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Research Update -- August 5, 2021

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Systematic Review of the Military Career Impact of Mental Health Evaluation and Treatment.

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Introduction
Military leaders are concerned that active duty members' fear of career impact deters mental health (MH) treatment-seeking. To coalesce research on the actual and perceived consequences of MH treatment on service members' careers, this systematic review of literature on the U.S. Military since 2000 has been investigating the following three research questions: (1) is the manner in which U.S. active duty military members seek MH treatment associated with career-affecting recommendations from providers? (2) Does MH treatment-seeking in U.S. active duty military members impact military careers, compared with not seeking treatment? (3) Do U.S. active duty military members perceive that seeking MH treatment is associated with negative career impacts?

Materials and Methods
A search of academic databases for keywords "military 'career impact' 'mental health'" resulted in 653 studies, and an additional 51 additional studies were identified through other sources; 61 full-text articles were assessed for eligibility. A supplemental search in Medline, PsycInfo, and Google Scholar replacing "career impact" with "stigma" was also conducted; 54 articles (comprising 61 studies) met the inclusion criteria.

Results
As stipulated by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines, studies were summarized on the population studied (U.S. Military Service[s]), sample used, intervention type, comparison group employed, outcome variables, and findings. Self-referred, compared with command-directed, service members appear to be less likely to face career-affecting provider recommendations in non-deployed and deployed settings although the data for the latter are not consistent. Of the two studies that tested if MH treatment actually negatively impacts military careers, results showed that those who sought treatment were more likely to be discharged although the casual nature of this relationship cannot be inferred from their

design. Last, over one-third of all non-deployed service members, and over half of those who screened positive for psychiatric problems, believe that seeking MH treatments will harm their careers.

Conclusions

Despite considerable efforts to destigmatize MH treatment-seeking, a substantial proportion of service members believe that seeking help will negatively impact their careers. On one hand, these perceptions are somewhat backed by reality, as seeking MH treatment is associated with a higher likelihood of being involuntarily discharged. On the other hand, correlational designs cannot establish causality. Variables that increase both treatment-seeking and discharge could include (1) adverse childhood experiences; (2) elevated psychological problems (including both [a] the often-screened depression, anxiety, and posttraumatic stress problems and [b] problems that can interfere with military service: personality disorders, psychotic disorders, and bipolar disorder, among others); (3) a history of aggressive or behavioral problems; and (4) alcohol use and abuse. In addition, most referrals are self-directed and do not result in any career-affecting provider recommendations. In conclusion, the essential question of this research area—"Does seeking MH treatment, compared with not seeking treatment, cause career harm?"—has not been addressed scientifically. At a minimum, longitudinal studies before treatment initiation are required, with multiple data collection waves comprising symptom measurement, treatment, and other services obtained, and a content-valid measure of career impact.

Drinking patterns of post-deployment Veterans: The role of personality, negative urgency, and posttraumatic stress.

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Rates of posttraumatic stress disorder (PTSD) and alcohol misuse are known to be high among postdeployment Veterans. Previous research has found that personality factors may be relevant predictors of postdeployment drinking, yet results have been

inconsistent and may be influenced by the selection of drinking outcome. This study aimed to examine relations among PTSD, negative urgency, and the five factor models of personality with multiple alcohol consumption patterns, including maximum drinks in a day, number of binge drinking episodes, at-risk drinking, and average weekly drinks in a sample of 397 Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn Veterans. The pattern of results suggested that the association among personality, PTSD, and drinking may depend on which drinking outcome is selected. For example, maximum drinks in a day was significantly associated with younger age, male gender, low agreeableness, and an interaction between negative urgency and PTSD, whereas number of binge drinking days was significantly associated with younger age, extraversion, low agreeableness, and negative urgency. This study highlights the heterogeneity of drinking patterns among Veterans and the need for careful consideration and transparency of outcomes selection in alcohol research.

The Impact of COVID-19 on Psychotherapy Participation Among Individuals With Posttraumatic Stress Disorder Enrolled in Treatment Research.

Carmen P. McLean, Sudie E. Back, Christy Capone, Leslie Morland, Sonya B. Norman, Sheila A. M. Rauch, Paula P. Schnurr, Ellen Teng, Ron Acierno

The onset of the COVID-19 pandemic disrupted many aspects of daily life and required a rapid and unprecedented shift in psychotherapy delivery from in-person to telemental health. In the present study, we explored the impact of the pandemic on individuals' ability to participate in posttraumatic stress disorder (PTSD) psychotherapy and the association between the impact of COVID-19 impact on health and financial well-being and psychotherapy participation. Participants (N = 161, 63.2% male, Mage = 42.7 years) were United States military veterans (n = 108), active duty military personnel (n = 12), and civilians (n = 6), who were participating in one of nine PTSD treatment trials. The results indicate a predominately negative COVID-19 impact on therapy participation, although some participants (26.1%) found attending therapy sessions through telehealth to be easier than in-person therapy. Most participants (66.7%) reported that completing in vivo exposure homework became harder during the pandemic. Moreover, the impact of the pandemic on PTSD symptom severity and daily

stress were each associated with increased difficulty with aspects of therapy participation. The findings highlight the unique challenges to engaging in PTSD treatment during the pandemic as well as a negative impact on daily stress and PTSD severity, both of which were related to treatment engagement difficulties.

Shame as a Mediator in the Association Between Emotion Dysregulation and Posttraumatic Stress Disorder Symptom Reductions Among Combat Veterans in a Residential Treatment Program.

