

# CDP



## Research Update -- February 29, 2024

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<https://doi.org/10.1001/jamapsychiatry.2023.5651>

## **Acupuncture for Combat-Related Posttraumatic Stress Disorder: A Randomized Clinical Trial.**

Hollifield, M., Hsiao, A. F., Smith, T., Calloway, T., Jovanovic, T., Smith, B., Carrick, K., Norrholm, S. D., Munoz, A., Alpert, R., Caicedo, B., Frousakis, N., & Cocozza, K.

JAMA Psychiatry  
February 21, 2024

### Key Points

#### Question

Is verum acupuncture delivered over 12 to 15 weeks more efficacious than sham (minimal) needling for reducing posttraumatic stress disorder (PTSD) symptoms or fear-potentiated startle response in veterans with PTSD?

#### Findings

In this randomized clinical trial including 93 participants, verum acupuncture resulted in a larger reduction in PTSD symptom severity than sham from the beginning to the end of treatment in both the intention-to-treat and treatment-completed models, and a larger reduction in fear-potentiated startle extinction after treatment.

#### Meaning

The findings indicate that verum acupuncture had a large pretreatment to posttreatment effect and was clinically and statistically superior to sham needling for reducing PTSD symptoms and enhancing fear extinction.

### Abstract

#### Importance

Current interventions for posttraumatic stress disorder (PTSD) are efficacious, yet effectiveness may be limited by adverse effects and high withdrawal rates. Acupuncture is an emerging intervention with positive preliminary data for PTSD.

#### Objective

To compare verum acupuncture with sham acupuncture (minimal needling) on clinical and physiological outcomes.

## Design, Setting, and Participants

This was a 2-arm, parallel-group, prospective blinded randomized clinical trial hypothesizing superiority of verum to sham acupuncture. The study was conducted at a single outpatient-based site, the Tibor Rubin VA Medical Center in Long Beach, California, with recruitment from April 2018 to May 2022, followed by a 15-week treatment period. Following exclusion for characteristics that are known PTSD treatment confounds, might affect biological assessment, indicate past nonadherence or treatment resistance, or indicate risk of harm, 93 treatment-seeking combat veterans with PTSD aged 18 to 55 years were allocated to group by adaptive randomization and 71 participants completed the intervention protocols.

## Interventions

Verum and sham were provided as 1-hour sessions, twice weekly, and participants were given 15 weeks to complete up to 24 sessions.

## Main Outcomes and Measures

The primary outcome was pretreatment to posttreatment change in PTSD symptom severity on the Clinician-Administered PTSD Scale-5 (CAPS-5). The secondary outcome was pretreatment to posttreatment change in fear-conditioned extinction, assessed by fear-potentiated startle response. Outcomes were assessed at pretreatment, midtreatment, and posttreatment. General linear models comparing within- and between-group were analyzed in both intention-to-treat (ITT) and treatment-completed models.

## Results

A total of 85 male and 8 female veterans (mean [SD] age, 39.2 [8.5] years) were randomized. There was a large treatment effect of verum (Cohen  $d$ , 1.17), a moderate effect of sham ( $d$ , 0.67), and a moderate between-group effect favoring verum (mean [SD]  $\Delta$ , 7.1 [11.8];  $t_{90} = 2.87$ ,  $d$ , 0.63;  $P = .005$ ) in the intention-to-treat analysis. The effect pattern was similar in the treatment-completed analysis: verum  $d$ , 1.53; sham  $d$ , 0.86; between-group mean (SD)  $\Delta$ , 7.4 (11.7);  $t_{69} = 2.64$ ;  $d$ , 0.63;  $P = .01$ ). There was a significant pretreatment to posttreatment reduction of fear-potentiated startle during extinction (ie, better fear extinction) in the verum but not the sham group and a significant correlation ( $r = 0.31$ ) between symptom reduction and fear extinction. Withdrawal rates were low.

## Conclusions and Relevance

The acupuncture intervention used in this study was clinically efficacious and favorably affected the psychobiology of PTSD in combat veterans. These data build on extant literature and suggest that clinical implementation of acupuncture for PTSD, along with

further research about comparative efficacy, durability, and mechanisms of effects, is warranted.

Trial Registration

ClinicalTrials.gov Identifier: [NCT02869646](https://clinicaltrials.gov/ct2/show/study/NCT02869646)

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## **Lifetime Suicide Attempts in Otherwise Psychiatrically Healthy Individuals.**

Oquendo, M. A., Wall, M., Wang, S., Olfson, M., & Blanco, C.

JAMA Psychiatry

February 21, 2024

### Key Points

#### Question

What percentage of people who attempt suicide meet criteria for a psychiatric disorder?

#### Findings

In this cross-sectional study using data from 1948 US adults with lifetime suicide attempts from a nationally representative population-based survey, an estimated 20% reported not having met criteria for any psychiatric disorders prior to their first attempt.

#### Meaning

The findings suggest a possible need to broaden suicide risk screening beyond psychiatric populations.

### Abstract

#### Importance

Not all people who die by suicide have a psychiatric diagnosis; yet, little is known about the percentage and demographics of individuals with lifetime suicide attempts who are apparently psychiatrically healthy. If such suicide attempts are common, there are implications for suicide risk screening, research, policy, and nosology.

#### Objective

To estimate the percentage of people with lifetime suicide attempts whose first attempt occurred prior to onset of any psychiatric disorder.

## Design, Setting, and Participants

This cross-sectional study used data from the US National Epidemiologic Study of Addictions and Related Conditions III (NESARC-III), a cross-sectional face-to-face survey conducted with a nationally representative sample of the US civilian noninstitutionalized population, and included persons with lifetime suicide attempts who were aged 20 to 65 years at survey administration (April 2012 to June 2013). Data from the NESARC, Wave 2 survey from August 2004 to September 2005 were used for replication. Analyses were performed from April to August 2023.

## Exposure

Lifetime suicide attempts.

