



## **Research Update -- April 11, 2019**

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<http://stm.sciencemag.org/content/11/486/eaal3236>

**Using fMRI connectivity to define a treatment-resistant form of post-traumatic stress disorder.**

Etkin A, Maron-Katz A, Wu W, Fonzo GA, Huemer J, Vértes PE, Patenaude B, Richiardi J, Goodkind MS, Keller CJ, Ramos-Cejudo J, Zaiko YV, Peng KK, Shpigel E, Longwell P, Toll RT, Thompson A, Zack S, Gonzalez B, Edelstein R, Chen J, Akingbade I, Weiss E, Hart R, Mann S, Durkin K, Baete SH, Boada FE, Genfi A, Autea J, Newman J, Oathes DJ, Lindley SE, Abu-Amara D, Arnow BA, Crossley N, Hallmayer J, Fossati S, Rothbaum BO, Marmar CR, Bullmore ET, O'Hara R

Science Translational Medicine

03 Apr 2019:

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DOI: 10.1126/scitranslmed.aal3236

### PTSD's secrets hidden in a VAN

Post-traumatic stress disorder (PTSD) is a severe psychiatric illness. Psychotherapy is the only effective treatment for PTSD but only works in a portion of patients. Etkin and colleagues now report a neuroimaging and behavioral signature in a subgroup of PTSD patients who failed to respond to psychotherapy. This signature was associated with impairments in fMRI connectivity in the brain's ventral attention network and a deficit on a word list learning task. Use of noninvasive brain stimulation in combination with neuroimaging identified a brain location in which network connectivity correlated with the effects of stimulation. This work may help to define a target for future noninvasive brain stimulation approaches for treating patients with PTSD who are refractory to psychotherapy.

### Abstract

A mechanistic understanding of the pathology of psychiatric disorders has been hampered by extensive heterogeneity in biology, symptoms, and behavior within diagnostic categories that are defined subjectively. We investigated whether leveraging individual differences in information-processing impairments in patients with post-traumatic stress disorder (PTSD) could reveal phenotypes within the disorder. We found that a subgroup of patients with PTSD from two independent cohorts displayed both aberrant functional connectivity within the ventral attention network (VAN) as revealed by functional magnetic resonance imaging (fMRI) neuroimaging and impaired verbal memory on a word list learning task. This combined phenotype was not associated with differences in symptoms or comorbidities, but nonetheless could be used to predict a poor response to psychotherapy, the best-validated treatment for PTSD. Using concurrent focal noninvasive transcranial magnetic stimulation and electroencephalography, we then identified alterations in neural signal flow in the VAN that were evoked by direct stimulation of that network. These alterations were associated with individual differences in functional fMRI connectivity within the VAN.

Our findings define specific neurobiological mechanisms in a subgroup of patients with PTSD that could contribute to the poor response to psychotherapy.

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<https://onlinelibrary.wiley.com/doi/full/10.1002/jts.22389>

## **Invariance of the Construct of Posttraumatic Stress Disorder: A Systematic Review.**

Ateka A. Contractor Stephanie V. Caldas Megan Dolan Prathiba Natesan Nicole H. Weiss

Journal of Traumatic Stress

First published: 03 April 2019

<https://doi.org/10.1002/jts.22389>

We conducted a systematic review of studies that have evaluated invariance of the construct of posttraumatic stress disorder (PTSD) to summarize their conclusions related to invariance/noninvariance and sources of noninvariance. In November 2017, we searched Pubmed, PSYCINFO, PILOTS Web of Science, CINAHL, Medline, and Psychological and Behavioral Science Collection for abstracts and articles with these inclusionary criteria: peer-reviewed, including DSM-IV or DSM-5 PTSD invariance as a main study aim, use of multigroup confirmatory factor analyses, and use of an independent PTSD instrument or module. In total, 45 articles out of 1,169 initially identified abstracts met inclusion criteria. Research assistants then followed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to complete a secondary search and independently extract data. Results indicated that DSM-IV dysphoric arousal and DSM-5 hybrid model factors demonstrated the most stability; sources of instability were some intrusion (distress to trauma cues), dysphoria/numbing (traumatic amnesia, foreshortened future, emotional numbness, detachment), and arousal (hypervigilance) items. The PTSD Checklist and PTSD Reaction Index were most often used to assess PTSD in studies investigating its invariance; however, these measures demonstrated partial conceptual equivalence of PTSD across subgroups. Instead, clinician-administered measures demonstrated more conceptual equivalence across subgroups. Age, gender, cultural/linguistic factors, and sample diversity had the least moderating effect on PTSD's symptom structure. Our review demonstrates the need to examine invariance of the PTSD construct following recommended guidelines for each empirical and clinical trial study to draw meaningful multigroup comparative conclusions.

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<https://onlinelibrary.wiley.com/doi/full/10.1002/jts.22397>

## **Compassion Meditation for Posttraumatic Stress Disorder in Veterans: A Randomized Proof of Concept Study.**

Ariel J. Lang, Anne L. Malaktaris, Pollyanna Casmar, Selena A. Baca, Shahrokh Golshan, Timothy Harrison, Lobsang Negi