Alexander Puhalla, Aidan Flynn, Amanda Vaught

Emotion dysregulation (ED) can be defined as one's inability to effectively respond to and manage internal experiences and the expression of emotion. ED has been linked to the development and maintenance of posttraumatic stress disorder (PTSD), with recent research suggesting that reductions in ED may predict improved treatment outcomes among both civilian and veteran populations. However, few studies have examined how changes in ED may predict treatment outcomes among veterans with PTSD and whether certain core features of PTSD, such as shame, may act as potential mediators in the association between ED and PTSD symptom reductions. The present study sought to explore facets of ED, feelings of shame, and PTSD symptoms among 43 combat veterans upon their admission and discharge to a residential PTSD program. The results demonstrated that all variables of interest significantly decreased from admission to discharge, $ds = 0.75–1.84$. Correlations indicated that reductions in ED, $R^2 = .184$, and shame, $R^2 = .228$, were associated with reductions in PTSD symptoms. However, the association between reductions in ED and PTSD was significantly mediated by reductions in shame. Overall, these results suggest that higher levels of emotion regulation may partially affect PTSD symptoms through reductions in shame. This may explain the efficacy of frontline PTSD treatments, as they explicitly focus on the processing of one's traumatic experience by reducing PTSD symptoms through regulation techniques that target emotional–behavioral cycles, which may include the shame–withdraw cycle.

Posttraumatic Stress Disorder Symptoms and Coping Motives are Independently Associated with Cannabis Craving Elicited by Trauma Cues.

Kyra N. Farrelly, Pablo Romero-Sanchiz, Tiberiu Mahu, Sean P. Barrett, Pamela Collins, Daniel Rasic, Sherry H. Stewart

Cannabis use is common among individuals with posttraumatic stress disorder (PTSD), although its use can ultimately worsen PTSD outcomes. Cannabis-use coping motives may help explain the PTSD–cannabis relationship. Frequent pairing of trauma cues with substance use to cope with negative affect can lead to conditioned substance craving. For the present cue-reactivity study, we examined if PTSD symptoms were associated with cannabis craving elicited by a personalized trauma cue and explored whether coping motives mediated this hypothesized relationship; enhancement motives were included as a comparison mediator. Participants (N = 51) were trauma-exposed cannabis users who completed validated assessments on PTSD symptom severity and cannabis use motives. They were then exposed to a personalized audiovisual cue based on their own traumatic experience after which they responded to questions on a standardized measure regarding their cannabis craving. The results demonstrated that PTSD symptoms were associated with increased cannabis craving following trauma cue exposure, B = 0.43, p = .004, 95% CI [0.14, 0.72]. However, the results did not support our hypothesis of an indirect effect through general coping motives, indirect effect = .03, SE = .08, 95% CI [−.10, .21]. We found an independent main effect of general coping motives on trauma cue–elicited cannabis craving, B = 1.86, p = .002, 95% CI [0.72, 3.01]. These findings have important clinical implications suggesting that clinicians should target both PTSD symptoms and general coping motives to prevent the development of conditioned cannabis craving to trauma reminders in trauma-exposed cannabis users.

Temporal sequences of suicidal and nonsuicidal self-injurious thoughts and behaviors among inpatient and community-residing military veterans.

JC Kearns, SL Brown, I Cero, KR Gorman, MK Nock, TM Keane, BP Marx

Highlights
- Suicidal and nonsuicidal self-injurious thoughts and behaviors (SITBs) are common among military veterans.
- SITBs emerged between ages 14-28 among veterans admitted to inpatient psychiatry and community-residing veterans.
- Veterans with a history of non-suicidal self-injury are a high risk for suicidal SITBs and have a shorter survival time.
- Nonsuicidal and suicidal thoughts emerged before nonsuicidal self-injury and suicidal behavior.

Abstract

Background

Suicidal and nonsuicidal self-injurious thoughts and behaviors (SITBs) are major health concerns among military veterans yet little is known about the temporal relations among these outcomes. This study examined the temporal relations between suicidal and nonsuicidal SITBs among higher-risk veterans. Specifically, we identified when SITBs emerged and evaluated the role of nonsuicidal self-injury (NSSI) in the medical lethality of suicide attempts (SA), relative risk, and survival time of suicidal SITBs (i.e., suicide ideation [SI], suicide plan, SA).

Method

Cross-sectional data were collected from two samples examining suicide risk among veterans receiving inpatient psychiatric care (n = 157) and community-residing veterans with current depression and/or past month SI (n = 200). Participants completed an interview to assess SITBs.

Results

SITBs emerged between ages 14-28 years with behaviors emerging, on average, earlier among inpatient veterans. The time lag between SITBs was not significantly different between groups. Inpatient veterans had a significantly shorter time lag from SI to SA. NSSI history predicted an increase in relative risk for all suicidal SITBs and shorter survival time. There was no association between NSSI history and medical lethality of the most serious SA for both groups.

Limitations
Limitations included use of cross-sectional, retrospective self-report with age-of-onset endorsed in years and not all SITBs were assessed (e.g., passive SI).

Conclusions
Veterans with a NSSI history are at high risk for suicidal SITBs and have a shorter survival time. Results showed thoughts (i.e., NSSI thoughts, SI) emerged before behavior (i.e., NSSI, SA) and NSSI emerged before SA.

Eating disorder measures in a sample of military veterans: A focus on gender, age, and race/ethnicity.

Mitchell, K. S., Masheb, R., Smith, B. N., Kehle-Forbes, S., Hardin, S., & Vogt, D.

