Title
Problems with Anger and Violence Among United States Military Service Members

Author
Worthen, Miranda E.

Publication Date
2012

Peer reviewed|Thesis/dissertation

Problems with Anger and Violence Among United States Military Service Members

By

Miranda Eve Worthen

A dissertation submitted in partial satisfaction of the
requirements for the degree of
Doctor of Philosophy
in
Epidemiology
in the
Graduate Division
of the
University of California, Berkeley

Committee in charge:

Professor Jennifer Ahern, Chair
Professor Arthur L. Reingold
Professor David J. Cohen

Spring 2012

Abstract

Problems with Anger and Violence Among United States Military Service Members

by

Miranda Eve Worthen

Doctor of Philosophy in Epidemiology

University of California, Berkeley

Professor Jennifer Ahern, Chair

This dissertation examines problems with anger and violence among United States Military Service Members. In the first chapter, I review the literature on anger and aggression among veterans. Several studies have found associations between anger and posttraumatic stress disorder (PTSD) among Vietnam veterans. Little research has been done with veterans of recent wars in Iraq and Afghanistan. Only one study examined anger problems among women veterans.

In the second chapter, I use a qualitative approach to explore how veterans themselves experience anger and how anger affects their lives. I show that veterans report experiencing problems with anger in multiple social contexts, including with family, friends, at work and school, and in the community. For most veterans, these problems dissipate over time as the veteran adjusts to civilian life. However, for some veterans, anger problems persist and can lead to adverse consequences, such as marital strife, dropping out of school, or being fired from a job.

In the third chapter, I use epidemiologic methods to assess quantitatively the prevalence of anger and violence in a population-based sample of current National Guard and Reserve service members. I examine the relations of problems with anger and violence with deployment history and PTSD status. Half of service members reported problems with anger. These problems are significantly more common among those who experienced traumas during deployment and those had PTSD. Only about 2% of service members reported problems with violence; however, these problems are much more common among those with deployment traumas and/or PTSD.

In sum, this dissertation shows that anger is a common problem among United States service members and that anger negatively affects service members in a variety of ways. Several new directions for research are indicated to more fully understand these problems.

Dedication

For my parents, my husband, and my daughter who have guided and supported me through this entire process.

For the brave men and women who serve our country and shared their stories with me. Each of us owes you and your families a debt of gratitude for the work you do.

Table of Contents

Acknowledgments

The first chapter of this dissertation was previously published in the Journal of Feminist Family Therapy (23: 3-4, 188-201) under the same title as the chapter. Reprinting here is courtesy of Taylor & Francis. The research in the second chapter was led by Dr. Jennifer Ahern and supported by the Veterans Administration and The Hellman Family Faculty Fund. Dr. Sheri Lippman also contributed to the design and analysis. The research in the third chapter was led by Drs. Sandro Galea and Robert Ursano and funded by federal grants W81XWH-08-2-0204, W81XWH-08-2-0650, MH 082729. I would like to thank Dr. Ahern for facilitating my connection to Dr. Galea.

Dr. Rachel Kimerling contributed important feedback to shape the second chapter. Soon-to-be-Dr. Sujit Rathod proved an invaluable helper in the analysis of the third chapter. Dr. Kaethe Weingarten read multiple drafts of each chapter and offered excellent creativity and criticism. I would like to thank my dissertation chair, Dr. Jennifer Ahern, for her practical and moral support during the process of researching and writing this dissertation. I would also like to thank Dr. Susie McKay, from whom I learned qualitative research.

Chapter 1

The relations between traumatic exposures, post-traumatic stress disorder and anger in male and female Veterans

Abstract

Military personnel who have served in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) have experienced high rates of combat exposure, which is associated with PTSD. Less is known about the relations between Military Sexual Trauma (sexual harassment, assault, and rape while serving in the military, MST) and PTSD. Little is known about anger problems in this OEF/OIF veteran population, which research from prior conflicts suggests may be a consequence of both traumas and PTSD. Anger is an emotional state closely related to aggression, hostility, and violence. Veterans who have difficulty controlling anger are at greater risk of interpersonal and employment problems. Uncontrolled anger can lead to aggressive or violent behavior, posing health risks to those around the veteran and increasingly the likelihood that the veteran will come into conflict with the law. This chapter contributes a review of the literature on what little is known about MST and PTSD, as well as reviews literature on anger, which may be associated with high levels of combat exposure or MST. Notably, there is almost no research on any of these problems among women veterans. Given that women make up more than 15% of deployed service members in Iraq and Afghanistan, research on these relations in women is imperative.

Introduction

During wars in the last century, soldiers were as much as twice as likely to develop psychiatric problems as to sustain physical injuries.[1] Yet research into trauma-related psychiatric symptoms among soldiers, currently known as posttraumatic stress disorder (PTSD), has only proliferated recently. While it is now accepted that more stressful combat experiences are associated with PTSD, there are other wartime exposures with potential mental health consequences, such as sexual assault or rape, that have been little studied and are minimally understood.

Although the association between trauma during wartime and anger has been observed since Homer described Achilles' berserk rage in *The Iliad*, researchers began to investigate the relationship between trauma and anger only recently. One study examined relations between trauma and anger among Vietnam veterans immediately after the Vietnam war,[2] but most research examining the relationship between stressors during war and socio-behavioral outcomes (e.g. anger, aggression, hostility and interpersonal violence) among Vietnam veterans was not conducted until the mid-1990s, at least two decades after these individuals had been exposed to war.[3]

In extant research examining aspects of trauma, PTSD and anger, few studies have examined the exposures related to PTSD and anger in women soldiers or veterans, who now make up over 15% of deployed service members in Iraq and Afghanistan. While studies are beginning to investigate some of these relations in military personnel who

have served in Operation Iraqi Freedom (OIF), the war in Iraq, and Operation Enduring Freedom (OEF), the war in Afghanistan, most of what we know about these associations come from studies conducted with veterans of the war in Vietnam; and these studies often took place decades after the war had ended.

This article reviews the literature to date on wartime exposures, PTSD, and socio-behavioral outcomes.

WARTIME EXPOSURES

Combat Exposure

Studies define "combat exposure" differently. In studies of Vietnam veterans, traumatic exposures during combat were often categorized by participating in or witnessing atrocities, experiencing intense battle where one felt an acute threat of death, and exposure to the aftermath of battle (e.g. caring for the dying or exposure to dead or decomposing bodies).[4] Studies of veterans from the Gulf War to the present have expanded the definition of combat exposure to include other threats, such as exposure to or fear of exposure to chemical and biological weapons.[5] While many studies have not used standard scales,[6] standard and non-standard measures currently in use ask subjects about exposure to specific wartime events, with some scales using yes/no item-responses and other scales using a Likert-response format of never to always.

There have been few studies estimating the prevalence of exposure to combat during OEF and OIF. In one recent study of California veterans, just over half the sample reported exposure to at least one traumatic event during deployment.[7] In a second study of over 40,000 current service members, a similar prevalence was found, with about half of deployed men and slightly fewer than half of deployed women reporting traumatic combat exposures.[8]

Military Sexual Trauma

The term Military Sexual Trauma (MST) is used by the Veterans Administration (VA) to refer to "severe or threatening forms of sexual harassment and sexual assault sustained in military service."[9] The prevalence of reported MST varies across populations and across eras of service.[10] A large study of OEF and OIF veterans receiving care from the VA reported a prevalence of 15.1% in women and 0.7% in men.[11] Yet, there are reasons to believe that those who experienced MST, particularly women, are less likely to seek care from the VA. Only 40% of OIF and OEF veterans use VA care.[12] Formative qualitative research has raised concerns that women who experienced MST during deployment do not feel safe at VA facilities and that women suffering from PTSD have been harassed by other veterans in the waiting room and by providers while seeking care.[1] Indeed, the few other studies reporting prevalence of MST have found much higher prevalence of MST. For example, one study of female veterans recruited at a women's health center Yaeger, et al. reported a prevalence of MST of 41%.[10] Studies among treatment-seeking female veterans have found the prevalence of sexual harassment to be as high as 60%[13,14] and the

[1] Author conversations with founder of Grace Under Fire and communications director of Swords to Plowshares.

prevalence of rape to be ~30%.[15,16] All of these studies are limited in their inference to treatment-seeking populations. No research to date has estimated the prevalence of MST in a population-based, non treatment-seeking sample of male or female veterans.

RELATIONS BETWEEN EXPOSURES AND TRAUMATIC STRESS

Definition and Conceptual Model of Traumatic Stress

Post-Traumatic Stress Disorder (PTSD) entered the Diagnostic and Statistical Manual in 1980. The adoption of the term came after considerable debate within the psychological and medical community, largely grounded in analyses of the mental health and psychosocial functioning of Vietnam combat veterans. In the last three decades, PTSD has gained legitimacy both in the United States and internationally. However, there has been a backlash against the "biopsychomedicalization" of a social experience of suffering, especially suffering caused by war.[17] This debate is not about the biological phenomena of how traumatic stress is metabolized in the body, but rather about what constitutes a legitimate intervention to mitigate such stress, particularly in communities widely affected by war. While this is an important topic, it is beyond the scope of this article. Rather, I will present current understandings of PTSD, and describe the state of the literature on traumatic stressors during military deployment and PTSD.

To meet the diagnostic criteria of PTSD, a person must have been exposed to a traumatic event to which he or she responded with fear, helplessness or horror and must have a combination of symptoms in the three symptom clusters of hyperarousal (e.g. the person has difficulty falling asleep or has become more vigilant and concerned about safety), re-experiencing (e.g. the person has intrusive recollections of the event or has intense psychological distress in response to reminders of the traumatic event), and avoidance/numbness (e.g. the person is unable to recall aspects of the event or has a restricted range of emotions or a feeling of numbness).[18,19] Studies have demonstrated altered neurochemical, neuroanotomic, and neuroendocrine responses to stress among those with PTSD.[19] For example, daily cortisol levels are lower in many people with PTSD than in people without PTSD. When stressed, people with PTSD demonstrate a more sensitive negative feedback system in the hypothalamic-pituitary-adrenal (HPA) axis, as compared to normal or depressed people. People with PTSD also have increased circulating norepinephrine, have increased reactivity of α_2-adrenergic receptors, and increased thyroid hormone levels. These alterations result in the somatic symptoms of PTSD, including insomnia, irritability, impaired concentration, hypervigilance, and an increased startle response.[18]

Combat Exposure and Traumatic Stress

Exposure to combat during deployment has been associated with higher rates of mental health problems. Several studies conducted with treatment-seeking Vietnam veterans have demonstrated an association between severity of combat exposure and PTSD.[4,20] Population-based studies of Vietnam veterans and Persian Gulf I veterans have also described a strong association between severity of combat exposure and PTSD.[21-23]

Initial research with OIF and OEF veterans has found an association between combat exposure and PTSD as well.[24,25] In the Millennium Cohort, a population-based US

military cohort of over 77,000 active and reserve military personnel, the incidence of new onset of symptoms of PTSD has been found to be three times higher among deployed personnel who report combat exposures compared to non-deployed personnel.[25]

Military Sexual Trauma and Traumatic Stress

While most studies of deployment related stressors and PTSD focus on combat exposure, sexual harassment and rape during deployment have also been shown to have a detrimental effect on mental health among veterans. Recent studies have demonstrated that female military personnel in the Vietnam War suffered rape and harassment during their deployment; however, only of late have researchers focused on this exposure.

In one treatment-seeking population of female veterans, Suris, et al. (2004) found that veterans with a history of military sexual assault were nine times more likely to be diagnosed with PTSD compared with those without such history.[26] One study of treatment-seeking women veterans reported the association between MST and PTSD in women to be four times greater than the association between combat exposure and PTSD in women.[13]

A study of non-treatment-seeking female veterans from the Vietnam War also reported a strong association between MST and chronic PTSD,[27] as did two studies in non-treatment-seeking populations from the Persian Gulf War. These relations have been described in men as well as women.[5,22] While Vogt et al. found the association between PTSD and harassment to be stronger among women; they found that harassment was strongly associated with other mental health outcomes (i.e. depression and anxiety) for men. Although these relations between MST and depression were also found among women[28], research with US military deployed as peacekeepers in Somalia suggests that the pathways through which harassment and PTSD are associated may be different for men and women.[21]

Initial research on veterans from OEF/OIF indicates that veterans who screen positively for MST have a significantly increased odds of adjustment disorders, alcohol and substance use disorders, anxiety disorders, depressive disorders, and PTSD.[11] This effect is greater than the effect of multiple deployments or long deployments.

In summary, while the research consistently suggests that deployment-related stressors are related to PTSD, the magnitude of the association and the gender differences in the effect of combat exposure and exposure to MST on PTSD remain unclear. While there is undoubtedly an association between these stressors and PTSD in current era veterans, understanding the nuances of these relations will be critical in developing appropriate interventions and for planning of services as more military personnel demobilize and return to their communities. It is important to understand whether exposure to MST results in different posttraumatic stress symptom clusters than exposure to combat. If there are differences, mental health professionals currently working with veterans may need training to help them identify these symptoms so that veterans with PTSD are not misdiagnosed or diagnosed late. Similarly, understanding gender differences in how

traumatic stressors during deployment can manifest in posttraumatic stress symptoms will be critical for clinicians as they interview and treat returning veterans.

The differences in posttraumatic stress symptoms by gender and by traumatic stressor may be particularly apparent with respect to anger, which has been considered both a symptom of PTSD and an independently critical mental health problem facing veterans. Research on anger and its relations to traumatic stressors and PTSD is limited, however, especially among women veterans. It is to this association that we turn next.

RELATIONS BETWEEN EXPOSURES, TRAUMATIC STRESS, AND ANGER

Definition of Anger

There are many ways of conceptualizing anger. The present literature review is grounded in the work of Chemtob et al. (1997),[2,9] proposing a model of anger and a relationship between anger and traumatic stress. This model was developed through work with Vietnam veterans and is thus relevant to the population being considered.