Journal of Traumatic Stress

First published: 31 March 2019

<https://doi.org/10.1002/jts.22397>

There is considerable interest in developing complementary and integrative approaches for ameliorating posttraumatic stress disorder (PTSD). Compassion meditation (CM) and loving-kindness meditation appear to offer benefits to individuals with PTSD, including symptom reduction. The present study was a pilot randomized controlled trial of CM for PTSD in veterans. The CM condition, an adaptation of Cognitively-Based Compassion Training (CBCT®), consists of exercises to stabilize attention, develop present-moment awareness, and foster compassion. We compared CM to Veteran.calm (VC), which consists of psychoeducation about PTSD, rationale for relaxation, relaxation training, and sleep hygiene. Both conditions consist of 10 weekly 90-min group sessions with between-session practice assignments. A total of 28 veterans attended at least one session of the group intervention and completed pre- and posttreatment measures of PTSD severity and secondary outcomes as well as weekly measures of PTSD, depressive symptoms, and positive and negative emotions. Measures of treatment credibility, attendance, practice compliance, and satisfaction were administered to assess feasibility. A repeated measures analysis of variance revealed a more substantive reduction in PTSD symptoms in the CM condition than in the VC condition, between-group  $d = -0.85$ . Credibility, attendance, and satisfaction were similar across CM and VC conditions thus demonstrating the feasibility of CM and the appropriateness of VC as a comparison condition. The findings of this initial randomized pilot study provide rationale for future studies examining the efficacy and effectiveness of CM for veterans with PTSD.

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## **A Pilot Randomized Controlled Trial of a Mindfulness-Based Intervention for Caregivers of Veterans.**

Lara-Cinisomo, S., Santens, R.L. & Fujimoto, E.M.

Mindfulness

First Online: 30 March 2019

<https://doi.org/10.1007/s12671-019-01131-9>

### **Objectives**

Informal caregivers of veterans are providing care for a population whose specialized care needs require increased investments on the part of caregivers and for longer durations. Empirical evidence shows negative mental health effects on these caregivers at rates that outpace those seen in caregivers in the general population. With a growing need and limited resources, effective interventions are needed to improve mental health outcomes in this special population of caregivers.

### **Methods**

This pilot, randomized control trial tested the effectiveness of a mindfulness-based intervention at improving perceived stress, depressive symptoms, anxiety, and worry compared to waitlist controls in a sample of 23 caregivers of veterans.

### **Results**

The Mann-Whitney U tests used to determine whether groups differed in change scores (post minus pre) indicated that there were significant differences between the mindfulness and waitlist control group in perceived stress ( $U = 21.5$ ,  $p = .006$ ,  $r = .57$ ), anxiety ( $U = 24.0$ ,  $p = .009$ ,  $r = .54$ ), and worry ( $U = 29.5$ ,  $p = .024$ ,  $r = .47$ ). Results from the Wilcoxon signed-rank tests indicated that caregivers in the mindfulness group reported a significant reduction in perceived stress ( $Z = -2.50$ ,  $p = .013$ ,  $r = .75$ ) and anxiety ( $Z = -2.81$ ,  $p = .005$ ,  $r = .85$ ), whereas the waitlist control group reported higher mean symptoms at the end of the intervention period.

### **Conclusions**

Given these promising results, policymakers, health practitioners, and veteran-related programs should increase efforts to provide caregivers of veterans with mindfulness-based interventions to improve mental health outcomes.

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<https://www.ncbi.nlm.nih.gov/pubmed/30945914>

Neuropsychology. 2019 Apr 4. doi: 10.1037/neu0000529. [Epub ahead of print]

**Clinically significant cognitive dysfunction in OEF/OIF/OND veterans: Prevalence and clinical associations.**

Riley E, Mitko A, Stumps A, Robinson M, Milberg W, McGlinchey R, Esterman M, DeGutis J

**OBJECTIVE:**

Cognitive performance in trauma-exposed populations, such as combat Veterans, has been shown to be worse than in nonexposed peers. However, cognitive performance has typically been within the normal range (within 1 SD of normative mean), and the prevalence of clinically significant cognitive dysfunction (i.e., performance more than 1 SD below the mean on multiple measures in a domain) in younger adults with trauma exposure remains unknown. The objective of our study was to measure this.

**METHOD:**

We applied Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5) cutoffs for clinically significant cognitive dysfunction (>1 SD below the mean in multiple measures within a domain) in the domains of memory, executive function, and attention to a sample of combat-exposed Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn (OEF/OIF/OND; N = 368, mean age = 31.7 years, 90% men) Veterans. We then compared psychiatric, physiological, and neural measures, as well as functional outcomes, between those with and without cognitive dysfunction.

**RESULTS:**

Veterans with cognitive dysfunction (n = 129, 35.1%) had lower premorbid reading ability and more severe psychological distress, including increased anxiety, depression, posttraumatic stress disorder (PTSD), sleep difficulties, pain, and alcohol consumption. Those with cognitive dysfunction also had worse functional outcomes, with mild but significant disability. In contrast, we found associations between outcome and age, traumatic brain injury, physiological and neural measures to be weak or not significant.

**CONCLUSIONS:**

Together, this suggests that premorbid abilities and trauma-related psychological symptoms contribute significantly to cognitive dysfunction in OEF/OIF/OND Veterans, and that neurological insult and aging may play less of a role. Cognitive dysfunction

may be at least partially ameliorated by treating trauma-related symptoms. (PsycINFO Database Record (c) 2019 APA, all rights reserved).

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<https://www.ncbi.nlm.nih.gov/pubmed/30870017>

J Altern Complement Med. 2019 Mar;25(S1):S147-S152. doi: 10.1089/acm.2018.0424

### **Evaluation of an Integrative Post-Traumatic Stress Disorder Treatment Program.**

Hilton LG, Libretto S, Xenakis L, Elfenbaum P, Boyd C, Zhang W, Clark AA

#### **OBJECTIVES:**

Post-traumatic stress disorder (PTSD) and combat-related stress can be refractory, pervasive, and have a devastating impact on those affected, their families, and society at large. Challenges dealing with symptoms may in turn make a servicemember more susceptible to problems, including alcohol abuse, interpersonal conflict, and occupational problems. An effective treatment strategy will address multifactorial issues by using a holistic multimodal approach. Back on Track is an intensive outpatient program utilizing a holistic philosophy and multimodal treatments to provide a whole systems approach for the treatment of combat-related stress reactions and PTSD in active duty servicemembers.

