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Studies Demonstrating the Relationship Between Veterans, Post Traumatic Stress Disorder (PTSD), Traumatic Brain Injury (TBI), Combat/Killing, and Suicide/Violence:

1. Trauma-Related Guilt Mediates the Relationship between Posttraumatic Stress Disorder and Suicidal Ideation in OEF/OIF/OND Veterans.

June 7, 2016

Department of Psychology, The University of Memphis and Memphis Veterans Affairs Medical Center, Memphis, TN, USA.

“Posttraumatic stress disorder (PTSD) and trauma-related guilt are risk factors for suicidal ideation (SI) in veterans. Components of trauma-related guilt were examined as serial mediators of the relationship between PTSD and SI. In a sample of 53 OEF/OIF/OND combat veterans, PTSD had an indirect effect on SI through a serial mediation chain of guilt cognitions, distress, and global guilt, suggesting that trauma-related guilt via cognitions, distress, and global guilt is a pathway from PTSD to SI. Attention should be given to assessing and addressing trauma-related guilt in veterans experiencing PTSD to prevent SI.”

<http://www.ncbi.nlm.nih.gov/pubmed/27273459>

2. Responses to Traumatic Brain Injury Screening Questions and Suicide Attempts among Those Seeking Veterans Health Administration Mental Health Services.

April 19, 2016

Rocky Mountain Mental Illness Research, Education and Clinical Center, U.S.
Department of Veterans Affairs , Denver, CO , USA

“In the year post TBI-4 screening, significantly more Veterans who screened positive had a documented suicide attempt as compared to those who screened negative.”

“Those with a positive TBI screen at mental health intake had a higher proportion of suicide behavior reports than those who screened negative for TBI.”

<http://www.ncbi.nlm.nih.gov/pubmed/27148088>

3. MORBID THOUGHTS AND SUICIDAL IDEATION IN IRAQ WAR VETERANS: THE ROLE OF DIRECT AND INDIRECT KILLING IN COMBAT.

March 31, 2016

Department of Psychiatry, Robert Wood Johnson Medical School, Rutgers University, New Brunswick, New Jersey; Veterans Administration, New Jersey Health Care System, Lyons, New Jersey; Bloustein School of Planning and Public Policy, Rutgers University, New Brunswick, New Jersey.

“Although research has identified numerous risk factors for military suicide, the contribution of combat exposure to suicide risk has not been clearly established. Previous studies finding no association of suicidality with combat exposure have employed over-general measures of exposure, which do not differentiate among the varieties of combat experiences. This study disaggregated the forms of combat exposure to assess the contribution of combat-related killing to morbid thoughts and suicidal ideation (MTSI) in National Guard troops deployed to Iraq.”

“Killing-related exposure approximately doubled the risk of MTSI in the cross-sectional multivariate model, which also controlled for pre-deployment risks. Killing exposures further increased the MTSI risk associated with other suicide vulnerability factors, including depression, alcohol dependence, and readjustment stress. General combat exposure had no comparable effects.”

“The findings underscore a need for assessment and treatment protocols that address the psychological effects of killing-related and other potentially "morally injurious" experiences among combat soldiers.”

<http://www.ncbi.nlm.nih.gov/pubmed/27030031>

4. Suicides among Serbian War Veterans - An Autopsy Study.

Sep-Oct 2015

Institute of Forensic Medicine “Milovan Milovanović”, University of Belgrade, School of Medicine, Belgrade, Serbia; Department of Forensic Psychiatry, Institute of Psychiatry, Clinical Center of Serbia, Belgrade, Serbia; University of Belgrade, School of Medicine, Belgrade, Serbia; European Center for Peace and Development (ECPD), University for Peace of the United Nations, Belgrade, Serbia

“This study focusses on suicide in Serbian veterans from the wars in former Yugoslavia in the 1990s in order to create appropriate preventive measures and reduce the number of these fatal cases.”

