) = 1176.836, p < .05$.

Table 1

Frequency of Posttraumatic Stress Disorder and Substance Abuse Disorders for Men and Women Veterans for Fiscal Years 2011 and 2012

	Observed *N*	Expected *N*	Residual
Women 2011	2304	3757.4	-1453.4
Women 2012	2508	3911.8	-1403.8
Men 2011	48371	47714.1	656.9
Men 2012	49760	47559.7	2200.3
Total	102943	102943.14	

In Table, 1 the Observed *N* refers to the actual numbers that were diagnosed with PTSD and SUD after equally reducing the sample size to remove the SPSS error. Expected *N* refers to the frequency expected value by the actual percent of women for 2011, 7.3% and men 92.7%. For 2012 the actual numbers of women 7.6% and men 92.4% and this was the expected value for that year. These were the real percentages of the total population of veterans in the United States. The Residual was the Observed value minus the Expected value. The residual is also referred to as error. Because predicted values tend to not be exact, the residual was used to get a value that adjusts for the difference between predicted and actual numbers. The result therefore shows that women veterans in Fiscal Years 2011 and 2012 were below the expected value for having the comorbid diagnosis of PTSD and SUD. The result also showed that male veterans for fiscal years 2011 and 2012 were above the

expected values for the comorbid diagnosis of PTSD and SUD. These results were obtained by accounting for the actual percentage of veterans by gender for these two years. For Fiscal Year 2011, women comprised 7.3% and men 92.7% of the total population of veterans. For Fiscal Year 2012, women were 7.6% and men 92.4% of the total population. Next, I look at the null hypothesis and hypothesis comparing the two genders in this study.

$H_{1(0)}$ Men and women veterans are equally likely to have comorbid PTSD and SUD as diagnosed by the ICD-9 CM and ICD-9 PCS (United States Department of Veterans Affairs, 2013b), and who sought care at the VA during Fiscal Years 2011 and 2012, as provided to me in publicly available information through the FIOA.

$H_{1(1)}$ Women veterans are more likely to have comorbid PTSD and SUD than male veterans as diagnosed by the ICD-9 CM and ICD-9 PCS, and who sought care at the VA during Fiscal Years 2011 and 2012, as provided to me in publicly available information through the FIOA. The expected frequencies using chi-square test for goodness of fit are that women will have dual diagnoses 55% compared to men for whom the frequency of such diagnoses are expected to be 45%.

The null hypothesis was rejected because men and women were not equally likely to have PTSD and SUD. Further, the hypothesis was rejected because male veterans were shown to have a statistically significant greater rate of PTSD and SUD than female veterans.

Table 2

Numbers of Specific Substance and Posttraumatic Stress Disorder for Women Veterans by Age Group and by Dependence for Both Fiscal Years 2011 and 2012

Age Group	Alcohol	Opioid	Cannabinoid	Sedatives/ hypnotics	Cocaine	Hallucinogen	Amphetamine/ psychoactive	Totals by age
<25	364	143	165	21	57	3	40	793
25-34	3166	1208	1031	222	515	17	312	6471
35-44	3482	982	828	254	888	10	341	6785
45-54	7917	1906	1645	435	3298	13	640	15854
55-64	4393	1183	749	320	1074	5	170	7894
65-74	509	87	36	21	25	1	11	690
75-84	83	17	1	6	2	0	0	109
85+	41	9	1	9	0	0	0	60
Total by dependence	5535	4456	1288	5859	49	1514	38656	

Female participants showed significant differences between the age groups $X^2(7, n = 38656) = 44683.207$, $p < .05$.

In Table 2, the total numbers of women veterans were shown by specific substance comorbid with PTSD. It also showed the age groups of the women by specific substance diagnosed. These data were not reduced because the numbers of participants were small enough for the SPSS to run the data.

For all age groups the expected frequency for having the combined diagnosis was 4832. The youngest women aged 24 years or younger had a frequency of 793. This was far below the expected rate. Women aged 60 up through the 85+ groups were also far below the expected frequency. Women aged 25 through age 64 were above the expected frequency with women aged 45-54 having the highest frequency of all groups. Next we look at the hypothesis and null hypothesis for the women veterans in this study. The age groups of

women were tested for effect on diagnosis.

