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## **Research Update -- September 26, 2024**

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- The effect of a reduction in irrational beliefs on Posttraumatic Stress Disorder (PTSD), depression, and anxiety symptoms in a group treatment for post-9/11 Veterans.
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- Links of Interest
- Resource of the Week – America's Military and Veteran Caregivers: Hidden Heroes Emerging from the Shadows (RAND Corporation)

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<https://doi.org/10.1001/jamanetworkopen.2024.34246>

### **Core Mental Health Clinician Capacity and Use Rates in the US Military.**

Shen, Y. C., Heissel, J., & Bacolod, M.

JAMA Network Open  
September 18, 2024

#### Key Points

##### Question

Are core mental health clinician (psychiatrist, psychiatric nurse practitioner, clinical psychologist and social worker, and marriage and family therapist) shortages associated with use and intensity of mental health care among US active duty service members?

##### Findings

In this cohort study of 2 461 911 active duty service members, those in communities

with no core mental health clinicians at military treatment facilities within a 30-minute drive were statistically significantly less likely to have any treatment and had lower treatment intensity compared with those in communities with adequate core mental health clinician capacity. The gap increased from before to after the onset of the COVID-19 pandemic.

### Meaning

This study found that military personnel without access to core military mental health clinicians had low use of mental health care, even when there was adequate coverage among civilian core mental health clinicians nearby.

### Abstract

#### Importance

Active duty service members have higher mental health stress and cannot choose where to live. It is imperative to understand how geographic access may be associated with their ability to obtain mental health treatment and how the COVID-19 pandemic was associated with these patterns.

#### Objective

To identify changes in the prevalence and intensity of mental health care use when service members experienced changes in core mental health clinician (defined to include psychiatrists, psychiatric nurse practitioners, clinical psychologists and social workers, and marriage and family therapists) capacity in their communities and whether patterns changed from before to after the onset of the COVID-19 pandemic.

#### Main Outcomes and Measures

The first set of outcomes captured the probability of making at least 1 mental health care visit in a given quarter; the second set of outcomes captured the intensity of visits (ie, the number of visits log transformed).

#### Results

This study included 33 039 840 quarterly observations representing 2 461 911 unique active duty service members from the Army, Navy, Marines, and Air Force (1 959 110 observations among Asian or Pacific Islander [5.9%], 5 309 276 observations among Black [16.1%], 5 287 168 observations among Hispanic [16.0%], and 18 739 827 observations among White [56.7%] individuals; 27 473 563 observations among males [83.2%]; mean [SD] age, 28.20 [7.78] years). When an active duty service member moved from a community with adequate capacity at military treatment facilities to one with 0 clinicians within a 30-minute drive, the probability of a mental health visit to any clinician decreased by 1.13 percentage points (95% CI, -1.21 to -1.05 percentage

points; equivalent to a 11.6% relative decrease) and the intensity of total visits was reduced by 7.7% (95% CI, -9.0% to -6.5%). The gap increased from before to after the onset of the COVID-19 pandemic, from 8.5% (equivalent to -0.82 percentage points [95% CI, -0.92 to -0.73 percentage points]) to 16.2% (equivalent to -1.58 percentage points [95% CI, -1.70 to -1.46 percentage points]) in the probability of visiting any clinician type for mental health.

### Conclusions and Relevance

In this study, active duty personnel assigned to locations without core military mental health clinicians within a 30-minute drive time were less likely to obtain mental health care and had fewer mental health care visits than those in communities with adequate military mental health capacity even if there was adequate coverage from the civilian sector. The care disparity increased after the onset of the COVID-19 pandemic.

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<https://doi.org/10.1017/dem.2024.5>

### **The evolution of veteran educational attainment gaps over the life cycle.**

Ward J, Wenger JB, Kroeger T

Journal of Demographic Economics

Published online by Cambridge University Press: 18 September 2024

Individuals who serve in the military substitute work experience for post-secondary educational attainment after high school, leading to large educational attainment gaps between new veterans and observably similar nonveterans. Little is known about the evolution of these gaps by age and across cohorts. We investigate the life-cycle attainment of veterans relative to nonveterans using a synthetic panel data approach. Following five multiyear birth cohorts we find that, on average, veterans close a 20-percentage point gap in attainment of a bachelor's or greater over time and significantly outpace observably similar nonveterans in attainment of an associate's degree. Female and minority veterans exceeded the attainment of similar nonveterans over time, and more recent birth cohorts began with larger gaps but closed them at younger ages due to increasing levels of both enrollment and enrollment intensity. Our findings highlight the important role of military service in facilitating social mobility through educational attainment.