## Main Outcomes and Measures

The main outcome was presence or absence of a psychiatric disorder before the first lifetime suicide attempt. Among persons with lifetime suicide attempts, the percentage and 95% CI of those whose first suicide attempt occurred before the onset of any apparent psychiatric disorders was calculated, weighted by NESARC sampling and nonresponse weights. Separate analyses were performed for males, females, and 3 age groups (20 to <35, 35-50, and >50 to 65 years).

## Results

In the total sample of 36 309 respondents, 1948 persons had lifetime suicide attempts; 66.8% (95% CI, 64.1%-69.4%) were female, and 6.2% (95% CI, 4.9%-7.4%) had no apparent lifetime psychiatric diagnoses when surveyed. In addition, 13.4% (95% CI, 11.6%-15.2%) made their first suicide attempt prior to psychiatric disorder onset. Thus, an estimated 19.6% of respondents first attempted suicide without an antecedent psychiatric disorder. No significant age or sex differences were detected in the percentage of those with lifetime suicide attempts absent psychiatric disorders, although females were more likely than males to attempt suicide in the year of psychiatric disorder onset (14.9% [95% CI, 12.5%-17.3%] vs 8.6% [95% CI, 6.0%-11.2%];  $P < .001$ ), and attempts were less frequent among those older than 50 to 65 years (3.9% [95% CI, 3.5%-4.4%] vs 6.1% [95% CI, 5.4%-6.8%] for 35-50 years and 6.2% [95% CI, 5.6%-6.9%] for 20 to <35 years;  $P < .001$ ).

## Conclusions and Relevance

In this study, an estimated 19.6% of individuals who attempted suicide did so despite not meeting criteria for an antecedent psychiatric disorder. This finding challenges clinical notions of who is at risk for suicidal behavior and raises questions about the safety of limiting suicide risk screening to psychiatric populations.

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<https://doi.org/10.1002/jts.23020>

**A pilot randomized controlled trial of online written exposure therapy delivered by peer coaches to veterans with posttraumatic stress disorder.**

Carmen P. McLean, Nadia Malek, Casey L. Straud

Journal of Traumatic Stress

First published: 13 February 2024

This pilot randomized clinical trial (RCT) sought to examine the preliminary efficacy of an internet-based version of written exposure therapy delivered to veterans through an online program supported by peer coaches. Veterans (N = 124) with clinically significant posttraumatic stress disorder (PTSD) symptoms were randomly assigned to imaginal exposure either via writing (written exposure) or verbal recounting (verbal exposure). The online treatment involved four to eight sessions of imaginal exposure preceded and followed by an online chat with a peer coach. Participants completed assessments at baseline, posttreatment, and 3-month follow-up. Half of the participants never started treatment; among those who started treatment, the mean number of sessions completed was 4.92. At posttreatment, participants in both conditions reported clinically meaningful improvements in PTSD symptoms,  $d = 1.35$ ; depressive symptoms,  $d = 1.10$ ; and functioning,  $d = 0.39$ . Although participants in both treatment conditions demonstrated significant improvements in PTSD symptom severity, equivalence results were inconclusive, as the 95% confidence interval of the change score difference exceeded the specified margin and overlapped with 0. Estimated mean change scores demonstrated that both conditions showed significant reductions at posttreatment and follow-up. Although engagement with the online program was a significant challenge, the findings suggest that written exposure therapy is effective for improving PTSD symptoms, depressive symptoms, and functioning when adapted for internet-based delivery and facilitated by peer coaches. Using technology to deliver exposure therapy and task-shifting the role of the therapist to peer coaches are promising strategies to increase access to effective PTSD care.

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<https://doi.org/10.1002/jts.23018>

**Associations among posttraumatic stress disorder symptoms, life satisfaction, and well-being comparisons: A longitudinal investigation.**

Pascal Schlechter, Thole H. Hoppen, Nexhmedin Morina

Journal of Traumatic Stress

First published: 11 February 2024

Many individuals who encounter potentially traumatic events go on to develop symptoms of posttraumatic stress disorder (PTSD). Research suggests that survivors of traumatic events frequently compare their current well-being to different standards; yet, knowledge regarding the role of comparative thinking in well-being is limited to a few cross-sectional studies. We therefore examined the temporal associations among aversive well-being comparisons (i.e., comparisons threatening self-motives), PTSD symptoms, and life satisfaction in individuals exposed to traumatic events. Participants (N = 518) with a trauma history completed measures of PTSD symptoms and life satisfaction, as well as the Comparison Standards Scale for Well-being (CSS-W), at assessment points 3 months apart. The CSS-W assesses the frequency, perceived discrepancy, and affective impact of aversive social, temporal, counterfactual, and criteria-based comparisons related to well-being. All participants reported having engaged in aversive well-being comparisons during the last 3 weeks. Comparison frequency emerged as a significant predictor of PTSD symptoms,  $\beta = .24$ , beyond baseline PTSD symptom severity. Life satisfaction contributed unique variance to the comparison process by predicting comparison frequency,  $\beta = -.18$ ; discrepancy,  $\beta = -.24$ ; and affective impact,  $\beta = .20$ . The findings suggest that frequent aversive comparisons may lead to a persistent focus on negative aspects of well-being, thereby exacerbating PTSD symptoms, and further indicate that comparison frequency, discrepancy, and affective impact are significantly influenced by life satisfaction. Taken together, the findings support the need for a thorough examination of the role of comparative thinking in clinical populations, which may ultimately help improve clinical care.

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<https://doi.org/10.1001/jamanetworkopen.2024.0201>

**Sex Differences in Psychopathology Following Potentially Traumatic Experiences.**



Kofman, Y. B., Selbe, S., Szentkúti, P., Horváth-Puhó, E., Rosellini, A. J., Lash, T. L., Schnurr, P. P., Sørensen, H. T., Galea, S., Gradus, J. L., & Sumner, J. A.

JAMA Network Open  
February 22, 2024

## Key Points

### Question

What is the sex-specific incidence of various forms of posttraumatic psychopathology in a population-based cohort?

### Findings

In this cohort study of more than 1.3 million individuals, patterns of 5-year posttraumatic psychopathology incidence showed substance use disorders were most common for males and depressive disorders were the most common for females. Sex-based differences in associations of potentially traumatic events with psychopathology were more pronounced when accounting for pretrauma psychiatric disorders.