$H_{2(0)}$ Age among women veterans has no affect on comorbid diagnoses as diagnosed by the ICD-9 CM and ICD-9 PCS (United States Department of Veterans Affairs, 2013b) as provided to me in publicly available information through the FIOA.

$H_{2(1)}$ Age among the women will show a greater likelihood of comorbid diagnoses among the younger women as diagnosed by the ICD-9 CM and ICD-9 PCS (United States Department of Veterans Affairs, 2013b) as provided to me in publicly available information through the FIOA. The expected frequencies were expected to show that younger military veteran women would have had higher frequencies of comorbid diagnoses than the other women.

The null hypothesis was rejected because women veterans of the different age groups were not equally likely to have PTSD and SUD. The hypothesis was not accepted because younger aged women were not shown to have a statistically significant greater rate of PTSD and SUD. The data did demonstrate, however, that women aged 45-54 had the highest rates of PTSD and SUD. And that women age <25 and women aged 56 and above had significantly lower rates of PTSD and SUD.

Table 3

Numbers of Women Veterans by Age for Fiscal Years 2011 and 2012 with Comorbid Posttraumatic Stress Disorder and Substance Use Disorders

Age Groups	Observed *N*	Expected *N*	Residual
<25	793	4832.0	-4039.0
25-34	6471	4832.0	1639.0
35-44	6785	4832.0	1953.0
45-54	15854	4832.0	11022.0
55-64	7894	4832.0	3062.0
65-74	690	4832.0	-4142.0
75-84	109	4832.0	-4723.0
85+	60	4832.0	-4772.0
Total	38656		

In Table 3, the Observed N refers to the actual numbers that were diagnosed with PTSD and SUD for Fiscal Years 2011 and 2012. Expected *N* refers to the frequency expected if all age groups were equal with both PTSD and SUD. The Residual was the Observed value minus the Expected value. The residual is also referred to as error. Because predicted values tend to not be exact the residual was used to get a value that adjusts for the difference between predicted and actual numbers.

Summary

Data were gathered on all men and women veterans who sought care at the VA for PTSD and SUD for Fiscal Years 2011 and 2012.There were 823,708 total participants included in the Chi-Square test for goodness of fit. It was hypothesized that women veterans would be more likely to have the comorbid diagnoses of PTSD and SUD. It was further hypothesized that the younger women would have the greatest likelihood of the comorbid diagnoses.

These data showed the opposite of what was expected. The percentage of women veterans for the Fiscal Years 2011 and 2012 were low compared to male veterans for the comorbid diagnosis of PTSD and SUD. Middle aged women veterans aged 45-54 were at greatest risk for having been diagnosed with PTSD and SUD. The youngest and oldest aged women were least likely to have PTSD and SUD.

Chapter 5: Discussion

Suggestions for Future Research, and Conclusions

The purpose of this study was to see whether women veterans were more likely than male veterans to have PTSD and SUD. The focus of past research on mental health issues involving the military has focused mainly on the male population. The current literature shows mixed results for which gender is more likely to have PTSD and SUD within the veteran population (Vogt, 2007). Past research showed that women from the general population were at a greater risk for developing comorbid PTSD and SUD if the woman had either diagnosis (Najavits et. al., 1997). In this chapter, I will review the findings of this study, implications of this study regarding the social cognitive theory, limitations, recommendations for future research, and implications for social justice.

An Examination of the Findings

The data did not support the hypotheses that women were more likely than men to have the comorbid diagnoses or that younger women were at greatest risk. The data showed that male veterans in this sample were more likely to have comorbid PTSD and SUD. Furthermore, the data showed that women aged 45 to 54 years were more likely than younger women to have PTSD and SUD together. The youngest and oldest women were least likely to have to comorbid diagnoses. These results imply that the research supporting male veterans having the dual diagnoses more frequently than women veterans support what the literature has already shown if it is considered that women do not seek treatment at VA hospitals as readily as men do (Washington et al., 2007). According to Washington et al.