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<https://doi.org/10.1016/j.jaac.2023.11.012>

## **Emotional and Behavioral Problem Profiles of Preteens With Self-Injurious Thoughts and Behaviors: A Multicultural Study.**

Lynsay Ayer, PhD, Elie Ohana, MS, Masha Y. Ivanova, PhD, Hannah E. Frering, MPH, Thomas M. Achenbach, PhD, Robert R. Althoff, MD, PhD

### **Objective**

Self-injurious thoughts and behaviors (SITB) among preteen children have risen to the attention of researchers, practitioners, and policymakers. To shed light on potential treatment/prevention targets, we sought to identify empirically derived emotional and behavioral problem profiles of preteens with SITB, and to determine whether these profiles differ by age, gender and society.

### **Method**

Caregivers of 46,719 children aged 6 to 12 years from 42 societies across the world completed the Child Behavior Checklist for ages 6-18 (CBCL/6-18). There were 1,656 children whose caregivers indicated that their child experienced SITB. We conducted a latent profile analysis (LPA) using scores from eight CBCL/6-18 problem scales to derive problem profiles of children with SITB. Multilevel modelling was used to estimate differences in the profiles by SITB, society, sex, and age.

### **Results**

A 4-profile model provided the best fit to the data, with profiles reflecting low problems (39.7%), mild problems (42.6%), moderate problems (15.4%), and rule-breaking/thought problems (2.3%). The low problems profile had CBCL problem scale scores nearly indistinguishable from those of children without SITB. Children in the rule-breaking/thought problems group were mostly female, whereas children in the other profile groups were mostly male. Children with the rule-breaking/thought problems profile also were most likely to have both suicidal thoughts and self-harm behaviors.

### **Conclusion**

Problem profiles of preteens with SITB are heterogeneous, with most having relatively low levels of other psychopathology. Selectively screening only children with clinically significant mental health problems for suicidal thoughts and self-harm behaviors (eg, asking about suicidal thoughts only among children with depression) risks missing many children experiencing SITB.

## Plain language summary

In this study, authors analyzed emotional and behavioral profile of preteens who experienced self-injurious thoughts and behaviors (SITB). Caregivers of over 46,000 children aged 6-12 from 42 countries completed the Child Behavior Checklist. The authors found that most preteens with SITB had low levels of other mental health problems. This study highlights the needs to screen all children for SITBs, not just those who have have significant mental health problems.

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<https://doi.org/10.1001/jamanetworkopen.2024.33734>

## **Sleep Disturbance and Subsequent Suicidal Behaviors in Preadolescence.**

Gowin, J. L., Stoddard, J., Doykos, T. K., Sammel, M. D., & Bernert, R. A.

JAMA Network Open  
September 16, 2024

### Importance:

Suicide is a leading cause of death among adolescents, who demonstrate high rates of sleep disturbance. Poor sleep appears to confer risk for suicide, but longitudinal investigation of suicidal behaviors remains rare, particularly in the transition from childhood to early adolescence.

### Objective:

To evaluate sleep disturbances in preadolescent children (aged 9 and 10 years) in association with longitudinal risk for suicidal ideation and suicide attempts at the 2-year follow-up.

### Design, setting, and participants:

This cohort study used data from the Adolescent Brain Cognitive Development Study between June 2016 and January 2021. This dataset included children aged 9 or 10 years at baseline and their parents or caregivers who were recruited at 21 sites across the US. Data were analyzed July 2023 to June 2024.

### Exposures:

The Sleep Disturbance Scale for Children, a 26-item parent-reported inventory, was administered at baseline, generating a total score and 6 subscales. Central covariates

included the Child Behavior Checklist Anxiety and Depression subscale and demographic variables.

Main outcomes and measures:

The computerized Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS-COMP) assessed parent- and youth-reported suicidal behaviors and outcomes (none; passive, active nonspecific, and active specific suicidal ideation; and suicide attempt) at the 2-year follow-up. Sleep disturbance was further grouped by symptom severity (minimal, moderate, elevated, high, and severe).

Results:

Of the 10 136 youths who reported no baseline suicidal ideation or behavior, 8807 youths (mean [SD] age, 9.9 [0.6] years; 4507 males [51.2%]; 197 Asian individuals [2.2%], 1273 Black individuals [14.5%], and 5775 White individuals [65.6%]) completed the K-SADS-COMP assessment at the 2-year follow-up and were included in the analysis. At the follow-up, 8044 participants (91.3%) had no suicidal behavior, 317 (3.6%) had passive suicidal ideation, 258 (2.9%) had active nonspecific suicidal ideation, 130 (1.5%) had active specific suicidal ideation, and 58 (0.7%) had a first-time suicide attempt. Baseline sleep disturbance was associated with increased incidence risk for suicidal behavior at age 12 years (odds ratio, 2.68; 95% CI, 1.44-4.98;  $P = .002$ ), adjusting for covariates. Individual subscales or items demonstrating associations with risk included disorders of excessive somnolence and frequency of nightmares.

