

# CDP

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## **Research Update -- March 28, 2019**

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- Links of Interest

- Resource of the Week -- The Neurological Effects of Repeated Exposure to Military Occupational Blast: Implications for Prevention and Health: Proceedings, Findings, and Expert Recommendations from the Seventh Department of Defense State-of-the-Science Meeting (RAND)

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<https://jramc.bmj.com/content/early/2019/03/14/jramc-2018-001133.abstract>

**Military psychologists and cultural competence: exploring implications for the manifestation and treatment of psychological trauma in the British armed forces.**

Imogen Sturgeon-Clegg and M McCauley

Journal of the Royal Army Medical Corps

Published Online First: 17 March 2019

doi: 10.1136/jramc-2018-001133

This paper considers the manifestation and treatment of psychological trauma in the military. The article describes how military psychologists conceptualise psychological trauma within the culture of the Armed Forces (AF), which is reflected in the process of acquiring what has been referred to as cultural competency. Psychologists in this context acquire an understanding of the manner in which the psychological and organisational systems and culture of the military affect the presentation of psychological trauma, including post-traumatic stress disorder (PTSD). The paper outlines core psychological features of military life, including some of the ways in which the AF functions effectively as an adaptable fighting force. This highlights, for example, the potential for stigma within and between military personnel who experience mental health difficulties. The article proceeds to examine aspects of help-seeking in military mental healthcare, how symptoms can present at different stages in a deployment process, and the consequences that such problems can cause for military conduct and performance. Psychological care in the military is structured within an occupational mental health ethos, in which psychologists fulfil a range of clinical, organisational and leadership roles. These dynamics are explored with examples of care pathways and clarity on evidence-based interventions for trauma and PTSD in those experiencing military-related psychological injuries. Two vignettes are then offered to illustrate how some of these interventions can be used psychotherapeutically in addressing symptoms pertaining to hyperarousal, hypervigilance, guilt and shame.

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<https://journals.sagepub.com/doi/abs/10.1177/0959354319830784>

**From the therapeutic to the post-therapeutic: The resilient subject, its social imaginary, and its practices in the shadow of 9/11.**

José Brunner, Galia Plotkin Amrami

Theory & Psychology

First Published March 18, 2019

<https://doi.org/10.1177/0959354319830784>

In the aftermath of 9/11, the concept of psychological resilience, which refers to the ability to “bounce back” after adversity, became prominent across the American mental health community. Resilience thinking made its way quickly into the U.S. military, where it sparked the most expensive psychological intervention program in history. This article interweaves four strands of explanation—political, scientific, technological, and cultural—to account for the success of resilience thinking in the U.S. military and beyond. It shows that theories and practices of psychological resilience are not as novel as their proponents make them out to be. However, it also details how the ideal of a post-therapeutic, resilient subject became the cornerstone of a new, post-9/11 social imaginary. This article concludes that the contemporary ascendancy of psychological resilience indicates that rather than allying itself with the therapeutic as it had done previously, post-9/11 neoliberalism has moved toward the post-therapeutic.

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<https://www.tandfonline.com/doi/full/10.1080/08995605.2019.1579608>

**The role of community context and psychological well-being for physical health: A dyadic study of military couples.**

Catherine Walker O’Neal, Mallory Lucier-Greer & Jay A. Mancini

Military Psychology

Published online: 21 Mar 2019

DOI: 10.1080/08995605.2019.1579608

Drawing from the social organizational theory of community action and change (SOAC) within a systemic biopsychosocial perspective, associations between community context (military community connections and satisfaction with military life), psychological well-being (depressive symptoms, anxiety, and self-efficacy), and physical health were examined for a sample of active duty service members and their civilian spouses (N = 236 couples) using an actor partner interdependence framework. Service members with higher levels of military community connections reported better psychological well-being. When civilian spouses were more satisfied with military life, both partners reported better psychological well-being. In turn, both spouses' psychological well-being was related to their own reports of physical health. Statistically significant indirect effects were found between community contexts and spouses' physical health. Enhancing community connections may be an important leverage point for supporting health and family readiness.

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<https://www.ncbi.nlm.nih.gov/pubmed/30865074>

J Nerv Ment Dis. 2019 Mar 8. doi: 10.1097/NMD.0000000000000966. [Epub ahead of print]

### **Predictors of Consent to Treatment and Premature Termination of Treatment in a Sample of Veterans With Military-Related PTSD.**

Levi O, Lazarov A, Bar-Haim Y, Lubin , Wald I

This study examined different variables as predictors of treatment entry and treatment dropout among veterans with military-related posttraumatic stress disorder (PTSD). First, we examined predictors of treatment entry versus refusal of treatment. Among the veterans who started therapy, we examined predictors of treatment completion. Symptom severity of PTSD, depression, and anxiety at baseline were measured. Daily functioning at baseline was also measured. Results indicate that the younger the veterans were, the more likely they were to refuse treatment. Dropout from treatment was also predicted by younger age at referral, as well as by past treatment, higher number of years of education, and higher depression levels at baseline. Two conclusions can be drawn from the results. First, it may be beneficial to increase awareness of treatment options for PTSD among younger veterans as this may increase treatment consent rates. Second, to reduce treatment dropout in veteran patients with PTSD, therapists should take into consideration both past treatment and baseline depression levels as risk factors for dropout.