Chemtob et al. described anger as "an emotional state that has both adaptive and maladaptive effects on behavior" (1997, p. 18). They drew on Novaco's (1994)[30] model of anger, which concentrates attention on three domains of anger: cognitive processing of environmental circumstances, physiological arousal, and behavioral reactions. These three domains are reciprocally related. In people with combat-related trauma, anger can become intrusive and is part of a broader "dyscontrol syndrome associated with heightened arousal, hostile appraisal, and antagonistic behavior in response to severe threat" (Chemtob et al, 1997, p. 22). Chemtob et al. present a conceptual model that relates anger regulation structures to threat structures, which are activated in what they term "survival mode," in people suffering from traumatic stress (see Figure 1).

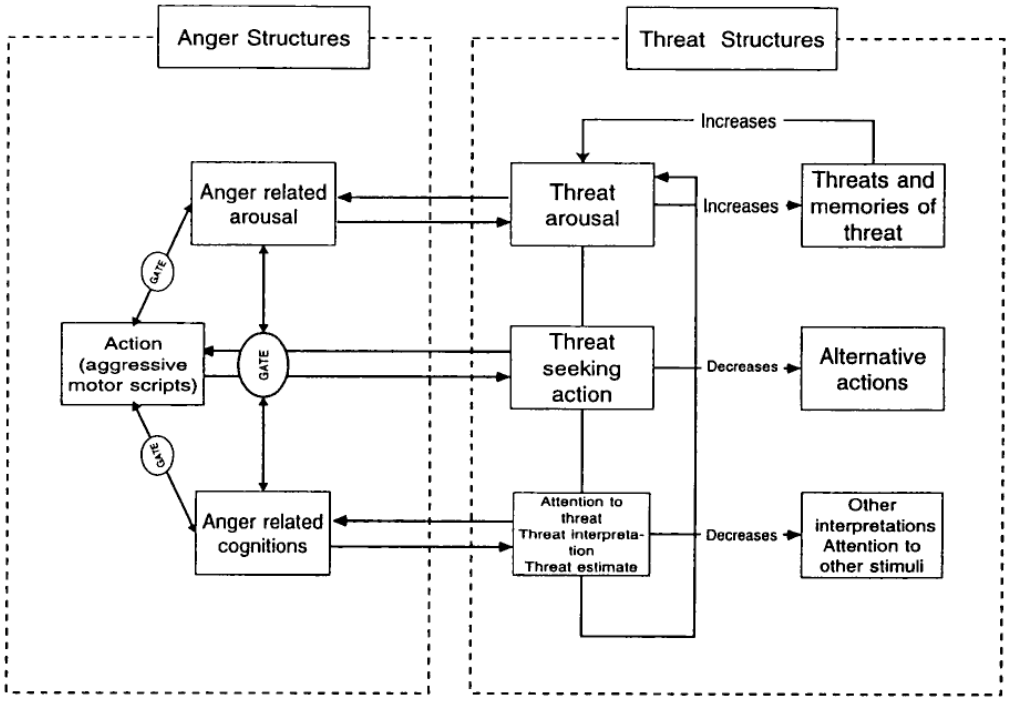

Figure 1. A regulatory model of posttraumatic anger.

Figure 1: Chemtob et al. (1997) Regulatory Model of Posttraumatic Anger (p. 31).

The three anger domains in Figure 1 typically interact to depress or inhibit an anger response when it is not appropriate. For example, a person who feels aroused may begin a cognitive process that produces the thought that an angry outburst would only exacerbate a situation and so the cognition works to inhibit the action. This inhibitory function is represented by the gates between each domain. According to this conceptual model, however, in people with PTSD, the typical pattern of inter-regulation between domains is affected by the traumatic experience, leading to a rapid escalation of threat perception, such that inhibitions, symbolized by the gates, are overridden, and the perception of threat transforms to anger rapidly and results in "near automatic action" (Chemtob et al., 1997, p. 30).

Anger dysregulation leads to greater interpersonal conflict, as a person's cognitive process more rapidly perceives threat and anger and leads to heighted arousal. In addition the rapid escalation of cognition to action makes dysregulated anger a particular public health concern as it often results in aggressive or violent behavior.

Traumatic Stress and Anger

While an association has been described between PTSD symptoms and both anger and aggression in several studies of male, treatment-seeking Vietnam veterans,[3,31-34] concerns about the universality of results from these samples have been raised. One study, for example, measured the association only among veterans in treatment for substance

abuse.[32] Another used data from self-report on aggression problems among veterans applying for disability benefits for PTSD.[34]

Only four studies were found that examined these relations among non-Vietnam veteran populations: one study of World War II former prisoners of war;[35] one qualitative study examining ten Canadian peacekeepers;[36] one study of 90 treatment-seeking women veterans from all eras;[37] and one study of 117 treatment-seeking veterans from OIF/OEF receiving care at the Puget Sound Veterans Administration hospital.[38] While these four studies used different methods and examined disparate outcomes, they all found that greater levels of PTSD symptoms were associated with heightened levels of anger, aggression, and interpersonal conflicts.

While the studies of Vietnam veterans were conducted decades after the traumatic exposure, several studies by Taft et al. have shed light on the nuances of the relations between anger and PTSD in this particular population. In a study of 60 male Vietnam veterans, exposure to stimuli reminiscent of battle produced greater physiologic responses in those with PTSD compared to those without PTSD.[39] Those with PTSD demonstrated higher state and trait anger levels and heightened anger reactivity compared to those without PTSD. In a second study, Taft, et al. found that the cluster of dysphoric symptoms associated with PTSD and depression were most strongly associated with aggression.[34] In a third study of 1328 male Vietnam veterans, Taft, et al. reported that only hyperarousal symptoms of PTSD were associated with increased aggression; avoidance and numbing symptoms of PTSD were associated with decreased aggression.[33]

Only one study has examined the relationship between PTSD and socio-behavioral outcomes among women.[37] This study of 90 treatment-seeking women found a similar association between PTSD and anger, aggression, and hostility among women as has been reported in male populations. A literature review by Beckham, et al. examined the literature on the relationship between PTSD, hostility, and general health functioning in women and reported that few studies had examined the relations between PTSD and anger, aggression or hostility in any female population.[40]

Deployment Trauma Exposures, Traumatic Stress, and Anger

Research examining the association between deployment-related exposures, war-related PTSD and socio-behavioral outcomes such as anger, aggression, hostility and interpersonal violence is scant. Findings conflict about whether there is a direct association between combat exposure and socio-behavioral outcomes, or whether this association is entirely mediated by PTSD.

Three studies of male, treatment-seeking Vietnam veterans found that combat exposure is associated with anger or aggression only through PTSD.[32,41,42] Similarly, two studies with male, treatment-seeking Vietnam veterans showed an association between combat exposure and intimate partner violence only through PTSD.[4,43] However, three other studies with similar populations have described a direct association between combat exposure and violent behavior apart from any association mediated through PTSD.[20,44,45]

No studies have examined other deployment-related exposures, such as MST and socio-behavioral problems.

LIMITATIONS OF CURRENT RESEARCH

There are several limitations to the research that has been conducted to date. Many of the studies evaluating wartime exposure have measured the exposure many years after the exposure happened, suggesting that recall bias may have affected their findings, with those experiencing current distress more likely to remember adverse circumstances during deployment; in addition, there is a high likelihood of generally inaccurate recall. Further, the long time lag between the wartime exposures and the assessment of outcomes of interest (PTSD or socio-behavioral problems) mean important unmeasured factors, such as coping strategies or social support, could be mediating or modifying this relationship in ways that have not been considered. While more is known about combat exposures, little to nothing is known about the longer term effects of MST. It is also unknown whether the associations described between PTSD and socio-behavioral outcomes are only a result of chronic PTSD experienced over many decades, or whether the association might also be seen in a population with newly incident PTSD.

The particular samples that have been studied most often also limit the generalizability of the findings. Most studies have examined only male, treatment-seeking populations of Vietnam veterans. The associations in the general veteran population may be quite different. Very few studies have included women, and those studies that do include women have rarely presented separate analyses for women. For example, in a study of anger, hostility, PTSD and overall health, while women made up 61% of the sample, no analysis was presented in the article comparing the results by gender, and possible effect modification by gender was not assessed.[46]

SUGGESTIONS FOR FUTURE RESEARCH

Important questions remain concerning the relations between wartime stressors, mental health problems and socio-behavioral outcomes. Research that evaluates these relations among a population-based sample of recently returned veterans from Operation Enduring Freedom and Operation Iraqi Freedom, including both men and women, is needed.

Such a study should begin by investigating the relations between stressors during deployment and PTSD. Although this association has been found in veterans of earlier wars, the magnitude of this relationship in a general sample of current era veterans is unknown. Given prior research, we could expect to find the following results: 1) Increased exposure to military sexual trauma (MST) will be positively associated with PTSD; 2) Increased exposure to combat will be positively associated with PTSD; 3) The associations observed above will differ by gender. In addition, exposure to trauma prior to service in the military may make one less resilient to traumatic stressors during military service, and so we could expect: 4) The effect of deployment-related traumatic stressors on the development of PTSD will be different in populations exposed to prior trauma compared with the effect in populations without prior trauma.

The study would go on to evaluate the relations between post-deployment PTSD and anger. Given previous research, we might expect to find the following results: 1) Subjects with PTSD will have a higher level of anger than subjects without PTSD; 2) An increased burden of total PTSD symptoms, regardless of whether a subject is classified as PTSD positive or negative, will be associated with increased level of anger; and 3) The association between PTSD and anger will differ by gender.

Subsequent analyses should investigate whether the association between PTSD and anger differs depending on the traumatic exposure that triggered the PTSD. One could hypothesize that the association between PTSD and anger will be different among those who developed PTSD after exposure to MST and those who developed PTSD after traumatic combat exposure. It would also be of interest to evaluate whether there are different pathological trajectories that lead subjects to experience or avoid explosive anger. For example, some veterans with PTSD may use extreme numbing to avoid explosive anger. Numbing in this manner could have its own psychosocial sequelae and would thus be important to investigate.

This research would have policy implications as well as clinical benefits. For example, current military policy is to discharge dishonorably personnel involved in violent altercations. If a link could be established between a military-related traumatic exposure, symptoms of PTSD, and anger problems leading to violent behavior, veterans discharged dishonorably may be able to appeal for a medical discharge instead, allowing them to be eligible for veterans benefits, including access to Veterans Health Administration benefits.

Clinical implications are also apparent. If mental health professionals working within and outside the VA system had a better understanding of the relations between traumatic experiences, PTSD symptoms, and anger problems, then more targeted therapy could be given to affected veterans. For example, anger management training could be integrated with cognitive behavioral therapy and other trauma therapies, even for those patients currently not exhibiting anger problems.

Crucially, appropriate support services could be made available to veteran's families struggling to support returning veterans experiencing anger management problems. While families report benefits from programs designed to prepare families of returning personnel about PTSD symptoms, initial qualitative research suggests that when veterans become angry, relationships with family members are often the first to fray. This not only creates negative consequences for a family, such as divorce, substance use, and family violence, but also often results in depriving the veteran of a critical supportive resource to help him or her through reintegration. Programs designed to increase awareness among families of the relations between trauma and anger could enable them to better care for their returning veteran and feel less bewildered by what they may view as a personality shift. Families could also be enlisted to help veterans seek professional care for anger management problems, recognizing that they may be part of a larger mental health burden.

More knowledge about the relations between traumatic exposures, symptoms of PTSD, and anger management problems would benefit clinicians hoping to prevent early anger management problems from becoming obstacles to maintaining good relationships with family and friends and becoming a barrier to employment. With greater knowledge about these relations, more appropriate interventions could be designed to support veterans and their families.

Chapter 2

Anger Problems in Afghanistan and Iraq War Veterans: A Qualitative Study

Abstract

Background: Half of Afghanistan and Iraq war veterans report difficulties managing anger during readjustment to civilian life. Little is known about how these problems manifest in different social situations or how problems with anger may affect veterans' ability to create and sustain social connections.

Methods: We conducted qualitative, in-depth interviews with a purposive sample of 24 Afghanistan and Iraq war veterans.

Results: Veterans reported that anger was disruptive of social experiences in multiple contexts, including with family, at work, in school and in the community. Both men and women reported that anger affects their ability to maintain relationships and function fully in these environments. While veterans reported most difficulty with anger during the initial transition to civilian life, anger remained a persistent problem for some veterans years after separation from the military.

Conclusions: Anger problems disrupt veterans' relationships and experiences in multiple social environments. Military families, clinicians, school counselors, and others who regularly interact with veterans should be aware of these anger problems. More research should examine gender differences in the way that anger affects social relations and should develop appropriate interventions for veterans, service members, and their families to help mitigate these adjustment difficulties.

Keywords: Anger, Veterans, Military, Qualitative, Social Environments, Social Support

Introduction

Since September 11, 2001, over 1.9 million men and women have served in United States military in the wars in Afghanistan (Operation Enduring Freedom; OEF) and Iraq (Operation Iraqi Freedom; OIF); as of 2010, more than a million service members of the OEF/OIF cohort have separated from the military.[47] These veterans face a difficult transition to civilian life; many struggle with psychosocial adjustment problems.[48-50] Recent research suggests anger is a substantial problem for Afghanistan and Iraq war veterans during this transition. Three large studies of Afghanistan and Iraq veterans found approximately half experienced problems with anger during the transition to civilian life.[49,51,52] In a nationally representative study of veterans of Afghanistan and Iraq who had made at least one visit to a Veterans Affairs (VA) facility between 2003 – 2007, the authors found that anger problems were the most commonly reported difficulty since homecoming with 57% of combat veterans reporting anger problems.[49] In a nationally representative study of all veterans, including those not enrolled in the VA, the Pew

Research Center found that 47% of post-9/11 veterans reported having frequent outbursts of anger.[51] Further, a study of Maine Army National Guard veterans found 44% of veterans reported difficulty with controlling anger; 28% of these veterans said that they would be interested in anger management support if it were available.[52] These quantitative findings provide strong evidence that anger is an important problem among this cohort of veterans. In the current study, we use qualitative methods to examine the social context of anger as it relates to post-deployment adjustment among OEF/OIF veterans.