Conclusions and relevance:

Results of this longitudinal cohort study revealed that disturbed sleep at age 10 years was associated with risk for suicidal thoughts and behaviors in the next 2 years. The findings highlight the potential importance of sleep as a visible risk factor and intervention target in the prevention of youth suicide.

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<https://doi.org/10.1089/jicm.2023.0343>

### **Mindfulness-Based Therapy for Military Populations with Chronic Pain: A Systematic Review.**

Chen, H. L., Li, B. H., Du, Y. N., Jin, Z. F., & Zhou, L. J.

Journal of Integrative and Complementary Medicine  
2024; 30:9, 832-839

#### Background:

Due to the limited role of chronic pain medication in military personnel and the distress caused to the military population, mindfulness-based therapy has been considered for the follow-up treatment of military personnel with chronic pain. The purpose of this review is to explore the effect and the implementation of mindfulness-based therapy for the military population with chronic pain.

#### Methods:

The keywords for the search included “mindfulness” AND (“pain” OR “chronic pain”) AND (“military” OR “veteran”). The PubMed, Embase, and Cochrane Library databases were searched. The Cochrane Collaboration tool was used to independently assess the risk of bias of the included randomized controlled trials, and the Newcastle–Ottawa Scale was used to independently assess the risk of bias of the included case–control studies.

#### Results:

A total of 175 papers were identified; 65 duplicates were excluded, and 59 papers that did not meet the inclusion criteria were excluded after reading the titles and abstracts. The remaining 51 papers were read in full, 42 of which did not meet the inclusion criteria. Nine papers met the inclusion criteria and were included in the study. The nine studies included 507 veterans and 56 active-duty female military personnel. All pain interventions were mindfulness-based therapy, and all of them were integrated into or adapted from standard mindfulness courses. The results all showed that after mindfulness-based therapy, the relevant indicators improved.

#### Conclusions:

Mindfulness-based therapy is an effective treatment method for the military population with chronic pain. The review indicates that future research should focus on the best setting for mindfulness-based therapy, including the course content and time.

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<https://doi.org/10.4088/PCC.23nr03691>

### **Primary Care Management of Sleep Disturbances Associated With Concussion/Mild Traumatic Brain Injury in Service Members and Veterans.**

Gold, J. M., Gano, A. L., McKinney, G. L., & Wickwire, E. M.



The Primary Care Companion for CNS Disorders  
Published: September 12, 2024

**Objective:**

To develop an evidence and consensus-based clinical recommendation (CR) regarding primary care management of insufficient and disturbed sleep associated with concussion/mild traumatic brain injury (mTBI) in service members and veterans.

**Participants:**

A multidisciplinary expert working group (EWG) of 23 subject matter experts was selected by the Defense Health Agency (DHA) Traumatic Brain Injury Center of Excellence (TBICoE), based on relevant expertise and experience, from candidates nominated by DHA communities of interest.

**Evidence:**

The TBICoE core working group (CWG) conducted a literature search using PubMed and Google Scholar databases for articles relevant to sleep and mTBI from 2014 to 2018. Resulting studies were reviewed by the CWG, and questions addressing gaps in the literature were formulated.

**Consensus Process:**

Questions addressing gaps in the literature were distributed to the EWG, and consensus was achieved over the course of 5 online meetings. Based on the available evidence and EWG consensus, TBICoE developed a draft of the clinical recommendations and submitted it to the EWG for review and feedback. Feedback was adjudicated by TBICoE, and areas of nonconsensus were addressed via email utilizing a modified Delphi method.

**Conclusion:**

The evidence and EWG agree that addressing sleep early following mTBI is imperative to promoting recovery and preventing chronic mTBI symptoms, maladaptive sleep behaviors, and chronic sleep disorders.

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<https://doi.org/10.1007/s00127-024-02766-3>

**The contribution of exposure to potentially morally injurious events to trajectories of posttraumatic stress symptoms among discharged veterans - a five-year study.**

Levinstein, Y., Zerach, G., Levi-Belz, Y., & Dekel, R.

Social Psychiatry and Psychiatric Epidemiology  
20 September 2024

**Purpose:**

Combatants and veterans are at risk of developing post traumatic stress symptoms (PTSS). The long-term responses to traumatic events are variable and can be classified into distinct PTSS trajectories. In this prospective study, we evaluated PTSS trajectories among combat veterans during the initial year after discharge from military service. Subsequently, we analyzed how combat exposure and PMIEs contributed to these trajectories.

**Methods:**

Our study encompassed 374 combat veterans who participated in a five-year prospective study, with four waves of measurements, T1 - one year before enlistment, T2 - one month prior to discharge from military service (July 2021), and then again at six months (T3 - February 2022) and twelve months after discharge (T4, July-August 2022)

**Results:**

The utilization of Latent Profile Analysis (LPA) revealed a diverse array of PTSS trajectories. Predominantly, a resilient trajectory emerged as the most frequently observed (69.3%), with 'delayed onset'(13.6%), 'improving'(9.9%) and 'chronic'(6.1%) trajectories following in order. Importantly, multinomial regression analysis indicated that combat exposure and PMIE-betrayal contributed to alignment with symptomatic trajectories.