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<https://academic.oup.com/milmed/advance-article/doi/10.1093/milmed/usz045/5382217>

## **Comparison of National and Local Approaches to Detecting Suicides in Healthcare Settings.**

Natalie B Riblet, Brian Shiner, Bradley V Watts, Peter Britton

Military Medicine,

Published: 16 March 2019

<https://doi.org/10.1093/milmed/usz045>

### Introduction

In order to address the problem of suicide, healthcare providers and researchers must be able to accurately identify suicide deaths. Common approaches to detecting suicide in the healthcare setting include the National Death Index (NDI) and Root-Cause Analysis (RCA) methodology. No study has directly compared these two methods.

### Materials and Methods

Suicide reporting was evaluated within the Veterans Affairs (VA) healthcare system. All suicides were included that occurred within 7 days of discharge from an inpatient mental health unit and were reported to the VA through the NDI record linkage and/or RCA database between 2002 and 2014. The proportion of suicide deaths that were identified by NDI and found in the RCA database were calculated. Potential misclassification by the NDI was evaluated, whereby the RCA database identified a suicide case, but the NDI classified the death as a non-suicide.

### Results

In the study period, the NDI identified 222 patients who died by suicide within 7 days of discharge, while the RCA database only detected 95 reports of suicide. A comparison of cases across the two methods indicated that the RCA database identified only 35% (N = 78) of NDI detected suicides (N = 222). Conversely, the RCA database detected 13 suicide cases that the NDI had coded as deaths due to accidental poisoning or other causes. Importantly, RCA accounted for 13% (N = 7) of overdose suicides identified in all databases (N = 52).

## Conclusions

Combining national and local approaches to detect suicide may help to improve the classification of suicide deaths in the healthcare setting.

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<https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2727387>

## **Prediction Models for Suicide Attempts and Deaths: A Systematic Review and Simulation.**

Belsher BE, Smolenski DJ, Pruitt LD, et al.

JAMA Psychiatry

Published online March 13, 2019

doi:10.1001/jamapsychiatry.2019.0174

### Key Points

#### Question

Have advances in statistical modeling improved the predictive validity of suicide prediction algorithms sufficiently to render their predictions actionable?

#### Findings

In this systematic review of 17 studies including 64 unique suicide prediction models, the models had good overall classification and low positive predictive values. Use of these models would result in high false-positive rates and considerable false-negative rates if implemented in isolation.

#### Meaning

At present, the performance of suicide prediction models suggests that they offer limited practical utility in predicting suicide mortality.

#### Abstract

#### Importance

Suicide prediction models have the potential to improve the identification of patients at heightened suicide risk by using predictive algorithms on large-scale data sources. Suicide prediction models are being developed for use across enterprise-level health care systems including the US Department of Defense, US Department of Veterans Affairs, and Kaiser Permanente.

## Abstract

### Objectives

To evaluate the diagnostic accuracy of suicide prediction models in predicting suicide and suicide attempts and to simulate the effects of implementing suicide prediction models using population-level estimates of suicide rates.

### Evidence Review

A systematic literature search was conducted in MEDLINE, PsycINFO, Embase, and the Cochrane Library to identify research evaluating the predictive accuracy of suicide prediction models in identifying patients at high risk for a suicide attempt or death by suicide. Each database was searched from inception to August 21, 2018. The search strategy included search terms for suicidal behavior, risk prediction, and predictive modeling. Reference lists of included studies were also screened. Two reviewers independently screened and evaluated eligible studies.

### Findings

From a total of 7306 abstracts reviewed, 17 cohort studies met the inclusion criteria, representing 64 unique prediction models across 5 countries with more than 14 million participants. The research quality of the included studies was generally high. Global classification accuracy was good ( $\geq 0.80$  in most models), while the predictive validity associated with a positive result for suicide mortality was extremely low ( $\leq 0.01$  in most models). Simulations of the results suggest very low positive predictive values across a variety of population assessment characteristics.

### Conclusions and Relevance

To date, suicide prediction models produce accurate overall classification models, but their accuracy of predicting a future event is near 0. Several critical concerns remain unaddressed, precluding their readiness for clinical applications across health systems.

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<https://www.sciencedirect.com/science/article/pii/S0749379719300376>

## **Administrative Military Discharge and Suicidal Ideation Among Post-9/11 Veterans.**

Claire A. Hoffmire, Lindsey L. Monteith, Ryan Holliday, Crystal L. Park, ... Rani A. Hoff

American Journal of Preventive Medicine

Available online 19 March 2019

<https://doi.org/10.1016/j.amepre.2018.12.014>



## Introduction

From 2005 to 2016, the Veteran suicide rate increased 25.9%. Reducing this rate is a top priority for the Department of Veterans Affairs. In 2017, a policy change expanded emergent mental health services to include previously ineligible Veterans discharged under other than honorable conditions. To date, research examining the relationship between military discharge type and suicide risk has been limited.

## Methods

This study aimed to examine the association between discharge type (honorable versus administrative) and active suicide ideation among Veterans participating in the Survey of Experiences of Returning Veterans (N=850, data collection 2012–2015 and data analysis 2017–2018) using logistic regression. Stratified analyses explored whether gender, time since military separation, or recent mental health service use moderated this relationship.

## Results

The prevalence of suicide ideation was significantly higher ( $p < 0.01$ ) among Veterans reporting administrative discharge (23.1%, 95% CI=12.8, 33.3 vs 10.6%, 95% CI=8.4, 12.8). However, after accounting for lifetime suicide attempt history, combat experiences, posttraumatic stress disorder symptoms, depression, and drug dependence, discharge was no longer associated with suicide ideation. Recent mental health service use and time since separation significantly modified this relationship. The relationship was only significant among Veterans not using mental health services (OR=4.8, 95% CI=1.3, 18.2) and among transitioning Veterans <2years from separation (OR=3.6, 95% CI=1.4, 9.2).