(2007), women who use and do not use the VA believe that the VA does not have enough focus on needs specific to women's health.

If it is considered that women may not seek treatment if they do not have childcare, or because the VA is dominated by a mainly male veteran population, or that most VA centers do not adequately provide specific services for women's heath (Kelly et al., 2008; Vogt et al., 2006), then these factors may explain why these current data did not support the past research that showed women veterans at greatest risk. The younger age group of women would likely have small children. If they do not have access to childcare, this would prevent them from seeking services at the VA. The oldest women would likely have access to Medicare and this would allow them to seek health care elsewhere. If the women veterans had been victims of military sexual trauma (MST), this would further create the likelihood for not wanting to seek care at a predominantly male VA health care system.

A Consideration of the Findings in Light of Existing Studies

Research has shown that few women veterans diagnosed with SUDs have sought treatment from the VA (Stecker et al., 2007). Within the civilian population, women have been found to be more likely to have PTSD than men (Stewart et al., 2006) and those diagnosed with SUD are more likely to have psychiatric comorbidity than men (Stecker et al., 2007). My study supports the idea that men are more likely to have the comorbid diagnoses. It may be that these data might not truly represent women veterans. The data only included women who sought care at the VA. This means that only a portion of women veterans were part of this study, and not the entire population of female veterans. Because

the data show women in the civilian population to be as likely as men to have PTSD, it would seem reasonable that women veterans would also have the same risk. In the civilian population there is no diagnosis for MST. Civilian women who have experienced comparable sexual trauma are generally diagnosed with PTSD (Stewart et al., 2006). I did not include the diagnosis for MST. This could also help explain the discrepancy between these results and what was previously found in the literature.

Washington et al. (2007) examined why women veterans did not use the VA for medical services. They recruited 51 women veteran participants aged 26 to 83 years for six focus groups in Los Angeles, California. In four of the groups, the women had used the VA for health care within the past 5 years. For two focus groups, the women had never used the VA for health care. According to Washington et al. (2007), at the time of their study, 1.7 million women were eligible for VA services. Of these, 1 in 7 veterans who use the services is a woman younger than 50 years. The average age for this study was 56 years (Washington et al., 2007). Their data revealed that older women believed there was a lack of services specific for women and that they did not like seeing a different doctor every time they sought medical care (Washington et al., 2007). The younger women believed that there was a lack of respect for women at VA facilities, and that PTSD for women is different than it is for a man; they did not want to be grouped in with the same treatment as veteran men were receiving (Washington et al., 2007). For both age groups, the women felt out of place with so many men at the VA facility. This data could help explain why the younger and older women were less likely to be in the data sample for the current study. In addition, women

aged 66 years and older are eligible for Medicare and would no longer need to go to the VA. This also is a likely reason for the results from the data in this study.

Golub et al. (2013) used data from the NSDUH to look into the unmet need for treatment of SUD and SPD in the veteran population. Their data covered the years of 2004 through 2010. What they found was that there was not a significant difference between the veteran and civilian population in regards to the use of substances and psychological distress. What was different between the populations is that the civilians tended to seek treatment whereas the veterans did not. In their study (Golub et al. 2013), younger veterans were at greater risk of substance use or mental health issues. Further, Golub et al. (2013) found that lower income veterans were at greatest risk SPD and that African American and Hispanic minority veterans were at greatest risk for not seeking treatment if they had either SUD or SPD. For all veterans, the likelihood of seeking treatment for substance use or mental health issues was found to be low. The Golub et al. (2013) study highlights one reason the data for this study may not be an accurate reflection of PTSD and SUD within the veteran population for Fiscal Years 2011 and 2012. I would speculate that this may indicate why women as a minority within the veteran population may not seek treatment from the VA for these diagnoses.

According to Jacobsen et al. (2015), their study showed women to be more likely than men to have PTSD. This study had 4684 men and women veterans matched so that there were equal numbers for both men and women. The participants were also matched on

combat, no combat, and sexual assault. What they found was that both genders were equally likely to have PTSD.