### Meaning

These findings suggest that mental health consequences of trauma in males and females are sex-specific and wide-ranging and may provide new insights for sex-relevant potentially traumatic experiences and their mental health consequences.

### Abstract

#### Importance

Various psychopathology may follow trauma; however, sex differences in these ranging manifestations of posttraumatic psychopathology remain understudied.

#### Objective

To investigate sex-specific incidence of posttraumatic psychopathology.

#### Design, Setting, and Participants

This population-based cohort study of Danish national health registries included a cohort of individuals who experienced a potentially traumatic event (PTE) from 1994 to 2016. Individuals were further categorized by presence of any pretrauma psychopathology. A comparison group of individuals who experienced a nontraumatic stressor (nonsuicide death of a first-degree relative) was examined as a reference cohort.

## Exposures

At least 1 of 8 PTEs (eg, physical assault, transportation accident) derived through health registry International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) codes, with additional qualifiers to improve classification accuracy.

## Main Outcomes and Measures

Incidence of 9 categories of ICD-10 psychiatric disorders recorded in registries within 5 years of PTEs. The standardized morbidity ratios (SMRs) for psychopathology outcomes were also calculated to compare individuals experiencing PTEs with those experiencing a nontraumatic stressor.

## Results

This study included 1 398 026 individuals who had been exposed to trauma (475 280 males [34.0%]; 922 750 females [66.0%]). The group of males who had been exposed to trauma were evenly distributed across age, while most females in the trauma-exposed group were aged 16 to 39 years (592 385 [64.2%]). Males and females were equally distributed across income quartiles and predominantly single. Following PTEs, the most common diagnosis was substance use disorders for males (35 160 [7.4%]) and depressive disorders for females (29 255 [3.2%]); incidence proportions for these and other disorders were higher among males and females with any pretrauma psychopathology. Certain PTEs had elevated onset of various psychiatric disorders and some sex differences emerged. Following physical assault, associations were found with schizophrenia or psychotic disorders for males (SMR, 17.5; 95% CI, 15.9-19.3) and adult personality disorders for females (SMR, 16.3; 95% CI, 14.6-18.3). For noninterpersonal PTEs, males had larger SMRs for substance use, schizophrenia or psychotic disorders, and adult personality disorders (SMR, 43.4; 95% CI, 41.9-45.0), and females had larger SMRs for depressive disorders (SMR, 19.0; 95% CI, 18.6-19.4). Sex differences were also observed, particularly when considering pretrauma psychopathology. For example, among interpersonal PTEs, males were most likely to develop substance use disorders after physical assault, whereas females were more likely to develop various disorders, with stronger associations seen for females without pretrauma psychiatric diagnoses. Among noninterpersonal PTEs, exposure to toxic substance showed robust associations with psychopathology, particularly in those without pretrauma psychopathology, with sex-specific differences across psychiatric categories.

## Conclusions and Relevance

Mental disorders after trauma were wide-ranging for males and females, and sex differences in patterns of posttraumatic psychopathology were more pronounced when

accounting for pretrauma psychopathology. Findings provide new insights for sex-relevant PTEs and their mental health consequences. It also outlines future directions for advancing understanding of a constellation of posttraumatic psychopathology in males and females.

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<https://doi.org/10.1111/jmwh.13620>

## **The Impact of Military Trauma Exposures on Servicewomen's Pregnancy Outcomes: A Scoping Review.**

Manzo, L. L., Dindinger, R. A., Batten, J., Combellick, J. L., & Basile-Ibrahim, B.

Journal of Midwifery & Women's Health

First published: 21 February 2024

### Introduction

Active-duty servicewomen and veterans make up nearly 20% of the United States military and may experience trauma specific to military service. Military-specific trauma includes combat deployment and military sexual trauma, exposure to which may result in posttraumatic stress disorder (PTSD). The purpose of this scoping review is to examine the extent to which military trauma exposures impact the pregnancy outcomes of active-duty servicewomen and women veterans.

### Methods

A systematic search of OVID MEDLINE, OVID Embase, and OVID PsycINFO from inception to September 25, 2023, identified studies examining associations between military trauma exposures and perinatal outcomes. Of the 614 studies identified, 464 were reviewed for relevance, with 16 meeting inclusion criteria.

### Results

Of the 16 included studies, 14 found associations between military trauma exposure and adverse pregnancy outcomes including preterm birth, gestational diabetes, hypertensive disorders of pregnancy, low birth weight, and perinatal mood and anxiety disorders. The risks of adverse pregnancy outcomes increased with the severity of PTSD, the recency of combat deployment, and repetitive deployment.

### Discussion

This scoping review strengthens the link between trauma exposures and adverse

pregnancy outcomes for current and former military servicewomen. A gap in the literature persists regarding trauma exposure among active-duty servicewomen, which differs significantly from women veterans. As mental health conditions are the leading underlying cause of maternal mortality, standardized screening during the perinatal period for military-specific trauma exposures and PTSD is recommended for this population. Black servicewomen of junior enlisted rank carry disproportionate burdens of PTSD diagnosis and adverse pregnancy outcomes. Comprehensive prenatal and postpartum management may improve perinatal and neonatal outcomes for military servicewomen and provide an innovative approach to reducing existing racial disparities.

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<https://doi.org/10.1016/j.jpsychires.2024.01.032>

**A late-life neurogenetic signature of exposure to combat stress - A monozygotic discordant twin study.**

Beucke, J. C., Diez, I., Sepulcre, J., Mundorf, A., Kaufmann, C., Orr, S. P., Pitman, R. K., & Shin, L. M.