## Conclusions

These findings suggest that recognized risk factors for suicide, such as a history of mental health conditions, account for the increased prevalence of suicide ideation among Veterans with administrative discharges and that mental health services may have the potential to mitigate such risk in this high-risk Veteran population.

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<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0213839>

**Metabolomic analysis of male combat veterans with post traumatic stress disorder.**

Mellon SH, Bersani FS, Lindqvist D, Hammamieh R, Donohue D, Dean K, et al.

PLoS ONE

2019; 14(3): e0213839

<https://doi.org/10.1371/journal.pone.0213839>

Posttraumatic stress disorder (PTSD) is associated with impaired major domains of psychology and behavior. Individuals with PTSD also have increased co-morbidity with several serious medical conditions, including autoimmune diseases, cardiovascular disease, and diabetes, raising the possibility that systemic pathology associated with PTSD might be identified by metabolomic analysis of blood. We sought to identify metabolites that are altered in male combat veterans with PTSD. In this case-control study, we compared metabolomic profiles from age-matched male combat trauma-exposed veterans from the Iraq and Afghanistan conflicts with PTSD (n = 52) and without PTSD (n = 51) ('Discovery group'). An additional group of 31 PTSD-positive and 31 PTSD-negative male combat-exposed veterans was used for validation of these findings ('Test group'). Plasma metabolite profiles were measured in all subjects using ultrahigh performance liquid chromatography/tandem mass spectrometry and gas chromatography/mass spectrometry. We identified key differences between PTSD subjects and controls in pathways related to glycolysis and fatty acid uptake and metabolism in the initial 'Discovery group', consistent with mitochondrial alterations or dysfunction, which were also confirmed in the 'Test group'. Other pathways related to urea cycle and amino acid metabolism were different between PTSD subjects and controls in the 'Discovery' but not in the smaller 'Test' group. These metabolic differences were not explained by comorbid major depression, body mass index, blood glucose, hemoglobin A1c, smoking, or use of analgesics, antidepressants, statins, or anti-inflammatories. These data show replicable, wide-ranging changes in the metabolic profile of combat-exposed males with PTSD, with a suggestion of mitochondrial alterations or dysfunction, that may contribute to the behavioral and somatic phenotypes associated with this disease.

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<https://www.sciencedirect.com/science/article/pii/S0022395618312664>

**Genetic predictor of current suicidal ideation in US service members deployed to Iraq and Afghanistan.**

Lei Zhang, Xian-Zhang Hu, David M. Benedek, Carol S. Fullerton, ... Robert J. Ursano

### Highlights

- CSI and its severity are associated with BDNF in service members.
- The interaction of depression or PTSD with BDNF is associated with CSI.
- BDNF may be a predictor of suicidal risk.

### Abstract

#### Objective

Suicide is one of the ten leading causes of death in United States and the suicide rate in the military population has increased since the start of the Iraq and Afghanistan wars. However, few biomarkers for current suicidal ideation (CSI) have been identified. The current study examined the association of four candidate genes with CSI in active duty US Army Special Operations Command and National Guard units (n = 3,889) who served in Iraq and Afghanistan between November 2009 and July 2014.

#### Methods

Current PTSD symptoms and CSI were assessed using the PTSD Checklist (PCL) and PHQ-9, respectively. Traumatic events were assessed using items from the Life Events Checklist (LEC) that met the DSM-IV PTSD criteria of a traumatic stressor. All genotypes of saliva DNA were discriminated using the TaqMan 5'-exonuclease assay.

#### Results

The associations between CSI and brain-derived neurotrophic factor (BDNF), FK506 binding protein (FKBP5), catechol-O-methyltransferase (COMT), or S100A10 (p11) were examined. We found CSI was associated with BDNF (OR = 1.5, 95% CI = 1.5–1.8, P = 0.0002), but not FKBP5, COMT and p11. Female soldiers reported CSI more often than males ( $\chi^2 = 7.403$ ,  $p = 0.0065$ ), although gender did not affect CSI severity. In addition, associations were found between CSI and depression, PTSD, and BDNF, but not traumatic events. The BDNF Val66Met contributed to the severity of CSI even after adjusting to PTSD, depression and LEC.

#### Conclusions

The associations of BDNF with CSI and its severity suggest that BDNF may be a predictor of suicidal risk and present an opportunity to develop laboratory tools with clinical implications in suicide prevention and treatment.

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<https://www.ncbi.nlm.nih.gov/pubmed/30817860>

Prim Care Companion CNS Disord. 2019 Jan 24;21(1). pii: 18m02349. doi: 10.4088/PCC.18m02349

## **Psychiatric Comorbidity of Sex Offenses in a Military Forensic Sample.**

Umbrasas KV

### Objective:

To examine the prevalence of psychiatric disorders among service members charged with sexual offenses.

### Methods:

The sample comprised service members charged with any type of sexual offense and referred for forensic evaluation (N = 67). Forensic mental health evaluations (competency to stand trial, criminal responsibility, risk assessment) of service members charged with sexual offenses were examined and the assigned clinical diagnoses (according to DSM-IV or -5) were enumerated to provide natural frequencies and percentages. Data were collected from February 2018 to May 2018.

### Results:

Findings suggest that alcohol use disorder is the most prevalent disorder both at the time of offense (28%) and time of the forensic evaluation (38%). The 2 most prominent diagnostic categories were substance use disorders and trauma-and-stress-related disorders.

### Conclusions:

Identification and treatment of psychiatric disorders among service members charged with sexual offenses may facilitate rehabilitation, reduce recidivism, and offer public health benefits. This topic should be further studied in a larger sample to effectively address this public health problem.