Early detection of eating disorders (EDs) is crucial for both prevention and treatment; however, few ED measures have been validated among older adults, men, and racially/ethnically diverse individuals, who may have varying symptom presentations. We examined the psychometric quality of three self-report ED measures within a diverse sample of U.S. military veterans, a population that may have elevated rates of EDs. Participants (N = 1,187) completed the Eating Disorder Diagnostic Scale-5 (EDDS-5), the Eating Disorder Examination-Questionnaire (EDE-Q), the SCOFF (Sick, Control, One, Fat, and Food) questionnaire, and measures of associated mental health symptoms. We examined proportions of probable EDs and reliability estimates, associations among ED measures, and their relationship with mental health measures for the sample as a whole and based on age, gender, and race/ethnicity. Proportions of probable EDs ranged from 9.9% to 27.7% and were comparable for White, Black, and Latinx participants. Participants aged 40–49 had significantly higher proportions of EDs compared to other age groups, whereas participants aged ≥60 had significantly lower proportions of EDs. Participants with obesity had significantly higher proportions of probable EDs compared to participants with healthy weight or overweight. There was fair to moderate agreement between the ED measures, with varying evidence for psychometric quality across demographic subsamples. Overall, the EDDS-5 performed best in this sample and yielded estimates of probable EDs consistent with expectations.

These data add to the growing body of literature on the assessment of EDs and provide insight into measures that may be most useful in research and intervention efforts.

Physical sleeping environment is related to insomnia risk and measures of readiness in US army special operations soldiers.

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Background
US military service members have characteristically poor sleep, even when 'in garrison' or at one's home base. The physical sleeping environment, which is often poor in military-provided housing or barracks, may contribute to poor sleep quality in soldiers. The current study aimed to assess whether the sleeping environment in garrison is related to sleep quality, insomnia risk and military readiness.

Methods
Seventy-four US army special operations soldiers participated in a cross-sectional study. Soldiers were queried on their sleeping surface comfort and the frequency of being awakened at night by excess light, abnormal temperatures and noise. Subjective sleep quality and insomnia symptoms were also queried, via the Pittsburgh Sleep Quality Index and Insomnia Severity Index, respectively. Lastly, measures of soldier readiness, including morale, motivation, fatigue, mood and bodily pain, were assessed.

Results
Soldiers reporting temperature-related and light-related awakenings had poorer sleep quality higher fatigue and higher bodily pain than soldiers without those disturbances. Lower ratings of sleeping surface comfort were associated with poorer sleep quality and lower motivation, lower morale, higher fatigue and higher bodily pain. Each 1-point increase in sleeping surface comfort decreased the risk for a positive insomnia screen by 38.3%, and the presence of temperature-related awakenings increased risk for a

positive insomnia screen by 78.4%. Those living on base had a poorer sleeping environment than those living off base.

Conclusion
Optimising the sleep environment—particularly in on-base, military-provided housing—may improve soldier sleep quality, and readiness metrics. Providers treating insomnia in soldiers should rule out environment-related sleep disturbances prior to beginning more resource-intensive treatment.

Reinforcement Learning Disruptions in Individuals With Depression and Sensitivity to Symptom Change Following Cognitive Behavioral Therapy.

Vanessa M. Brown, PhD; Lusha Zhu, PhD; Alec Solway, PhD; et al

Key Points
Question
Are depression symptoms associated with features of reinforcement learning, and if so, is treatment-related symptom change associated with learning changes?

Findings
In this mixed cross-sectional–cohort study including 101 participants, participants with and without depression completed a probabilistic learning task during functional magnetic resonance imaging; participants with depression were reassessed after cognitive behavioral therapy (CBT). Computational model–based analyses of behavioral choices and neural data identified associations of learning with symptoms during reward learning and loss learning, respectively; symptom improvement following CBT was associated with normalization of learning parameters.

Meaning
Mapping reinforcement learning processes to symptoms of depression reveals mechanistic features of these symptoms and points to possible learning-based therapeutic processes and targets.

Abstract

Importance

Major depressive disorder is prevalent and impairing. Parsing neurocomputational substrates of reinforcement learning in individuals with depression may facilitate a mechanistic understanding of the disorder and suggest new cognitive therapeutic targets.

Objective

To determine associations among computational model–derived reinforcement learning parameters, depression symptoms, and symptom changes after treatment.

Design, Setting, and Participants

In this mixed cross-sectional–cohort study, individuals performed reward and loss variants of a probabilistic learning task during functional magnetic resonance imaging at baseline and follow-up. A volunteer sample with and without a depression diagnosis was recruited from the community. Participants were assessed from July 2011 to February 2017, and data were analyzed from May 2017 to May 2021.

Main Outcomes and Measures

Computational model–based analyses of participants' choices assessed a priori hypotheses about associations between components of reward-based and loss-based learning with depression symptoms. Changes in both learning parameters and symptoms were then assessed in a subset of participants who received cognitive behavioral therapy (CBT).

Results Of 101 included adults, 69 (68.3%) were female, and the mean (SD) age was 34.4 (11.2) years. A total of 69 participants with a depression diagnosis and 32 participants without a depression diagnosis were included at baseline; 48 participants (28 with depression who received CBT and 20 without depression) were included at follow-up (mean [SD] of 115.1 [15.6] days). Computational model–based analyses of behavioral choices and neural data identified associations of learning with symptoms during reward learning and loss learning, respectively. During reward learning only, anhedonia (and not negative affect or arousal) was associated with model-derived learning parameters (learning rate: posterior mean regression β = −0.14; 95% credible interval [CrI], −0.12 to −0.03; outcome sensitivity: posterior mean regression β = 0.18; 95% CrI, 0.02 to 0.37) and neural learning signals (moderation of association between striatal prediction error and expected value signals: t_{97} = −2.10; P = .04). During loss learning only, negative affect (and not anhedonia or arousal) was associated with learning parameters (outcome shift: posterior mean regression β = −0.11; 95% CrI, −0.20 to −0.01) and disrupted neural encoding of learning signals (association with

subgenual anterior cingulate prediction error signals: r = −0.28; P = .005). Symptom improvement following CBT was associated with normalization of learning parameters that were disrupted at baseline (reward learning rate: posterior mean regression β = 0.15; 90% CrI, 0.001 to 0.41; loss outcome shift: posterior mean regression β = 0.42; 90% CrI, 0.09 to 0.77).