Journal of Psychiatric Research  
Volume 171, March 2024, Pages 230-237

Animal models suggest that experiencing high-stress levels induces changes in amygdalar circuitry and gene expression. In humans, combat exposure has been shown to alter amygdalar responsivity and connectivity, but abnormalities have been indicated to normalize at least partially upon the termination of stress exposure. In contrast, other evidence suggests that combat exposure continues to exert influence on exposed individuals well beyond deployment and homecoming, as indicated by longitudinal psychosocial evidence from veterans, and observation of greater health decline in veterans late in life. Accordingly, the experience of combat stress early in life may affect amygdalar responsivity late in life, a possibility requiring careful consideration of the confounding effects of aging, genetic factors, and symptoms of post-traumatic stress disorder. Here, we investigated amygdalar responsivity in a unique sample of 16 male monozygotic (MZ) twin pairs in their sixties, where one but not the other sibling had been exposed to combat stress in early adulthood. Forty years after combat experience, a generally blunted amygdalar response was observed in combat-exposed veterans compared to their non-exposed twin siblings. Spatial associations between these phenotypical changes and patterns of gene expression in the brain were found for

genes involved in the synaptic organization and chromatin structure. Protein-protein interactions among the set of identified genes pointed to histone modification mechanisms. We conclude that exposure to combat stress early in life continues to impact brain function beyond the termination of acute stress and appears to exert prolonged effects on amygdalar function later in life via neurogenetic mechanisms.

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<https://doi.org/10.1002/jts.23015>

### **Gender differences in mental health outcomes among Afghanistan veterans exposed to war zone trauma.**

Line Rønning, Andreas Espetvedt Nordstrand, Odin Hjemdal, Hans Jakob Bøe

Journal of Traumatic Stress

First published: 25 January 2024

Research has sought to identify whether women have an increased risk of developing mental health problems following military trauma compared to men, but the results are mixed. This study examined gender differences in a range of mental health outcomes within three levels of war zone trauma exposure and investigated gender differences in risk and protective factors associated with clinical mental health problems. Using data from a cross-sectional, postdeployment survey, a sample of Norwegian veterans of recent military operations in Afghanistan (N = 6,205, 8.3% women) were sorted according to reported war zone trauma exposure level (low, medium, high), then assessed for symptoms of posttraumatic stress disorder (PTSD), posttraumatic distress, anxiety, depression, insomnia, and alcohol problems. The findings revealed that men who reported low war zone exposure had lower levels of posttraumatic distress symptoms than women,  $d = -0.20$ ,  $p = .040$ , but were more likely to report symptoms of alcohol problems within the low,  $d = 0.33$ ,  $p < .001$ ; medium,  $d = 0.39$ ,  $p < .001$ ; and high,  $d = 0.37$ ,  $p = .049$ , exposure groups; however, these differences disappeared when all symptom variables were combined into one clinical mental health problem variable. Women with a clinical mental health problem were less likely to report war zone exposure than men, OR = 0.93, 95% CI [0.90, 0.97],  $p = .001$ . Findings suggest that although gender differences in mental health symptoms exist, male and female veterans with mental health problems may share more similarities than previously recognized.

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<https://doi.org/10.1016/j.psychres.2024.115757>

## **Genome-wide DNA methylation analysis of cannabis use disorder in a veteran cohort enriched for posttraumatic stress disorder.**

Melanie E. Garrett, Michelle F. Dennis, Kyle J. Bourassa, VA Mid-Atlantic MIRECC Workgroup, ... Allison E. Ashley-Koch

Psychiatry Research  
Volume 333, March 2024, 115757

### Highlights

- Four CpG sites were associated with cannabis use disorder in a cohort of veterans.
- Veterans with CUD and PTSD had significantly lower DNAm at two of these CpG sites.
- AHRR cg05575921 partially mediates the relationship between CUD and mood disorders.

### Abstract

Cannabis use has been increasing over the past decade, not only in the general US population, but particularly among military veterans. With this rise in use has come a concomitant increase in cannabis use disorder (CUD) among veterans. Here, we performed an epigenome-wide association study for lifetime CUD in an Iraq/Afghanistan era veteran cohort enriched for posttraumatic stress disorder (PTSD) comprising 2,310 total subjects (1,109 non-Hispanic black and 1,201 non-Hispanic white). We also investigated CUD interactions with current PTSD status and examined potential indirect effects of DNA methylation (DNAm) on the relationship between CUD and psychiatric diagnoses. Four CpGs were associated with lifetime CUD, even after controlling for the effects of current smoking (AHRR cg05575921, LINC00299 cg23079012, VWA7 cg22112841, and FAM70A cg08760398). Importantly, cg05575921, a CpG strongly linked to smoking, remained associated with lifetime CUD even when restricting the analysis to veterans who reported never smoking cigarettes. Moreover, CUD interacted with current PTSD to affect cg05575921 and cg23079012 such that those with both CUD and PTSD displayed significantly lower DNAm compared to the other groups. Finally, we provide preliminary evidence that AHRR cg05575921 helps explain the association between CUD and any psychiatric diagnoses, specifically mood disorders.

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<https://doi.org/10.1080/15332640.2024.2302312>

**Cannabis approval and perceived risk of use among minority U.S. Army Reservists.**

Jessica A. Kulak, Joel Lopez, Schuyler C. Lawson, Mehreen Arif, D. Lynn Homish & Gregory G. Homish

This study examined how minoritized U.S. Army Reserve/National Guard service members perceive cannabis use amid a continuously evolving societal and legal landscape in the United States. Logistic regression analyses were conducted to examine relationships between cannabis perceptions and race while considering illicit drug use norms, posttraumatic stress disorder symptomatology, and current drug use. Non-Hispanic Black soldiers had lower odds of approval for medicinal cannabis use and Hispanic soldiers had higher odds of perceived risk of cannabis use, both of which persisted when considering key covariates. These findings may be partly explained by a confluence of societal and cultural factors.