Ecological systems theory proposes that individuals are nested within social environments, including family, workplace, school, and community.[53] The degree to which a person experiences belonging or connection to these social environments affects quality of life, with those experiencing greater belonging and connection experiencing higher quality of life.[54] Social connections are also critical because of the opportunities they provide for social support and psychosocial resources that influence general wellbeing.[55] When veterans experience anger in different social contexts, it may undermine their ability to connect with others by alienating their family, friends, coworkers or peers. Thus, anger may become a barrier to veterans' experience of belonging and connection, and negatively impact their quality of life. The role of anger in the post-deployment adjustment process can, therefore, be most fully understood by considering the multiple social environments in which veterans are operating upon their return to civilian life. Examining anger in different contexts can also elucidate the different social relationships that anger problems may affect and social resources that could potentially help veterans cope with anger.

We conducted the present qualitative study to learn about veterans' experiences with readjustment to civilian life in various social environments. This article focuses on study findings related to veterans' experiences with anger. We aim to contribute rich contextual information about how, where, when, and with whom anger problems manifest to support the interpretation of quantitative data that shows that anger is a common problem for returning veterans, and to encourage further study of anger problems among veterans.

Methods

We conducted in-depth interviews with 24 Afghanistan and Iraq war veterans in 2009 – 2011 in California. Veterans were recruited purposively to include both women and men and a range of ages, race/ethnicities, and military service branches. We contacted veteran service providers, representatives of the veteran community, and veteran clubs to advertize the study via email, flyers, and postings on social networking sites. These posts described the study and invited Afghanistan and Iraq war veterans to contact the study director. Interested participants were screened for eligibility and invited to complete the interview in person or by phone. Participants completing in person interviews read a written description of the study and gave written informed consent prior to the start of the interview. Participants electing to complete the interview by phone were read a description of the study and gave verbal consent. These participants were offered a copy of the informed consent document by email or postal mail. Participants were offered a $50 gift card to thank them for their time. Study procedures were reviewed and approved

by the Committee for the Protection of Human Subjects at the University of California, Berkeley.

Interviews

Interviews were semi-structured, using an open-ended interview guide. Interviews focused on the veterans' experiences after separation, beginning with questions about what made adjustment to civilian life easier or more difficult. Veterans were then asked about their experiences within specific social environments, including family, friends, community and work or school. The first author, who has extensive experience conducting qualitative interviews with former combatants, conducted all interviews. Interviews lasted an average of 60 minutes and were audiotaped and transcribed for analysis.

Analysis

We used a multi-stage analytic process that combined inductive and deductive techniques to analyze the transcribed interview data. First, we developed an initial codebook based on theories of social environments[53,55,56] and on reading a small number of transcripts. For example, initial codes included the social environments of family, friends, school, work, and community. We included codes for important aspects of these environments, such as social support, norms and values. Inductive processes were used to enrich the codebook with emergent themes such as alienation and avoidance. We used a coding process in which text was coded with multiple and overlapping codes, and elected to code larger sections of text in order to provide context for quotations.[57]

Three members of the research team independently coded four transcripts based on an initial codebook and then met to discuss coding decisions, reconcile discrepancies, and revise the codebook. Subsequently, we coded two transcripts using the revised codebook; remaining minor discrepancies were discussed and reconciled. The first author then coded all transcripts using the qualitative software program atlas.ti.[58] After coding was complete, the authors read code reports to extract central themes, explore meanings, and examine relationships among themes within the data. The present analysis uses data codes relevant to anger.

Participants

Veterans ranged from 22 to 55 years of age (median = 29) (see Table 1). Time since separation from the military ranged from 2 months to 7 years. Veterans who had served in each branch of the armed services were included in the sample, which was racially and ethnically diverse. Of the 24 veterans, 17 were men and 7 were women.

Table 1. Demographic Characteristics of Veteran Participants

	N	%
Total	24	100.0
Age (years)		
18-24	4	16.7
25-34	15	62.5

35-44	2	8.3
45-54	2	8.3
55-64	1	4.2
Race/Ethnicity		
White	10	41.7
African American	2	8.3
Asian	3	12.5
Hispanic	4	16.7
Unknown	5	20.8
Sex		
Male	17	70.8
Female	7	29.2
Military Branch		
Air Force	2	8.3
Army	8	33.3
Army Reserves	2	8.3
Army National Guard	2	8.3
Army Air Guard	1	4.2
Marines	5	20.8
Navy	4	16.7
Years Since Separation from Military		
<1	7	29.2
1-2	3	12.5
2-3	3	12.5
3-4	5	20.8
4-5	2	8.3
5-6	2	8.3
6-7	1	4.2
Unknown	1	4.2

Results

Thirteen of the 24 veterans discussed difficulties they had with anger, ranging from low level irritability to anger that quickly became explosive and sometimes became violent. Anger manifested in multiple social environments, including with family, at school or work, and in the broader community setting.

Anger disrupts relationships with family, intimate partners, and friends

Several veterans reported frequently becoming frustrated or angry at home, directing their anger towards whomever they lived with. One young veteran living with his parents

described how he often became angry at them: “Sometimes we don’t get along and sometimes I get mad at the most slightest of things. Because in the military we had a plan [and] it was all structured… I come here and everything’s all messed up.”

One woman veteran reported: “Now I have serious anger management issues…[and] I wasn’t like that before.” She recalled: “My family, they were used to me being this quiet, meek, nice, person. When I came back, I was still kind of like that but I would have angry outbursts… [over] the smallest little thing.” This strained relationships with her family: “My mom would say to me, ‘You know, if I wasn’t your mother and I didn’t know you, I probably wouldn’t even be as loving.’ She’s like, ‘Because I know you, I know this isn’t you. I’m putting up with it. I’m enduring you.’” This young woman also reported that her friends started calling her “bitchy” and that she had difficulty dating men because her dates called her “hard to handle” and “mean.”

Another veteran described severe problems with anger turning violent at home. When he returned after being medically discharged, he said he “was really paranoid, really stressed out, really angry…. I lost my wife because of that.” While he had learned strategies to avoid hurting other people, his anger still led to physical explosions. He described a recent episode with his new girlfriend: “I lied to my girlfriend… and she got angry at me for lying to her… and I just lost it and… put my hand through the wall.”

An older veteran spoke about how he had a difficult time making friends: “It’s not easy for me to make friends because… things that upset me are different than things that upset normal people.” He explained that he still liked to go out, but said: “I’ll go to the American Legion and I’ll have a beer, but if there [are] people at the bar, I’m usually at a table where no one else is, watching TV or something. [I feel that] it is probably safe [there]. I feel like I belong.”

Anger disrupts work and school

Veterans reported difficulties controlling anger at work and in school. One veteran who worked in retail described how interactions with customers sometimes triggered frustration that turned into anger: “I was getting… blindly angry, sometimes I couldn't even speak. Eventually I learned to just... disengage and walk away.” Although he had not been fired, he decided to quit his job when the opportunity arose to work in a scientific lab, an environment that would require less interpersonal interaction.

Another veteran shared: “I… had a job with a solar company… and I got fired for anger issues…. I got angry at another employee… and it cost me my job.” A woman veteran acknowledged that she had chosen not to work full time because of her problems with anger: “I was afraid of snapping and things like that.”

A veteran in school recounted: “Sometimes I’ll be trying to study… and people [will be talking] about stuff that to me is asinine…and it’s like shut [up. I have to think] ‘okay, just relax.’ I have a trigger that makes me look [like]… my veins are popping out.” Another veteran described how when other students talked or answered their phone during class, he would get very angry: “It really did make me mad.” After four semesters,

however, he had "gotten used to it."

Anger disrupts community life

Veterans reported difficulty managing anger in community settings while transitioning to civilian life. One veteran described experiencing road rage soon after returning from Afghanistan: "Some guy was coming right [behind] me and I… reversed on him and I was going for him. I was going to take him out with my car. [I said to myself] 'Okay, this is [the highway]. I'm going to get in the right lane and drive at 55 all the way home.'"

Another veteran recounted an experience just after separation: "I went to [a clothing retailer], and that's when the holes in the jeans first became popular, and it really bothered me. I'm like, 'Why do all the jeans have holes?' I got really mad and I started yelling." Another veteran, commenting on why he believed he had experienced more anger immediately after separation, said: "There are certain expectations that you can rely on while you're over there... Whereas here, there's a lot more leeway. And initially when I came back, I just couldn't deal with that gray area… people talking back [and] making excuses… So I was pretty quick to get mad or frustrated. And I think I still am, to a certain extent, worse than I was before."

Several veterans described leaving public places when they became angry, uncertain of their ability to appropriately control their responses. One older veteran said: "Sometimes [when I get angry], I'll tell my wife we're leaving right now and you're driving."

Most veterans managed their anger before it turned violent, but a few shared stories of fights they had been in, typically soon after separation. One veteran described often becoming violent. In one episode, he said: "I got in a fight with this guy…We had exchanged some words on the side of the road… I remember driving off thinking at the time 'I killed the dude.'"

Another veteran reported getting into a fight after returning from Iraq while on a family camping trip. A fellow camper had insulted his mother and he had to be physically restrained from attacking the man. He said: "that was the first time anything like that ever happened to me, where I got so mad I was going to get physical with somebody. And that's the only time that's ever happened. …There have been times when I get really mad at something and I think about what I could do, but I have the self-control to hold it back. Now it's gotten to the point where [I don't get angry] at all." He reported that his mother had told him: "'I'm glad you were willing to stick up for me, but I don't want you to go to jail on your vacation for getting in a fight in a public place.'"

Discussion

While the sample in this study was not designed to be representative, consistent with other studies,[49,51,52] just over half of the veterans interviewed reported struggling with anger. Anger manifested in each social environment queried, compromised relationships and presented challenges at school, work, and in the community. While most veterans only experienced anger problems during the first year after separation from the military,

some veterans reported persistent difficulties lasting years after separation from the military.

Both men and women veterans described how anger disrupted their ability to sustain intimate relationships and to enjoy healthy relationships with their family and friends. This is consistent with quantitative research with prior era veterans demonstrating an association between anger and negative family functioning.[59,60] These findings are also similar to those of research examining clusters of posttraumatic stress disorder (PTSD) symptoms and their unique contribution to family dysfunction; this research has shown the hyperarousal symptoms, which include irritability and angry outbursts, are strongly associated with negative family functioning.[33,61,62]

Some veterans chose not to form friendships in order to avoid social situations where they might become angry. Others found that friends did not want to be with them because of their anger problems. These findings are consistent with qualitative research with Vietnam veterans on the way that anger negatively affects social relationships during the transition to civilian life.[63-65]

Veterans shared that anger had affected their ability to maintain a job or to feel a part of a school environment. In some cases, the anger led to the end of contact with the environment (e.g. getting fired, dropping out of school) while in other instances veterans themselves set limits on their ability to connect socially with others: veterans elected to sit on their own in public places or enter a line of work with less social interaction in order to avoid interactions that might provoke anger. These findings are supported by studies showing anger to be associated with negative workplace experiences including antisocial coworker interactions, absenteeism, and unemployment, and among schoolchildren, an increase in feelings of loneliness and dislike of school.[66-72]

Veterans reported having to leave situations in the community out of fear of being unable to manage their anger successfully. Thus, even when angry outbursts were avoided, the fear of an inability to manage anger continued to prevent veterans from taking full part in civilian life and forming rich social relationships. While fear of anger has been studied far less than manifest anger, research with Vietnam veterans has found that fear of anger is the strongest predictor of poor treatment outcomes for PTSD, playing a greater role than anger severity itself.[73]

There were gender differences in the manifestation of anger that merit further research. While both men and women reported experiencing anger, none of the women veterans in this study reported violent behavior. In contrast, a few of the male veterans reported engaging in fights with strangers or intimate partners. The language that women veterans used to describe people's perception of their anger problems was very different from the language male veterans used. For example, one woman veteran reported that her mother found it hard to "endure" her, her friends called her "bitchy," and that a boyfriend had called her "hard to handle." These epithets are highly gendered, reflecting the gendered socialization that makes anger less acceptable an emotion for women than for men.[74] In contrast, one man reported that his mother had been appreciative that he would stick up

for her, although she did not want him to be arrested. These findings suggest that for women, angry behavior during readjustment to civilian life may be less acceptable than for men, potentially increasing social isolation and making adjustment more difficult for women who experience anger.

Conclusion

To our knowledge, this is the first study to describe the social contexts of anger among OEF/OIF veterans during readjustment to civilian life, and the ways in which problems with anger affects veterans' relationships and experiences in different social environments. Our findings provide insight into the types of problems that veterans face when struggling with anger and the ways that these problems affect veterans' sense of connection and belonging in different social environments.

While anger that turns violent is clearly a public health problem, this study suggests that even irritability and more moderate forms of anger have the potential to markedly impact veterans' relationships and decisions about how to engage with a variety of social environments. When anger problems make it difficult for veterans to integrate fully into civilian life, they prevent the veteran from accessing social support and other resources that enhance effectiveness in each social context and contribute to general wellbeing. While this study was small, gender differences in the manifestation of anger and the social response to anger were apparent. These differences merit further research.

Military families, clinicians, school counselors, employers and others who interact with veterans should be aware that anger problems are common among Afghanistan and Iraq war veterans and understand the many ways that these anger problems affects veterans' lives. If those interacting with veterans are aware that these feelings are common during the readjustment process and permeate almost all social environments in which veterans find themselves, they may be able to lend support and encouragement, and help veterans find formal sources of support, if needed. While for most veterans, anger problems seem to dissipate as adjustment to civilian life continues, for some veterans these problems can lead to adverse consequences, such as marital difficulties, social isolation, dropping out of school or being fired from a job. Understanding which veterans may need more targeted support to help them mitigate these adjustment difficulties is an important next step. Further research should focus on developing community-based interventions with veterans, their families, and members of their social networks to increase awareness of anger problems and reduce their adverse consequences.