Conclusions and Relevance
In this study, the mapping of reinforcement learning components to symptoms of major depression revealed mechanistic features associated with these symptoms and points to possible learning-based therapeutic processes and targets.

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Association Between Mood Disorders and Risk of COVID-19 Infection, Hospitalization, and Death: A Systematic Review and Meta-analysis.

Felicia Ceban, HBSc; Danica Nogo, HBSc; Isidro P. Carvalho, HBSc; et al

Key Points
Question
Are preexisting mood disorders associated with higher risk of COVID-19 infection, hospitalization, severe complications, and death?

Findings
In this systematic review and meta-analysis of more than 91 million people, individuals with preexisting mood disorders, compared with those without mood disorders, had significantly higher pooled odds ratios for COVID-19 hospitalization and death. There were no associations between preexisting mood disorders and risk of COVID-19 infection or severe events.

Meaning
These results suggest that individuals with mood disorders should be categorized as an at-risk group for COVID-19 hospitalization and death, providing basis for vaccine prioritization.

Abstract

Importance

Preexisting noncommunicable diseases (eg, diabetes) increase the risk of COVID-19 infection, hospitalization, and death. Mood disorders are associated with impaired immune function and social determinants that increase the risk of COVID-19. Determining whether preexisting mood disorders represent a risk of COVID-19 would inform public health priorities.

Objective

To assess whether preexisting mood disorders are associated with a higher risk of COVID-19 susceptibility, hospitalization, severe complications, and death.

Data Sources

Systematic searches were conducted for studies reporting data on COVID-19 outcomes in populations with and without mood disorders on PubMed/MEDLINE, The Cochrane Library, PsycInfo, Embase, Web of Science, Google/Google Scholar, LitCovid, and select reference lists. The search timeline was from database inception to February 1, 2021.

Study Selection

Primary research articles that reported quantitative COVID-19 outcome data in persons with mood disorders vs persons without mood disorders of any age, sex, and nationality were selected. Of 1950 articles identified through this search strategy, 21 studies were included in the analysis.

Data Extraction and Synthesis

The modified Newcastle-Ottawa Scale was used to assess methodological quality and risk of bias of component studies. Reported adjusted odds ratios (ORs) were pooled with unadjusted ORs calculated from summary data to generate 4 random-effects summary ORs, each corresponding to a primary outcome.

Main Outcomes and Measures

The 4 a priori primary outcomes were COVID-19 susceptibility, COVID-19 hospitalization, COVID-19 severe events, and COVID-19 death. The hypothesis was formulated before study search. Outcome measures between individuals with and without mood disorders were compared.

Results

This review included 21 studies that involved more than 91 million individuals. Significantly higher odds of COVID-19 hospitalization (OR, 1.31; 95% CI, 1.12-1.53;

P = .001; n = 26 554 397) and death (OR, 1.51; 95% CI, 1.34-1.69; P < .001; n = 25 808 660) were found in persons with preexisting mood disorders compared with those without mood disorders. There was no association between mood disorders and COVID-19 susceptibility (OR, 1.27; 95% CI, 0.73-2.19; n = 65 514 469) or severe events (OR, 0.94; 95% CI, 0.87-1.03; n = 83 240). Visual inspection of the composite funnel plot for asymmetry indicated the presence of publication bias; however, the Egger regression intercept test result was not statistically significant.

Conclusions and Relevance
The results of this systematic review and meta-analysis examining the association between preexisting mood disorders and COVID-19 outcomes suggest that individuals with preexisting mood disorders are at higher risk of COVID-19 hospitalization and death and should be categorized as an at-risk group on the basis of a preexisting condition.

Behavioral Epidemic of Loneliness in Older U.S. Military Veterans.

Elizabeth Straus, Sonya B. Norman, Jessica C. Tripp, Jack Tsai, ... Robert H. Pietrzak

Highlights
- What is the prevalence and health burden associated with loneliness in a nationally representative sample of U.S. military veterans?
- In this cross-sectional study (N=4,069), 56.9% of veterans endorsed experiencing loneliness sometimes (37.2%) or often (19.7%), with loneliness demonstrating an incremental association with a range of psychiatric, physical health, and functional conditions. Relative to veterans who reported hardly ever feeling lonely, those who reported feeling lonely often or sometimes had a 12- and 3-fold greater likelihood of suicidal ideation.
- Given the "dose-response" relationship between loneliness and health and functioning, loneliness may be an important transdiagnostic prevention and intervention target.

Abstract
Objective:
This study aimed to characterize the current prevalence of loneliness, and the relation between loneliness severity and psychiatric and physical health conditions, suicidality, and functional measures in a predominantly older sample of U.S. military veterans.

Methods:
This cross-sectional study used data from the National Health and Resilience in Veterans Study, which surveyed a nationally representative sample of U.S. veterans (N=4,069; mean age=62) from November 2019 through March 2020. Veterans were classified into one of three groups based on their current level of loneliness (hardly ever, sometimes, often) on an adapted version of the UCLA Loneliness Scale. A comprehensive range of psychiatric, physical health, and functioning variables were assessed using valid and reliable self-report assessments.