**Conclusions:**

This study represents the first of its kind to establish longitudinal, time-dependent associations between PMIEs and PTSS trajectories. These results emphasize the critical importance of ongoing screening and the development of tailored interventions for combat veterans.

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<https://doi.org/10.1093/milmed/usae433>

## **The Impact of Adversity on Body Mass Index as Veterans Transition to Civilian Life.**

McCarthy, K. J., Morgan, N. R., Aronson, K. R., Rudi, J. H., & Perkins, D. F.

Military Medicine

Published: 20 September 2024

### Introduction

The impact of adverse childhood experiences (ACEs), warfare exposure, and mental health symptoms upon changes in body mass index (BMI) were examined in a large U.S. post-9/11 veteran sample to assess gender-specific changes in BMI within the first 2½ years after military service.

### Materials and Methods

Data were collected with institutional approval in 6 waves between 2016 and 2019 from veterans who (1) separated from active duty component service branches (i.e., Army, Navy, Air Force, and Marine Corps) or National Guard or Reserve or (2) deactivated from active duty status after serving in a National Guard or Reserve component. Veterans self-reported height and weight at separation/deactivation at wave 2, and weight was asked at each subsequent wave. Multilevel growth model analyses estimated the relationship between ACEs, warfare exposure, and mental health symptoms and BMI for males and females. Weighted wave 5 analyses were conducted to ensure the sample was calibrated for nonresponse based on wave 1 and the full sample ( $n = 48,965$ ) for each cross-classification of the weighting variables of gender, rank, and branch.

### Results

Approximately one-third of the veterans reported a normal BMI at separation/deactivation in comparison to being overweight (51%) or obese (20%). Twenty-six percent of male veterans had a normal BMI in contrast to almost half of the female veterans. Male veterans who experienced 3-7 ACEs had a higher BMI (0.74) compared to male veterans without any ACEs, where a BMI increase of 0.08 per year was reported. Female veterans who experienced 1-2 ACEs had a higher BMI (0.89) compared to female veterans without ACEs. Male veterans who engaged in warfare (e.g., combat patrols and firing a weapon at enemy combatants) and experienced corollaries (i.e., consequences of combat) or who experienced corollaries alone (e.g., saw refugees who lost their homes/belongings) had higher BMIs (1.14 and 0.82,

respectively) compared to male veterans without warfare exposure. Female veterans who experienced corollaries had a higher BMI (0.94) compared to female veterans with no warfare exposure. Female veterans who experienced warfare (i.e., corollaries and combat) had a higher BMI (0.71) compared to female veterans with no warfare exposure. Male veterans who screened positive for likely post-traumatic stress disorder (PTSD) or depressive symptoms had a higher BMI (1.01 and 0.52, respectively) compared to male veterans who did not screen positive. Male veterans who screened positive for likely PTSD increased their BMI by 0.10 per year. Male veterans who screened positive for both likely PTSD and depressive symptoms had a higher BMI (1.32) compared to male veterans who did not screen positive, and they increased their BMI by 0.21 per year. Female veterans who screened positive for likely PTSD and depressive symptoms had a higher BMI (0.78) and increased their BMI by 0.25 per year compared to female veterans who did not screen positive.

### Conclusions

Boosting veterans' and service members' mental and emotional healing from childhood and warfare adversities through sound health promotion policies and increased access to evidence-informed interventions is imperative for optimal body weight and physical health.

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<https://doi.org/10.1080/00332747.2024.2364525>

### **Attachment Style, Social Support Network, and Lifetime Suicide Ideation and Suicide Attempts Among New Soldiers in the U.S. Army.**

Wang, J., Naifeh, J. A., Herberman Mash, H. B., Thomas, J. L., Hooke, J., Morganstein, J. C., Fullerton, C. S., Cozza, S. J., Stein, M. B., & Ursano, R. J.

Psychiatry  
2024; 87(3), 251–263

#### Objective:

Attachment style and social support networks (SSN) are associated with suicide ideation (SI) and suicide attempt (SA). How these two factors interact is important to understanding the mechanisms of risk for suicidal behaviors and identifying interventions.

#### Method:

Using the Army Study to Assess Risk and Resilience in Servicemembers New Soldier Study (N = 38,507 soldiers), we examined how three attachment styles (preoccupied, fearful, and secure) and SSN (smaller vs larger) were associated with lifetime SI, SA, and SA among soldiers with SI. The interaction of each attachment style by SSN was examined.