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<https://doi.org/10.3390/brainsci14020129>

**A Narrative Commentary on the Use of a Rational Emotive Behavior Therapy-Informed Group to Address Irrational Beliefs, Posttraumatic Stress Disorder, and Comorbidities.**

Grove AB, Green BA, Kaye SM, Sheerin CM

Brain Sciences  
2024; 14(2):v129

Irrational beliefs of Demandingness, Catastrophizing, Low Frustration Tolerance, and Depreciation have demonstrated prevalence in disparate areas of life, including psychopathology, the military, politics, religion, and education. Individuals with mental health concerns, such as Post-Traumatic Stress Disorder (PTSD), endorse elevations in such thoughts compared to the general population. This commentary describes the rationale for focusing on irrational beliefs in efforts to address PTSD and presents the Rational Emotive Behavior Therapy (REBT)-Informed Group for PTSD as a potential



novel application of a well-established intervention. In support of these suggestions, we present a narrative review of the published work on irrational beliefs and REBT tenets as relevant for PTSD. We then introduce and describe the REBT-Informed Group intervention, summarize the prior preliminary research conducted by our group, and present some novel data from a re-analysis of this prior work. We end with commentary related to future directions of REBT approaches for PTSD to address limitations and expand the impact of the treatment to military and other Veteran or civilian populations.

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<https://doi.org/10.1037/pro0000545>

**Pilot randomized, crossover trial of prolonged exposure with and without the PE Coach mobile application: A mixed-methods study of patient-centered outcomes among veterans with PTSD.**

Reger, G. M., Stevens, E. S., Reisinger, H. S., Norr, A. M., Buck, B., & Zoellner, L.

Professional Psychology: Research and Practice  
Advance online publication

Prolonged exposure (PE) Coach is a mobile application designed to support the tasks of PE psychotherapy for posttraumatic stress disorder (PTSD). However, little is known about patient treatment preferences for the application nor its impact on clinically salient outcomes. Veterans with PTSD ( $N = 20$ ) were randomly assigned to use PE Coach during three-session blocks of treatment (either Sessions 1–3 or 4–6). After Session 6, veterans were asked to choose whether they wanted to continue treatment with or without the app. Homework was monitored, and veterans were surveyed on their treatment experience following each three-session block. Qualitative interviews explored reasons for treatment preference. Thirteen of 14 veterans (92.8%) chose to finish treatment with PE Coach. Veterans reported improved clinical experiences during PE Coach use, including increased convenience completing homework tasks (Hedge's  $g = 1.37$ ) and higher treatment satisfaction (Hedge's  $g = 0.63$ ). PE Coach usability was highly rated. Adequate homework thresholds for maximizing clinical outcomes were achieved more frequently during use of PE Coach than without the app (69% vs. 50% for imaginal exposure; 88% vs. 65% for in vivo homework). Qualitative interviews highlighted ease of use and improved accessibility, privacy, and homework accountability. This pilot study suggests PE Coach may be some veterans' preferred way to participate in PE and is a promising tool to enhance acceptability, accountability,



and engagement in PTSD treatment. (PsycInfo Database Record (c) 2024 APA, all rights reserved)

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<https://doi.org/10.1080/15402002.2023.2299675>

## **Sleep Apnea Among Gulf War Veterans: An Examination of VA Utilization Rates, Treatment Initiation, and Health Outcomes.**

Scott G. Ravyts, Yasmine M. Eshera, Sarah C. Griffin, Tate Halverson, Jeremy L. Grovec Department of Psychiatry and Behavioral Sciences, Jean C. Beckham, Mary J. Pugh, Nathan A. Kimbrel & Patrick S. Calhoun

Behavioral Sleep Medicine  
Published online: 29 Dec 2023

### Objectives

Obstructive sleep apnea (OSA) among veterans is frequently underdiagnosed and undertreated. The present study sought to: 1) characterize the prevalence and rate of treatment of OSA among VA users and non-users and 2) examine the associations between diagnosed or probable OSA and key physical and mental health outcomes.

### Methods

Gulf-War I-era Veterans were recruited as part of a national survey assessing mental and physical health concerns, healthcare needs, and healthcare utilization. OSA diagnoses were self-reported while sleep apnea risk was assessed via the STOP-Bang. Veterans also completed questionnaires assessing overall health, pain, depression, PTSD, and psychosocial functioning.

### Results

1,153 veterans were included in the present analyses (Mean age = 58.81; 21.84% female). Compared to non-VA healthcare users, veterans receiving care at the VA were more likely to have been diagnosed with OSA ( $p < .001$ ) and report receiving treatment for OSA ( $p = .005$ ). Compared to veterans at low risk for OSA, veterans at elevated risk reported higher levels of pain ( $p = .001$ ), depression ( $p = .02$ ), and poorer psychosocial functioning ( $p < .001$ ).

### Conclusions

OSA diagnoses appear to be more common among VA healthcare users. Findings

suggest that OSA remains underdiagnosed and associated with important physical and mental health consequences. Additional screening for OSA, especially among non-VA clinics, is warranted.

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<https://doi.org/10.1080/01639625.2023.2299690>

## **We are All Green: Do Military Experiences and Involvement in the Criminal Justice System Vary Across Race and Ethnicity Among Incarcerated Veterans?**

Jennifer H. Peck & Erika J. Brooke

Deviant Behavior

Published online: 29 Dec 2023

Although participation in the military impacts the lives of all who serve, little research has examined how specific military experiences and criminal justice outcomes vary for veterans of color compared to Whites. The present study examines the relationship between service elements and criminal justice involvement for incarcerated veterans of different racial/ethnic backgrounds. We examine how multiple service experiences (e.g. age of entry, length of service, discharge status, etc.) are associated with arrest frequencies and types of offenses among White, Black, and Hispanic U.S. incarcerated male veterans. Using data from a nationally representative sample of individuals incarcerated in state prisons, results demonstrate that race/ethnicity was not directly related to criminal justice outcomes, but different forms of military experiences were associated with involvement in the system uniquely across racial/ethnic groups. The findings provide greater insight into the connection between military service and police/court outcomes for veterans who are justice-involved.

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<https://doi.org/10.1177/15248380231218288>

## **Gender Minority Stress and Resilience Measure: A Meta-Analysis of the Associations with Mental Health in Transgender and Gender Diverse Individuals.**

Wilson, L. C., Newins, A. R., Kassing, F., & Casanova, T.