Results:
56.9% of veterans endorsed feeling lonely sometimes (37.2%) or often (19.7%). Loneliness severity was independently associated with a range of psychiatric (odds ratios [ORs]=1.21-33.30), physical health (ORs=1.21-6.80), and functional difficulties (d's=0.09-0.59). Relative to hardly ever feeling lonely, feeling lonely often or sometimes was associated with a more than 12- and 3-fold greater likelihood of current suicidal ideation (29.0% vs. 7.3% vs. 1.5%), even after adjustment for sociodemographic, military, and psychiatric risk factors.

Conclusions:
Loneliness is highly prevalent in U.S. military veterans, with more than half endorsing feeling lonely sometimes or often, and 1-of-5 reporting feeling lonely often. Loneliness severity was independently associated with a broad range of psychiatric and functional measures, including suicidal ideation. Results underscore the importance of loneliness as a transdiagnostic prevention and intervention target in the U.S. veteran population.

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Grit is associated with decreased mental health help-seeking among student veterans.

Tyler B. Wilson, BA, Norian A. Caporale-Berkowitz, Mike C. Parent, PhD & Chris B. Brownson, PhD

Objective
To examine the role of grit as a mediator of the relationship between student-veteran status and not seeking mental health help.

Participants:
A diverse and nationally representative sample of students (8,203 women, 4,934 men) from 18 U.S. colleges and universities included in the Understanding Student Distress and Academic Success study was used.

Method:
Data were analyzed using structural equation modeling to assess associations between military service, grit, and help seeking.

Results:
Military service was positively associated with both facets of grit: consistency of interests (CI) and perseverance of effort (PE). CI, but not PE, mediated the relationship between military service and never having sought mental health help.

Conclusions:
These results suggest that grit mediates the relationship between military service and not seeking mental health help. Interventions for student-veterans that emphasize the utility of mental health treatment may be useful to diminish the negative influence of grit on help-seeking.

Resiliency and Posttraumatic Growth Following Sexual Trauma in Women Veterans of Iraq and Afghan Wars.

McKenzie, V., Anderson, E. H., Maydon, A., & Shivakumar, G.

Women veterans of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) experience a myriad of traumatic stressors, including high rates of Military Sexual Trauma (MST). Furthermore, there is an upsurge in combat exposure, length and

number of deployments, and/or perceived personal danger in these eras compared to women veterans of previous eras. These stressors can increase the risk of developing posttraumatic stress disorder (PTSD). Women veterans with combat exposure and/or MST experience PTSD differently than civilian women or military men, and therefore may require tailored and integrative treatments. Interventions that focus on resiliency and posttraumatic growth (PTG) may help decrease symptom presentation, increase quality of life, and reduce the utilization/cost of care. Moreover, resiliency-based interventions could offer a recovery-oriented framework that reinforces positive psychology constructs that may promote growth following trauma. To investigate these concepts, we interviewed four women from the OEF/OIF/OND eras who have experienced MST and/or received a diagnosis of PTSD. We explored four major areas: experiences of life after military, impact of trauma on factors that influence resiliency, helpful and unhelpful interventions for trauma recovery, and the concepts of resiliency and posttraumatic growth. These women generally felt a sense of lost identity following trauma and in post-military life, and they expressed a desire for therapy groups to support and foster connections to women with similar experiences. We also observed that they had a general understanding of resilience but lacked in-depth knowledge as it could apply to trauma recovery and welcomed opportunities to learn these skills in group settings.

Delivered as Described: A Successful Case of Cognitive Processing Therapy With an Older Woman Veteran With PTSD.

Lillia Reuman, Eve H. Davison

Highlights
- Cognitive Processing Therapy (CPT) is a first-line treatment for PTSD.
- Special consideration for aging women veterans' unique identities is warranted.
- The case example details a course of CPT with an older woman veteran.
- The case example addresses factors related to aging, VA, and current events.

Abstract
Cognitive processing therapy (CPT) is a first-line, evidence-based treatment for

posttraumatic stress disorder (PTSD). Little is known, however, about the use of CPT for older adults. As the United States population continues to grow and age, an understanding of the utility of CPT for older adults is vital. We present a case study describing the assessment and cognitive treatment of a 74-year-old woman veteran with PTSD secondary to military sexual trauma. CPT was associated with decreased PTSD symptoms as measured before and after treatment. Factors contributing to the veteran's response, as well as contextual and environmental factors, are discussed. The case demonstrates that CPT may be effective for older adults without major modification.

New-onset and exacerbated insomnia symptoms during the COVID-19 pandemic in US military veterans: A nationally representative, prospective cohort study.

Elissa McCarthy, Jason C. DeViva, Peter J. Na, Robert H. Pietrzak

The COVID-19 pandemic has had a negative impact on physical and mental health worldwide. While pandemic-related stress has also been linked to increased insomnia, scarce research has examined this association in nationally representative samples of high-risk populations, such as military veterans. We evaluated pre- and pandemic-related factors associated with new-onset and exacerbated insomnia symptoms in a nationally representative sample of 3,078 US military veterans who participated in the National Health and Resilience in Veterans Study. Veterans were surveyed in the USA in 11/2019 (pre-pandemic) and again in 11/2020 (peri-pandemic). The Insomnia Severity Index was used to assess severity of insomnia symptoms at the pre- and peri-pandemic assessments. Among veterans without clinical or subthreshold insomnia symptoms pre-pandemic (n = 2,548), 11.5% developed subthreshold (10.9%) or clinical insomnia symptoms (0.6%) during the pandemic; among those with subthreshold insomnia symptoms pre-pandemic (n = 1,058; 26.0%), 8.0% developed clinical insomnia symptoms. Pre-pandemic social support (21.9% relative variance explained), pandemic-related stress related to changes in family relationships (20.5% relative variance explained), pre-pandemic chest pain (18.5% relative variance explained) and weakness (11.1% relative variance explained), and posttraumatic stress disorder (8.2% relative variance explained) explained the majority of the variance in new-onset subthreshold or clinical insomnia symptoms during the pandemic. Among veterans with

pre-pandemic subthreshold insomnia, pandemic-related home isolation restrictions (59.1% relative variance explained) and financial difficulties (25.1% relative variance explained) explained the majority of variance in incident clinical insomnia symptoms. Taken together, the results of this study suggest that nearly one in five US veterans developed new-onset or exacerbated insomnia symptoms during the pandemic, and identify potential targets for prevention and treatment efforts.