#### Results:

All three attachment styles were associated with SI and SA in the total sample (for SA: preoccupied OR = 2.82, fearful OR = 2.84, and secure OR = 0.76). Preoccupied and fearful attachment were associated with SA among suicide ideators. Smaller SSN was associated with a higher risk for all three outcomes (range of ORs = 1.23-1.52). The association of SSN with SI and with SA among suicide ideators was significantly modified by the presence or absence of preoccupied attachment style. Among soldiers without preoccupied attachment, larger SSN was associated with lower risk of SI. Among suicide ideators with preoccupied attachment, a larger SSN was associated with lower risk of SA.

#### Conclusion:

This study highlights the need for increased understanding of the role of attachment style and social networks in suicide risk, in particular preoccupied attachment among soldiers with SI. A critical next step is to explore these relationships prospectively to guide intervention development.

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<https://doi.org/10.1080/08995605.2023.2209006>

### **Military experiences, connection to military identity, and time since military discharge as predictors of United States veteran suicide risk.**

Edwards, E., Osterberg, T., Coolidge, B., Greene, A. L., Epshteyn, G., Gorman, D., Ruiz, D., & El-Meouchy, P.

Military Psychology

Volume 36, 2024 - Issue 5

Veterans navigating the military-to-civilian transition appear at elevated risk for suicide. However, research on the transition-suicide association often fails to consider co-occurring risk factors. The independent association of time since military discharge and

suicide among veterans therefore remains unclear. Data from 1,495 post-Vietnam community veterans provided estimates of suicide risk, military-based stressful experiences, connection to military identity, and recency of military discharge. Hierarchical regression analyses examined independent, incremental utility of factors associated with suicide risk after controlling for quality of life, age, and duration of military service among the total veteran sample and a subsample discharged from military service within five years prior. The resulting model explained 41% of variance in suicide risk in the total veteran sample and 51% of variance in suicide risk in the recently discharged subsample. Recency of discharge, combat exposure, moral injury, poor quality of life, and poor psychological wellness showed statistically significant, independent associations with suicide risk, whereas connection to military identity did not show significant, independent associations. Results highlight the salience of the military-to-civilian transition as an independent risk factor for veteran suicide even after controlling for military-based stressful experiences, military identity, quality of life, age, and service duration.

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<https://doi.org/10.1037/tra0001551>

### **Leadership in moral awareness: Initial evidence from U.S. Army soldiers returning from deployment.**

Gutierrez, I. A., Krauss, S. W., & Adler, A. B.

Psychological Trauma: Theory, Research, Practice, and Policy  
2024; 16(7), 1233–1237

#### **Objective:**

To determine whether moral awareness leadership moderated the relationship between combat experiences and soldier mental health symptoms following deployment.

#### **Method:**

The Leadership in Moral Awareness Scale (LIMAS) was evaluated using anonymous surveys completed by 177 U.S. Army National Guardsmen. The survey also assessed general leadership, combat experiences, and posttraumatic stress disorder (PTSD), anxiety, and depression symptoms. Following factor analyses of the LIMAS, moderated regression models examined interactions between the LIMAS and combat experiences on mental health symptoms.

### Results:

Six items were selected to comprise the LIMAS. No main effect of the LIMAS was found for mental health variables after adjusting for general leadership. There were significant interaction effects between the LIMAS and combat experiences for depression and anxiety symptoms. Soldiers with higher levels of combat experiences reported fewer mental health symptoms if their leaders were rated highly on the LIMAS.

### Conclusions:

The LIMAS may offer a useful tool for assessing leader behaviors that can counteract negative mental health outcomes associated with combat. Findings provide support for encouraging leaders to focus on moral awareness during deployment.

### Clinical Impact Statement

Military leaders who engage in moral awareness leadership establish clear expectations about ethical behavior, discuss the challenge of moral dilemmas, and place moral concerns within the context of organizational values. Soldiers whose leaders engage in these behaviors report less mental health symptomatology after deployment, particularly if they have experienced higher levels of combat experiences. Clinicians can highlight moral awareness leadership as a means of protecting soldier mental health and consult with leaders on how to engage in these practices.

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<https://doi.org/10.1080/08995605.2023.2235256>

### **War trauma impacts in Ukrainian combat and civilian populations: Moral injury and associated mental health symptoms.**

Zasiekina, L., Duchyminska, T., Bifulco, A., & Bignardi, G.

Military Psychology

Volume 36, 2024 - Issue 5

This is the first study to compare active-duty soldiers and student civilian samples during the first three months of the Ukrainian-Russian war in relation to moral injury and its association with PTSD, anxiety and depression. A total of 350 participants, including 191 active-duty soldiers of the Ukrainian Armed Force (UAF), who were on the frontline during the full-scale invasion of Russian troops in February 2022, and 159 students from different HEIs in Volyn oblast, were recruited into the study through their attendance at the Ukrainian Psychotrauma Center. Prior to the in-person group-

intervention program of psychosocial support for military and civil populations at the Ukrainian Psychotrauma Center, moral injury, PTSD, depression, and anxiety were assessed. Results showed significantly higher moral injury, PTSD, depression, and anxiety scores in civilian students, with a two-way ANOVA indicating a significant impact of female gender in civilians only. A hierarchical regression indicated that moral injury is a predictor of PTSD symptoms in both active-duty and civilian student groups. However, previous family trauma of genocide is associated with PTSD symptoms in active soldiers only. The findings of the current study could contribute insights for clinical practice for combatants and civilians during the current war.