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<https://www.ncbi.nlm.nih.gov/pubmed/30431299>

J Consult Clin Psychol. 2019 Jan;87(1):67-78. doi: 10.1037/ccp0000350. Epub 2018 Nov 15

**PTSD symptom clusters and suicide attempts among high-risk military service members: A three-month prospective investigation.**

Stanley IH, Rogers ML, Hanson JE, Gutierrez PM, Joiner TE

**OBJECTIVE:**

Suicide rates within the U.S. military are elevated, and the assessment and treatment of posttraumatic stress disorder (PTSD) has been identified as one potential conduit for suicide risk reduction. Despite increased interest in examining whether PTSD symptom clusters differentially predict suicide-related outcomes, to our knowledge no study has examined this question utilizing a prospective design for which suicide attempts is the outcome. Thus, the present study assessed whether PTSD symptom clusters differentially predict suicide attempts at 3-month follow-up and examined the moderating role of combat exposure.

**METHOD:**

Participants were 758 military service members referred for psychiatric evaluation for suicide-related concerns and who provided both baseline and follow-up data (76.8% male, Mage = 25.20 y [SDage = 6.22 y], 61.6% White/Caucasian, 28.2% combat-exposed). Baseline PTSD symptom clusters scores were derived from an abbreviated version of the PTSD Checklist-Military Version (PCL-M). Suicide attempts occurring from baseline to follow-up were assessed with the Suicide Attempt Self-Injury Interview (SASII). Logistic regression models were utilized, controlling for baseline suicide risk severity (i.e., frequency of suicidal ideation, levels of suicidal intent, past suicide plans and attempts) and sociodemographic characteristics.

**RESULTS:**

The hyperarousal symptom cluster was the only significant predictor of subsequent suicide attempts and, moreover, this association was significant for combat-exposed service members but not for non-combat-exposed service members.

**CONCLUSIONS:**

PTSD hyperarousal symptoms, characterized in part by overarousal (e.g., agitation), should be considered in military suicide risk assessment and prevention efforts,

particularly for combat-exposed service members. (PsycINFO Database Record (c) 2018 APA, all rights reserved).

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<https://www.ncbi.nlm.nih.gov/pubmed/30896225>

Psychol Trauma. 2019 Mar 21. doi: 10.1037/tra0000447. [Epub ahead of print]

**Moral injury and suicidality among combat-wounded veterans: The moderating effects of social connectedness and self-compassion.**

Kelley ML, Bravo AJ, Davies RL, Hamrick HC, Vinci C, Redman JC

**OBJECTIVE:**

Among combat veterans, moral injury (i.e., the guilt, shame, inability to forgive one's self and others, and social withdrawal associated with one's involvement in events that occurred during war or other missions) is associated with a host of negative mental health symptoms, including suicide. To better inform and tailor prevention and treatment efforts among veterans, the present study examined several potential risk (i.e., overidentification and self-judgment) and protective (i.e., self-kindness, mindfulness, common humanity, and social connectedness) variables that may moderate the association between moral injury and suicidality.

**METHOD:**

Participants were 189 combat wounded veterans (96.8% male; mean age = 43.14 years) who had experienced one or more deployments (defined as 90 days or more). Nearly all participants reported a service-connected disability (n = 176, 93.1%) and many had received a Purple Heart (n = 163, 86.2%).

**RESULTS:**

Within a series of moderation models, we found 3 statistically significant moderation effects. Specifically, the association between self-directed moral injury and suicidality strengthened at higher levels of overidentification, that is, a tendency to overidentify with one's failings and shortcomings. In addition, the association between other-directed moral injury and suicidality weakened at higher levels of mindfulness and social connectedness.

**CONCLUSIONS:**

These findings provide insight on risk and protective factors that strengthen (risk factor)

or weaken (protective factor) the association between moral injury and suicidality in combat-wounded veterans. Taken together, mindfulness, social connectedness, and overidentification are relevant to understand the increased/decreased vulnerability of veterans to exhibit suicidality when experiencing moral injury. (PsycINFO Database Record (c) 2019 APA, all rights reserved).

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<https://www.ncbi.nlm.nih.gov/pubmed/30901404>

Mil Med. 2019 Mar 1;184(Supplement\_1):148-154. doi: 10.1093/milmed/usy321

### **Correlates of Depression in U.S. Military Service Members With a History of Mild Traumatic Brain Injury.**

Kennedy JE, Lu LH, Reid MW, Leal FO, Cooper DB

#### **OBJECTIVES:**

Post-traumatic stress disorder (PTSD) and traumatic brain injury (TBI) are identified as signature injuries of the Wars in Iraq and Afghanistan. Statistics have confirmed a high incidence of PTSD among military personnel with mild TBI (mTBI) who served in these conflicts. Although receiving less attention, individuals with a history of mTBI are also at increased risk for depressive disorders. This study examines the incidence and correlates of depression in service members with a history of mTBI received an average of 4-1/2 years prior to evaluation.

#### **METHODS:**

Retrospective analysis of 184 service members with a history of mTBI extracted from a data repository maintained at a military medical center.

#### **RESULTS:**

One-third of the sample (34.2%) was clinically diagnosed with a depressive disorder in the month preceding evaluation. Of those with depression, 81% (51 of 63) were also diagnosed with PTSD. Proportionately more women than men had depression. Depression was more common among those who were undergoing a Military Evaluation Board and those who served in more than three combat deployments.