#### **DESIGN/SETTING/SUBJECTS:**

An explanatory, sequential, mixed-methods program evaluation was conducted to assess the effectiveness of a PTSD and combat stress treatment program. Quantitative outcomes were collected and analyzed on 595 participants at pre- and postinterventions and 6-week follow-up and qualitative data were gathered through participant interviews.

#### **INTERVENTION:**

The manualized program uses a multimodal, psychoeducational group therapy format with a holistic approach for treating combat stress, increasing resiliency, and assisting with reintegration. Rotating providers visit from other programs and services to deliver content in bio-psycho-social-spiritual domains, including didactic lectures on mindfulness and the relaxation response and daily sessions of yoga nidra and meditation.

#### **OUTCOME MEASURES:**

The primary outcome measure was PTSD symptom severity assessed with the PTSD



Checklist-Military Version (PCL-M). Secondary outcomes included self-efficacy, knowledge, use, and satisfaction. Quantitative data were contextualized with interview data.

#### RESULTS:

Results demonstrated a highly statistically significant effect of the program when comparing within-subject PCL-M scores before and after program participation, signed rank S ( $N = 595$ ) = -47,367,  $p < 0.001$ . This translates to a moderate effect size, Cohen's  $d$  ( $N = 595$ ) = -0.55, 95% confidence interval = -0.62 to -0.47, and a mean decrease of 7 points on the PCL-M at postintervention, demonstrating response to treatment. There were significant increases in knowledge and self-efficacy and high levels of satisfaction with the program overall, content, materials, and delivery.

#### CONCLUSIONS:

The treatment program has served ~800 servicemembers since inception and has since expanded to five installations. The provision of whole systems care where the approach is holistic, multimodal, and multidisciplinary may be a way forward for the successful treatment of PTSD and other debilitating behavioral health conditions in military contexts and beyond.

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<https://www.sciencedirect.com/science/article/pii/S0272735818304926>

#### **Efficacy and mechanisms of non-invasive brain stimulation to enhance exposure therapy: A review.**

Mia Nuñez, Richard E. Zinbarg, Vijay A.Mittal

Clinical Psychology Review

Available online 6 April 2019

<https://doi.org/10.1016/j.cpr.2019.04.001>

#### Highlights

- Review of extant literature investigating brain stimulation and exposure therapy
- Retrieval inhibition as an important mechanism for exposure
- Future studies and directions proposed

#### Abstract

Though cognitive behavioral techniques are generally effective in the treatment of anxiety disorders, some people fail to benefit from exposure therapy or experience a

return of fear after terminating exposure therapy. The burgeoning field of non-invasive brain stimulation provides a potential method of augmenting exposure therapy so that it is more effective. Successful exposure therapy is hypothesized to occur due to inhibition, and research suggests that brain stimulation can alter inhibitory learning and related processes. As such, one can reasonably posit that brain stimulation could be used to test the inhibitory learning theory of exposure therapy and to increase the efficacy of exposure therapy by inducing stronger inhibitory learning during exposures. Four known studies that pair brain stimulation with exposure therapy have yielded promising preliminary evidence in support of the therapeutic use of brain stimulation. In this review we describe research illustrating the mechanisms and efficacy of non-invasive brain stimulation to enhance the understanding of and outcomes produced by exposure therapy.

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<https://www.sciencedirect.com/science/article/pii/S027273581830285X>

## **A meta-analytic review of personality traits and their associations with mental health treatment outcomes.**

Meredith A. Bucher, Takakuni Suzuki, Douglas B. Samuel

Clinical Psychology Review

Available online 5 April 2019

<https://doi.org/10.1016/j.cpr.2019.04.002>

### Highlights

- We examined the relationship between personality traits and treatment outcomes.
- 99 studies were included for 772 effects ( $N = 107,206$ ), and personality traits were coded within the Five-factor model framework.
- There are meaningful associations between therapeutic outcomes and personality traits, many of which are congruent with theorized predictions
- Neuroticism had strong negative associations with almost all outcomes examined, and the other four domains had positive associations with nearly all outcomes
- Agreeableness had strong positive associations with therapeutic alliance and conscientiousness was positively related to abstinence

## Abstract

Personality traits have been hypothesized to be clinically useful for diagnosis, client conceptualization, treatment planning, as well as for predicting treatment outcomes. Although several studies examined the relation between personality traits and specific therapy outcomes, this literature has not yet been systematically reviewed. Thus, the purpose of the current study was to investigate the relations between personality traits and various therapeutic outcomes. Traits were organized via the domains of the five-factor model to provide a common framework for interpreting effects. Across 99 studies (N = 107, 206), overall findings indicated that traits were systematically related to outcomes, with many specific relations congruent with theorized predictions. Generally, lower levels of neuroticism and higher levels of extraversion, agreeableness, conscientiousness, and openness were associated with more favorable outcomes. More specifically, agreeableness had positive associations with therapeutic alliance and conscientiousness was positively related to abstinence from substances suggesting these traits are likely a beneficial factor to consider at the outset of services. Personality traits also related to various outcomes differently based on moderators. For example, duration of treatment moderated links between traits and outcomes suggesting these effects are amplified over longer services. Overall results suggest that personality assessment can aid with case conceptualization by suggesting potential strengths as well as barriers to treatment.