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<https://doi.org/10.1186/s12889-024-20022-w>

### **Personalized sleep and nutritional strategies to combat adverse effects of night shift work: a controlled intervention protocol.**

van der Rhee, M., Oosterman, J. E., Wopereis, S., van der Horst, G. T. J., Chaves, I., Dollé, M. E. T., Burdorf, A., van Kerkhof, L. W. M., & der Holst, H. M. L.

BMC Public Health  
19 September 2024

#### **Background:**

Working during the night interferes with the timing of normal daily activities and is associated with an increased risk of chronic diseases. Under controlled experimental conditions, interventions focusing on sleep and nutrition can mitigate the short-term adverse effects of shift work. However, it is unclear how these results translate to real-life, how they can be targeted to individual conditions, and how they relate to long-term health. Therefore, the current study aims to implement a personalized sleep and nutritional intervention among night shift workers in the field.

#### **Methods:**

A non-blinded controlled intervention study is used, consisting of a run-in period, an intervention of 3 months, post-intervention measurements, and a follow-up after 12 months. Three study arms are included: sleep intervention, nutritional intervention, and control group (n = 25 each). Participants are healthy 18-60-year male night shift workers, with at least one year of experience in night shift work. Information from the run-in period will be used to personalize the interventions. The main outcomes are sleep measurements and continuous interstitial glucose levels. Furthermore, general health



biomarkers and parameters will be determined to further evaluate effects on long-term health.

**Discussion:**

This study aims to mitigate negative health consequences associated with night shift work by introducing two personalized preventive interventions. If proven effective, the personalized interventions may serve as practical solutions that can have a meaningful impact on the sustainable health and employability of night shift workers. This study will thereby contribute to the current need for high-quality data on preventative strategies for night shift work in a real-life context.

**Trial registration:**

This trial has been registered under ClinicalTrials.gov Identifier [NCT06147089](https://clinicaltrials.gov/ct2/show/study/NCT06147089). Registered 27 November 2023.

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<https://doi.org/10.1080/20008066.2024.2402627>

**Grief on pain and quality of life in combat veterans with PTSD.**

Hernandez-Tejada, M. A., Desrochers, M., & Acierno, R.

European Journal of Psychotraumatology

Published online: 18 Sep 2024

**Background:**

Persistent Complex Bereavement Disorder (PCBD) comprises a set of grief symptoms that are often linked to other psychological conditions such as PTSD and depression, may be prevalent in Veterans with combat experience, and may also impact general health.

**Objective:**

This study investigated the association between grief and sleep, pain, PTSD, and depression, among Veterans participating in a clinical trial for PCBD treatment.

**Method:**

Data from 155 Veterans receiving treatments for PCBD were analysed to explore the association between PCBD and symptoms of sleep pain, PTSD, and depression.

Veterans experiencing grief reported symptoms related to physical health, emotional

problems, energy, and fatigue, emotional well-being, social functioning, presence of pain, and general health. PCBD appeared to have a specific association with pain and physical functioning, independent of other variables.

#### Conclusions:

This study examined the potential independent association of PCBD on physical and mental health in Veterans with PTSD. PCBD appeared to have a very specific and significant association with pain and physical functioning. In other words, the pain of grief was related to ratings of physical pain. Future research on PCBD should address the potentially bidirectional association with bodily pain, particularly chronic pain, in relation to loss, with specific attention to potential mechanisms underlying this relationship.

#### HIGHLIGHTS

- This study explored the distinct relationship of PCBD on aspects of physical, as well as mental health among Veterans with Persistent Complex Bereavement Disorder (PCBD).
- Findings underscore the importance of addressing comorbid conditions of PCBD, such as PTSD, emphasising the need for tailored approaches that consider this intricate interaction between grief and other mental health and even physical health conditions.
- This study calls for further research into the mechanisms underlying the relationship between PCBD and bodily pain and physical functioning as the most affected areas associated with PCBD.

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<https://doi.org/10.1136/military-2024-002725>

### **Is inflammatory change associated with psychological risk and resilience in high-risk military personnel?**

Bennett, N., Lawrence-Wood, E., & McFarlane, A.