Chapter 3

Problems controlling anger and violent outbursts among National Guard and Reserve Service Members

Introduction

Approximately half of veterans who served in the wars in Afghanistan (OEF) or Iraq (OIF/OND) report problems with anger.[49,51,52] Research with Vietnam era veterans suggests that problems with anger, aggressive behavior, and violent outbursts are associated with traumatic stressors during warfare and posttraumatic stress disorder (PTSD).[4,32-34,39,41,43,75] Two studies have examined these relations among OEF/OIF veterans and also reported associations between anger, aggression, and PTSD.[38,76] Limited research suggests that these associations are similar in women and men.[37]

Two studies have examined anger and violence among current service members, as opposed to veterans. [77,78] In a large study of active component and National Guard soldiers 3 and 12-months after return from OIF, Thomas et al, (2010) found that 38% - 43% reported getting angry and kicking, hitting, or smashing something; 14% - 18% reported getting into a fight and hitting another person.[78] A validation study of an anger scale in treatment-seeking U.S. Army soldiers after return from deployment to Afghanistan or Iraq demonstrated a strong link between anger and several mental health outcomes, including PTSD.[77]

Notably, most of these studies have examined anger among highly selected populations, often those in treatment for psychosocial problems including PTSD, substance abuse, and domestic violence. To our knowledge, no research has examined these relations among a population-based sample of current military service members.

This article uses data from a prospective cohort study of a randomly chosen representative sample of National Guard and Reserve soldiers to examine the prevalence of problems with anger and violence and the relations between these socio-behavioral problems and PTSD among men and women.

Methods

The study protocol was approved by the U.S. Army Medical Command's Congressionally Directed Medical Research Programs unit, the Human Research Protection Office at the U.S. Army Medical Research & Materiel Command, and the Institutional Review Boards at both the Uniformed Services University of the Health Sciences and Columbia University. Verbal informed consent was obtained from all participants.

Study Population and Sampling

A stratified random sample of National Guard and Reserve soldiers who were serving in the military as of June 2009 obtained through the Defense Manpower Data Center (DMDC) was recruited for participation in a longitudinal cohort study. DMDC provided

us with contact information for 20,000 individuals to constitute a representative sampling frame of 10,000 Reserve and 10,000 National Guard soldiers. An alert letter was sent to a random sample of 9,751 soldiers, of which 1,097 (11.3%) opted not to participate in the study. After eliminating individuals who did not have a correct or working phone number (2,866; 33.1%), we had 5,788 (66.9%) possible participants. Of these, 324 (5.6%) were not eligible (eg, too young or retired), 1,097 (19.0%) did not wish to participate, 61 (1.1%) were disqualified (eg, did not speak English or had hearing problems), and 3,386 (58.5%) were not contacted before the cohort closed. Official enrollment into the cohort (N = 2,003) and consent to participate in the study began in January 2010 and ended July 2010. Participants were compensated for their time. A second wave of data collection, beginning in 2011 followed up 1,293 members of the initial cohort. For the present study, data on gender and race was obtained from the first wave of data; all other variables were obtained from the second wave of data.

Telephone Interviews

In each wave of data collection, participants were administered a 40-minute telephone survey using a computer-assisted telephone interview (CATI). The survey included questions on military history and experiences, deployment-related and civilian psychopathology, health status, mental health service use, health-risk behaviors, and demographic characteristics. The second wave data also included questions about problems experienced with anger and violence. Interviews were conducted by a survey research firm.

Measures and Assessments

Military History and Lifetime Traumatic Events: To assess deployment history and traumatic events experienced during deployment, we used items adapted from the Deployment Risk and Resilience Inventory.[79] We assessed exposure to PTSD criterion A events that include physical assault, sexual assault, and serious accident occurring during a participants' lifetime, using a list developed by the Centers for Disease Control and Prevention and based on the Diagnostic Interview Schedule.[80] This series captures both civilian traumas and traumas that occurred during a National Guard or Reserve deployment. In the baseline survey, these questions were asked for lifetime occurrence of events. In the second wave survey, questions were asked about events occurring in the year between surveys.

Posttraumatic Stress Disorder (PTSD): PTSD was measured using the PTSD Checklist (PCL-C) to evaluate PTSD symptoms based on DSM-IV criteria.[81-83] The PCL is widely used in military populations and has good psychometric properties.[81,84] In one military population, the scale was shown to have an internal consistency of 0.97 and consistency within subscales ranging from 0.92 – 0.93. Test-retest reliability was 0.96. The PCL was highly correlated with other PTSD scales, including the Mississippi Scale of Combat Related PTSD (coefficient: 0.93).[83] Keen, et al. have reported very similar psychometric properties for the scale in other combat veteran populations.[81]

Although there is a military version of the scale, the PCL-C is often preferred because it captures non-combat deployment-related traumas, such as sexual assault, as well as

combat traumas.[77] In addition, we assessed DSM-IV criterion E (duration of symptoms ≥ one month) and criterion F, functional impairment. To meet criterion F, participants had to respond "very difficult" or "extremely difficult" to either of the following questions: "How difficult did these problems make it for you to do your work, take care of things at home, or get along with other people?" or "When you had several of these bad moods, feelings, and memories, how distressing was it for you?"

Participants were administered the PCL if they reported experiencing any criterion A trauma as a civilian or during a deployment. They were administered the scale with respect to what they identified as the "worst" trauma as a civilian and the "worst" trauma related to a deployment. Thus, respondents had the opportunity to be administered the PCL twice, creating separate scores for civilian-related PTSD symptoms and deployment-related PTSD symptoms.

Among participants who experienced a criterion A trauma, to be classified as having probable PTSD, participants had to also meet criterion B (at least 1 symptom of reexperiencing), criterion C (at least 3 symptoms of avoidance), criterion D (at least 2 symptoms of hyperarousal), criterion E (duration of symptoms of at least 1 month), and criterion F (significant impairment).[81,82,84] Criterion A2 was dropped based on the draft DSM-V classification criteria statement acknowledging that this criterion is not useful for classification of PTSD.[85,86] PTSD symptom severity was measured using a continuous score of symptoms in criteria B, C, and D.[81,84]

Anger: Anger was measured using a four-item version of the Dimensions of Anger (DAR) scale.[77,87,88] The original DAR is a seven-item scale assessing anger frequency, intensity, duration, antagonism, and impairment.[77,89] The scale originally had nine response categories. In a study with Australian Vietnam war veterans, Forbes et. al demonstrated that a five-item version of the scale with five response categories improved the scale's properties.[87] This study removed one additional question to create a four-item scale assessing anger frequency, intensity, antagonism, and impairment. Two studies in military populations have provided evidence for the scale's unidimensionality.[77,87] For the present sample of 1,293 National Guard and Reserve soldiers, a factor analysis found one factor, with loadings ranging from .64 - .69.

The four items include questions such as, "I often find myself getting angry at people or situations" and "My anger prevents me from getting along with people as well as I'd like to." Questions were asked on a 5-point Likert scale, ranging from strongly disagree to strongly agree and participants were asked to answer the questions with respect to the last 12 months. Participants were coded as having a problem with anger if they responded that they "agreed" or "strongly agreed" with any of the four statements.

Violence: Violence was measured using a single item adapted from McFall, et. al, 1999: "I have trouble controlling violent behavior (for example hitting someone)."[90]{McFall, 1999 #67} This item has also been used in a recent study of veterans who served in Iraq and Afghanistan.[38,76] Participants were asked to answer the question with respect to the

last 12 months. Respondents were classified as having a problem with violence if they responded that they "agreed" or "strongly disagreed" with the above statement.

Statistical Methods

We used factor analysis to determine whether the constructs for anger and violence were actually distinct or should be treated as a single construct. We then described the prevalence of problems with anger and violence, and the prevalence of these outcomes by demographic characteristics, deployment history (no deployments, deployments with no reported trauma, and deployments with reported trauma) and by probable PTSD status (no PTSD, only civilian-related PTSD, only deployment-related PTSD, and both civilian- and deployment-related PTSD). We examined these relations separately among men and women.[2] The prevalence of anger by deployment history and probable PTSD status was also examined in adjusted models using a marginal modeling approach.

We next used logistic regression to examine the association between problems with anger and violence and diagnosis with PTSD and PTSD symptom severity. We examined these associations by type of trauma (civilian- and/or deployment-related) by restricting analyses to only those with one type of trauma (eg. examining the association between anger and deployment-related PTSD restricted to those without civilian-related PTSD) and by using an interaction term to capture a possible interaction between civilian- and deployment-related PTSD. We conducted these analyses separately for men and women.

Finally, we examined the associations between problems with anger and violence and diagnosis with probable PTSD on the additive scale using a marginal modeling approach. We applied an imputation based marginal modeling method that examines the population-level association between an exposure and outcome if the entire population were to experience the exposure compared to if the entire population were unexposed. In this case, we compared the expected prevalence of anger and violence if no one in the population had any type of PTSD to the expected prevalence of anger and violence under three conditions: 1) if all service members were diagnosed with only civilian-related PTSD; 2) if all service members who had been deployed were diagnosed with probable deployment-related PTSD; and 3) if all service members were diagnosed with probable civilian PTSD and those who had been deployed were also diagnosed with probable deployment-related PTSD. Because there is no straightforward analytical estimate of the standard errors for this approach, we used bootstrapping to estimate bias-corrected standard errors.

Results

The characteristics of this sample are described in Table 1.

Table 1: Characteristics of Study Participants

Characteristic	No. (%)

[2] This study was not powered to detect differences between men and women and thus there were some analyses that we were unable to perform separately for women.

Total	1,293 (100)
Gender	
Male	1,036 (80.1)
Female	257 (19.9)
Age	
18 – 24 years	206 (16.1)
25 – 34 years	437 (34.3)
35 – 44 years	348 (27.3)
45 years or older	285 (22.3)
Race	
White	937 (80.6)
Non-White	225 (19.4)
Education	
High School or Less	171 (13.2)
Some College	377 (29.2)
College or More	745 (57.6)
Rank	
Enlisted	857 (73.6)
Officer or other	307 (26.4)
Marital Status	
Currently married	739 (57.2)
Not currently married	554 (42.8)

Using factor analysis, we confirmed that anger and violence are separate constructs. The four anger items loaded onto a single factor whereas the single violence item loaded onto a second factor.

Anger

The prevalence of anger was 49.2% (95% Confidence Interval (CI): 46.5 – 51.9). Group differences were examined by demographic characteristics in (Table 2). The prevalence of anger was similar among women and men (45.5% of women, 50.0% in men). The prevalence of anger decreased substantially with increasing age and education. Enlisted soldiers had a higher prevalence of anger than officers, and those who were married had a lower prevalence of anger than unmarried soldiers.

Table 2: Prevalence of Anger by Demographic Group

Characteristic	No Problems with Anger (No. (%))	Problems with Anger (No. (%))	Total (No.)
Total	657 (50.8)	536 (49.2)	1,293
Gender			
Male	517 (50.0)	519 (50.0)	1036
Female	140 (54.5)	117 (45.5)	257
Age			
18 – 24 years	93 (45.1)	113 (54.9)	206

25 – 34 years	216 (49.9)	221 (50.1)	437
35 – 44 years	175 (50.3)	173 (49.7)	348
45 years or older	161 (56.5)	124 (43.5)	285
Race			
White	480 (51.2)	457 (48.8)	937
Non-White	121 (53.8)	104 (46.2)	225
Education			
High School or Less	68 (39.8)	103 (60.2)	171
Some College	191 (50.7)	186 (49.3)	377
College or More	398 (53.4)	347 (46.6)	745
Rank			
Enlisted	404 (47.1)	453 (52.9)	857
Officer or other	186 (60.6)	121 (39.4)	307
Marital Status			
Currently married	396 (53.6)	343 (46.4)	739
Not currently married	261 (47.1)	293 (52.9)	554

Deployment Status and Anger:

We examined the prevalence of anger by deployment status. In these analyses, we restricted the analysis to those without civilian-PTSD in order to avoid possible confounding by civilian-PTSD status (eg. those with civilian-PTSD may be more likely to have problems with anger and less likely to be deployed because of their PTSD status). In an unadjusted model, 43% of those who never deployed reported problems with anger, whereas 39% who deployed but did not report any traumas and 53% of those who deployed and reported traumas reported problems with anger (see Table 3). We used a marginal model to estimate the prevalence of anger by deployment status adjusting for demographic characteristics. In this model, the expected prevalence of anger among those never deployed was 41.3% (95% CI: 0.35 – 0.48) versus 38.8% (95% CI: 0.33 – 0.44) among those deployed without traumas, and 53.3% (95% CI: 0.50 – 0.58) among those deployed with traumas, suggesting very little confounding by demographic variables.

Table 3: Prevalence of Anger by Deployment Status[a]

	No Problems with Anger (No. (%))	Problems with Anger (No. (%))	Total (No.)
Deployment Status			
Not Deployed	154 (57%)	117 (43%)	271
Deployed without Trauma	189 (61%)	121 (39%)	310
Deployed with Trauma	308 (47%)	348 (53%)	656

[a] Analysis restricted to those without civilian-related PTSD

PTSD Status and Anger:
Table 4 examines the prevalence of anger by PTSD status. There is a markedly higher prevalence of anger among those with probable PTSD related to either civilian or deployment-related trauma. Among those with probable PTSD related to both civilian and deployment-related traumas, all but one service member reported problems with anger. In marginal models that estimate the prevalence of anger by PTSD status adjusting for demographic characteristics, the prevalence of anger was 46% (95% CI: 0.43 – 0.49) among those with no PTSD, 85.0% (95% CI: 0.70 – 0.96) among those with only civilian-related PTSD, 91.3% (95% CI: 0.76 – 0.99) among those with only deployment-related PTSD, and 98.6% (95% CI: 0.93 – 1.0) among those with both types of trauma, again suggesting little confounding by demographic variables.