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<https://www.sciencedirect.com/science/article/abs/pii/S0005789419300292>

## **Trauma-Related Cognitions and Cognitive Emotion Regulation as Mediators of PTSD Change Among Treatment-Seeking Active Duty Military Personnel with PTSD.**

Carmen P. McLean, Yinyin Zang, Thea Gallagher, Noah Suzuki, ... Edna B. Foa

Behavior Therapy

Available online 5 April 2019

<https://doi.org/10.1016/j.beth.2019.03.006>

## Highlights

- Cognitions about the self and world mediated PTSD change during treatment.
- Catastrophizing also mediated reductions in PTSD severity during treatment.
- Catastrophizing and cognitions about the self had the greatest mediating effects.
- Mediation was greater in prolonged exposure than present-centered therapy.

## Abstract

Trauma-related cognitions about the self and the world have been identified as a mediator of posttraumatic stress disorder (PTSD) change during prolonged exposure (PE) therapy. However, the extent to which negative cognitions mediate PTSD change in other PTSD treatments is unclear. In addition, previous studies have not tested alternate mediators of PTSD change during PE. In a sample of 216 treatment-seeking active duty military personnel with PTSD, the present study examined the specificity of the negative cognition mediation effect in both PE and present-centered therapy (PCT). In addition, we examined another possible mediator, cognitive emotion regulation. Lagged mediational analyses indicated that negative cognitions about the self and world and the unhelpful cognitive emotion regulation strategy of catastrophizing each significantly mediated change in PTSD from baseline to 6-month follow-up. In a combined model, the mediating effect of catastrophizing was greater than negative cognitions about the world, and similar to negative cognitions about the self. Moderated mediation analyses revealed that the effect of catastrophizing was greater in PE than in PCT. Findings show that trauma-related cognitions and, to a greater degree, the emotion regulation strategy catastrophizing, both mediate PTSD change. Further research is needed to determine whether these mediating variables represent mechanisms of therapeutic change.

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<https://onlinelibrary.wiley.com/doi/full/10.1002/jts.22380>

## **Defining and Measuring Moral Injury: Rationale, Design, and Preliminary Findings From the Moral Injury Outcome Scale Consortium.**

Julie D. Yeterian, Danielle S. Berke, Jessica R. Carney, Alexandra McIntyre-Smith, Katherine St. Cyr, Lisa King, Nora K. Kline, Andrea Phelps, Brett T. Litz, Members of the Moral Injury Outcomes Project Consortium

Journal of Traumatic Stress

First published: 04 April 2019

<https://doi.org/10.1002/jts.22380>

In the current paper, we first describe the rationale for and methodology employed by an international research consortium, the Moral Injury Outcome Scale (MIOS) Consortium, the aim of which is to develop and validate a content-valid measure of moral injury as a multidimensional outcome. The MIOS Consortium comprises

researchers and clinicians who work with active duty military service members and veterans in the United States, the United Kingdom, the Netherlands, Australia, and Canada. We describe the multiphase psychometric development process being conducted by the Consortium, which will gather phenomenological data from service members, veterans, and clinicians to operationalize subdomains of impact and to generate content for a new measure of moral injury. Second, to illustrate the methodology being employed by the Consortium in the first phase of measure development, we present a small subset of preliminary results from semistructured interviews and questionnaires conducted with care providers (N = 26) at three of the 10 study sites. The themes derived from these initial preliminary clinician interviews suggest that exposure to potentially morally injurious events is associated with broad psychological/behavioral, social, and spiritual/existential impacts. The early findings also suggest that the outcomes associated with acts of commission or omission and events involving others' transgressions may overlap. These results will be combined with data derived from other clinicians, service members, and veterans to generate the MIOS.

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<https://academic.oup.com/milmed/advance-article-abstract/doi/10.1093/milmed/usz055/5426485>

## **The Prevalence of Faculty Physician Burnout in Military Graduate Medical Education Training Programs: A Cross-Sectional Study of Academic Physicians in the United States Department of Defense.**

Shane M Summers, Christopher J Nagy, Michael D April, Brandon W Kuiper, Rechell G Rodriguez, Woodson S Jones

Military Medicine

Published: 03 April 2019

<https://doi.org/10.1093/milmed/usz055>

### **Introduction**

In military populations, physician burnout has potential to adversely affect medical readiness to deploy in support of joint operations. Burnout among Graduate Medical Education (GME) faculty may further threaten the welfare of the medical force given the central role these officers have in training and developing junior physicians. The primary aim of this investigation was to estimate the prevalence of burnout among faculty physicians in United States (US) Army, Navy, and Air Force GME programs.

## Materials and Methods

We conducted a cross-sectional study of faculty physicians at US military GME training programs between January 2018 and July 2018. Through direct coordination with Designated Institutional Officials, we administered the Maslach Burnout Inventory Health Services Survey (MBI-HSS) via online web link to faculty physicians listed in Accreditation Data System at each sponsoring institution. In addition to the MBI-HSS, we collected demographic data and queried physicians about common occupational stressors in order to assist institutional leaders with identifying at-risk physicians and developing future interventions to address burnout.

## Results

Sixteen of 21 institutions that currently sponsor military GME programs agreed to distribute the MBI-HSS survey to core faculty. We received completed assessments from 622 of the 1,769 (35.1%) reported physician core faculty at these institutions. Of the 622 physician respondents, 162 demonstrated high levels of emotional exhaustion and depersonalization for an estimated 26% prevalence of burnout. We identified only one independent risk factor for burnout: increasing numbers of deployments (OR 1.38, 95% CI 1.07–1.77). Physicians in our cohort who reported a desire to stay beyond their initial active duty service obligation were less likely to be classified with burnout (OR 0.45, 95% CI 0.26–0.77). The most common drivers of occupational distress were cumbersome bureaucratic tasks, insufficient administrative support, and overemphasis on productivity metrics.