BMJ Military Health

Online issue publication: September 20, 2024

#### Introduction

In military populations, the potential for under-reporting of Post-traumatic Stress Disorder (PTSD) symptoms and challenges in recognising early changes can make it

difficult to detect an emerging disorder. However, early identification of PTSD symptoms would improve opportunities for intervention, and potentially reduce the likelihood of chronic mental health problems.

#### Method

This study explored if changes in levels of inflammation, measured by C reactive protein (CRP) and interleukin 6 (IL-6), were associated with the onset of psychological symptoms associated with PTSD. It also examined if changes in inflammation over time contributed to psychological risk and resilience, which was defined by psychological reactivity to deployment-related combat exposures. Participants were special forces personnel who completed psychological self-report questionnaires and had measures of CRP and IL-6 taken pre and post deployment. Regression analysis was used to examine how psychological symptoms predicted change in inflammation, and Analysis of Variance (ANOVA) were used to examine differences between identified subgroups.

#### Results

Results identify this population as having high levels of combat and trauma exposures, with low-level psychological symptoms. The results also identified a decrease in CRP and an increase in IL-6 over time. A significant difference in inflammation was identified between subgroups ( $p < 0.05$ ). An association between inflammatory markers and subthreshold symptoms related to anger ( $p < 0.01$ ) and sleep ( $p < 0.05$ ) was also identified.

#### Conclusion

These preliminary findings suggest inflammatory markers may help to identify adaptive responses post deployment. In addition, low-level increases in inflammatory markers may be associated with subthreshold PTSD symptoms. These findings offer potential insights for prevention, early identification and treatment in military and veteran populations.

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<https://doi.org/10.1080/08995605.2023.2236924>

### **The effect of a reduction in irrational beliefs on Posttraumatic Stress Disorder (PTSD), depression, and anxiety symptoms in a group treatment for post-9/11 Veterans.**

Grove, A. B., Sheerin, C. M., Wallace, R. E., Green, B. A., Minnich, A. H., & Kurtz, E. D.

Previous research has indicated that a Rational Emotive Behavior Therapy (REBT)-Informed Group focused on changing irrational beliefs to address comorbid depression and anxiety (as well as anger and guilt) in a combat Veteran population diagnosed with Posttraumatic Stress Disorder (PTSD) demonstrated significant reductions in depression and PTSD symptoms at posttreatment. However, mechanisms of change associated with improvement have not been evaluated. REBT theory suggests that a decline in irrational beliefs predicts a decrease in PTSD, depression, and anxiety symptoms. This study aimed to test this tenet of REBT theory in a naturalistic treatment setting. Participants (N = 86) were post-9/11 combat Veterans, engaged in the REBT-Informed Group between October 2016 and February 2020. Results of hierarchical multiple regression analyses indicated that a reduction in irrational beliefs predicted notable decreases in PTSD, depression, and anxiety symptoms controlling for several covariates. This study extends previous research demonstrating the success of the REBT-Informed Group with combat Veterans and gives support to REBT theory regarding the effect of a decline in irrational beliefs. Future directions include replication of findings with Veterans who experienced military sexual trauma (MST), pre-9/11 Veterans, those at other military or Veterans Affairs (VA) medical centers, and civilians to determine generalizability.

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<https://doi.org/10.1037/tra0001519>

**Exposure to potentially morally injurious events in U.K. health and social care workers during COVID-19: Associations with PTSD and complex PTSD.**

Greene, T., Harju-Seppänen, J., Billings, J., Brewin, C. R., Murphy, D., & Bloomfield, M. A. P.

Psychological Trauma: Theory, Research, Practice, and Policy  
2024; 16(7), 1189–1197

**Objective:**

Health and social care workers (HSCWs) have been shown to be at risk of exposure to potentially morally injurious events (PMIEs) and mental health problems during the COVID-19 pandemic. This study aimed to examine associations between exposure to PMIEs and meeting threshold criteria for probable posttraumatic stress disorder (PTSD)

and probable complex PTSD (CPTSD) in U.K. HSCWs immediately after the peak of the first COVID-19 wave.

#### Method:

Frontline HSCWs from across the United Kingdom working in diverse roles in hospitals, nursing or care homes, and other community settings were recruited to the Frontline-COVID study via social media. Participants (n = 1,056) completed a cross-sectional online survey (May 27, 2020–July 23, 2020) which assessed exposure to PMIEs (nine-item Moral Injury Events Scale), and meeting symptom thresholds for probable PTSD and probable CPTSD (International Trauma Questionnaire).

#### Results:

PMIEs related to witnessing others' wrongful actions and betrayal events were more commonly endorsed than perceived self-transgressions. The rate of probable International Classification of Diseases, 11th Revision (ICD-11) PTSD was 8.3%, and of probable ICD-11 CPTSD was 14.2%. Betrayal-related PMIEs were a significant predictor of probable PTSD or probable CPTSD, together with having been redeployed during the pandemic. The only variable that differentially predicted probable CPTSD as compared with probable PTSD was not having had reliable access to personal protective equipment; none of the PMIE types were differential predictors for screening positive for probable PTSD versus probable CPTSD.