Self-rated sleep quality predicts incident suicide ideation in US military veterans: Results from a 7-year, nationally representative, prospective cohort study.

Elissa McCarthy, Jason C. DeViva, Steven M. Southwick, Robert H. Pietrzak

Sleep disturbance is a risk factor for future suicidal behaviours (e.g. suicidal ideation, suicide attempt, death by suicide), and military veterans are at increased risk for both poor sleep and death by suicide relative to civilians. The purpose of this study was to evaluate whether self-reported sleep quality was associated with risk of new-onset suicidal ideation in a 7-year prospective nationally representative cohort study of US military veterans. Multivariable logistic regression analyses were conducted to identify the relation between self-rated sleep quality and incident suicidal ideation in 2,059 veterans without current suicidal ideation or lifetime suicide attempt history at baseline. Relative importance analyses were then conducted to identify the relative variance explained by sleep quality and other significant determinants of incident suicidal ideation. A total of 169 (weighted 8.9%, 95% confidence interval =7.7%–10.3%) veterans developed suicidal ideation over the 7-year study period. Poor self-rated sleep quality was associated with a more than 60% greater likelihood of developing suicidal ideation (relative risk ratio = 1.62, 95% confidence interval = 1.11–2.36), even after adjustment for well-known suicide risk factors such as major depressive disorder. Relative importance analysis revealed that poor self-rated sleep quality accounted for 44.0% of the explained variance in predicting incident suicidal ideation. These results underscore the importance of assessing, monitoring and treating sleep difficulties as part of suicide prevention efforts in military veterans.

Unhealthy family functioning is associated with health-related quality of life among military spouse caregivers.

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Objective:
The current study examines health-related quality of life (HRQOL) and family functioning in a sample of spouse caregivers assisting post-9/11 service members and veterans (SMV) following traumatic brain injury (TBI).

Method:
Participants were 316 spouse (and partner) caregivers of SMVs following a mild, moderate, severe, or penetrating TBI. Caregivers completed the Family Assessment Device General Functioning subscale, 24 HRQOL questionnaires, and the Mayo-Portland Adaptability Inventory (4th ed.; MPAI-4). The sample was divided into two family functioning groups: Healthy Family Functioning (HFF; n = 162) and Unhealthy Family Functioning (UFF; n = 154). Scores on HRQOL measures that generate T scores using normative data were classified as "clinically elevated," using a cutoff of > 60T.

Results:
Compared with the HFF group, caregivers in the UFF group reported worse scores on all HRQOL measures and worse SMV functional ability on the MPAI-4 Adjustment Index and Anxiety, Depression, and Irritability/Anger/Aggression items (all ps< .001, ds = .41–1.36). A significantly higher proportion of the UFF group had clinically elevated HRQOL scores compared with the HFF group on the majority of measures (Hs = .24–.75). When examining all HRQOL measures simultaneously, the UFF group consistently had a significantly higher cumulative percentage of clinically elevated scores compared with the HFF group (e.g., ≥ 5 clinically elevated scores: UFF = 53.9% vs. HFF = 22.2%; H = .68).

Conclusions:
Caring for a SMV following TBI with comorbid mental health problems may have

negative implications for their family functioning and the caregiver's HRQOL. Family-centered interventions could be beneficial for military families experiencing distress following SMV TBI and mental health comorbidity.

Associations between justice involvement and PTSD and depressive symptoms, suicidal ideation, and suicide attempt among post-9/11 veterans.

Holliday, R., Hoffmire, C. A., Martin, W. B., Hoff, R. A., & Monteith, L. L.

Objective:
Justice-involved veteran research remains largely limited to men and those using Veterans Health Administration (VHA) services. Research inclusive of women and those not using VHA care is critical to understanding mental health and suicide risk among justice-involved veterans. This study examined whether lifetime justice involvement was associated with symptoms of posttraumatic stress disorder (PTSD) and depression, recent suicidal ideation, and lifetime suicide attempt.

Method:
We conducted a secondary analysis of 812 post-9/11 male and female veterans. The sample included veterans eligible and not eligible for VHA care. Participants were administered the PTSD Checklist for DSM–IV, the Patient Health Questionnaire-8, and the Columbia-Suicide Severity Rating Scale. Additional questions assessed justice involvement, military characteristics, demographics, and recent use of VHA mental health care.

Results:
History of justice involvement was associated with more severe PTSD and depression symptoms as well as suicidal ideation and suicide attempt. Associations were maintained after adjusting for sex, combat exposure, service branch, recent use of VHA mental health care, and education. Sex-stratified exploratory analyses revealed consistent findings among males; justice involvement was associated with suicide

attempt among females. Current probation or parole was particularly related to depressive symptoms, suicidal ideation, and suicide attempt.

Conclusions:
Justice-involved veterans appear to be a vulnerable population experiencing heightened psychiatric symptoms and increased risk for recent suicidal ideation and lifetime suicide attempt. Programs within VHA and the community are important for connecting justice-involved veterans to mental health services and mitigating suicide risk.

Self-guided Cognitive Behavioral Therapy Apps for Depression: Systematic Assessment of Features, Functionality, and Congruence With Evidence.