“Symptoms of posttraumatic stress disorder were present in 27.3%, major depression in 9.1% and schizophrenia in 6.8% of veterans. The majority of suicides

(84.1%) were committed by recruits in the Yugoslav National Army, spending between three and eight months in the zone of war operations. Six committed suicide during the first 30 days after their war activities, while the majority of suicides occurred between five and six years after combat. The most frequent manner of suicide was the use of handguns (56.8%) and bombs (18.2%).”

<http://www.ncbi.nlm.nih.gov/pubmed/26727868>

5. Firing a Weapon and Killing in Combat Are Associated With Suicidal Ideation in OEF/OIF Veterans.

October 12, 2015

Psychological Trauma

“Combat veterans are at risk for several adverse outcomes such as posttraumatic stress disorder (PTSD), depression, hazardous alcohol use, and most critically, suicidal behaviors. The high rate of suicide in veterans has been understood as a correlate of PTSD and depression, but it is possible that certain specific types of combat experiences may lead to suicidal behaviors. Acts committed by veterans in the context of war such as killing may evoke a "moral injury," which leads to thoughts of ending one's life.”

“Firing/Killing were associated with suicidal ideation (SI) for the full sample and men only, and Killing showed a trend toward significance in predicting SI. Hierarchical regression analyses suggested that Firing/Killing did not predict PTSD for the full sample or men only, but Killing was predictive of PTSD for both samples.”

“These results indicate that there may be differences in Firing/Killing and Killing alone in OEF/OIF veterans who screened positive for alcohol misuse. Thorough screening of combat experiences and addressing moral injury in returning combat veterans may help reduce high rates of suicide and PTSD.”

<http://www.ncbi.nlm.nih.gov/pubmed/26460495>

6. Sexual Trauma and Combat During Deployment: Associations With Suicidal Ideation Among OEF/OIF/OND Veterans.

August 2015

Denver Veterans Affairs Medical Center, Veterans Integrated Service Network (VISN) 19 Mental Illness Research, Education and Clinical Center (MIRECC), Denver, Colorado, USA; Department of Psychiatry, University of Colorado Anschutz Medical Campus, Aurora, Colorado, USA; Michael E. DeBakey Veterans Affairs Medical Center, VISN 16 MIRECC, Houston, Texas, USA.

“Compelling evidence has emerged on the association between military sexual

trauma and suicide attempt; however, research investigating how sexual trauma during deployment relates to suicidal ideation has received considerably less attention and has yielded mixed findings. Furthermore, such research has not accounted for other types of trauma that may occur during deployment.... Our sample included 199 Operation Enduring Freedom/Iraqi Freedom/New Dawn (OEF/OIF/OND) veterans entering inpatient trauma-focused treatment who completed the Beck Scale for Suicide Ideation (Beck & Steer,) and the Deployment Risk and Resilience Inventory Sexual Harassment and Combat Experiences Scales (King, King, Vogt, Knight, & Samper,). Deployment-related sexual trauma was significantly associated with recent suicidal ideation, adjusting for age and gender and additionally for combat. These findings underscore the importance of assessing for deployment-related sexual trauma when assessing suicide risk in OEF/OIF/OND veterans in inpatient settings.”

<http://www.ncbi.nlm.nih.gov/pubmed/26190530>

7. Traumatic Brain Injury and Suicidal Ideation Among U.S. Operation Enduring Freedom and Operation Iraqi Freedom Veterans.

August 2015

Women's Health Sciences Division, National Center for PTSD, VA Boston Healthcare System, Boston, Massachusetts, USA; Department of Psychiatry, Boston University School of Medicine, Boston, Massachusetts, USA; Department of Epidemiology, Boston University School of Public Health, Boston, Massachusetts, USA; Department of Psychology, University of North Carolina, Greensboro, North Carolina, USA.