#### Conclusions:

Exposure to PIMEs could be important for PTSD and CPTSD development. Interventions for moral injury in HSCWs should be investigated.

#### Clinical Impact Statement

Our study examined the links between exposure to potentially morally injurious events and probable posttraumatic stress disorder (PTSD) or probable complex PTSD (CPTSD) in a sample of health and social care workers (HSCWs) in the United Kingdom following the peak of the first COVID-19 wave. In our sample, 8.3% of participants screened positive for probable PTSD and 14.2% for probable CPTSD. Experiences of feeling betrayed by leaders, coworkers, and one's community, and having been redeployed during the pandemic were associated with probable PTSD or probable CPTSD. We recommend that interventions for moral injury in HSCWs should be investigated.

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## Links of Interest

The Veterans Left Behind: Eligibility for Department of Veterans Affairs Benefits and Other Than Honorable Discharges (Commentary)

<https://www.rand.org/pubs/perspectives/PEA1363-13.html>

DoD Commits \$500 Million for Women's Health Research, Supports Better Care for All Women

<https://www.defense.gov/News/Releases/Release/Article/3913913/dod-commits-500-million-for-womens-health-research-supports-better-care-for-all/>

DOD looking for more companies to hire military spouses for program

<https://www.militarytimes.com/news/your-military/2024/09/23/dod-looking-for-more-companies-to-hire-military-spouses-for-program/>

VA suicide hotline hit with several service outages this year, affecting nearly 700 veterans

<https://www.stripes.com/veterans/2024-09-24/veterans-suicide-hotline-outages-15290845.html>

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## Resource of the Week – [America's Military and Veteran Caregivers: Hidden Heroes Emerging from the Shadows](#)

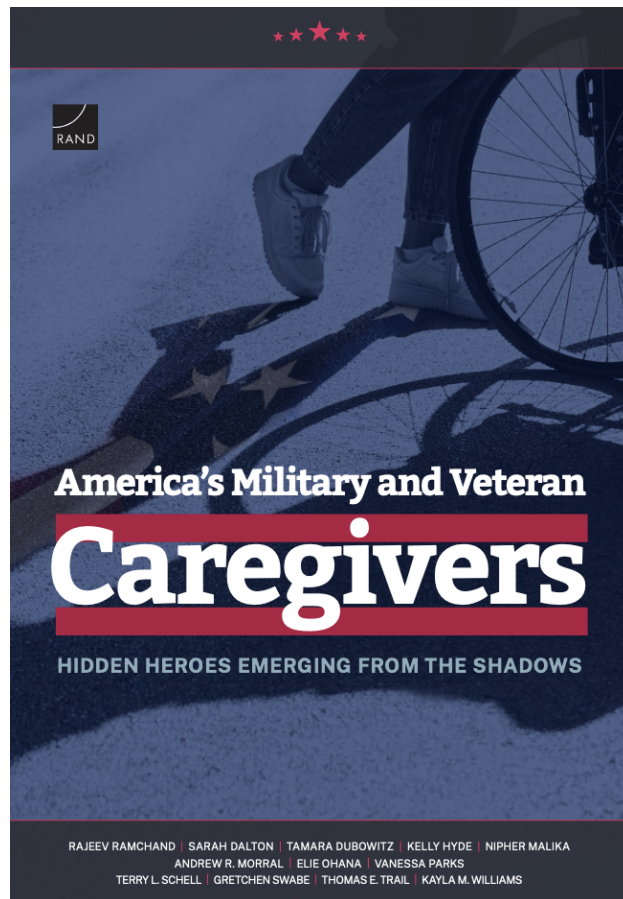
New, from the RAND Corporation:

There are 14.3 million military and veteran caregivers, representing 5.5 percent of the U.S. adult population. There are an additional 91.3 million civilian caregivers (35.0 percent of U.S. adults) caring for wounded, ill, or injured civilian adults.

Across all caregivers, most (78 to 81 percent) spend between one and 30 hours per week providing care. Under 10 percent spend less than one hour per week, and 11 to 16 percent spend 31 hours or more per week caregiving.

The estimated aggregate economic value generated by military/veteran caregiving activities, which are largely uncompensated, ranges from \$119 billion to \$485 billion per year. Military/veteran caregivers incur an estimated \$8,583 in annual out-of-pocket costs associated with their caregiving responsibilities.

Military/veteran caregivers forgo an estimated \$4,522 in annual household income.



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Shirl Kennedy  
Research Editor  
HJF employee collaborating with Center for Deployment Psychology  
DoD and Uniformed Service Contractor  
Phone: (727) 537-6160  
Email: shirley.kennedy.ctr@usuhs.edu



Henry M. Jackson Foundation for the Advancement of Military Medicine