Martinengo L, Stona A, Griva K, Dazzan P, Pariante CM, von Wangenheim F, Car J

Background:
Mental health disorders affect 1 in 10 people globally, of whom approximately 300 million are affected by depression. At least half of the people affected by depression remain untreated. Although cognitive behavioral therapy (CBT) is an effective treatment, access to mental health specialists, habitually challenging, has worsened because of the COVID-19 pandemic. Internet-based CBT is an effective and feasible strategy to increase access to treatment for people with depression. Mental health apps may further assist in facilitating self-management for people affected by depression; however, accessing the correct app may be cumbersome given the large number and wide variety of apps offered by public app marketplaces.

Objective:
This study aims to systematically assess the features, functionality, data security, and congruence with evidence of self-guided CBT-based apps targeting users affected by depression that are available in major app stores.

Methods:
We conducted a systematic assessment of self-guided CBT-based apps available in

Google Play and the Apple App Store. Apps launched or updated since August 2018 were identified through a systematic search in the 42matters database using CBT-related terms. Apps meeting the inclusion criteria were downloaded and assessed using a Samsung Galaxy J7 Pro (Android 9) and iPhone 7 (iOS 13.3.1). Apps were appraised using a 182-question checklist developed by the research team, assessing their general characteristics, technical aspects and quality assurance, and CBT-related features, including 6 evidence-based CBT techniques (ie, psychoeducation, behavioral activation, cognitive restructuring, problem solving, relaxation, and exposure for comorbid anxiety) as informed by a CBT manual, CBT competence framework, and a literature review of internet-based CBT clinical trial protocols. The results were reported as a narrative review using descriptive statistics.

Results:
The initial search yielded 3006 apps, of which 98 met the inclusion criteria and were systematically assessed. There were 20 well-being apps; 65 mental health apps, targeting two or more common mental health disorders, including depression; and 13 depression apps. A total of 28 apps offered at least four evidence-based CBT techniques, particularly depression apps. Cognitive restructuring was the most common technique, offered by 79% (77/98) of the apps. Only one-third of the apps offered suicide risk management resources, whereas 17% (17/98) of the apps offered COVID-19–related information. Although most apps included a privacy policy, only a third of the apps presented it before account creation. In total, 82% (74/90) of privacy policies stated sharing data with third-party service providers. Half of the app development teams included academic institutions or health care providers.

Conclusions:
Only a few self-guided CBT-based apps offer comprehensive CBT programs or suicide risk management resources. Sharing of users' data is widespread, highlighting shortcomings in health app market governance. To fulfill their potential, self-guided CBT-based apps should follow evidence-based clinical guidelines, be patient centered, and enhance users' data security.

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Child mental health outcomes in military families.

Melanie Sberna Hinojosa, Ramon Hinojosa, Josalie Condon & Jacquelyn Fernandez-Reiss

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Families that include a current or former member of the US Armed Services face unique challenges. These challenges center on three facets of military family life known to contribute to negative child mental health outcomes; mobility, family separation and parent health. The purpose of this study is to use the 2017–2018 National Survey of Children's Health to understand children's mental health outcomes in military and nonmilitary families. Parents of 39,465 United States children between the ages of 2 and 17 were surveyed about their child's mental health and use of mental health services in the past 12 months. The association between mobility, family separation, parent health and child mental health are tested through two logistic regression analyses. Results indicate that current military families have a lower likelihood of reporting mental health problems in their children compared to nonmilitary and former military families. The potential reasons for the protective effect of military family status on child mental health problems may be related to the social networks available to active duty military families.

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Suicide Mortality Among Veterans Health Administration Care Recipients With Suicide Risk Record Flags.

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Objective:
In 2008, the Veterans Health Administration (VHA) established a suicide high-risk flag (HRF) for patient records. To inform ongoing suicide prevention activities as part of operations and quality improvement work in the U.S. Department of Veterans Affairs, the authors evaluated suicide risk following HRF activations and inactivations.

Methods:
For annual cohorts of VHA users, HRF receipt and demographic and clinical care

contexts in the 30 days before HRF activations were examined for 2014–2016 (N=7,450,831). Veterans were included if they had VHA inpatient or outpatient encounters during the index or previous year. Suicide rates in the 12 months after HRF activations and inactivations were assessed. Using multivariable Cox proportional hazards regression, the authors compared suicide risk following HRF activation and inactivation with veterans without HRFs, adjusted for age, gender, and race-ethnicity.

Results:
HRF activation (N=47,015) was commonly preceded within 30 days by a documented suicide attempt (39.5%) or inpatient mental health admission (40.1%). Suicide risk was elevated in the 12 months after flag activation (crude suicide rate=682 per 100,000 person-years, adjusted hazard ratio [HR]=21.00, 95% confidence interval [CI]=18.55–23.72) compared with risk among VHA users without HRF activity. Risk after HRF inactivation (N=41,251) was also elevated (crude suicide rate=408 per 100,000 person-years, adjusted HR=12.43, 95% CI=10.57–14.63) compared with risk among VHA users without HRF activity.

Conclusions:
Suicide risk after HRF activation was substantially elevated and also high after HRF inactivation. Findings suggest the importance of comprehensive suicide risk mitigation and support recent VHA process enhancements to formalize inactivation criteria and support veterans after HRF inactivation.

Do non-pharmacological sleep interventions affect anxiety symptoms? A meta-analysis.