“Traumatic brain injury (TBI) is associated with suicidal behavior among veterans, and gender differences in the strength of associations may exist. Almost all research has been limited to Veterans Health Administration (VHA) patients, and it is unclear if findings generalize to veterans who do not use VHA services. We examined gender- and VHA-user-specific associations between TBI related to deployment and postdeployment suicidal ideation in a U.S. national sample of 1,041 female and 880 male Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) veterans.... TBI was associated with suicidal ideation among male VHA users, and male and female nonusers, respectively, in unadjusted analyses.... Among male VHA users an association between TBI and suicidal ideation remained when accounting for depression symptoms. Our findings offered evidence of an association between TBI and suicidal ideation among male OEF/OIF VHA users.”

<http://www.ncbi.nlm.nih.gov/pubmed/26179483>

8. Database May Help Identify Veterans Likely to Commit Suicide

New York Times

June 12, 2015

“A 2015 study by the VA and the National Institute of Mental Health found that those veterans with the highest risk of suicide were those suffering from sleep disorders, pain and traumatic brain injuries. While the study didn’t make the connection, those three factors are well known, signature veteran issues stemming from combat.”

<http://www.nytimes.com/2015/06/12/us/database-may-help-identify-veterans-likely-to-commit-suicide.html>

9. Key Factors Predict Military Suicide

April 13, 2015

The University of Utah

Combat Exposure and Risk for Suicidal Thoughts and Behaviors Among Military Personnel and Veterans: A Systematic Review and Meta-Analysis

<https://onlinelibrary.wiley.com/doi/abs/10.1111/sltb.12163>

Meta-study of 22 previous studies examining suicide and combat across eras.

From news sources:

“Researchers found a 43 percent increased suicide risk when people were exposed to killing and atrocity compared to just 25 percent when looking at deployment in general.”

Interestingly, the lead author of this report had this to say regarding the confusion between deployment and combat by researchers:

“As he gathered all the studies he could find on the topic, the pattern began to emerge, and he realized that the mistake had been the assumption that deployment equaled exposure to killing and death.”

<http://psychcentral.com/news/2015/04/13/key-factors-predict-military-suicide-risk/83462.html>

From another source:

Suicide rates have risen among military personnel during the past decade, and it is now the second-leading cause of death. The study found a 43 percent increased suicide risk when people were exposed to killing and atrocity compared to just 25 percent when looking at deployment in general.

"Next, we want to understand why exposure to killing and death leads to an increased suicide risk so we can develop better ways to support military personnel and veterans," Bryan said.

The research team's preliminary results suggest that seeing death and killing contributes to feelings of guilt, shame, regret and negative self-perceptions. Other research Bryan has conducted indicates that self-forgiveness protects against suicide attempts, and he plans to pursue this topic further so veterans and military personnel will have better support in dealing with trauma and transitioning to civilian life.

https://www.eurekalert.org/pub_releases/2015-04/uouh-dwd040915.php

10. Traumatic brain injury, PTSD, and current suicidal ideation among Iraq and Afghanistan U.S. veterans.

April 2014

National Center for PTSD at VA Boston Healthcare System, Boston, Massachusetts, USA; Department of Psychiatry, Boston University School of Medicine, Boston, Massachusetts, USA.

"Suicide is a prevalent problem among veterans deployed to Iraq and Afghanistan. Traumatic brain injury (TBI) and psychiatric conditions, such as posttraumatic stress disorder (PTSD), are potentially important risk factors for suicide in this population, but the literature is limited by a dearth of research on female veterans and imprecise assessment of TBI and suicidal behavior."

"Results indicated that current depressive symptoms, PTSD, and history of prior TBI were all significantly associated with current suicidal ideation. After adding a number of variables to the model, including psychiatric comorbidity, TBI history was associated with increased risk of current suicidal ideation among male veterans only. TBI is an important variable to consider in future research on suicide among veterans of the wars in Iraq and Afghanistan, particularly among male veterans."

<http://www.ncbi.nlm.nih.gov/pubmed/24639101>

11. Repetitive traumatic brain injury, psychological symptoms, and suicide risk in a clinical sample of deployed military personnel.