Trauma, Violence, & Abuse

First published online December 30, 2023

Transgender and gender diverse (TGD) individuals are more likely to experience mental health difficulties than cisgender individuals due to unique stressors related to their stigmatized gender identity and/or expression. This meta-analysis examined the associations between gender minority stressors and resilience factors, as measured by the Gender Minority Stress and Resilience Measure (GMSR; Testa et al., 2015), and two types of mental health symptoms (i.e., depression and anxiety). A comprehensive literature search and study inclusion process following PRISMA guidelines identified 69 sources, representing 47 unique samples. Mean effect sizes revealed significant positive associations between all GMSR minority stress subscales and anxiety and depression symptoms ( $r_s = .22$  to  $.40$ ) with larger correlations for proximal stressors compared to distal stressors. The GMSR resilience subscales were significantly negatively correlated with anxiety and depression symptoms ( $r_s = -.07$  to  $-.16$ ). These findings highlight the robust relationship between gender minority stressors and mental health symptoms among TGD individuals and indicate a need for addressing these stressors both by reducing exposure to external stressors and by addressing the internalization of those stressors in clinical settings. The small effects for the resilience subscales suggest a need to examine additional resilience factors that may be more pertinent to mental health among TGD individuals.

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### **Associations of Chronic Pain With Psychosocial Outcomes After Traumatic Brain Injury: A NIDILRR and VA TBI Model Systems Collaborative Project.**

Hanks, Robin PhD; Ketchum, Jessica M. PhD; Peckham, Mackenzie BS; Sevigny, Mitch MS; Sander, Angelle M. PhD; Martin, Aaron M. PhD; Agtarap, Stephanie PhD; Beaulieu, Cynthia L. PhD; Callender, Librada MPH; Hammond, Flora M. MD; Lengenfelder, Jean PhD; Rabinowitz, Amanda R. PhD; Walker, William C. MD; Hoffman, Jeanne M. PhD; Harrison-Felix, Cynthia PhD; Nakase-Richardson, Risa PhD

Journal of Head Trauma Rehabilitation  
39(1): p 18-30, January/February 2024

Objective:

To examine the differences in participation, life satisfaction, and psychosocial outcomes

among individuals with traumatic brain injury (TBI) endorsing current, past, or no chronic pain.

Setting:

Community.

Participants:

Three thousand eight hundred four TBI Model Systems participants 1 to 30 years of age postinjury classified into 1 of 3 groups based on their pain experience: current pain, past pain, no pain completed a Pain Survey at their usual follow-up appointment which on average was approximately 8 years postinjury.

Design:

Multisite, cross-sectional observational cohort study.

Main Outcome Measure(s):

Sociodemographic and injury characteristics and psychosocial outcomes (ie, satisfaction with life, depression, anxiety, posttraumatic stress disorder [PTSD], sleep quality, community participation).

Results:

Persons with current chronic pain demonstrated higher scores on measures of PTSD, anxiety, and depression, and the lower scores on measures of sleep quality, community participation and satisfaction with life. Those with resolved past pain had mean scores for these outcomes that were all between the current and no chronic pain groups, but always closest to the no pain group. After adjusting for sociodemographic and function in multivariate analysis, having current chronic pain was associated with more negative psychosocial outcomes. The largest effect sizes (ES; in absolute value) were observed for the PTSD, depression, anxiety, and sleep quality measures (ES = 0.52-0.81) when comparing current pain to past or no pain, smaller ES were observed for life satisfaction (ES = 0.22-0.37) and out and about participation (ES = 0.16-0.18). When comparing past and no pain groups, adjusted ES were generally small for life satisfaction, PTSD, depression, anxiety, and sleep quality (ES = 0.10-0.23) and minimal for participation outcomes (ES = 0.02-0.06).

Conclusions:

Chronic pain is prevalent among individuals with TBI and is associated with poorer psychosocial outcomes, especially for PTSD, depression, anxiety, and sleep disturbance. The results from this study highlight the presence of modifiable

comorbidities among those with chronic pain and TBI. Persons who experience persistent pain following TBI may be at greater risk for worse psychosocial outcomes.

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<https://www.doi.org/10.1097/HTR.0000000000000925>

**The Interaction of Opiate Misuse and Marijuana Use on Behavioral Health Outcomes Using the Traumatic Brain Injury Model Systems Pain Collaborative Dataset.**

Callender, Librada MPH; Lai, Tony DO; Driver, Simon PhD; Ketchum, Jessica M. PhD; Ochoa, Christa MPH; Corrigan, John D. PhD; Hammond, Flora M. MD; Harrison-Felix, Cindy PhD; Martin, Aaron M. PhD; Rabinowitz, Amanda R. PhD; Starosta, Amy J. PhD; Dubiel, Randi DO

Journal of Head Trauma Rehabilitation  
39(1): p 82-93, January/February 2024

**Objective:**

To determine if the interaction of opiate misuse and marijuana use frequency is associated with behavioral health outcomes.

**Setting:**

Community.

**Participants:**

Three thousand seven hundred fifty participants enrolled in the Traumatic Brain Injury Model Systems who completed the Pain Survey and had complete opioid use and marijuana use information.

**Design:**

Cross-sectional, secondary analysis from a multisite observational cohort.

**Main Outcome Measure(s):**

Clinically significant behavioral health symptoms for posttraumatic stress disorder (PTSD), depression, anxiety, and sleep quality.

**Results:**

Three thousand five hundred thirty-five (94.3%) participants did not misuse opiates, 215

(5.7%) did misuse opiates (taking more opioid pain medication than prescribed and/or using nonprescription opioid pain medication); 2683 (70.5%) participants did not use marijuana, 353 (9.3%) occasionally used marijuana (less than once a week), and 714 (18.8%) regularly used marijuana (once a week or more frequently). There was a statistically significant relationship ( $P < .05$ ) between the interaction of opiate misuse and marijuana use frequency and all behavioral health outcomes and several covariates (age, sex, cause of injury, severity of injury, and pain group category). Pairwise comparisons confirm that statistically significant associations on behavioral health outcomes are driven by endorsing opiate misuse and/or regular marijuana use, but occasional marijuana use was not associated.