Alex Catherine Staines, Niall Broomfield, Laura Pass, Faith Orchard, Jessica Bridges

Research indicates a bidirectional relationship between sleep and anxiety, with findings suggesting anxiety can precede poor sleep and vice versa. Evidence suggests sleep-related thought processes associated with anxiety are involved in the maintenance of insomnia. Previous meta-analyses provide some evidence to suggest cognitive behavioural therapy for insomnia moderately improves anxiety, yet little research has

investigated the effect of other sleep interventions on anxiety symptoms. The aim of this meta-analysis was to review whether non-pharmacological sleep interventions have an impact on anxiety symptoms immediately post-intervention. A systematic search of electronic databases was conducted to identify all randomized control trials (RCTs) investigating non-pharmacological sleep interventions that included anxiety symptoms as an outcome. Forty-three RCTs (n = 5945) met full inclusion criteria and were included in a random-effects meta-analysis model. The combined effect size of non-pharmacological sleep interventions on anxiety symptoms was moderate (Hedges' g = −0.38), indicating a reduction in symptoms. Subgroup analyses found a moderate effect for those with additional physical health difficulties (g = −0.46), a moderate effect for those with additional mental health difficulties (g = −0.47) and a moderate effect for those with elevated levels of anxiety at baseline (g = −0.43). A secondary meta-analysis found a large effect of non-pharmacological sleep interventions on sleep-related thought processes (g = −0.92). These findings indicate non-pharmacological sleep interventions are effective in reducing anxiety and sleep-related thought processes, and these effects may be larger in patients with anxiety. This has clinical implications for considering sleep interventions in the treatment of anxiety.

Links of Interest

Breakneck pace of crises keeps National Guard away from home
https://apnews.com/article/middle-east-health-coronavirus-pandemic-d830cbc807797e4b3450965c586b253c

'You Can Forgive Yourself:' Molly Helps Vets with PTSD, New Study Says
https://www.military.com/daily-news/2021/07/29/you-can-forgive-yourself-molly-helps-vets-ptsd-new-study-says.html

This time, DoD wants to hear from every active duty military spouse
https://www.militarytimes.com/pay-benefits/mil-money/2021/07/28/this-time-dod-wants-to-hear-from-every-active-duty-military-spouse/

Opinion: Medical marijuana saved me and other veterans. Why does the military punish us for it?
https://www.washingtonpost.com/opinions/2021/07/27/medical-marijuana-veterans-military-punish-cannabis/

PTSD: Seeking out mental health care is the first step to wellness
https://www.health.mil/News/Articles/2021/06/28/PTSD-seeking-out-mental-health-care-is-the-first-step-to-wellness

PTSD training at VA: The gold standard of care
https://blogs.va.gov/VAntage/92039/ptsd-training-at-va-the-gold-standard-of-care/

'We are all suffering in silence' — Inside the US military's pervasive culture of eating disorders
https://taskandpurpose.com/news/military-eating-disorders/

Staff Perspective: Addressing Stigma and Encouraging Mental Health Care in the Military - A Double-Edged Sword?
https://deploymentpsych.org/blog/staff-perspective-addressing-stigma-and-encouraging-mental-health-care-military-double-edged

Staff Perspective: Celebrating 70 Years of Supporting Women
https://deploymentpsych.org/blog/staff-perspective-celebrating-70-years-supporting-women

More than half of women soldiers reporting sexual harassment say it is 'serious' and 'persistent': study
https://www.militarytimes.com/news/your-army/2021/08/03/more-than-half-of-women-in-army-report-facing-some-form-of-sexual-harassment-study/
  ● (RAND report - https://www.rand.org/pubs/research_reports/RRA1385-1.html)

Resource of the Week: Military Suicide Prevention and Response

Recently published CRS in Focus Report:

> When a servicemember dies by suicide, those close to the member often experience shock, anger, guilt, and sorrow. As such, a servicemember's suicide may adversely impact the wellbeing of his or her family and friends. Further, it may affect the morale and readiness of his or her unit. The military's response to suicidal thoughts (ideation), attempts, and deaths involves coordinated efforts among command and unit leadership, medical professionals, counselors, and others across the military community.

Under its constitutional authority to organize and regulate the military, Congress has oversight over this issue and may consider policy interventions to mitigate suicide risk factors.

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Considerations for Congress Oversight questions for Congress with regard to military suicide and resiliency may include:
- How can research be better disseminated and brought into practice?
- On what aspects of the issue should future congressionally funded research efforts focus?
- What factors contribute to differences in suicide rates among the services and components?
- Are high-risk military members and communities being identified and do they have access to appropriate and/or tailored services?
- How does DOD measure program effectiveness?

Table 1. Unadjusted Suicide Mortality Rates by Service and Component, CY2014-2019
(rate per 100,000 personnel)

Service	2014	2015	2016	2017	2018	2019
Active Total	**20.4**	**20.2**	**21.5**	**22.1**	**24.9**	**25.9**
Army	24.6	24.4	27.4	24.7	29.9	29.8
Marine Corps	17.9	21.2	20.1	23.4	30.8	25.3
Navy	16.6	13.1	15.9	20.1	20.7	21.5
Air Force	19.1	20.5	19.4	19.6	18.5	25.1
Reserve Total	**21.6**	**24.7**	**22.0**	**25.7**	**22.9**	**18.2**
Army Reserve	21.4	27.7	20.6	32.1	25.3	18.9

Air Force, Navy, and Marine Corps Reserve rates are not reported (nr) by DOD when the suicide count is less than 20 due to statistical instability.

Service	2014	2015	2016	2017	2018	2019
Natl Guard Total	**19.8**	**27.5**	**27.3**	**29.8**	**30.6**	**20.3**
Army Guard	21.8	29.8	31.6	35.5	35.3	22.3
Air Guard	nr	19.9	nr	nr	nr	nr

Source: Compiled by CRS from Annual Suicide Reports and DOD Suicide Event Reports.

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