July 2013

National Center for Veterans Studies, Salt Lake City, UT

“Suicide risk is higher among military personnel with more lifetime TBIs, even after controlling for clinical symptom severity. Results suggest that multiple TBIs, which are common among military personnel, may contribute to increased risk for suicide.”

<http://www.ncbi.nlm.nih.gov/pubmed/23676987>

12. Killing and latent classes of PTSD symptoms in Iraq and Afghanistan veterans.

Magen, S., Madden, E., Bosch, J., Galatzer-Levy, I., Knight, S. J., Litz, B. T., . . . McCaslin, S. E. (2013). Killing and latent classes of PTSD symptoms in Iraq and Afghanistan veterans. *Journal of Affective Disorders*, 145(3), 344-348.
<http://dx.doi.org/10.1016/j.jad.2012.08.021>

<http://psycnet.apa.org/record/2013-03844-005>

Our goal was to better understand distinct PTSD symptom presentations in Iraq and Afghanistan Veterans ($N = 227$) and to determine whether those who killed in war were at risk for being in the most symptomatic class...The largest group of individuals who reported killing (45%) was in the High Symptom class, and those who killed had twice the odds of being in the most symptomatic PTSD class, compared to those who did not kill. Those who endorsed killing a non-combatant ($OR = 4.56$, 95% $CI [1.77, 11.7]$, $p < 0.01$) or killing in the context of anger or revenge ($OR = 4.63$, 95% $CI = [1.89, 11.4]$, $p < 0.001$) were more likely to belong to the most symptomatic PTSD class, compared to those who did not kill.

Conclusions: Killing in war may be an important indicator of risk for developing frequent and severe PTSD symptoms. This has implications for the mental healthcare of veterans, providing evidence that a comprehensive evaluation of returning veterans should include an assessment of killing experiences and reactions to killing.

13. Loss of consciousness, depression, posttraumatic stress disorder, and suicide risk among deployed military personnel with mild traumatic brain injury.

January-February 2013

National Center for Veterans Studies, University of Utah, Salt Lake City, UT

“To identify clinical variables associated with suicidality in military personnel with mild traumatic brain injury (mTBI) while deployed to Iraq.”

“Among patients with mTBI, increased suicidality was significantly associated with depression and the interaction of depression with posttraumatic stress disorder

symptoms. Longer duration of loss of consciousness was associated with decreased likelihood for any suicidality.”

“Assessment after TBI in a combat zone may assist providers in identifying those at risk for suicidality and making treatment recommendations for service members with mTBI.”

<http://www.ncbi.nlm.nih.gov/pubmed/23076097>

14. Killing in combat may be independently associated with suicidal ideation.

November, 2012

San Francisco VA Medical Center, San Francisco, California

“Veterans who had higher killing experiences had twice the odds of suicidal ideation, compared to those with lower or no killing experiences ”

<http://www.ncbi.nlm.nih.gov/pubmed/22505038>

15. Student Veterans: A National Survey Exploring Psychological Symptoms and Suicide Risk.

August 4, 2011

National Center for Veterans Studies, University of Utah; University of Texas Health Science Center-San Antonio.

“Researchers with the National Center for Veterans’ Studies at the University of Utah looked at survey results gathered in 2011 from 525 veterans....Ninety-eight percent had been deployed in the wars in Iraq or Afghanistan and 58 percent to 60 percent reported they had experienced combat... findings were startling: 46 percent of respondents indicated suicidal thinking at some point during their lifetime; 20 percent reported suicidal thoughts with a plan; 10.4 percent reported thinking of suicide very often; 7.7 percent reported a suicide attempt; and 3.8 percent reported a suicide attempt was either likely or very likely.”

“This is significantly higher than American College Health Association 2010 data concerning university students in general, which showed 6 percent of college students reported seriously considering suicide and 1.3 percent reported a suicide attempt, according to the study. The survey data also indicated the student veterans’ suicide-related problems were comparable to or more severe than those of veterans seeking mental health services from VA medical centers.”