According to Stecker, et al. (2007) women veterans who are diagnosed with SUDs also often have PTSD as a co-occurring disorder. What they found was that few of the women diagnosed with SUDs actually utilized treatment. As with the homeless women veterans, one issue was having a child to care for (Benda, 2004). There is no childcare at most VA facilities. Seeking treatment would be difficult for women with children. Additionally, many SUD treatments involve group therapy. Women veterans tend to be reluctant to attend group therapy which has mainly male group members and where they are a minority (Benda, 2004). Because the current data within the literature is contradictory it makes it difficult to plan for an appropriately treat and meet women veterans' needs. Next we will examine how theory may also explain why women veterans tend not to seek treatment.

Implications of the Study for Current Theory

The social cognitive theory is based on the idea that human behavior occurs through an interaction of the individual's self-view, societal and cultural influences, and natural biological processes (Bandura, 2000). According to Bandura (2000) the environment directly influences the cognitive processes of the individual. With that in mind, within the veteran community women are a small minority at just below 8%. Minorities in society tend to feel outside of the system (Visser & Mirabile, 2004). If this is true for women veterans, this could explain why they do not seek care at VA medical centers (Stecker et al. 2000).

One issue may be the cognitive beliefs about women veterans' needs such as PTSD and substance abuse and the availability of the VA to provide adequate services for women (Kelly et al., 2008; Vogt et al., 2006). If they have young children to care for or needs specific to their gender, the women may feel the VA will not be able to provide for their specific needs. Social support may affect their self-efficacy. How do veterans and society relate and interact? Veterans will perceive themselves either as a separate in-group, part of society, or as an outgroup, outside of society (Visser & Mirabile, 2004). This is in part because as groups form, the individual characteristics, and ability to identify with those characteristics within the group create polarization. Society will either posture to help, or ignore veteran issues. Inductive group formation occurs when there is "interdependence or common fate" (Postmes, Spears, Lee, & Novak, 2005, p. 749) tying the group together. Deductive identity occurs with member differentiation, e.g. social or economic background, and then finding common ground with others to establish a bond creating the group identity. Postmes et al. (2005) felt this sort of relating can create a stronger bond within a group. Within the VA system, there are more men than women. This may lead to women feeling that they are not part of the group. I would speculate that this could influence their decision not to seek care at VA facilities because they may not feel like they are a minority not belonging to the male dominated group.

Limitations of the Study That may Affect the Validity or Generizability

The limitations of this study include how the data were retrieved from the ViREC database. Because data were retrieved from the VA through the FOIA it may be possible for

errors to have occurred. This study relies on the accuracy of the individual who actually searched the ViREC database and pulled the requested data of genders male and female with diagnosis of PTSD and SUD. It also relies on the individual's accuracy for selecting only the first instance of seeking treatment for each of Fiscal Years 2011 and 2012. There is a limitation to how many women are eligible for care through the VA and how many do not seek care for various reasons (Stecker et al., 2000). In addition, in the civilian population women are more likely than men to have PTSD and SUD (Stewart et al., 2006). For this study, the variable of age was not included for the male participants. It may be possible that, for men, age would also show differences for the dual diagnosis. These data for this study were contrary to what is found in the civilian population. What future research could do to help fill the gaps is discussed next.

Recommendations for Future Research

Future research into what mental health issues exist specific to women veterans is still needed. Some form of outreach to investigate women veterans' needs is also an area where research can work to fill the gap. This study excluded the diagnosis of Military Sexual Trauma (MST), and tobacco use. When MST is included as part of PTSD, the number of women veterans with SUD and PTSD has been shown to be greater than male veterans (Hourani et al., 2015). This study investigated concurrent fiscal years. Future research that involves participants immediately and directly, and is longitudinal in nature may yield more accurate data about those women veterans who are diagnosed with PTSD, SUD, or both concurrently. This study did show that women aged 45-54 for the Fiscal Years

2011 and 2012 were at greatest risk for PTSD and SUD. Further research could look into why this age group might be more vulnerable. I would speculate that younger women veterans are more vulnerable because they are a minority and most likely to have small children to care for. It may also be likely that women who are victims of MST would be at risk for re-experiencing emotional trauma if they were to go to a male veteran dominated VA facility.