## Conclusions

We estimate that 26% of physician faculty in military GME programs are experiencing burnout. No specialty, branch of service, or specific demographic was immune to burnout in our sample. Institutional leaders in the MHS should take action to address physician burnout and consider using our prevalence estimate to assess effectiveness of future interventions.

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<https://academic.oup.com/milmed/advance-article-abstract/doi/10.1093/milmed/usz066/5429215>

## **The Epworth Sleepiness Scale in Service Members with Sleep Disorders.**

April Hurlston, Shannon N Foster, Jennifer Creamer, Matthew S Brock, Panagiotis Matsangas, Brian A Moore, Vincent Mysliwiec

## Introduction

Excessive daytime sleepiness affects an estimated 20% of the general population. While the prevalence of sleepiness in the military is largely unknown, it is well established that short sleep duration is endemic. The reasons for this include: the demanding nature of their duties, shift work and 24-hour duty periods, deployments and exigencies of military service as well as sleep disorders. The Epworth Sleepiness Scale (ESS) is the most widely used sleep questionnaire and provides a self-assessment of daytime sleepiness. To date the clinical utility of this questionnaire in differentiating sleep disorders in military patients with sleep disorders has never been evaluated.

## Materials and Methods

The primary aim of this manuscript was to assess if Epworth Sleepiness Scale (ESS) scores differed between military personnel with insomnia, obstructive sleep apnea (OSA), comorbid insomnia/obstructive sleep apnea (COMISA), and a group with neither insomnia nor obstructive sleep apnea (NISA). This study assessed the clinical utility of the ESS in differentiating sleep disorders amongst a sample ( $N = 488$ ) of U.S. military personnel with insomnia ( $n = 92$ ), OSA ( $n = 142$ ), COMISA ( $n = 221$ ), and a NISA group ( $n = 33$ ) which served as the control population.

## Results

In the present sample, 68.4% of service members reported excessive daytime sleepiness (EDS) with an ESS  $> 10$ . ESS scores differed between military personnel with COMISA ( $13.5 \pm 4.83$ ) and those with OSA only ( $11.5 \pm 4.08$ ;  $p < 0.001$ ) and the NISA group ( $9.46 \pm 4.84$ ;  $p < 0.001$ ). Also, ESS scores differed between patients with insomnia only ( $13.0 \pm 4.84$ ) and the NISA group ( $p < 0.01$ ).

## Conclusions

Overall, the ESS had poor ability to differentiate sleep disorders. In military personnel, the ESS appears elevated in the most common sleep disorders, likely due to their insufficient sleep, and does not help to differentiate OSA from insomnia. Further studies are required to validate this questionnaire and determine an appropriate threshold value for abnormal sleepiness in the military population.

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<https://www.ncbi.nlm.nih.gov/pubmed/30576030>

Depress Anxiety. 2019 Feb;36(2):162-169. doi: 10.1002/da.22871. Epub 2018 Dec 21

**Residual symptoms following prolonged exposure and present-centered therapy for PTSD in female veterans and soldiers.**

Schnurr PP, Lunney CA

**BACKGROUND:**

Despite the effectiveness of evidence-based treatments for posttraumatic stress disorder (PTSD), some symptoms, such as sleep disturbance, can be difficult to treat regardless of treatment type.

**METHODS:**

We examined residual PTSD symptoms in 235 female veterans and soldiers who were randomized to receive 10 weekly sessions of either Prolonged Exposure (PE) or Present-Centered Therapy (PCT). PTSD symptoms were assessed using the Clinician-Administered PTSD Scale. Analyses examined the effects of PE and the effects of clinically significant improvement (loss of diagnosis, operationalized as meaningful symptom reduction and no longer meeting diagnostic criteria).

**RESULTS:**

Both treatments resulted in reductions in PTSD symptoms. PE had lower conditional probabilities than PCT of retaining intrusive memories, avoidance of people/places, detachment/estrangement, and restricted range of affect. Loss of diagnosis had lower conditional probabilities of almost all symptoms, although hyperarousal symptoms-especially irritability/anger (60.7%) and sleep difficulties (50.9%)-were the most likely to remain.

**CONCLUSIONS:**

Results are consistent with previous findings on sleep difficulties being difficult to treat, but also show that hyperarousal symptoms overall may not be resolved even after substantial improvement. Additional strategies may be needed to treat the full range of PTSD symptoms in some patients.

**TRIAL REGISTRATION:** ClinicalTrials.gov NCT00032617

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**Institutional betrayal following military sexual trauma is associated with more severe depression and specific posttraumatic stress disorder symptom clusters.**

Felicia J. Andresen, Lindsey L. Monteith, Jordan Kugler, Rick A. Cruz, Rebecca K. Blais

Journal of Clinical Psychology

First published: 04 April 2019

<https://doi.org/10.1002/jclp.22773>

**Objective**

Preliminary research suggests that perceptions of institutional betrayal are associated with more severe symptoms of posttraumatic stress disorder (PTSD) and depression, as well as suicide attempts in military sexual trauma (MST) survivors. However, results have not been replicated. Additionally, associations of institutional betrayal with specific PTSD symptom clusters or sexual function are understudied.

**Method**

Female service members/veterans who reported experiencing MST (N = 679) completed self-report measures of PTSD and depression symptom severity, suicidal ideation, and sexual function. Institutional betrayal was assessed from free-text descriptions of self-reported index traumas.