<http://www.apa.org/news/press/releases/2011/08/suicide-veterans.aspx>

16. Killing in combat, mental health symptoms, and suicidal ideation in Iraq war veterans.

May 2011

San Francisco VA Medical Center, San Francisco, CA

“These results provide preliminary evidence that suicidal thinking and the desire for self-harm are associated with different mental health predictors, and that the impact of killing on suicidal ideation may be important to consider in the evaluation and care of our newly returning veterans.”

<http://www.ncbi.nlm.nih.gov/pubmed/21333486>

17. The Impact of Killing on Mental Health Symptoms in Gulf War Veterans

February 2011

San Francisco VA Medical Center, San Francisco, CA

“After controlling for perceived danger, exposure to death and dying, and witnessing killing of fellow soldiers, killing was a significant predictor of PTSS, frequency and quantity of alcohol use, and problem alcohol use. Military personnel returning from modern deployments are at risk of adverse mental health symptoms related to killing in war. Postdeployment mental health assessment and treatment should address reactions to killing in order to optimize readjustment.”

https://www.researchgate.net/publication/232573899_The_Impact_of_Killing_on_Mental_Health_Symptoms_in_Gulf_War_Veterans

18. 70% of veterans in heavy combat had attempted suicide.

Salt Lake Tribune

2011

University of Utah

“For those in his study who saw heavy combat, the findings are stark: 93 percent qualified for a diagnosis of post traumatic stress disorder and nearly 70 percent had attempted suicide.”

<http://www.sltrib.com/sltrib/news/54533755-78/veterans-center-suicide-research.html.csp>

19. Killing versus witnessing in combat trauma and reports of PTSD symptoms and domestic violence.

February 2011

Department of Psychology, Catholic University of America, Washington, DC

“Active participation in combat trauma increased reports of posttraumatic stress

disorder (PTSD) symptoms over passive witnessing of trauma. Using archival data from 376 U.S. soldiers who took part in the family interview component of the 1988 National Vietnam Veteran Readjustment Study (NVVRS), findings are that even after statistically accounting for witnessing combat trauma, U.S. soldiers who likely killed enemy soldiers in combat reported elevated levels of PTSD symptoms. Both inference and direct self-reports were used to measure killing in combat, and both measures accounted equally well for variance in PTSD symptoms. The likelihood of a soldier killing enemy combatants was also weakly related to his spouse's report of physical domestic violence in the past year. Diagnosing the mental health symptoms of combat soldiers should specifically assess whether they actively participated in wounding or killing the enemy.”

<http://www.ncbi.nlm.nih.gov/pubmed/21351168>

20. Overcoming the fear of lethal injury: evaluating suicidal behavior in the military through the lens of the Interpersonal-Psychological Theory of Suicide.

April 20, 2010

Florida State University, Tallahassee, Florida

“This theory proposes that three necessary factors are needed to complete suicide: feelings that one does not belong with other people, feelings that one is a burden on others or society, and an acquired capability to overcome the fear and pain associated with suicide...Findings suggest that although there are many important factors in military suicide, the acquired capability may be the most impacted by military experience because combat exposure and training may cause habituation to fear of painful experiences, including suicide.”

<http://www.ncbi.nlm.nih.gov/pubmed/20051309>

21. The impact of reported direct and indirect killing on mental health symptoms in Iraq war veterans.

February 2010

San Francisco VA Medical Center and University of California-San Francisco, San Francisco, CA

“This study examined the mental health impact of reported direct and indirect killing among 2,797 U.S. soldiers returning from Operation Iraqi Freedom. Data were collected as part of a postdeployment screening program at a large Army medical facility. Overall, 40% of soldiers reported killing or being responsible for killing during their deployment. Even after controlling for combat exposure, killing was a significant predictor of posttraumatic disorder (PTSD) symptoms, alcohol abuse, anger, and relationship problems. Military personnel returning from modern deployments are at risk of adverse mental health conditions and related

psychosocial functioning related to killing in war. Mental health assessment and treatment should address reactions to killing to optimize readjustment following deployment.”