#### **CONCLUSIONS:**

Results confirm chronically elevated the rates of depressive disorders and PTSD comorbidity among service members with a history of mTBI. Depression screening and

treatment within the Military Health System should remain a priority for service members reporting a remote history of mTBI. Individuals with chronic PTSD, women, service members undergoing MEB and those who served in greater than three combat deployments are at particular risk.

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<https://www.ncbi.nlm.nih.gov/pubmed/30234322>

Psychol Trauma. 2019 Mar;11(3):337-344. doi: 10.1037/tra0000407. Epub 2018 Sep 20

### **Sex differences in mental health symptoms and substance use and their association with moral injury in veterans.**

Kelley ML, Braitman AL, White TD, Ehlke SJ

#### **OBJECTIVE:**

This study examines potential sex differences in 3 types of experiences (i.e., atrocities of war, cognitive and emotional changes from combat, and leadership failure or betrayal) that may result in moral injury (i.e., guilt, shame, inability to forgive one's self, inability to forgive others, and withdrawn behavior associated with these three types of experiences). In addition, we examine whether moral injury results in different associations with mental health and substance use outcomes for female versus male veterans. We expected more symptoms of depression and anxiety for women and more symptoms of hazardous alcohol use and drug abuse for men. Also, we examined sex as a moderator between moral injury and outcomes, expecting stronger relationships between moral injury and symptoms of depression and anxiety among women and stronger associations between moral injury and alcohol use and drug abuse symptoms for men.

#### **METHOD:**

Participants (n = 256; 60.9% [n = 156] males) were a community sample of recent-era military personnel who completed a measure of morally injurious experiences (MIEs) and associated moral injury.

#### **RESULTS:**

After correcting for Type I error rate, sex was not associated with mental health or



substance use. Further, no Sex × Moral Injury interactions were present; however, moral injury significantly positively predicted all negative mental health symptoms (depression, anxiety, suicidality, and posttraumatic stress disorder [PTSD]) and hazardous alcohol use, but not drug abuse symptoms.

#### CONCLUSIONS:

Results reveal the need for improved screening and treatment of moral injury and integrated treatments that may assess moral injury and associated disorders.

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<https://onlinelibrary.wiley.com/doi/full/10.1002/jts.22396>

### **The Impact of Military Status on Cognitive Processing Therapy Outcomes in the Community.**

Kirsten H. Dillon, Stefanie T. LoSavio, Teague R. Henry, Robert A. Murphy, Patricia A. Resick

Journal of Traumatic Stress

First published: 20 March 2019

<https://doi.org/10.1002/jts.22396>

Military-affiliated individuals (i.e., active duty personnel and veterans) exhibit high rates of posttraumatic stress disorder (PTSD). Although existing evidence-based treatments for PTSD, such as cognitive processing therapy (CPT), have demonstrated effectiveness with military-affiliated patients, there is evidence to suggest these individuals do not benefit as much as civilians. However, few studies have directly compared the effects of PTSD treatment between civilian and military-affiliated participants. The current study compared treatment outcomes of military-affiliated and civilian patients receiving CPT. Participants with PTSD who were either civilians ( $n = 136$ ) or military-affiliated ( $n = 63$ ) received CPT from community-based providers in training for CPT. Results indicated that military-affiliated participants were equally likely to complete treatment, Log odds ratio (OR) = 0.14,  $p = .648$ . Although military-affiliated participants exhibited reductions in PTSD,  $B = -2.53$ ,  $p < .001$ ; and depression symptoms,  $B = -0.65$ ,  $p < .001$ , they experienced smaller reductions in symptoms relative to civilians:  $B = 1.15$ ,  $p = .015$  for PTSD symptoms and  $B = 0.29$ ,  $p = .029$  for depression symptoms. Furthermore, variability estimates indicated there was more variability in providers' treatment of military-affiliated versus civilian participants (i.e.,

completion rates and symptom reduction). These findings suggest that military-affiliated patients can be successfully retained in trauma-focused treatment in the community at the same rate as civilian patients, and they significantly improve in PTSD and depression symptoms although not as much as civilians. These findings also highlight community providers' variability in treatment of military-affiliated patients, providing support for more military-cultural training.

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[https://academic.oup.com/milmed/article/184/Supplement\\_1/418/5418677](https://academic.oup.com/milmed/article/184/Supplement_1/418/5418677)

### **Mental Health Care for Service Members and Their Families Across the Globe.**

Kate McGraw, Jamie Adler, Søren B Andersen, Suzanne Bailey, Clare Bennett, Kelly Blasko, Andrew D Blatt, Neil Greenberg, Stephanie Hodson, Demietrice Pittman, Aimee C Ruscio, Christian D G Stoltenberg, Karyn E Tate, Kanchana Kuruganti

Military Medicine

Volume 184, Issue Supplement\_1, March-April 2019, Pages 418–425,  
<https://doi.org/10.1093/milmed/usy324>

The U.S. Defense Department partnered with the International Initiative for Mental Health Leadership on effective leadership and operational practices for delivery of mental health (MH) as well as addiction services throughout the world for Service Members (SM) and beneficiaries. A Military Issues Work Group (MIWG) was established in 2011 to focus on challenges experienced by military SM and beneficiaries among countries. The MIWG found common concerns related to MH care delivery to rural and remote beneficiaries. Gaps in access to care were identified and prioritized to explore. This led to better collaboration and understanding of telemental health (TMH) practices and technology applications (apps) which increase access to care for rural and remote SMs and beneficiaries. An assessment of the number of SMs and dependents distant from MH care services in the USA was conducted, as well as an environmental scan for psychological health-focused mobile apps and TMH services geared toward SM, veterans, and beneficiaries. The MIWG is developing a compendium of existing military TMH programs and apps that address MH concerns and extant literature on use of technology to extend global access to care for military members and their families across the world.