Table 4: Prevalence of Anger by PTSD Status

	No Problems with Anger (No. (%))	Problems with Anger (No. (%))	Total (No.)
PTSD Status			
No PTSD	650 (53%)	569 (46%)	1219
Civilian-Related PTSD Only	5 (14%)	30 (86%)	35
Deployment-Related PTSD Only	1 (6%)	17 (94%)	18
Both Civilian- and Deployment-Related PTSD	1 (5%)	20 (95%)	21

In regression analyses controlling for confounders, men with probable deployment-related PTSD had an increased odds of anger problems compared to men without PTSD (odds ratio (OR) = 13.2, 95% CI: 1.7 – 102.2) (model excluded those with probable civilian-related PTSD) (see table 5). Men with probable civilian-related PTSD were also at increased risk of anger problems compared to those without PTSD (OR = 5.2, 95% CI: 1.5 – 18.2) (model excluded those with probable deployment-related PTSD). For men with probable PTSD from both types of trauma, the odds ratio was 13.8 (95% CI: 0.22 – 8696.1). All three women in the sample who reported deployment-related PTSD also reported civilian PTSD and problems with anger.

Table 5: Adjusted Odds of Anger Problems by PTSD Type

	Adjusted Odds Ratio (95% CI)[a]
No PTSD	-
Deployment-Related PTSD	13.2 (1.7 – 102.2)*
Civilian-Related PTSD	5.2 (1.5 – 18.2)**
Both types of PTSD	13.8 (0.22 – 8,696.1)

[a] Model adjusted for age, education, race, marital status, rank, and race. * Significant at the 0.05 level. ** Significant at the .01 level.

We examined the relations between both types of PTSD and anger problems on an additive scale using the marginal modeling approach, adjusting for confounders. We found the estimated prevalence of anger problems in the population if no one had PTSD related to either civilian or deployment traumas to be 46.0% (95% CI: 0.33 – 0.56). The difference in the prevalence of anger problems if all service members developed deployment-related PTSD but were free from civilian PTSD was 35.0% (bringing the population prevalence to 81%). The difference in the prevalence of anger problems if all service members had civilian-related PTSD but not deployment-related PTSD was 39% (95% CI: 0.26 – 0.53) (bringing the population prevalence to 85%). If all at risk service members developed both civilian- and deployment-related PTSD, the difference in the prevalence of anger in the population would be 53% (95% CI: 0.48 – 0.58) to a population level of 98.6%.

PTSD Symptom Severity and Anger:
We also examined the association between PTSD symptom severity and anger problems (Table 6). In regression analyses controlling for possible confounders, among men without civilian-related PTSD, for each standard deviation increase in deployment-related PTSD symptom severity, the odds of problems with anger increased by 2.6 (95% CI: 1.8 – 3.5). A similar increase was found for each standard deviation increase in civilian-related PTSD symptom severity (among those without deployment-related PTSD) (OR = 2.1, 95% CI: 1.7 – 1.7). Among women, the increase in odds of anger for each standard deviation increase in PTSD symptom severity was greater: the OR for increase in deployment-related PTSD symptom severity was 4.3 (95% CI: 1.6 – 12.0); the OR for increase in civilian-related PTSD symptom severity was 3.3 (95% CI: 2.0 – 5.7).

Table 6: Adjusted Odds of Anger by PTSD Symptom Severity

	Adjusted Odds Ratio (95% CI)[a]
Men	
Deployment-Related PTSD Symptom Severity	2.6 (1.8 – 3.5)***
Civilian-Related PTSD Symptom Severity	2.1 (1.7 – 2.7)***
Women	
Deployment-Related PTSD Symptom Severity	4.3 (1.6 – 12.0)***
Civilian-Related PTSD Symptom Severity	3.3 (2.0 – 5.7)***

[a] Model adjusted for age, education, race, marital status, rank, and race. *** Significant at the .005 level.

Violence
Few participants reported problems controlling violent behavior (prevalence = 2.7%, 95% CI: 1.8 – 3.6) (see Table 7). These problems were almost twice as common among men (3.0%) as among women (1.6%) and were four times as common among those with

only a high school education or less (6.4%) as among those with a college education or more (1.6%).

Table 7: Prevalence of Problems with Violence by Demographic Group

Characteristic	No Problems with Violence (No. (%))	Problems with Violence (No. (%))	Total (No.)
Total	1258 (97.3)	35 (2.7)	1,293
Gender			
Male	1,005 (97)	31 (3.0)	1036
Female	253 (98.4)	4 (1.6)	257
Age			
18 – 24 years	205 (97.6)	5 (2.4)	206
25 – 34 years	422 (96.5)	15 (3.4)	437
35 – 44 years	339 (97.4)	9 (2.6)	348
45 years or older	279 (97.9)	6 (2.1)	285
Race			
White	920 (98.2)	17 (1.8)	937
Non-White	218 (96.9)	7 (3.1)	225
Education			
High School or Less	160 (93.6)	11 (6.4)	171
Some College	365 (96.8)	12 (3.2)	377
College or More	733 (98.4)	12 (1.6)	745
Rank			
Enlisted	830 (96.8)	27 (3.2)	857
Officer or other	303 (98.7)	4 (1.3)	307
Marital Status			
Currently married	723 (97.8)	16 (2.2)	739
Not currently married	535 (96.6)	19 (3.4)	554

Deployment Status and Violence:

Group differences were examined by deployment history (Table 8): among those without civilian-PTSD, a lower prevalence of problems with violence was observed among those who deployed without traumas (0.6%) whereas a higher prevalence of problems with violence was observed among those who deployed and reported traumas (2.7%). We used the marginal modeling approach to estimate the prevalence of violence by deployment status adjusting for demographic factors. This model produced estimates similar to the unadjusted estimates (prevalence among those not deployed = 1.4% (95% CI: 0.00 – 0.04); prevalence among those deployed with no traumas = 0.8% (95% CI: 0.00 – 0.02); prevalence among those deployed with traumas = 2.1% (95% CI: 0.01 – 0.04).

Table 8: Prevalence of Problems with Violence by Deployment Status [a]

	No Problems with Violence (No., %)	Problems with Violence (No., %)	Total (No.)

Not Deployed	267 (98.5%)	4 (1.5%)	271
Deployed without Trauma	308 (99.3%)	2 (0.6%)	310
Deployed with Trauma	638 (97.3%)	18 (2.7%)	656

[a] Table restricted to those without civilian-related PTSD

PTSD Status and Violence:

Table 9 examines the prevalence of problems with violence by PTSD status. There is a noticeable difference in the prevalence of problems with violence among those with probable PTSD related to either civilian-related or deployment-related trauma (14% and 17%, respectively) compared with those who had not PTSD (2%). Among those with probable PTSD related to both civilian and deployment traumas, the prevalence of problems with violence was 29%. Using the marginal modeling approach to estimate the prevalence of violence by PTSD status adjusting for confounders, we found that the prevalence of problems with violence among those without PTSD was 1.4% (95% CI: 0.00 – 0.03); the prevalence among those with only civilian-related PTSD was 9.6% (95% CI: 0.02 – 0.22); the prevalence among those with only deployment-related PTSD was 15.7% (95% CI: 0.00 – 0.38); and the prevalence among those with both types of PTSD was 55.0% (95% CI: 0.00 – 0.87), providing evidence for confounding by demographic variables.

Table 9: Prevalence of Violence by PTSD Status

	No Problems with Violence (No., %)	Problems with Violence (No., %)	Total (No.)
No PTSD	1198 (98%)	21 (2%)	1219
Civilian-Related PTSD Only	30 (86%)	5 (14%)	35
Deployment-Related PTSD Only	15 (83%)	3 (17%)	18
Both Civilian- and Deployment-Related PTSD	15 (83%)	6 (29%)	21

In regression analyses controlling for confounders, men with probable deployment-related PTSD (but not probable civilian-related PTSD) had increased odds of anger problems compared to men without PTSD (odds ratio (OR) = 13.0, 95% CI: 2.3 – 72.1) (see table 10). Men with probable civilian-related PTSD (but not probable deployment-related PTSD) also had a higher odds of anger problems compared to those without PTSD (OR = 7.5, 95% CI: 1.4 – 40.1). For men with probable PTSD from both types of traumas, the odds ratio was 22.7 (95% CI: 0.06 – 8977.5). Of the three women who reported deployment-related PTSD and civilian-related PTSD, two reported problems controlling violent behavior.

Table 10: Adjusted Odds of Problems with Violence by PTSD Type

	Adjusted Odds Ratio (95% CI)[a]
No PTSD	1.0
Deployment-Related PTSD	13.0 (2.3 – 72.1)***
Civilian-Related PTSD	7.5 (1.4 – 40.1)*
Both types of PTSD	22.7 (0.06 – 8,977.5)

[a] Model adjusted for age, education, race, marital status, rank, and race. * Significant at the 0.05 level. *** Significant at the .005 level.

Examining these relations on the additive scale using a marginal modeling approach, adjusting for confounders, we found the estimated prevalence of problems with violence if all service members developed deployment-related PTSD but were free from civilian PTSD was 14.3% (95% CI: 0.00 – 0.35). This compares to an estimated prevalence of violence of 1.4% if all service members were free of PTSD. The estimated prevalence of problems with violence if all service members had civilian-related PTSD but not deployment-related PTSD was 8.1% (95% CI: 0.00 – 0.19). If all service members developed both civilian- and deployment-related PTSD, the prevalence of problems with violence in the population is estimated to be 53.6% (95% CI: 0.00 – 0.88).

PTSD Symptom Severity and Violence:
We also examined the impact of PTSD symptom severity on problems with violence (Table 11). The odds of problems with violence were higher for each standard deviation of symptom severity for those with deployment-related PTSD or civilian-related PTSD (OR = 1.9, CI: 1.2 – 3.0 and OR = 1.8, CI: 1.3 – 2.7, respectively). Among women, the odds ratio associated with each standard deviation in deployment-related PTSD symptom severity was much greater (OR = 13.5, CI: 0.8 – 214.9); however, the result was not statistically significant. The OR for each standard deviation of civilian-related PTSD symptom severity among women was 2.3 (95% CI: 0.96 – 5.6) and also not statistically significant.

Table 11: Adjusted Odds of Problems with Violence by PTSD Symptom Severity

	Adjusted Odds Ratio (95% CI)[a]
Men	
Deployment-Related PTSD Symptom Severity	1.9 (1.2 – 3.0)*
Civilian-Related PTSD Symptom Severity	1.8 (1.3 – 2.7)**
Women	
Deployment-Related PTSD Symptom Severity	13.5 (0.8 – 214.9)
Civilian-Related PTSD Symptom Severity	2.3 (1.0 – 5.6)

[a] Model adjusted for age, education, race, marital status, rank, and race. * Significant at the .01 level. ** Significant at the .005 level.

Discussion

In a representative sample of National Guard and Reserve soldiers, we found that half of all soldiers reported problems with anger. There was only a minimal difference in the prevalence of anger among men and women. This finding is similar to those of studies of recent veteran populations.[49,51,52] Notably, the prevalence of anger was 43% even among those who have never deployed. While there are no studies in the general population using the same scale, four population-based studies of U.S. adults have found that between 55% - 63% of Americans report "feeling angry" in the past week.[91]

Nearly twice as many men as women reported problems controlling violent behavior, but the prevalence in both genders was very low (3.0% in men and 1.5% in women). These figures are much lower than those found by Thomas et al. (2010); in that study, 14.3% of National Guard members reported getting into a fight and hitting someone within 3-months after return from deployment to Iraq and 30.5% reported threatening someone with physical violence.[78]

The prevalence of anger and violence were highest among those who had experienced trauma while deployed, compared to those who reported no trauma during their deployment or who had never been deployed. The prevalence of anger and violence were similar among those who had never deployed and those who deployed without experiencing trauma. These findings are consistent with those of several studies that have found that combat exposure by itself is not significantly related to anger, aggression or violence.[34,38,76,77] Several theories could explain this finding: deployment without trauma may confer a sense of purpose, protecting against problems with anger or violence. Alternatively, those with preexisting problems with anger or violence may be less likely to be deployed; we did not have a measure of preexisting anger or violence problems in this study.

Consistent with studies in veteran populations, we found that anger and violence were strongly associated with probable PTSD, using DSM-IV criteria.[4,32-34,39,41,43] Notably, all women with deployment-related PTSD reported problems with anger and two-thirds reported problems with violence. Adjusting for confounders, the odds of problems with anger and violence were much higher among service members with deployment-related PTSD compared to those without any PTSD (OR for anger: 13.2; OR for violence 13.0). PTSD symptom severity was also significantly associated with problems with anger and violence. In order to better understand the public health impact of these exposures, we examined these relations on an additive scale: out of 100 soldiers with deployment-related PTSD, we observed 35 additional cases of anger problems and 11 additional cases of problems with violence.

To our knowledge, this is the first study to assess PTSD related to both deployment traumas and civilian traumas. We were thus able to examine whether the associations between PTSD and anger and violence were different for each kind of PTSD and whether there was a stronger association if participants had both types of PTSD, compared to PTSD related to only one type of trauma. We found that odds ratios for anger and violence were both higher among those with deployment-related PTSD (compared to no

PTSD) than among those with civilian-related PTSD (compared to no PTSD). While the odds ratio for anger problems was only slightly higher for both kinds of PTSD than for just deployment-related PTSD (13.8 compared to 13.2), the odds ratio for problems with violence associated with having both kinds of PTSD was much higher than the odds ratio for just deployment-related PTSD (22.7 compared to 13.0). Using an additive scale, the estimated difference in the prevalence of violence if the population experienced both types of PTSD compared to only deployment- or civilian-related PTSD was even more pronounced: the prevalence of anger was 12.2% higher if the at-risk population had deployment-related PTSD, was 9.6% higher if the population had civilian-related PTSD, and was 42.8% higher if the population had both types of PTSD.

These findings add to the literature demonstrating that anger is a common problem for military service members and veterans, especially those who have been exposed to combat-related trauma or have developed PTSD. This research extends existing knowledge by demonstrating that these effects are present in current service members, not just veterans, and are similar in men and women. Violence appears to be less of a problem in this current National Guard and Reserve population than in studies of veteran populations.