Implications of the Study for Professional Practice and Social Justice

Social Justice. Historically women have been underserved by mental health, and often times are subject to being labeled with a diagnosis rather than seeking to discover what underlies the presenting symptoms (Lerman, 1996). Further, Lerman (1996) discussed factors that impact women's mental health; these include their culture, socioeconomic status, ethnicity, and genetic predispositions. These are all areas where minority populations and women tend to be underserved (Lerman, 1996). Research specifically including women veterans helps raise awareness of their specific health and mental health care needs.

The action that really needs to be taken is policy change within the VA to be more inclusive of gender specific needs of women. As with many VA programs, there are fewer programs for women than men (DVA, 2010a; DVA, 2010b; National Coalition for Homeless Veterans, 2010). Many of the programs that exist consist of referring the woman to available community services. The VA could work to provide specific programs for women. This could include services specifically for women that can allow for help for women with children.

Trauma from combat exposure puts women at risk of PTSD, homelessness, and substance abuse. Their efficacy related to the traumatic events puts them at risk of lowered self-esteem, and of feeling alienated by society. Funding could earmark funds to pay for programs that directly address these issues. The VA is a government run institution that already receives funding to pay for programs. Psychologists and mental health professionals could drive this change.

Psychologists and mental health professionals' role. Psychologists and mental health professionals are likely to observe and hear about the issues of women veterans who suffer from PTSD, and SUD. Psychological research has shown how PTSD affects social functioning (Solomon & Mikulincer, 2007). Effects of military service during these times of global turmoil, especially regarding the current gender gap where research favors male participation in relation to war affects, needs to be addressed. "14% of our active duty forces and 20% of new military recruits" (Perlin, Mather, & Turner, 2005, p. 861) are women. Further, "women…constitute 5.5% of the approximately 25 million American veterans. This percentage is expected to increase" (Perlin et al., 2005 p. 86). The effects of warfare can include direct and specific behavioral, emotional, and physical trauma.

The mental health professional community could advocate for changes within the VA to address the specific needs of women veterans. They are at the front of diagnosing and assisting women veterans with their issues. Their insights could provide specific needs related to a) mental health, b) physical health, and c) welfare such as food, clothing, and housing. Psychologists also are informed advisors on how the programs could work to

improve these women's lives. They have the women's trust and are more likely to get honest feedback. Their inputs could be used to improve the services provided by the VA.

Summary and Conclusions

While the data in this study did not show that women veterans were at greater risk, it did show that women in the age group of 45-54 are at greatest risk for the comorbid diagnosis of PTSD and SUD. Is the reason women veterans are not well represented in the data a reflection of their beliefs that they don't fit into the VA system because they are a minority? The Social Cognitive Theory would assert that women veterans' beliefs come from their self-view, societal and cultural influences, and natural biological processes. The VA is and will remain dominated by a male veteran population. This study relied on the accuracy of the individual who extracted the data from ViREC, along with the number of women veterans eligible to seek care at the VA versus the number of women veterans who sought care during the Fiscal Years 2011 and 2012. Future research could look into PTSD and SUD for women veterans longitudinally. This may yield a more accurate picture of women with one or both diagnoses. Future research that is in vivo could look into adding MST; studying women longitudinally may yield a more accurate body of data regarding the concurrent diagnoses of PTSD, MST and SUD. It may be that the studies that discuss issues of why women veterans specifically do not seek treatment at the VA may contribute to why these data may not accurately reflect how many women veterans have comorbid PTSD and SUD. This study was seeking to promote social justice for women veterans by specifically looking into the dual diagnosis of PTSD and SUD and investigate if they were at greater risk

than male veterans, and if age was a factor influencing the likelihood of both diagnoses. Social justice is a process. One part of the process is to identify a vulnerable and underserved population. This study has done this. The next steps would be more research into improving health and mental healthcare for women at VA facilities. The improvements could include easier access to care specific for women's health and mental health.