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[https://academic.oup.com/milmed/article-abstract/184/Supplement\\_1/443/5418697](https://academic.oup.com/milmed/article-abstract/184/Supplement_1/443/5418697)

## **Perceptions of High-Risk Situations for Sexual Assault: Gender Differences in the U.S. Air Force.**

Olivia Silber Ashley, Marian E Lane, Jessica Kelley Morgan, Samantha Charm, Andra Tharp, Mark Brown

Military Medicine

Volume 184, Issue Supplement\_1, March-April 2019, Pages 443–450,  
<https://doi.org/10.1093/milmed/usy350>

This study explored U.S. Air Force service members' perceptions of high-risk situations for sexual assault victimization. Qualitative data were collected from 52 active duty Airmen, including sexual assault survivors and general population officers and enlisted personnel. Participants were recruited through posted flyers, base-wide e-mail messages, and referrals from the Sexual Assault Response Coordinator's office. Content analysis was used to summarize participants' opinions and experiences. High-risk situations for all Airmen included excessive alcohol use, specific physical settings, and situations associated with work assignments. High-risk situations identified frequently by male and female sexual assault survivors and female (but not male) general population Airmen included power imbalance; isolation in the workplace and social settings; and youth, inexperience, and unfamiliarity with the military environment. Female Airmen identified workplaces with a predominance of men or being one of very few women in a group as a high-risk situation for sexual assault victimization. And female sexual assault survivors identified implicit but unwarranted trust between Airmen as a high-risk situation. This study provides new insight into gender differences in high-risk situations for sexual assault victimization, and the data can help policymakers better prevent sexual assault by appropriately tailoring and timing sexual assault risk reduction training.

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<https://onlinelibrary.wiley.com/doi/abs/10.1111/jsr.12833>

## **A phenomenological inquiry into the experience of sleep: Perspectives of US military veterans with insomnia and serious mental illness.**

Elizabeth A. Klingaman, Alicia Lucksted, Eric S. Crosby, Yelena Blank, Elana Schwartz

Journal of Sleep Research  
First published: 19 March 2019  
<https://doi.org/10.1111/jsr.12833>

The majority of people with serious mental illness experience insomnia, and insomnia is one of the most frequent reasons for mental health referrals in the Veterans Health Administration. Insomnia also represents a critical obstacle to mental health recovery. Little is known about how military veterans with mental health problems conceptualize their sleep and sleep problems; such information may uncover new avenues for research and treatment. Therefore, the purpose of this study was to explore how veterans with serious mental illness and insomnia experience and understand their sleep, towards the aim of identifying these new avenues. Participants included 20 veterans with insomnia and serious mental illness (i.e. schizophrenia spectrum, bipolar or major depressive disorders, with serious functional impairments). Data were collected via an inductive phenomenological approach using semi-structured interviews. We identified five themes: Sleep to Recharge; Sleep as a Fight; Sleep as Safety or Escape; Sleep as Dangerous; and Military Influence. Participants' relationship with sleep was complex; many associated it with intrusive and troubling hallucinations, paranoia and military experiences, yet at the same time desired sleep for its potential to liberate them from distress. Military mindsets both helped and hindered sleep. These results extend existing models of insomnia development and maintenance, and illuminate phenomena previously unidentified in this underserved veteran population. Clinical and theoretical implications are discussed, as well as new research directions for enhancing therapeutic efficacy.

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[https://academic.oup.com/milmed/article/184/Supplement\\_1/488/5418672](https://academic.oup.com/milmed/article/184/Supplement_1/488/5418672)

### **Self-Reported Sleep, Anxiety, and Cognitive Performance in a Sample of U.S. Military Active Duty and Veterans.**

Valerie J B Rice, US ARMY COL, (Ret.) Paul J Schroeder

Military Medicine

Volume 184, Issue Supplement\_1, March-April 2019, Pages 488–497

<https://doi.org/10.1093/milmed/usy323>

Unhealthy sleep can interfere with U.S. military service members affective and cognitive functioning and increase accident and injury risks. This study examined the relationship

between U.S. active duty and veterans' ( $n = 233$ ) self-reported sleep (Pittsburgh Sleep Quality Index), anxiety (Zung Self-Rating Anxiety Scale), and cognitive performance (Automated Neuropsychological Assessment Metric). Statistical analyses included Pearson product moment correlations and multivariate analysis of variance, with Tukey-*b* post-hoc tests, with a  $p < 0.05$  significance level. Higher education, abstinence from sleep aids, longer time in active duty service, and being on active duty were correlated with better sleep and lower anxiety. Greater sleep disturbance, poor sleep quality, and sleepiness-related daytime dysfunction were associated with greater anxiety and slower response times, and lower response accuracy. Statistically controlling for anxiety diminished the magnitude and significance of the correlations between sleep and cognitive performance, suggesting that reducing anxiety will improve sleep and diminish cognitive performance effects. These findings suggest the need for addressing both sleep and anxiety for those with diagnosed sleep disorders, as well as using a procedural systems approach to decrease anxiety during missions that demand outstanding cognitive performance.