Future Research

There are several directions for future research based on these findings. First, this study did not have sufficient power to examine the relations between anger and violence and PTSD among women service members. While we found similar relations among men and women, further research is needed among women to give more precision to estimates of the effect.

Second, given the similar relations between civilian and deployment related PTSD and socio-behavioral outcomes, further research could usefully examine the particular traumatic stressors to see whether there are any differences in socio-behavioral outcomes by stressor type. Given the findings that those who have probable PTSD related to both types of traumas experience more anger and violence, a future study could also examine the relations between number of stressors and anger and violence.

Third, the present study was cross-sectional in nature and thus we are unable to establish temporality between exposures and outcomes. Future research should follow this cohort over time to ascertain trajectories of socio-behavioral responses and their association over time with deployment histories and PTSD.

Conclusion

This dissertation has taken three approaches to understanding the problems that United States Military Service members, current and former, experience with anger and violence. In my first chapter, a comprehensive literature review, I described the current state of knowledge. While several studies with prior generations of veterans showed that anger and violence were, indeed, problems facing the veteran community, there were several gaps in this research. Notably, much of the research had taken place with non-representative populations of veterans and long after the wartime exposures. In addition, only one study had examined these problems among women.

The second chapter of my dissertation examined the problems that veterans have with anger from a qualitative perspective. This chapter adds depth and meaning to the quantitative studies demonstrating that anger is a common problem among veterans. This chapter describes, in veterans' own words, the contexts in which they experience anger and the impact it has on their lives in each of their main social environments. This chapter concludes that anger, while a somewhat normative experience, represents a significant barrier to veterans' successful reintegration into civilian life.

The third chapter of my dissertation used quantitative methods to examine the problems that current soldiers in the Reserve and National Guard experience with anger and violence. Using data from a large, population-based sample of soldiers, I found that about half of all soldiers reported problems with anger and about two percent reported problems with violence. In further analyses, I found that problems with anger and violence were strongly associated with experiencing trauma during deployment and having posttraumatic stress disorder (PTSD). These relations held for both men and women, although the small sample of women in the study made it difficult to estimate the size of these associations with precision for women.

There are several directions that future research could usefully take. The first direction is to examine whether anger is a consequence of military service or preexisting problem. My findings, consistent with other studies, suggest that half of Afghanistan and Iraq war veterans have problems with anger.[49,51,52] In my quantitative analyses, I found that the prevalence of anger was very high, 43%, even among those who had never deployed. This similarity raises questions about whether military exposures are causing problems with anger; my qualitative research suggests that anger emerged after military service, but high levels of anger in those who never deployed raise questions about this. The lack of comparable data on the level of self-reported problems with anger in the general population makes it difficult to say whether these levels of anger are higher or lower than would be expected among similar civilian populations. Future research should follow military recruits from their first contact with the military, through training, deployment, post deployment, and separation in order to assess anger problems and changes in anger problems associated with exposures in each of these particular periods.

The second direction is to gain a better understanding of problems with anger and violence among women. While both my qualitative and quantitative research make it

clear that women experience problems with anger, the small sample of women in both studies makes it difficult to capture their experience as distinct from that of men. The few women who reported struggling with anger in the qualitative study also had experienced sexual harassment and assault during their service. Two of the women reported that they had developed PTSD as a result of these experiences. In the quantitative study, too few women reported experiencing rape or assault during a deployment to be able to analyze how these exposures might be associated with anger independently or through PTSD. In the quantitative study, half of the women who reported deployment-related traumas reported problems with anger. Of the three women who screened positive for probable deployment-related PTSD, all three also had probable civilian-related PTSD and problems with anger. While together these findings are suggestive that sexual trauma during service is likely to be associated with anger problems, research with women service members and/or recent veterans is needed in order to properly understand these relations and to design appropriate interventions for this distinct group of soldiers.

The third area for future research is in intervention research. Namely, while the three chapters in this dissertation make it clear that anger and violence are a significant problem facing service members and veterans, little research has been done to assess the effectiveness of programs designed to help soldiers or veterans and their families. While the Veterans Administration offers group anger management programs, there has been little systematic study of the programs' effectiveness, particularly on the differences in the effectiveness of these programs for men and women, and for veterans with and without PTSD. In addition, given the ample evidence in this dissertation and elsewhere that anger and violence negatively affect family relationships, interventions for service members and veterans and their families are needed.[52,92,93]

References

1. Bourke J. An Intimate History of Killing. London: Granta Books, 1999.
2. Yager J. Postcombat violent behavior in psychiatrically maladjusting soldiers. Arch Gen Psychiatry 1976;33(11):1332-5.
3. Chemtob CM, Hamada RS, Roitblat HL, Muraoka MY. Anger, impulsivity, and anger control in combat-related posttraumatic stress disorder. J Consult Clin Psychol 1994;62(4):827-32.
4. Beckham JC, Feldman ME, Kirby AC. Atrocities exposure in Vietnam combat veterans with chronic posttraumatic stress disorder: relationship to combat exposure, symptom severity, guilt, and interpersonal violence. J Trauma Stress 1998;11(4):777-85.
5. Vogt DS, Pless AP, King LA, King DW. Deployment stressors, gender, and mental health outcomes among Gulf War I veterans. J Trauma Stress 2005;18(3):272-84.
6. Smith B, Ryan MA, Wingard DL, Patterson TL, Slymen DJ, Macera CA. Cigarette smoking and military deployment: a prospective evaluation. Am J Prev Med 2008;35(6):539-46.
7. Baker DG, Heppner P, Afari N, Nunnink S, Kilmer M, Simmons A, Harder L, Bosse B. Trauma exposure, branch of service, and physical injury in relation to mental health among U.S. veterans returning from Iraq and Afghanistan. Mil Med 2009;174(8):773-8.
8. Wells TS, LeardMann CA, Fortuna SO, Smith B, Smith TC, Ryan MA, Boyko EJ, Blazer D. A prospective study of depression following combat deployment in support of the wars in Iraq and Afghanistan. Am J Public Health 2010;100(1):90-9.
9. Kimerling R, Gima K, Smith MW, Street A, Frayne S. The Veterans Health Administration and military sexual trauma. Am J Public Health 2007;97(12):2160-6.
10. Yaeger D, Himmelfarb N, Cammack A, Mintz J. DSM-IV diagnosed posttraumatic stress disorder in women veterans with and without military sexual trauma. Journal of General Internal Medicine. Special Issue: Improving health care for women veterans 2006;21(Suppl 3):S65-S69.
11. Kimerling R, Street A, Pavao J, Smith M, Cronkite R, Holmes T, Frayne S. Military-Related Sexual Trauma Among Veterans Health Administration Patients Returning From Iraq and Afghanistan. American Journal of Public Health 2010;100(8):1409-1412.
12. Seal KH, Metzler TJ, Gima K, Bertenthal D, Maguen S, Marmar CR. Trends and Risk Factors for Mental Health Diagnoses Among Iraq and Afghanistan Veterans Using Department of Veterans Affairs Health Care, 2002-2008. Am J Public Health 2009;99(9).
13. Bell EA, Roth MA, Weed G. Wartime stressors and health outcomes: women in the Persian Gulf War. J Psychosoc Nurs Ment Health Serv 1998;36(8):19-25.
14. Fontana A, Rosenheck R. Duty-related and sexual stress in the etiology of PTSD among women veterans who seek treatment. Psychiatr Serv 1998;49(5):658-62.

15. Sadler AG, Booth BM, Doebbeling BN. Gang and multiple rapes during military service: health consequences and health care. J Am Med Womens Assoc 2005;60(1):33-41.
16. Sadler AG, Booth BM, Nielson D, Doebbeling BN. Health-related consequences of physical and sexual violence: women in the military. Obstet Gynecol 2000;96(3):473-80.
17. Summerfield D. A critique of seven assumptions behind psychological trauma programmes in war-affected areas. Soc Sci Med 1999;48(10):1449-62.
18. Yehuda R. Post-traumatic stress disorder. N Engl J Med 2002;346(2):108-14.
19. Yehuda R. Clinical relevance of biologic findings in PTSD. Psychiatr Q 2002;73(2):123-33.
20. Beckham JC, Feldman ME, Kirby AC, Hertzberg MA, Moore SD. Interpersonal violence and its correlates in Vietnam veterans with chronic posttraumatic stress disorder. J Clin Psychol 1997;53(8):859-69.
21. Fontana A, Litz B, Rosenheck R. Impact of combat and sexual harassment on the severity of posttraumatic stress disorder among men and women peacekeepers in Somalia. J Nerv Ment Dis 2000;188(3):163-9.
22. Kang H, Dalager N, Mahan C, Ishii E. The role of sexual assault on the risk of PTSD among Gulf War veterans. Ann Epidemiol 2005;15(3):191-5.
23. Sharkansky EJ, King DW, King LA, Wolfe J, Erickson DJ, Stokes LR. Coping with Gulf War combat stress: mediating and moderating effects. J Abnorm Psychol 2000;109(2):188-97.
24. Killgore WD, Cotting DI, Thomas JL, Cox AL, McGurk D, Vo AH, Castro CA, Hoge CW. Post-combat invincibility: violent combat experiences are associated with increased risk-taking propensity following deployment. J Psychiatr Res 2008;42(13):1112-21.
25. Smith TC, Ryan MA, Wingard DL, Slymen DJ, Sallis JF, Kritz-Silverstein D. New onset and persistent symptoms of post-traumatic stress disorder self reported after deployment and combat exposures: prospective population based US military cohort study. BMJ 2008;336(7640):366-71.
26. Suris A, Lind L, Kashner TM, Borman PD, Petty F. Sexual assault in women veterans: an examination of PTSD risk, health care utilization, and cost of care. Psychosom Med 2004;66(5):749-56.
27. Fontana A, Schwartz LS, Rosenheck R. Posttraumatic stress disorder among female Vietnam veterans: a causal model of etiology. Am J Public Health 1997;87(2):169-75.
28. Street AE, Stafford J, Mahan CM, Hendricks A. Sexual harassment and assault experienced by reservists during military service: prevalence and health correlates. J Rehabil Res Dev 2008;45(3):409-19.
29. Chemtob CM, Novaco RW, Hamada RS, Gross DM, Smith G. Anger regulation deficits in combat-related posttraumatic stress disorder. J Trauma Stress 1997;10(1):17-36.
30. Novaco RW. Anger as a risk factor for violence among the mentally disordered. In: Monahan I, Steadman H, eds. Violence and mental disorder: Developments in risk assessment. Chicago: University of Chicago Press, 1994;21-56.

31. Crawford EF, Calhoun PS, Braxton LE, Beckham JC. Validity of the Personality Assessment Inventory Aggression scales and Violence Potential index in veterans with PTSD. J Pers Assess 2007;88(1):90-8.
32. McFall ME, Wright PW, Donovan DM, Raskind M. Multidimensional assessment of anger in Vietnam veterans with posttraumatic stress disorder. Compr Psychiatry 1999;40(3):216-20.
33. Taft CT, Kaloupek DG, Schumm JA, Marshall AD, Panuzio J, King DW, Keane TM. Posttraumatic stress disorder symptoms, physiological reactivity, alcohol problems, and aggression among military veterans. J Abnorm Psychol 2007;116(3):498-507.
34. Taft CT, Vogt DS, Marshall AD, Panuzio J, Niles BL. Aggression among combat veterans: relationships with combat exposure and symptoms of posttraumatic stress disorder, dysphoria, and anxiety. J Trauma Stress 2007;20(2):135-45.
35. O'Donnell C, Cook JM, Thompson R, Riley K, Neria Y. Verbal and physical aggression in World War II former prisoners of war: role of posttraumatic stress disorder and depression. J Trauma Stress 2006;19(6):859-66.
36. Ray SL, Vanstone M. The impact of PTSD on veterans' family relationships: an interpretative phenomenological inquiry. Int J Nurs Stud 2009;46(6):838-47.
37. Butterfield MI, Forneris CA, Feldman ME, Beckham JC. Hostility and functional health status in women veterans with and without posttraumatic stress disorder: a preliminary study. J Trauma Stress 2000;13(4):735-41.
38. Jakupcak M, Conybeare D, Phelps L, Hunt S, Holmes HA, Felker B, Klevens M, McFall ME. Anger, hostility, and aggression among Iraq and Afghanistan War veterans reporting PTSD and subthreshold PTSD. J Trauma Stress 2007;20(6):945-54.
39. Taft CT, Street AE, Marshall AD, Dowdall DJ, Riggs DS. Posttraumatic stress disorder, anger, and partner abuse among Vietnam combat veterans. J Fam Psychol 2007;21(2):270-7.
40. Beckham JC, Calhoun PS, Glenn DM, Barefoot JC. Posttraumatic stress disorder, hostility, and health in women: a review of current research. Ann Behav Med 2002;24(3):219-28.
41. Lasko NB, Gurvits TV, Kuhne AA, Orr SP, Pitman RK. Aggression and its correlates in Vietnam veterans with and without chronic posttraumatic stress disorder. Compr Psychiatry 1994;35(5):373-81.
42. Taft CT, Vogt DS, Mechanic MB, Resick PA. Posttraumatic stress disorder and physical health symptoms among women seeking help for relationship aggression. J Fam Psychol 2007;21(3):354-62.
43. Gondolf EW, Foster RA. Wife assault among VA alcohol rehabilitation patients. Hosp Community Psychiatry 1991;42(1):74-9.
44. Hiley-Young B, Blake DD, Abueg FR, Rozynko V, Gusman FD. Warzone violence in Vietnam: an examination of premilitary, military, and postmilitary factors in PTSD in-patients. J Trauma Stress 1995;8(1):125-41.
45. Orcutt HK, King LA, King DW. Male-perpetrated violence among Vietnam veteran couples: relationships with veteran's early life characteristics, trauma history, and PTSD symptomatology. J Trauma Stress 2003;16(4):381-90.