**Results**

Institutional betrayal was significantly associated with more severe depression and PTSD symptoms, including avoidance, negative alterations in cognitions and mood, re-experiencing, and dysphoric arousal.

**Conclusions**

Targeting specific PTSD and depressive symptoms through evidence-based treatment may be important for managing institutional betrayal sequelae. Future research should identify specific strategies to help support survivors in their recovery following institutional betrayal.

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<https://ps.psychiatryonline.org/doi/abs/10.1176/appi.ps.201800343>

## **Impact of a Service Line Management Model on Behavioral Health Care in the Military Health System.**

Christopher G. Ivany, Kelly W. Bickel, Tari Rangel, James Sarver, Joann Dinkel-Holzer, Dennis M. Sarmiento, and Charles W. Hoge

Psychiatric Services

Published Online: 5 Apr 2019

<https://doi.org/10.1176/appi.ps.201800343>

Large health care systems are seeking to reduce variation in care delivery and improve outcomes. This column describes the U.S. Army health care system's transformation to a service line management model and the impact on behavioral health care between 2013 and 2017. An evaluation found a promising association between the service line model and greater use of standard outpatient clinical programs, more frequent engagement of patients with serious conditions, and less use of inpatient services. The observational nature of these preliminary findings does not permit causal inferences; however, the service line model may help health care systems reduce variation between geographically distinct care delivery locations and improve performance.

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<https://www.cambridge.org/core/journals/psychological-medicine/article/childhood-trauma-and-the-impact-of-deployment-on-the-development-of-mental-disorder-in-military-males/6750DF52E4C74E00F221228649C10DD2>

## **Childhood trauma and the impact of deployment on the development of mental disorder in military males.**

Syed Sheriff, R., Van Hooff, M., Malhi, G., Grace, B., & McFarlane, A.

Psychological Medicine

Published online: 05 April 2019

<https://doi.org/10.1017/S0033291719000655>

Background

Childhood adversity is associated with mental disorder following military deployment. However, it is unclear how different childhood trauma profiles relate to developing a

post-deployment disorder. We investigated childhood trauma prospectively in determining new post-deployment probable disorder.

### Methods

In total, 1009 Regular male ADF personnel from the Australian Defence Force (ADF) Middle East Area of Operations (MEAO) Prospective Study provided pre- and post-deployment self-report data. Logistic regression and generalised structural equation modelling were utilised to examine associations between childhood trauma and new post-deployment probable disorder and possible mediator pathways through pre-deployment symptoms.

### Results

There were low rates of pre-deployment probable disorder. New post-deployment probable disorder was associated with childhood trauma, index deployment factors (combat role and deployment trauma) and pre-deployment symptoms but not with demographic, service or adult factors prior to the index deployment (including trauma, combat or previous deployment). Even after controlling for demographic, service and adult factors prior to the index deployment as well as index deployment trauma, childhood trauma was still a significant determinant of new post-deployment probable disorder. GSEM demonstrated that the association between interpersonal childhood trauma and new post-deployment probable disorder was fully mediated by pre-deployment symptoms. This was not the case for those who experienced childhood trauma that was not interpersonal in nature.

### Conclusions

To determine the risk of developing a post-deployment disorder an understanding of the types of childhood trauma encountered is essential, and pre-deployment symptom screening alone is insufficient

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<https://www.amhcajournal.org/doi/abs/10.17744/mehc.41.2.05>

### **Suicide Content Published in Counseling Journals: A 21-Year Content Analysis to Inform Research and Practice.**

Laura L. Gallo, Regina R. Moro, and Lauren Moore

Journal of Mental Health Counseling  
March 2019, Vol. 41, No. 2, pp. 158-172

This content analysis provides an overview of suicide articles published in 24 counseling journals between 1996 and 2016. A total of 78 articles were published, representing 0.74% of the total published literature within these journals. The Journal of Mental Health Counseling published the highest number of articles. In addition to the number of articles published during this 21-year period, the focus areas within suicide, the type of article (research or conceptual), and the type of research are identified. Results indicated the highest focus areas were in assessment, theory/attitudes toward suicide, and special populations. Implications such as increasing discussions of suicide, especially related to youth; incorporating theories of suicide into practice; and recommendations for counselor educators in teaching suicide are provided.

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<https://journals.sagepub.com/doi/abs/10.1177/1745691618812680>

### **Suicide in Transgender Veterans: Prevalence, Prevention, and Implications of Current Policy.**

Raymond P. Tucker

Perspectives on Psychological Science

First Published April 4, 2019

<https://doi.org/10.1177/1745691618812680>

Transgender adults serve in the U.S. military at 2 to 3 times the rate of the general adult population. Unfortunately, transgender veterans die by suicide at twice the rate of their cisgender veteran peers and approximately 5.85 times the rate of the general population. This article reviews the literature regarding the prevalence of suicidal thoughts and behaviors in transgender veterans. Suicide risk and resilience factors are reviewed, and future areas of study are detailed that incorporate findings from the broader suicide-prevention literature and research on transgender mental-health disparities. Individual services and broader prevention considerations are discussed, including the adaptation of evidence-based suicide-specific psychological interventions, national transgender health-training resources, and relevant veteran suicide-prevention initiatives. Finally, U.S. Department of Defense and U.S. Department of Veterans Affairs policies regarding transgender service and health care are reviewed. State-level policies relevant to transgender veteran suicide such as firearm ownership and nondiscrimination laws are also reviewed, and their implications for suicide prevention are discussed. The aim of this article is to provide a broad review of research findings

from multiple fields of study to assist health-care providers, researchers, and policymakers in their efforts to prevent transgender veteran suicide.