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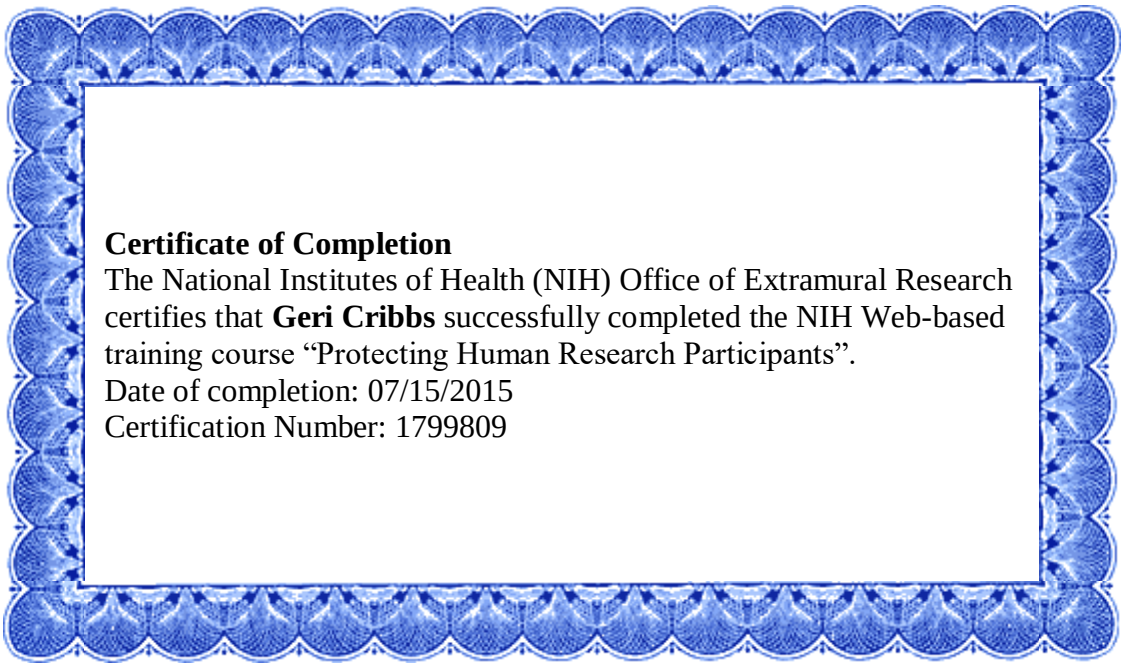
Appendix A: NIH Certificate of Training for Research With Human Participants



Certificate of Completion
The National Institutes of Health (NIH) Office of Extramural Research certifies that **Geri Cribbs** successfully completed the NIH Web-based training course "Protecting Human Research Participants".
Date of completion: 07/15/2015
Certification Number: 1799809

Appendix B: Freedom of Information Act Veterans Administration Open Case Request for Data for This Study

DEPARTMENT OF VETERANS AFFAIRS
Washington DC 20420

March 10, 2016

FOIA Request: VHA-16-04477-F

Geri Cribbs
geri.cribbs@waldenu.edu

Dear Geri Cribbs:

This letter acknowledges receipt of your March 7, 2016 request, under the Freedom of Information Act (FOIA), 5 U.S.C. § 552, to the Department of Veterans Affairs (VA), FOIA Service requesting:

1. The following diagnosis for the following ICD-9 Codes for fiscal years 2011 and 2012:

   A. Alcohol dependence
   B. Alcoholism chronic
   C. Opioid dependence
   D. Cannabinoid dependence
   E. Sedatives dependence
   F. Hypnotics dependence
   G. Cocaine dependence
   H. Psychoactive substances dependence
   I. Stimulants dependence
   J. Hallucinogens dependence
   K. Multiple drugs dependence
   L. Posttraumatic stress

2. Separated by gender

3. To count each individual veteran who sought treatment only once per fiscal year.

4. The following data for the female veteran's only:

   A. Age
   B. Branch of service
   C. Ethnicity
   D. Reported income

Your request was referred to the Veteran Health Administration (VHA) Central Office FOIA Office. Your FOIA request was received in my office on March 9, 2016. Your FOIA request was assigned the tracking number at the top of this letter. Please include the tracking number in all future communications concerning this FOIA request. In addition, we have placed your request in the simple category.