#### Conclusions:

Higher odds of clinically significant PTSD, depression, anxiety, and poor sleep quality are present in people with traumatic brain injury (TBI) who misuse opiates and/or who use marijuana regularly. In the absence of opiate misuse, regular marijuana use had higher odds of worse behavioral health outcomes than occasional and no use. The interaction of opiate misuse and regular marijuana use yielded the highest odds. Individuals with TBI should be informed of the relationship of substance use and behavioral health outcomes and that current chronic pain may mediate the association.

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<https://doi.org/10.1111/jsr.14133>

### **A systematic review and meta-analysis on the efficacy of sleep interventions to treat suicidal ideation.**

Annabelle M. Mournet, Evan M. Kleiman

Journal of Sleep Research

First published: 02 January 2024

Researchers at the intersection of sleep and suicide research have advocated for investigation of sleep disturbances as a therapeutic target for the purposes of treating and preventing suicide. This study aims to provide the first systematic review and meta-analysis on the efficacy of sleep interventions to treat suicidal ideation. This systematic review and meta-analysis, registered with the International Prospective Register of Systematic Reviews, was conducted in PsycINFO, through Ovid. A sample of eight articles were deemed eligible and a total of 21 effect sizes were included. Egger's test suggested that no publication bias was present ( $b = 0.3695$ ;  $p = 0.0852$ ). The pooled

effect size for sleep treatments on suicidal ideation was small ( $g = -0.0931$ ,  $p = 0.3047$ ). Significant heterogeneity was present ( $I^2 = 44.13\%$ ), indicating the need for moderator analyses. Treatment type (medication versus psychotherapy;  $g = -0.2487$ ,  $p = 0.3368$ ), sex ( $g = -0.0007$ ;  $p = 0.9263$ ), and race ( $g = -0.0081$ ;  $p = 0.1624$ ) were all considered as moderators and were all found to be insignificant. This meta-analysis revealed that initial studies exploring the efficacy of sleep interventions on suicidal ideation demonstrate small effect sizes. Despite this, the handful of studies included in this review nonetheless highlight this as an important area for continued exploration. The use of larger and more diverse samples, as well as intentionally designing sleep-related interventions to improve ideation and behaviour, have the potential to enhance the efficacy of sleep interventions for this novel purpose.

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<https://doi.org/10.1080/21501378.2023.2257236>

### **Needs Assessment of Surviving Military Families: Clinical Symptoms and the Parent-Child Relationship.**

Elizabeth E. Burgin, Elizabeth A. Prosek, Kahyen Shin, Victoria L. Cunningham & Warren N. Ponder

Counseling Outcome Research and Evaluation  
Volume 15, 2024 - Issue 1

There is limited empirical data to account for the mental health and parent-child relationship outcomes among bereaved military families. The implementation of appropriate programs and mental health interventions depends on the study of relevant demographic and mental health constructs. We report the findings of a needs assessment conducted at a nonprofit organization serving bereaved military families, inclusive of 64 families, with adolescent children ( $M = 15.04$  years,  $SD = 5.01$ ), who experienced service member loss due to combat (37.5%), suicide (15.6%), homicide or terrorism (10.9%), unintentional self-harm ( $n = 4.7\%$ ), accident (4.7%), or another circumstance (1.6%). Our results align with previous researchers' findings that surviving military families are at greater risk for problematic grief outcomes, whereby generalized anxiety ( $t = -3.83$ ,  $p = .003$ ,  $d = -0.957$ ) and depressive symptoms ( $t = -4.28$ ,  $p = .003$ ,  $d = -1.07$ ) demonstrate significant differences among complicated and non-complicated grievers. We also found elevated levels of parenting stress. These findings inform recommendations for assessment, program development, and future research for mental health service providers.

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<https://doi.org/10.1177/08862605231165764>

## **The Role of Unit and Interpersonal Support in Military Sexual Trauma and Posttraumatic Stress Disorder Symptoms.**

Webermann, A. R., Relyea, M. R., Portnoy, G. A., Martino, S., Brandt, C. A., & Haskell, S. G.

Journal of Interpersonal Violence  
(2023) Volume 38, Issue 15/16, 9514-9535

Military sexual trauma (MST) is strongly associated with posttraumatic stress disorder (PTSD). Among many potential factors explaining this association are unit and interpersonal support, which have been explored in few studies with veterans who have experienced MST. This project examines unit and interpersonal support as moderators and/or mediators of PTSD symptoms among post-9/11 Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn veterans who experienced MST. MST, unit support, and interpersonal support variables were collected at Time 1 (T1; N = 1,150, 51.4% women), and PTSD symptoms 1 year later at Time 2 (T2; N = 825; 52.3% women). Given gender differences in endorsed MST, models with the full sample (men and women) and women only were examined, while controlling for covariates related to PTSD, and a path model was examined among women veterans. Mediation was supported in the full model and women-only models, with the combination of both mediators demonstrating the strongest mediation effects (full-model:  $\beta = .06$ , 95% confidence interval [CI] [0.03, 0.10],  $p < .001$ ; women-only model:  $\beta = .07$ , [0.03, 0.14],  $p = .002$ ). Among the women-only model, MST was negatively associated with unit support ( $\beta = -.23$ , [-0.33, -0.13],  $p < .001$ ) and interpersonal support ( $\beta = -.16$ , [-0.27, -0.06],  $p = .002$ ) and both support types were negatively associated with PTSD symptoms (unit support:  $\beta = -.13$ , [-0.24, -0.03],  $p = .014$ ; interpersonal support:  $\beta = -.25$ , [-0.35, -0.15],  $p < .001$ ). Moderation was not supported in the full model nor in the women-only model. Experiencing MST is associated with receiving less unit and/or interpersonal support, which in turn is associated with greater PTSD symptoms. More work is needed to understand and improve the impact of unit and community responses to MST on service members who experience MST.