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<https://econtent.hogrefe.com/doi/abs/10.1027/0227-5910/a000590?journalCode=cric>

## **Evaluation of the Safety and Design of Community Internet Resources for Veteran Suicide Prevention.**

Jason I. Chen, Ginnifer L. Mastarone, Santisia A. Ambrosino, Nicole Anzalone, Kathleen F. Carlson, Steven K. Dobscha, and Alan R. Teo

Crisis

Published online: April 2, 2019

<https://doi.org/10.1027/0227-5910/a000590>

### **Background:**

Recent data show many veterans who die by suicide are not currently engaged in mental health care. Veterans frequently use the Internet for health information and may look online for community resources when in distress. However, little is known about their design characteristics.

### **Aim:**

To evaluate the design and content of community, veteran suicide prevention websites.

### **Method:**

Community websites focused on veteran suicide prevention were gathered through Internet searches using standardized search terms. Websites that met the inclusion criteria ( $n = 9$ ) were evaluated for adherence to suicide safe messaging, usability, readability, and credibility heuristics. Interrater reliability was evaluated using kappa statistics. Descriptive statistics were used to describe website features.

### **Results:**

Community websites tended to provide help-seeking information, safe messaging, and community activities. However, no websites provided information on lethal means safety or references to signal credibility.

#### Limitations:

The sample was small and only included English-language websites, and focused on veteran-oriented, community websites.

#### Conclusion:

Community suicide prevention websites focused on veterans could be improved through increased readability, credibility, and provision of lethal means safety information.

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<https://onlinelibrary.wiley.com/doi/full/10.1002/jts.22389>

### **Invariance of the Construct of Posttraumatic Stress Disorder: A Systematic Review.**

Contractor, A. A., Caldas, S. V., Dolan, M. , Natesan, P. and Weiss, N. H.

Journal of Traumatic Stress

First published: 03 April 2019

<https://doi.org/10.1002/jts.22389>

We conducted a systematic review of studies that have evaluated invariance of the construct of posttraumatic stress disorder (PTSD) to summarize their conclusions related to invariance/noninvariance and sources of noninvariance. In November 2017, we searched Pubmed, PSYCINFO, PILOTS Web of Science, CINAHL, Medline, and Psychological and Behavioral Science Collection for abstracts and articles with these inclusionary criteria: peer-reviewed, including DSM-IV or DSM-5 PTSD invariance as a main study aim, use of multigroup confirmatory factor analyses, and use of an independent PTSD instrument or module. In total, 45 articles out of 1,169 initially identified abstracts met inclusion criteria. Research assistants then followed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to complete a secondary search and independently extract data. Results indicated that DSM-IV dysphoric arousal and DSM-5 hybrid model factors demonstrated the most stability; sources of instability were some intrusion (distress to trauma cues), dysphoria/numbing (traumatic amnesia, foreshortened future, emotional numbness, detachment), and arousal (hypervigilance) items. The PTSD Checklist and PTSD Reaction Index were most often used to assess PTSD in studies investigating its invariance; however, these measures demonstrated partial conceptual equivalence of PTSD across subgroups. Instead, clinician-administered measures demonstrated more conceptual equivalence across subgroups. Age, gender, cultural/linguistic factors, and

sample diversity had the least moderating effect on PTSD's symptom structure. Our review demonstrates the need to examine invariance of the PTSD construct following recommended guidelines for each empirical and clinical trial study to draw meaningful multigroup comparative conclusions.

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<https://econtent.hogrefe.com/doi/abs/10.1027/0227-5910/a000588?journalCode=cric>

## **Interactive Effects of Acute Suicidal Affective Disturbance and Pain Persistence on Suicide Attempt Frequency and Lethality.**

Megan L. Rogers and Thomas E. Joiner

Crisis

Published online: April 2, 2019

<https://doi.org/10.1027/0227-5910/a000588>

### **Background:**

Acute suicidal affective disturbance (ASAD) has been proposed as a suicide-specific entity that confers risk for imminent suicidal behavior. Preliminary evidence suggests that ASAD is associated with suicidal behavior beyond a number of factors; however, no study to date has examined potential moderating variables.

### **Aims:**

The present study tested the hypotheses that physical pain persistence would moderate the relationship between ASAD and (1) lifetime suicide attempts and (2) attempt lethality. Method: Students (N = 167) with a history of suicidality completed self-report measures assessing the lifetime worst-point ASAD episode and the presence of a lifetime suicide attempt, a clinical interview about attempt lethality, and a physical pain tolerance task.

### **Results:**

Physical pain persistence was a significant moderator of the association between ASAD and lifetime suicide attempts ( $B = 0.00001$ ,  $SE = 0.000004$ ,  $p = .032$ ), such that the relationship between ASAD and suicide attempts strengthened at increasing levels of pain persistence. The interaction between ASAD and pain persistence in relation to attempt lethality was nonsignificant ( $B = 0.000004$ ,  $SE = 0.00001$ ,  $p = .765$ ).

#### Limitations:

This study included a cross-sectional/retrospective analysis of worst-point ASAD symptoms, current physical pain perception, and lifetime suicide attempts.

#### Conclusion:

ASAD may confer risk for suicidal behavior most strongly at higher levels of pain persistence, whereas ASAD and pain perception do not influence attempt lethality.

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#### Links of Interest

Discontinuation syndrome and antidepressants

<https://www.health.harvard.edu/blog/discontinuation-syndrome-and-antidepressants-2019040416361>

I Followed My Father Into the Marines. But It Was Different for a Woman.