46. Ouimette P, Cronkite R, Henson BR, Prins A, Gima K, Moos RH. Posttraumatic stress disorder and health status among female and male medical patients. J Trauma Stress 2004;17(1):1-9.
47. Institute of Medicine. Returning Home from Iraq and Afghanistan: Preliminary Assessment of Readjustment Needs of Veterans, Service Members, and Their Families. Washington, DC: The National Academies Press, 2010.
48. Hoge CW. Interventions for war-related posttraumatic stress disorder: meeting veterans where they are. JAMA 2011;306(5):549-51.
49. Sayer N, Noorbaloochi S, Frazier P, Carlson K, Gravely A, Murdoch M. Reintegration problems and treatment interests among Iraq and Afghanistan combat veterans receiving VA medical care. Psychiatric Services 2010;61(6):589-597.
50. Seal KH, Bertenthal D, Maguen S, Gima K, Chu A, Marmar CR. Getting beyond "Don't ask; don't tell": an evaluation of US Veterans Administration postdeployment mental health screening of veterans returning from Iraq and Afghanistan. Am J Public Health 2008;98(4):714-20.
51. Pew Research Center. The Military-Civilian Gap: War and Sacrifice in the Post-9/11 Era. Washington, DC: Pew Research Center: Social and Demographic Trends, 2011.
52. Wheeler E. Self-Reported Mental Health Status and Needs of Iraq Veterans in the Maine Army National Guard. Portland: Community Counseling Center, 2007.
53. Bronfenbrenner U. The Ecology of Human Development: Experiments by Nature and Design. Cambridge, MA: Harvard University Press, 1979.
54. Raphael D, Renwick R, Brown I, Rootman I. Quality of Life Indicators and Health: Current Status and Emerging Conceptions. Social Indicators Research 1996;39(1):65-88.
55. Berkman L, Glass T. Social integration, social networks, social support and health. In: Berkman L, Kawachi I, eds. Social Epidemiology. New York: Oxford University Press, 2000;137-173.
56. House JS. Work stress and social support. Reading, MA: Addison-Wesley, 1981.
57. Sheon N. Overview of Atlas.ti 5.2. 2007.
58. atlas.ti. 2011.
59. Evans L, McHugh T, Hopwood M, Watt C. Chronic posttraumatic stress disorder and family functioning of Vietnam veterans and their partners. Aust N Z J Psychiatry 2003;37(6):765-72.
60. Taft CT, Schumm JA, Panuzio J, Proctor SP. An examination of family adjustment among Operation Desert Storm veterans. J Consult Clin Psychol 2008;76(4):648-56.
61. Monson CM, Taft CT, Fredman SJ. Military-related PTSD and intimate relationships: from description to theory-driven research and intervention development. Clin Psychol Rev 2009;29(8):707-14.
62. Savarese VW, Suvak MK, King LA, King DW. Relationships among alcohol use, hyperarousal, and marital abuse and violence in Vietnam veterans. J Trauma Stress 2001;14(4):717-32.
63. Borus JF. The Reentry Transition of the Vietnam Veteran. Armed Forces & Society 1975;2(1):97 - 114.

64. Faulkner RR, McGaw DB. Uneasy Homecoming : Stages in the Reentry Transition of Vietnam Veterans. Journal of Contemporary Ethnography 1977;6(3):303 - 328.
65. Lifton RJ. Home from the war : learning from Vietnam veterans : with a new preface by the author on the War in Iraq. New York: Other Press, 2005.
66. Chen PY, Spector PE. Relationships of work stressors with aggression, withdrawal, theft and substance use: An exploratory study. Journal of Occupational & Organizational Psychology 1992;65(3):177-184.
67. Frueh BC, Henning KR, Pellegrin KL, Chobot K. Relationship between scores on anger measures and PTSD symptomatology, employment, and compensation-seeking status in combat veterans. J Clin Psychol 1997;53(8):871-8.
68. Hershcovis MS, Turner N, Barling J, Arnold KA, Dupre KE, Inness M, LeBlanc MM, Sivanathan N. Predicting workplace aggression: a meta-analysis. J Appl Psychol 2007;92(1):228-38.
69. Inness M, Leblanc MM, Barling J. Psychosocial predictors of supervisor-, peer-, subordinate-, and service-provider-targeted aggression. J Appl Psychol 2008;93(6):1401-11.
70. O'Neill OA, Vandenberg RJ, Dejoy DM, Wilson MG. Exploring relationships among anger, perceived organizational support, and workplace outcomes. J Occup Health Psychol 2009;14(3):318-33.
71. Struthers CW, Miller DL, Boudens CJ, Briggs GL. Effects of Causal Attributions on Coworker Interactions: A Social Motivation Perspective. Basic & Applied Social Psychology 2001;23(3):169-181.
72. Thomas SP, Smith H. School connectedness, anger behaviors, and relationships of violent and nonviolent youth. Perspectives in Psychiatric Care 2004;40(4):135-148.
73. Forbes D, Parslow R, Creamer M, Allen N, McHugh T, Hopwood M. Mechanisms of anger and treatment outcome in combat veterans with posttraumatic stress disorder. J Trauma Stress 2008;21(2):142-9.
74. Dittmann M. Anger across the gender divide: Researchers strive to understand how men and women experience and express anger. Monitor on Psychology 2003;34(3):52.
75. Worthen M. The Relations Between Traumatic Exposures, Posttraumatic Stress Disorder, and Anger in Male and Female Veterans. Journal of Feminist Family Therapy 2011;23(3-4):188-201.
76. Elbogen EB, Wagner HR, Fuller SR, Calhoun PS, Kinneer PM, Beckham JC. Correlates of anger and hostility in Iraq and Afghanistan war veterans. Am J Psychiatry 2010;167(9):1051-8.
77. Novaco RW, Swanson RD, Gonzalez OI, Gahm GA, Reger MD. Anger and postcombat mental health: Validation of a brief anger measure with U.S. Soldiers postdeployed from Iraq and Afghanistan. Psychol Assess 2012.
78. Thomas JL, Wilk JE, Riviere LA, McGurk D, Castro CA, Hoge CW. Prevalence of mental health problems and functional impairment among active component and National Guard soldiers 3 and 12 months following combat in Iraq. Arch Gen Psychiatry 2010;67(6):614-23.

79. King LA, King DW, Vogt DS, Knight J, Samper RE. Deployment Risk and Resilience Inventory: A Collection of Measures for Studying Deployment-Related Experiences of Military Personnel and Veterans. Military Psychology 2006;18(2):89-120.
80. Centers for Disease Control and Prevention (CDC). Diagnostic interview schedule (DIS). Health Status of Vietnam Veterans. Supplement C: Medical and Psychological Procedure Manuals and Forms. Atlanta, GA: Centers for Disease Control and Prevention, 1989;405-499.
81. Keen SM, Kutter CJ, Niles BL, Krinsley KE. Psychometric properties of PTSD Checklist in sample of male veterans. J Rehabil Res Dev 2008;45(3):465-74.
82. Norris FH, Hamblen JL. Standardized self-report measures of civilian trauma and PTSD. In: Wilson J, Keane T, eds. Assessing Psychological Trauma and PTSD: A Practitioner's Handbook. New York: Guilford, 2003.
83. Weathers F, Litz B, Herman D, Huska J, Keane T. The PTSD Checklist (PCL): Reliability, Validity, and Diagnostic Utility. Annual Convention of the International Society for Traumatic Stress Studies. San Antonio, TX, 1993.
84. Weathers F, Litz B, Huska J, Keane T, National Center for PTSD. PCL-M for DSM-IV. In: Behavioral Science Division, ed, 1994.
85. American Psychiatric Association DSM-5 Development. G 05 Posttraumatic Stress Disorder: Proposed Revision. Vol. 2012.
86. Friedman MJ, Resick PA, Bryant RA, Brewin CR. Considering PTSD for DSM-5. Depress Anxiety 2011;28(9):750-69.
87. Forbes D, Hawthorne G, Elliott P, McHugh T, Biddle D, Creamer M, Novaco RW. A concise measure of anger in combat-related posttraumatic stress disorder. J Trauma Stress 2004;17(3):249-56.
88. Hawthorne G, Mouthaan J, Forbes D, Novaco RW. Response categories and anger measurement: do fewer categories result in poorer measurement?: development of the DAR5. Soc Psychiatry Psychiatr Epidemiol 2006;41(2):164-72.
89. Novaco RW. Dimensions of anger reactions. Irvine, CA: University of California, 1975.
90. McFall M, Fontana A, Raskind M, Rosenheck R. Analysis of violent behavior in Vietnam combat veteran psychiatric inpatients with posttraumatic stress disorder. J Trauma Stress 1999;12(3):501-17.
91. Schieman S. The Sociological Study of Anger: Basic Social Patterns and Contexts. In: Potegal M, Stemmler G, Spielberger C, eds. International Handbook of Anger: Constituent and Concomitant Biological, Psychological, and Social Processes. New York: Springer, 2010;329-347.
92. Biddle D, Elliott P, Creamer M, Forbes D, Devilly GJ. Self-reported problems: a comparison between PTSD-diagnosed veterans, their spouses, and clinicians. Behav Res Ther 2002;40(7):853-65.
93. Snell F, Tusaie KR. Veterans reported reasons for seeking mental health treatment. Arch Psychiatr Nurs 2008;22(5):313-4.

Bibliography

1. American Psychiatric Association DSM-5 Development. G 05 Posttraumatic Stress Disorder: Proposed Revision. Vol. 2012.
2. atlas.ti. 2011.
3. Baker DG, Heppner P, Afari N, Nunnink S, Kilmer M, Simmons A, Harder L, Bosse B. Trauma exposure, branch of service, and physical injury in relation to mental health among U.S. veterans returning from Iraq and Afghanistan. Mil Med 2009;174(8):773-8.
4. Beckham JC, Calhoun PS, Glenn DM, Barefoot JC. Posttraumatic stress disorder, hostility, and health in women: a review of current research. Ann Behav Med 2002;24(3):219-28.
5. Beckham JC, Feldman ME, Kirby AC. Atrocities exposure in Vietnam combat veterans with chronic posttraumatic stress disorder: relationship to combat exposure, symptom severity, guilt, and interpersonal violence. J Trauma Stress 1998;11(4):777-85.
6. Beckham JC, Feldman ME, Kirby AC, Hertzberg MA, Moore SD. Interpersonal violence and its correlates in Vietnam veterans with chronic posttraumatic stress disorder. J Clin Psychol 1997;53(8):859-69.
7. Bell EA, Roth MA, Weed G. Wartime stressors and health outcomes: women in the Persian Gulf War. J Psychosoc Nurs Ment Health Serv 1998;36(8):19-25.
8. Berkman L, Glass T. Social integration, social networks, social support and health. In: Berkman L, Kawachi I, eds. Social Epidemiology. New York: Oxford University Press, 2000;137-173.
9. Biddle D, Elliott P, Creamer M, Forbes D, Devilly GJ. Self-reported problems: a comparison between PTSD-diagnosed veterans, their spouses, and clinicians. Behav Res Ther 2002;40(7):853-65.
10. Borus JF. The Reentry Transition of the Vietnam Veteran. Armed Forces & Society 1975;2(1):97 - 114.
11. Bourke J. An Intimate History of Killing. London: Granta Books, 1999.
12. Bronfenbrenner U. The Ecology of Human Development: Experiments by Nature and Design. Cambridge, MA: Harvard University Press, 1979.
13. Butterfield MI, Forneris CA, Feldman ME, Beckham JC. Hostility and functional health status in women veterans with and without posttraumatic stress disorder: a preliminary study. J Trauma Stress 2000;13(4):735-41.
14. Centers for Disease Control and Prevention (CDC). Diagnostic interview schedule (DIS). Health Status of Vietnam Veterans. Supplement C: Medical and Psychological Procedure Manuals and Forms. Atlanta, GA: Centers for Disease Control and Prevention, 1989;405-499.
15. Chemtob CM, Hamada RS, Roitblat HL, Muraoka MY. Anger, impulsivity, and anger control in combat-related posttraumatic stress disorder. J Consult Clin Psychol 1994;62(4):827-32.
16. Chemtob CM, Novaco RW, Hamada RS, Gross DM, Smith G. Anger regulation deficits in combat-related posttraumatic stress disorder. J Trauma Stress 1997;10(1):17-36.
17. Chen PY, Spector PE. Relationships of work stressors with aggression, withdrawal, theft and substance use: An exploratory study. Journal of Occupational & Organizational Psychology 1992;65(3):177-184.
18. Crawford EF, Calhoun PS, Braxton LE, Beckham JC. Validity of the Personality