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[https://academic.oup.com/milmed/article/184/Supplement\\_1/409/5418705](https://academic.oup.com/milmed/article/184/Supplement_1/409/5418705)

### **Accelerating Psychological Health Research Findings into Clinical Practice Through the Practice-Based Implementation Network Model.**

Alia H Creason; Aimee C Ruscio, MS, USA; Karyn E Tate; Kate L McGraw

Military Medicine

Volume 184, Issue Supplement\_1, March-April 2019, Pages 409–417

<https://doi.org/10.1093/milmed/usy298>

The benefits of new clinical research developments often take years to reach patients. As such, the Departments of Defense (DoD) and Veterans Affairs built the Practice-Based Implementation (PBI) Network as an infrastructure to facilitate more rapid translation of psychological health (PH) research into clinical practice changes to improve the quality of care for military and Veteran patients. To regularly identify research findings appropriate for enterprise implementation, the DoD PBI Network developed a model aligned with the Consolidated Framework for Implementation Research to select and pilot PH practice change. Within this model, practice change pilots were selected following a survey of field clinicians, a public call for proposals, annual meeting of implementation science subject matter experts, and final pilot selection by PH strategic leaders. These components facilitated commitment and

engagement from Military Health System PH leadership, as well as clinicians, leading to increased stakeholder buy-in and efficiency with selecting and piloting PH practice change. The DoD PBI Network model has been refined for future PH research translation pilots. It serves as a first operational model for annual implementation of PH research findings in the DoD and may be of use to other entities engaged in practice change implementation.

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<https://link.springer.com/article/10.1007/s12671-019-01129-3>

### **Mindfulness Training Offered In-person and in a Virtual World—Weekly Self-reports of Stress, Energy, Pain, and Sleepiness among US Military Active Duty and Veteran Personnel.**

Rice, V.J., Liu, B., Allison, S.C. et al.

Mindfulness

First Online: 23 March 2019

<https://doi.org/10.1007/s12671-019-01129-3>

Objectives

The purpose of this paper is to present research findings on the effects of mindfulness meditation training on four weekly self-report measures among three groups: those receiving training delivered in-person (M-IP) or in a virtual world (M-VW), and a waitlist control group (WLC).

Methods

Participants (n = 191) were US military active duty service members and veterans. The M-IP and M-VW groups reported their stress, energy, pain, and sleepiness before/after each mindfulness training class, while the control group answered the same questions once a week for the 8-week duration of training.

Results

The M-IP and M-VW groups showed greater reductions in stress over the 8 weeks than the control group (1.70, 0.80, and 0.30 points, respectively;  $p = .028$ ). Meaningful improvements (> 20%) pre- to post-training were seen for stress, pain, and sleepiness in the M-IP group, for pain only in the VW group, and for none in the WLC group. Those experiencing high levels of stress or pain before training experienced reductions in their stress or pain post mindfulness training, while those with lower initial levels did not

( $p < .001$ ). Within class improvements were seen for both intervention groups; however, improvements were greater for those attending M-IP for energy, pain, and sleepiness ( $p < .034$ ).

### Conclusions

In-person mindfulness training yielded statistically and meaningfully superior results; however, both IP and VW delivery methods were effective in reducing stress among healthy US military active duty and veteran participants. Mindfulness was particularly helpful for those experiencing initially high levels of stress or pain.

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<https://www.sciencedirect.com/science/article/abs/pii/S0306460318314345>

### **Clinical characteristics of veterans with gambling disorders seeking pain treatment.**

Silvia Ronzitti, Shane W. Kraus, Suzanne E. Decker, Lisham Ashrafioun

#### Addictive Behaviors

Available online 22 March 2019

<https://doi.org/10.1016/j.addbeh.2019.03.014>

#### Highlights

- Uses a large cohort of veterans ( $n = 221,817$ )
- Female veterans are more likely to suffer from gambling disorder than male veterans.
- Pain score is negatively associated with gambling disorder.
- Gambling disorder is associated with suicide attempt in veterans.

#### Abstract

##### Objectives

To examine the relationships between gambling disorder, pain, and suicide attempts among US military veterans using Veterans Health Administration (VHA) pain-related services.

##### Methods

Retrospective cohort analysis of 221,817 veterans using pain services was included in the analysis. First, differences in sociodemographic and clinical characteristics (i.e., psychiatric comorbidities and pain-related variables) were analyzed according to



gambling disorder. Second, we performed logistic regression analyses to assess the association between gambling disorder and suicide attempts.

### Results

Female sex, depressive, alcohol, drug and tobacco use disorders are positively associated with gambling disorders, while severe pain score is negatively associated with gambling disorders. Logistic regression analysis showed that gambling disorder diagnosis was associated suicide attempt in veterans who received a visit for pain in VHA in the past year.

### Conclusions

Our findings suggest that gambling disorder in female veterans and suicide attempts in veterans with gambling disorder should not be underestimated and warrants further consideration. Moreover, the result that veterans with severe pain may be less likely to have a diagnosis of gambling disorder needs to be confirmed.

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[https://academic.oup.com/milmed/article/184/Supplement\\_1/138/5418694](https://academic.oup.com/milmed/article/184/Supplement_1/138/5418694)

## **Relationships and Evidence-Based Theoretical Perspectives on Persisting Symptoms and Functional Impairment Among Mild Traumatic Brain Injury and Behavioral Health Conditions.**

Amy A Herrold; Bridget Smith; Alexandra L Aaronson; John Coleman, MC, USA;  
Theresa L -B Pape