<https://www.nytimes.com/2019/04/04/magazine/marine-corps-sexual-harassment.html>

Sen. McSally has ideas about preventing sexual assaults at service academies

<https://www.armytimes.com/news/your-army/2019/04/04/sen-mcsally-has-ideas-about-preventing-sexual-assaults-at-service-academies/>

Army plans to expand program that helps soldiers find jobs after service

<https://www.stripes.com/army-plans-to-expand-program-that-helps-soldiers-find-jobs-after-service-1.575693>

This man may have gotten more vets into Ivy League schools than anyone else

<https://rebootcamp.militarytimes.com/news/education/2019/04/04/this-man-may-have-gotten-more-vets-into-the-ivy-leagues-than-anyone-else/>

The military leads all other professions in the number of days spent drinking per year, study claims

<https://www.militarytimes.com/off-duty/military-culture/2019/04/05/the-military-leads-all-other-professions-in-the-number-of-days-spent-drinking-per-year/>

How one school district does right by military children

<https://www.militarytimes.com/pay-benefits/2019/04/05/how-one-school-district-does-right-by-military-children/>



Soldiers can now get counseling for a drinking problem and stay deployable  
<https://www.armytimes.com/news/your-army/2019/04/05/soldiers-can-now-get-counseling-for-a-drinking-problem-and-stay-deployable/>

Kansas National Guard Captain Submits Resignation in Wake of Suicides  
<https://www.military.com/daily-news/2019/04/07/kansas-national-guard-captain-submits-resignation-wake-suicides.html>

Breaking the pain cycle  
<https://health.mil/News/Articles/2019/04/09/Breaking-the-pain-cycle>

Two veterans kill themselves at separate VA medical centers in Georgia  
<https://www.ajc.com/news/breaking-news/two-veterans-kill-themselves-separate-medical-centers-georgia/>

Wisconsin Military Veterans To Get Nation's First Peer-Run Respite Home  
<https://www.wpr.org/wisconsin-military-veterans-get-nations-first-peer-run-respite-home>

Why Do Trauma Survivors Develop Depression?  
<https://www.psychologytoday.com/us/blog/finding-new-home/201904/why-do-trauma-survivors-develop-depression>

The Powerful Link Between Insomnia and Depression  
<https://www.psychologytoday.com/us/blog/balanced/201904/the-powerful-link-between-insomnia-and-depression>

Fort Bragg created a sexual assault 'escape room,' but it's not what it sounds like  
<https://www.armytimes.com/news/your-army/2019/04/09/fort-bragg-created-a-sexual-assault-escape-room-but-its-not-what-it-sounds-like/>

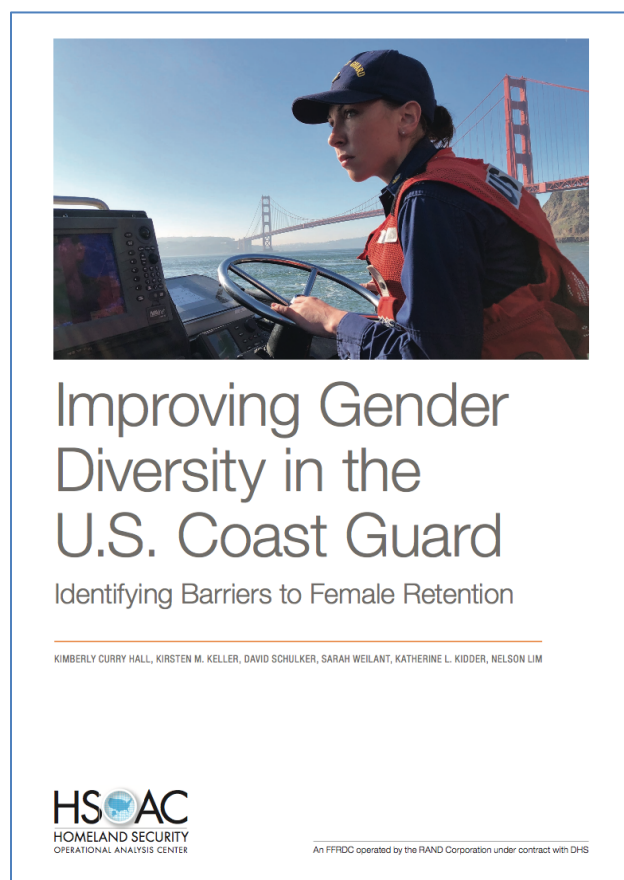
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### **Resource of the Week -- [Improving Gender Diversity in the U.S. Coast Guard Identifying Barriers to Female Retention](#)**

New, from the RAND Corporation:

The U.S. Coast Guard aims to attract, recruit, and retain a workforce from all segments of American society. Currently, however, women leave the active-duty Coast Guard at higher rates than men. This report documents the results of a

mixed-methods study designed to help identify the root causes of female attrition in the active-duty Coast Guard. The study conducted a statistical analysis of Coast Guard personnel data to examine gender differences in retention trends and whether certain career and personnel characteristics could help explain the gender gap in retention. The study also conducted 164 focus groups with 1,010 active-duty Coast Guard women to better understand potential barriers to female retention; 27 focus groups with 127 active-duty men were also conducted to help identify retention factors that resonate with both men and women and those factors that may be unique to women. Based on the study findings, the report provides recommendations to help mitigate identified barriers and improve female retention within the Coast Guard.



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Shirl Kennedy  
Research Editor  
Center for Deployment Psychology  
[www.deploymentpsych.org](http://www.deploymentpsych.org)  
[skennedy@deploymentpsych.org](mailto:skennedy@deploymentpsych.org)  
240-535-3901