FOIA Request: VHA-16-04477-F

We will search for records responsive to your FOIA request that were gathered or created by the VHA Central Office on or before March 9, 2016. When we have completed our search for records responsive to your FOIA request, we will send you another letter telling you the results of that search and our next step in processing your request.

Your request has been assigned to Carol Farer of my staff. If you have any questions about your request, you may contact Ms. Farer at 772-562-5284.

Sincerely,

Barbara Swailes

Barbara Swailes, MHA, CIPP/US, CIPP/G
Acting Director, VHA FOIA Office

Appendix C: Freedom of Information Act VA Close Case Request for This Study

DEPARTMENT OF VETERANS AFFAIRS
Veterans Health Administration
Washington DC 20420

April 12, 2016

FOIA Request No: 16-04477-F

Geri Cribbs
geri.cribbs@waldenu.edu

Dear Ms. Cribbs:

This letter is the initial agency decision on your March 7, 2016 request under the Freedom of Information Act (FOIA), 5 U.S.C. § 552, to the Department of Veterans Affairs (VA), FOIA Service requesting data in an Excel spread sheet for Fiscal Years 2011 and 2012, separated by gender (male/female) for the following diagnoses:

1) ICD-9 Codes:
    a. Alcohol dependence (303.9)
    b. Alcoholism, chronic (303.9)
    c. Opioid dependence (304.0)
    d. Cannabinoid dependence (304.3)
    e. Sedatives dependence (304.1)
    f. Hypnotics dependence (304.1)
    g. Cocaine dependence (304.2)
    h. Psychoactive substances dependence (304.4, 304.5)
    i. Stimulants dependence (no codes – need to identify specific)
    j. Hallucinogens dependence (304.5)
    k. Multiple drug dependence (no codes – need to identify specific)
    l. Posttraumatic stress (309.81)

2) Count each individual Veteran who sought treatment only once per fiscal year.

3) Data for female Veterans only to include:
    a. Age
    b. Branch of service
    c. Ethnicity
    d. Reported income

Your request was referred to the Veterans Health Administration (VHA) Central Office FOIA Office and was received in my office on March 9, 2016.

A thorough search has been conducted and provided is one (1) Excel document totaling twenty-two (22) pages responsive to your request. After conducting a reasonable search for line items 3b, 3c and 3d, we have concluded that the

Department of Veterans Affairs, Veterans Health Administration (VHA) Central Office does not have records responsive to your request, therefore; I am issuing a "no records" response for VHA Central Office. Courts have determined the reasonableness of an agency's search can depend on whether the agency properly determined where responsive records were likely to be found, and search those locations (See Lacoe v. IRS, No. 98-C-0466, 1999 WL 675322, at *r (e.d. Wis.July 23, 1999) [recognizing that agency "diligently search for the records requested in those places where "agency" expected they could be located"]. Record search inquiries were made to the appropriate offices and all offices provided a "no records" response for records responsive to your request.

The data provides both summary and detail reports representing unique patients. Unique patients include both inpatients and outpatients, and patients seen by a VA facility and/or contracted care and may be duplicated because patients may have more than one diagnosis. Please note that we were unable to provide data on branch of service, ethnicity or income as the information is not readily available in VHA national data sources in a reportable format.

You can appeal the no records response to the Office of the General Counsel at ogcfoiaappeals@va.gov or mailed to the following address:

Office of the General Counsel (024)
Department of Veterans Affairs
810 Vermont Avenue, N.W.
Washington, D.C. 20420

If you should choose to file an appeal, your appeal must be postmarked no later than sixty (60) calendar days from the data of this letter. Please include a copy of this letter with your written appeal and clearly state why you disagree with the determination set forth in this response.

If you have any further questions, please feel free to contact me at (772) 562-5284.

Sincerely yours,

Carol E. Farer, RHIA, CHPS, CIPP/.G, CHPC
VHA FOIA Officer

Enclosure - 1