Military Medicine

Volume 184, Issue Supplement\_1, March-April 2019, Pages 138–147

<https://doi.org/10.1093/milmed/usy306>

The purpose of this study is to characterize and describe the relationships between symptoms and functional impairment following mild traumatic brain injury (mTBI) and behavioral health conditions (BHCs) in order to inform evidence-based theories on why symptoms and functional impairments persist in some individuals but not others. This is a retrospective, multi-site, cross-sectional study utilizing data collected from a total of 289 Operation Iraqi Freedom/Operation Enduring Freedom Veterans who were classified into diagnostic groups using the symptom attribution and classification algorithm and the VA clinical reminder and comprehensive traumatic brain injury evaluation. The Neurobehavioral Symptom Inventory was used to assess mTBI



symptom number and severity. The World Health Organization Disability Assessment Schedule 2.0 was used to assess functional impairment. Symptom profiles differed between diagnostic groups irrespective of symptom attribution method used. Veterans with both mTBI and BHCs and those with BHCs alone had consistently greater number of symptoms and more severe symptoms relative to no symptom and symptoms resolved groups. Symptom number and severity were significantly associated with functional impairment. Both symptom number and functional impairment were significantly associated with the number of mTBI exposures. Together, these results informed evidence-based theories on understanding why symptoms and functional impairment persist among some OEF/OIF Veterans.

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[https://academic.oup.com/milmed/article-abstract/184/Supplement\\_1/521/5418699](https://academic.oup.com/milmed/article-abstract/184/Supplement_1/521/5418699)

### **Evaluation of Three Postal Invitational Strategies to Increase Survey Response Rates in a Combat-Injured U.S. Military Population: Findings From the Wounded Warrior Recovery Project.**

Daniel I Sack; Susan I Woodruff; Cameron T McCabe; Michael R Galarneau; Peggy P Han

Military Medicine

Volume 184, Issue Supplement\_1, March-April 2019, Pages 521–528

<https://doi.org/10.1093/milmed/usy374>

The survival rate of those injured in combat in overseas contingency operations is higher than in previous conflicts. There is a need to assess the long-term psychosocial and quality of life outcomes of those injured in combat, yet surveying this population presents inherent challenges. As part of a large-scale, longitudinal examination of patient-reported outcomes of service members injured on deployment, the present manuscript evaluated the effectiveness of three postal strategies on response rates: (1) mailing a study prenotification postcard, (2) mailing the survey invitation in a larger envelope, and (3) including a small cash preincentive (\$2). Evaluation of these strategies yielded mixed results in this population. Neither the prenotification postcard nor inclusion of a \$2 cash preincentive significantly increased response rates. However, use of a larger envelope to mail the survey invitation significantly increased the response rate by 53.1%. Researchers interested in collecting patient-reported outcomes among military populations, including those with combat-related injuries, may find that

increasing the visibility of recruitment materials is more effective for improving response rates than attempting to cognitively prime or offer prospective participants preincentives.

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## Links of Interest

Sleep Better With Help From Science

<https://www.npr.org/podcasts/510336/sleepbetter>

How Sleeping Better Can Give Your Brain a Big Boost (+ Tips for Making That Happen!)

<https://health.clevelandclinic.org/how-sleeping-better-can-give-your-brain-a-big-boost-and-tips-for-making-that-happen/>

How I Finally Started Sleeping Again

<https://blogs.webmd.com/my-experience/20190327/how-i-finally-started-sleeping-again>

Post-9/11 Vets Have Far Higher Disability Ratings Than Prior Generations: Report

<https://www.military.com/daily-news/2019/03/25/post-9-11-vets-have-far-higher-disability-ratings-prior-generations-report.html>

Can extreme sports and adrenaline help veterans with PTSD?

<https://rebootcamp.militarytimes.com/news/transition/2019/03/21/can-extreme-sports-and-adrenaline-help-veterans-with-ptsd/>

Ketamine: A Promising Novel Therapy for Anxiety and PTSD

<https://www.psychiatryadvisor.com/home/topics/anxiety/ketamine-a-promising-novel-therapy-for-anxiety-and-ptsd/>

VA to Offer New Ketamine-Based Nasal Spray for Depression

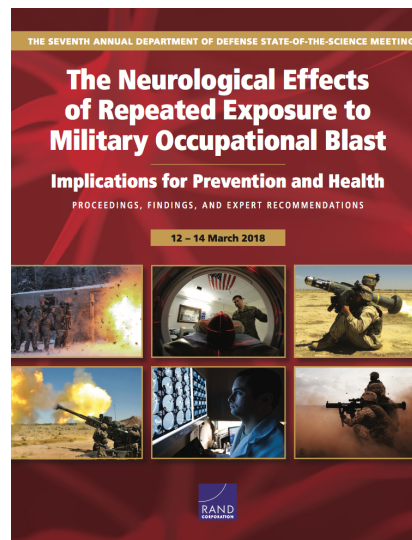
<https://www.military.com/military-report/va-offer-new-ketamine-based-nasal-spray-depression.html>

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**Resource of the Week -- [The Neurological Effects of Repeated Exposure to Military Occupational Blast: Implications for Prevention and Health](#): Proceedings, Findings, and Expert Recommendations from the Seventh Department of Defense State-of-the-Science Meeting**

Just released, from the RAND Corporation:

There has been growing concern about the risk of subconcussive neurological injuries that service members face after repeated, low-level blasts during training and in combat. To examine this risk, the current evidence base, and potentially promising methods and tools for prevention and detection, the Department of Defense held its Seventh State-of-the-Science Meeting in March 2018. The meeting featured findings from a scientific literature review, panel discussions, presentations by researchers in the field, a poster session, and working groups chaired by expert panelists that assessed the state of the science and put forward recommendations regarding policy and strategy guidance and future research directions. Experts in the field concluded that a much stronger evidence base is needed to identify the frequency of exposure, occupation-specific risk factors, appropriate exposure thresholds, potential neurological consequences, and approaches to prevent and detect injuries in service members after repeated exposure to low-level blasts.



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