<http://www.ncbi.nlm.nih.gov/pubmed/20104592>

22. The impact of killing in war on mental health symptoms and related functioning.

October 2009

San Francisco VA Medical Center, and Department of Psychiatry, University of California, San Francisco, San Francisco, CA,

“This study examined the mental health and functional consequences associated with killing combatants and noncombatants. Using the National Vietnam Veterans Readjustment Study (NVVRS) survey data, the authors reported the percentage of male Vietnam theater veterans (N = 1200) who killed an enemy combatant, civilian, and/or prisoner of war. They next examined the relationship between killing in war and a number of mental health and functional outcomes using the clinical interview subsample of the NVVRS (n = 259). Controlling for demographic variables and exposure to general combat experiences, the authors found that killing was associated with posttraumatic stress disorder symptoms, dissociation, functional impairment, and violent behaviors. Experiences of killing in war are important to address in the evaluation and treatment of veterans.”

<http://www.ncbi.nlm.nih.gov/pubmed/19842160>

23. Atrocities exposure in Vietnam combat veterans with chronic posttraumatic stress disorder: relationship to combat exposure, symptom severity, guilt, and interpersonal violence.

October 1998

Duke University Medical Center, Department of Psychiatry, Durham, North Carolina

“Vietnam combat veterans (N = 151) with chronic posttraumatic stress disorder (PTSD) completed measures of atrocities exposure, combat exposure, PTSD symptom severity, guilt and interpersonal violence. PTSD symptom severity, guilt and interpersonal violence rates were similar to previously reported studies that examined treatment seeking combat veterans with PTSD. Controlling for combat exposure, endorsement of atrocities exposure was related to PTSD symptom severity, PTSD B (reexperiencing) symptoms, Global Guilt, Guilt Cognitions, and cognitive subscales of Hindsight-Bias/Responsibility and Wrongdoing. These results are discussed in the context of previous research conducted regarding atrocities exposure and PTSD.”

<http://www.ncbi.nlm.nih.gov/pubmed/9870228>

24. Interpersonal violence and its correlates in Vietnam veterans with chronic posttraumatic stress disorder.

December 1997

Duke University Medical Center, Durham, NC, USA

Two studies were conducted to investigate interpersonal violence in Vietnam veterans with posttraumatic stress disorder (PTSD). In study one, combat veterans with PTSD reported significantly greater occurrence of violent behaviors over the past year (22 acts) versus combat veterans without PTSD (.2 acts). Combat exposure had an independent positive association with interpersonal violence. In study two, variables related to current interpersonal violent behavior in 118 PTSD combat veterans were evaluated. In rank order of importance, lower socioeconomic status, increased aggressive responding and increased PTSD severity were related to interpersonal violence. These results suggest that combat veterans with PTSD exhibit greater interpersonal violence than combat veterans without PTSD, and that there are multiple factors in this population which determine violent behavior.

<http://www.ncbi.nlm.nih.gov/pubmed/9403389>

25. Suicide and guilt as manifestations of PTSD in Vietnam combat veterans.

May 1991

Department of Psychiatry, New York Medical College, NY.

“Although studies have suggested a disproportionate rate of suicide among war veterans, particularly those with postservice psychiatric illness, there has been little systematic examination of the underlying reasons. This study aimed to identify factors predictive of suicide among Vietnam combat veterans with posttraumatic stress disorder (PTSD).”

“In this study, PTSD among Vietnam combat veterans emerged as a psychiatric disorder with considerable risk for suicide, and intensive combat-related guilt was found to be the most significant explanatory factor. These findings point to the need for greater clinical attention to the role of guilt in the evaluation and treatment of suicidal veterans with PTSD.”

<http://www.ncbi.nlm.nih.gov/pubmed/2018158>