Assessment Inventory Aggression scales and Violence Potential index in veterans with PTSD. J Pers Assess 2007;88(1):90-8.
19. Dittmann M. Anger across the gender divide: Researchers strive to understand how men and women experience and express anger. Monitor on Psychology 2003;34(3):52.
20. Elbogen EB, Wagner HR, Fuller SR, Calhoun PS, Kinneer PM, Beckham JC. Correlates of anger and hostility in Iraq and Afghanistan war veterans. Am J Psychiatry 2010;167(9):1051-8.
21. Evans L, McHugh T, Hopwood M, Watt C. Chronic posttraumatic stress disorder and family functioning of Vietnam veterans and their partners. Aust N Z J Psychiatry 2003;37(6):765-72.
22. Faulkner RR, McGaw DB. Uneasy Homecoming : Stages in the Reentry Transition of Vietnam Veterans. Journal of Contemporary Ethnography 1977;6(3):303 - 328.
23. Fontana A, Litz B, Rosenheck R. Impact of combat and sexual harassment on the severity of posttraumatic stress disorder among men and women peacekeepers in Somalia. J Nerv Ment Dis 2000;188(3):163-9.
24. Fontana A, Rosenheck R. Duty-related and sexual stress in the etiology of PTSD among women veterans who seek treatment. Psychiatr Serv 1998;49(5):658-62.
25. Fontana A, Schwartz LS, Rosenheck R. Posttraumatic stress disorder among female Vietnam veterans: a causal model of etiology. Am J Public Health 1997;87(2):169-75.
26. Forbes D, Hawthorne G, Elliott P, McHugh T, Biddle D, Creamer M, Novaco RW. A concise measure of anger in combat-related posttraumatic stress disorder. J Trauma Stress 2004;17(3):249-56.
27. Forbes D, Parslow R, Creamer M, Allen N, McHugh T, Hopwood M. Mechanisms of anger and treatment outcome in combat veterans with posttraumatic stress disorder. J Trauma Stress 2008;21(2):142-9.
28. Friedman MJ, Resick PA, Bryant RA, Brewin CR. Considering PTSD for DSM-5. Depress Anxiety 2011;28(9):750-69.
29. Frueh BC, Henning KR, Pellegrin KL, Chobot K. Relationship between scores on anger measures and PTSD symptomatology, employment, and compensation-seeking status in combat veterans. J Clin Psychol 1997;53(8):871-8.
30. Gondolf EW, Foster RA. Wife assault among VA alcohol rehabilitation patients. Hosp Community Psychiatry 1991;42(1):74-9.
31. Hawthorne G, Mouthaan J, Forbes D, Novaco RW. Response categories and anger measurement: do fewer categories result in poorer measurement?: development of the DAR5. Soc Psychiatry Psychiatr Epidemiol 2006;41(2):164-72.
32. Hershcovis MS, Turner N, Barling J, Arnold KA, Dupre KE, Inness M, LeBlanc MM, Sivanathan N. Predicting workplace aggression: a meta-analysis. J Appl Psychol 2007;92(1):228-38.
33. Hiley-Young B, Blake DD, Abueg FR, Rozynko V, Gusman FD. Warzone violence in Vietnam: an examination of premilitary, military, and postmilitary factors in PTSD in-patients. J Trauma Stress 1995;8(1):125-41.
34. Hoge CW. Interventions for war-related posttraumatic stress disorder: meeting veterans where they are. JAMA 2011;306(5):549-51.
35. House JS. Work stress and social support. Reading, MA: Addison-Wesley, 1981.
36. Inness M, Leblanc MM, Barling J. Psychosocial predictors of supervisor-, peer-, subordinate-, and service-provider-targeted aggression. J Appl Psychol 2008;93(6):1401-

11.
37. Institute of Medicine. Returning Home from Iraq and Afghanistan: Preliminary Assessment of Readjustment Needs of Veterans, Service Members, and Their Families. Washington, DC: The National Academies Press, 2010.
38. Jakupcak M, Conybeare D, Phelps L, Hunt S, Holmes HA, Felker B, Klevens M, McFall ME. Anger, hostility, and aggression among Iraq and Afghanistan War veterans reporting PTSD and subthreshold PTSD. J Trauma Stress 2007;20(6):945-54.
39. Kang H, Dalager N, Mahan C, Ishii E. The role of sexual assault on the risk of PTSD among Gulf War veterans. Ann Epidemiol 2005;15(3):191-5.
40. Keen SM, Kutter CJ, Niles BL, Krinsley KE. Psychometric properties of PTSD Checklist in sample of male veterans. J Rehabil Res Dev 2008;45(3):465-74.
41. Killgore WD, Cotting DI, Thomas JL, Cox AL, McGurk D, Vo AH, Castro CA, Hoge CW. Post-combat invincibility: violent combat experiences are associated with increased risk-taking propensity following deployment. J Psychiatr Res 2008;42(13):1112-21.
42. Kimerling R, Gima K, Smith MW, Street A, Frayne S. The Veterans Health Administration and military sexual trauma. Am J Public Health 2007;97(12):2160-6.
43. Kimerling R, Street A, Pavao J, Smith M, Cronkite R, Holmes T, Frayne S. Military-Related Sexual Trauma Among Veterans Health Administration Patients Returning From Iraq and Afghanistan. American Journal of Public Health 2010;100(8):1409-1412.
44. King LA, King DW, Vogt DS, Knight J, Samper RE. Deployment Risk and Resilience Inventory: A Collection of Measures for Studying Deployment-Related Experiences of Military Personnel and Veterans. Military Psychology 2006;18(2):89-120.
45. Lasko NB, Gurvits TV, Kuhne AA, Orr SP, Pitman RK. Aggression and its correlates in Vietnam veterans with and without chronic posttraumatic stress disorder. Compr Psychiatry 1994;35(5):373-81.
46. Lifton RJ. Home from the war : learning from Vietnam veterans : with a new preface by the author on the War in Iraq. New York: Other Press, 2005.
47. McFall M, Fontana A, Raskind M, Rosenheck R. Analysis of violent behavior in Vietnam combat veteran psychiatric inpatients with posttraumatic stress disorder. J Trauma Stress 1999;12(3):501-17.
48. McFall ME, Wright PW, Donovan DM, Raskind M. Multidimensional assessment of anger in Vietnam veterans with posttraumatic stress disorder. Compr Psychiatry 1999;40(3):216-20.
49. Monson CM, Taft CT, Fredman SJ. Military-related PTSD and intimate relationships: from description to theory-driven research and intervention development. Clin Psychol Rev 2009;29(8):707-14.
50. Norris FH, Hamblen JL. Standardized self-report measures of civilian trauma and PTSD. In: Wilson J, Keane T, eds. Assessing Psychological Trauma and PTSD: A Practitioner's Handbook. New York: Guilford, 2003.
51. Novaco RW. Dimensions of anger reactions. Irvine, CA: University of California, 1975.
52. Novaco RW. Anger as a risk factor for violence among the mentally disordered. In: Monahan I, Steadman H, eds. Violence and mental disorder: Developments in risk assessment. Chicago: University of Chicago Press, 1994;21-56.
53. Novaco RW, Swanson RD, Gonzalez OI, Gahm GA, Reger MD. Anger and postcombat mental health: Validation of a brief anger measure with U.S. Soldiers postdeployed from Iraq and Afghanistan. Psychol Assess 2012.

54. O'Donnell C, Cook JM, Thompson R, Riley K, Neria Y. Verbal and physical aggression in World War II former prisoners of war: role of posttraumatic stress disorder and depression. J Trauma Stress 2006;19(6):859-66.
55. O'Neill OA, Vandenberg RJ, Dejoy DM, Wilson MG. Exploring relationships among anger, perceived organizational support, and workplace outcomes. J Occup Health Psychol 2009;14(3):318-33.
56. Orcutt HK, King LA, King DW. Male-perpetrated violence among Vietnam veteran couples: relationships with veteran's early life characteristics, trauma history, and PTSD symptomatology. J Trauma Stress 2003;16(4):381-90.
57. Ouimette P, Cronkite R, Henson BR, Prins A, Gima K, Moos RH. Posttraumatic stress disorder and health status among female and male medical patients. J Trauma Stress 2004;17(1):1-9.
58. Pew Research Center. The Military-Civilian Gap: War and Sacrifice in the Post-9/11 Era. Washington, DC: Pew Research Center: Social and Demographic Trends, 2011.
59. Raphael D, Renwick R, Brown I, Rootman I. Quality of Life Indicators and Health: Current Status and Emerging Conceptions. Social Indicators Research 1996;39(1):65-88.
60. Ray SL, Vanstone M. The impact of PTSD on veterans' family relationships: an interpretative phenomenological inquiry. Int J Nurs Stud 2009;46(6):838-47.
61. Sadler AG, Booth BM, Doebbeling BN. Gang and multiple rapes during military service: health consequences and health care. J Am Med Womens Assoc 2005;60(1):33-41.
62. Sadler AG, Booth BM, Nielson D, Doebbeling BN. Health-related consequences of physical and sexual violence: women in the military. Obstet Gynecol 2000;96(3):473-80.
63. Savarese VW, Suvak MK, King LA, King DW. Relationships among alcohol use, hyperarousal, and marital abuse and violence in Vietnam veterans. J Trauma Stress 2001;14(4):717-32.
64. Sayer N, Noorbaloochi S, Frazier P, Carlson K, Gravely A, Murdoch M. Reintegration problems and treatment interests among Iraq and Afghanistan combat veterans receiving VA medical care. Psychiatric Services 2010;61(6):589-597.
65. Schieman S. The Sociological Study of Anger: Basic Social Patterns and Contexts. In: Potegal M, Stemmler G, Spielberger C, eds. International Handbook of Anger: Constituent and Concomitant Biological, Psychological, and Social Processes. New York: Springer, 2010;329-347.
66. Seal KH, Bertenthal D, Maguen S, Gima K, Chu A, Marmar CR. Getting beyond "Don't ask; don't tell": an evaluation of US Veterans Administration postdeployment mental health screening of veterans returning from Iraq and Afghanistan. Am J Public Health 2008;98(4):714-20.
67. Seal KH, Metzler TJ, Gima K, Bertenthal D, Maguen S, Marmar CR. Trends and Risk Factors for Mental Health Diagnoses Among Iraq and Afghanistan Veterans Using Department of Veterans Affairs Health Care, 2002-2008. Am J Public Health 2009;99(9).
68. Sharkansky EJ, King DW, King LA, Wolfe J, Erickson DJ, Stokes LR. Coping with Gulf War combat stress: mediating and moderating effects. J Abnorm Psychol 2000;109(2):188-97.
69. Sheon N. Overview of Atlas.ti 5.2. 2007.
70. Smith B, Ryan MA, Wingard DL, Patterson TL, Slymen DJ, Macera CA. Cigarette smoking and military deployment: a prospective evaluation. Am J Prev Med 2008;35(6):539-46.

71. Smith TC, Ryan MA, Wingard DL, Slymen DJ, Sallis JF, Kritz-Silverstein D. New onset and persistent symptoms of post-traumatic stress disorder self reported after deployment and combat exposures: prospective population based US military cohort study. BMJ 2008;336(7640):366-71.
72. Snell F, Tusaie KR. Veterans reported reasons for seeking mental health treatment. Arch Psychiatr Nurs 2008;22(5):313-4.
73. Street AE, Stafford J, Mahan CM, Hendricks A. Sexual harassment and assault experienced by reservists during military service: prevalence and health correlates. J Rehabil Res Dev 2008;45(3):409-19.
74. Struthers CW, Miller DL, Boudens CJ, Briggs GL. Effects of Causal Attributions on Coworker Interactions: A Social Motivation Perspective. Basic & Applied Social Psychology 2001;23(3):169-181.
75. Summerfield D. A critique of seven assumptions behind psychological trauma programmes in war-affected areas. Soc Sci Med 1999;48(10):1449-62.
76. Suris A, Lind L, Kashner TM, Borman PD, Petty F. Sexual assault in women veterans: an examination of PTSD risk, health care utilization, and cost of care. Psychosom Med 2004;66(5):749-56.
77. Taft CT, Kaloupek DG, Schumm JA, Marshall AD, Panuzio J, King DW, Keane TM. Posttraumatic stress disorder symptoms, physiological reactivity, alcohol problems, and aggression among military veterans. J Abnorm Psychol 2007;116(3):498-507.
78. Taft CT, Schumm JA, Panuzio J, Proctor SP. An examination of family adjustment among Operation Desert Storm veterans. J Consult Clin Psychol 2008;76(4):648-56.
79. Taft CT, Street AE, Marshall AD, Dowdall DJ, Riggs DS. Posttraumatic stress disorder, anger, and partner abuse among Vietnam combat veterans. J Fam Psychol 2007;21(2):270-7.
80. Taft CT, Vogt DS, Marshall AD, Panuzio J, Niles BL. Aggression among combat veterans: relationships with combat exposure and symptoms of posttraumatic stress disorder, dysphoria, and anxiety. J Trauma Stress 2007;20(2):135-45.
81. Taft CT, Vogt DS, Mechanic MB, Resick PA. Posttraumatic stress disorder and physical health symptoms among women seeking help for relationship aggression. J Fam Psychol 2007;21(3):354-62.
82. Thomas JL, Wilk JE, Riviere LA, McGurk D, Castro CA, Hoge CW. Prevalence of mental health problems and functional impairment among active component and National Guard soldiers 3 and 12 months following combat in Iraq. Arch Gen Psychiatry 2010;67(6):614-23.
83. Thomas SP, Smith H. School connectedness, anger behaviors, and relationships of violent and nonviolent youth. Perspectives in Psychiatric Care 2004;40(4):135-148.
84. Vogt DS, Pless AP, King LA, King DW. Deployment stressors, gender, and mental health outcomes among Gulf War I veterans. J Trauma Stress 2005;18(3):272-84.
85. Weathers F, Litz B, Herman D, Huska J, Keane T. The PTSD Checklist (PCL): Reliability, Validity, and Diagnostic Utility. Annual Convention of the International Society for Traumatic Stress Studies. San Antonio, TX, 1993.
86. Weathers F, Litz B, Huska J, Keane T, National Center for PTSD. PCL-M for DSM-IV. In: Behavioral Science Division, ed, 1994.
87. Wells TS, LeardMann CA, Fortuna SO, Smith B, Smith TC, Ryan MA, Boyko EJ, Blazer D. A prospective study of depression following combat deployment in support of the

wars in Iraq and Afghanistan. Am J Public Health 2010;100(1):90-9.
88. Wheeler E. Self-Reported Mental Health Status and Needs of Iraq Veterans in the Maine Army National Guard. Portland: Community Counseling Center, 2007.
89. Worthen M. The Relations Between Traumatic Exposures, Posttraumatic Stress Disorder, and Anger in Male and Female Veterans. Journal of Feminist Family Therapy 2011;23(3-4):188-201.
90. Yaeger D, Himmelfarb N, Cammack A, Mintz J. DSM-IV diagnosed posttraumatic stress disorder in women veterans with and without military sexual trauma. Journal of General Internal Medicine. Special Issue: Improving health care for women veterans 2006;21(Suppl 3):S65-S69.
91. Yager J. Postcombat violent behavior in psychiatrically maladjusting soldiers. Arch Gen Psychiatry 1976;33(11):1332-5.
92. Yehuda R. Post-traumatic stress disorder. N Engl J Med 2002;346(2):108-14.
93. Yehuda R. Clinical relevance of biologic findings in PTSD. Psychiatr Q 2002;73(2):123-33.