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<https://doi.org/10.1037/str0000319>

**Morally injurious events and depression: Examining the role of rumination among combat-deployed military veterans in the community.**

International Journal of Stress Management  
12/31/2024

While depression remains a common psychological disorder among combat military veterans, there is a need to investigate factors that relate to the development and maintenance of this disorder. Potentially morally injurious events (PMIEs), perceived transgressions against one's moral code, are associated with depression. This relationship may be influenced by the level of engagement in brooding rumination. Therefore, the present study sought to examine the moderating role of rumination in the association between PMIEs and depression. Two hundred three participants were included in the study (77.7% male, 72.2% White), with a mean age of 35.08 years (SD = 8.09). Findings indicated that the association between PMIEs and depression was stronger at higher levels of rumination, suggesting that military veterans who are exposed to PMIEs and engage in more repetitive thoughts centered around negative emotions are at a higher risk for experiencing more severe depression symptoms. (PsycInfo Database Record (c) 2024 APA, all rights reserved)

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<https://doi.org/10.2147/PRBM.S447096>

**Negative Coping Styles, Psychological Resilience, and Positive Coping Styles in Military Personnel: A Cross-Lagged Analysis.**

Mingxuan Zou, Bin Liu, Jing Ji, Lei Ren, Xiuchao Wang & Fengzhan Li

Psychology Research and Behavior Management  
Volume 17, 2024

Background

Military personnel experience prolonged exposure to high-stress environments. Positive coping styles can assist in maintaining their mental and behavioral well-being, whereas negative coping styles cannot. Health behavior change theory specifies that an individual can transition from a negative to a positive coping style. The psychological resilience concept may prove vital in this transition.

## Methods

In a longitudinal study design, two questionnaires were administered to 233 military personnel twice, the first at T1 in April 2023 and the second at T2 in July 2023. The questionnaire measured individual negative coping style, positive coping style and psychological resilience.

## Results

The data showed that the negative coping style at T1 negatively predicted the level of psychological resilience at T2 ( $\gamma = -0.26$ ,  $p < 0.001$ ) and the positive coping style at T2 ( $\gamma = -0.16$ ,  $p < 0.001$ ). The level of psychological resilience at T1 positively predicted the positive coping style at T2 ( $\gamma = 0.22$ ,  $p < 0.01$ ). Psychological resilience played a mediating role between negative coping style and positive coping style. In addition, there was an interaction between psychological resilience and positive coping style in military personnel at the two time points.

## Conclusion

The negative coping styles that presently exist among military personnel have the potential to diminish their future positive coping styles by lowering their psychological resilience. This highlights the need to focus on the development and training of psychological resilience for military personnel, as it can effectively counteract negative coping styles and promote positive coping styles.

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## Links of Interest

How to get ready for therapy: Whatever brings you to a therapist's office, taking these proactive steps as you begin can help you make the most of it

<https://psyche.co/guides/how-to-get-ready-for-therapy-and-achieve-better-progress>

Licensure Portability for Military Families (Commentary)

<https://academic.oup.com/milmed/advance-article/doi/10.1093/milmed/usad487/7502680>

From Patients to Students: How the Intrepid Spirit Center in Fort Belvoir is Transforming Traumatic Brain Injury and Post-traumatic Stress Disorder Treatments

<https://health.mil/News/Dvids-Articles/2024/02/15/news463989>

What to do if a Veteran you served with is talking about suicide

<https://news.va.gov/128741/what-to-do-if-veteran-is-talking-about-suicide/>

How human trafficking is hitting homeless Veterans

<https://news.va.gov/128586/how-human-trafficking-hitting-homeless-veterans/>

More Than 40 Percent of Americans Know Someone Who Died of Drug Overdose; 13 Percent Say Deaths Have Disrupted Their Lives

<https://www.rand.org/news/press/2024/02/21.html>

- [An Overlooked Emergency: More Than One in Eight US Adults Have Had Their Lives Disrupted by Drug Overdose Deaths](#)

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**Resource of the Week** – [Meeting the Changing Needs of Veterans: Insights from Student Veterans Who Are Single Parents](#)

New, from the RAND Corporation:

Who Are Veteran Single Parents and Student Veteran Single Parents?

For the first part of the study, the research team analyzed quantitative data from various sources to create a picture of veteran single parents' backgrounds, challenges, and interest in education.

Almost 300,000 veteran parents identify as single. Between 2016 and 2018, there were more than 2.5 million veterans between the ages of 18 and 59 who identified as a parent of a child under 18 years of age. Of those 2.5 million veterans, about 12 percent (294,677 veterans) identified as a single parent. For comparison, nearly 11 million nonveterans, or about 18 percent of nonveteran parents, identified as a single parent during the same span of time.

Veteran single parents are three times more likely than veteran coupled parents to identify as female and two times more likely than veteran coupled parents to identify as Black. Of veteran single parents, 42.8 percent identified as female, compared with only 13.9 percent of veteran coupled parents. Demographic data also showed that 24.0 percent of veteran single parents identified as Black, compared with only 11.9 percent of veteran coupled parents.

Veteran single parents have a median personal income that is \$18,000 less than that of veteran coupled parents. Median personal income of veteran single parents was \$42,000, compared with that of veteran coupled parents, which was \$60,000. In addition, median household income of veteran coupled parents was \$102,000, which is significantly greater than that of veteran single parents, which was \$58,580. Veteran single parents were also more likely than veteran coupled parents to experience food insecurity and less likely than veteran coupled parents to own a home.

Veteran single parents are more likely than veteran coupled parents to be enrolled in higher education. Among veteran single parents, 13.1 percent reported being enrolled in higher education, compared with 10.7 percent of veteran coupled parents. In addition, veteran single parents were more likely than veteran coupled parents to be both currently employed and enrolled in school (8.7 percent versus 7.9 percent, respectively).

Black female veteran single parents are more likely than veteran single parents of any other race and gender intersection to be enrolled in higher education. Female veteran single parents were more than twice as likely as their male counterparts to be enrolled in higher education (19.1 percent versus 8.6 percent, respectively). Analysis of race and gender intersections shows that Black female veteran single parents were most likely to be enrolled in higher education (24.1 percent), followed by 20.1 percent of Hispanic female veteran single parents, 17.8 percent of Other Race female veteran single parents, and 15.2 percent of White female veteran single parents.



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