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Research Update -- July 13, 2023

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Mental Health Stigma in Active Duty Service Members Receiving Mental Health Services.

Jennifer K Zumwalde, MS, LRT, CTRS, Brent L Hawkins, PhD, LRT, CTRS, FDRT, Kathleen M Young, DNP, PMHNP-DBN (Ret.)

Introduction
Mental health treatment is a service for military service members who have experienced psychological injury or trauma. Unfortunately, the stigma associated with treatment can prevent many service members from seeking and receiving treatment designed to help them recover. Previous studies have examined the impacts of stigma among military personnel as well as civilians; however, stigma among service members currently receiving mental health treatment is unknown. The purpose of this study is to understand the relationships between stigma, demographic variables, and mental health symptoms in a sample of active duty service members receiving mental health services in a partial hospitalization program.

Materials and Methods
This cross-sectional, correlational study collected data from participants in the Psychiatric Continuity Services clinic at Walter Reed National Military Medical Center, which offers a four-week partial hospitalization program specializing in trauma recovery for active duty service members of all branches. The data from behavioral health assessments were gathered over a 6-month timespan, including the Behavior and Symptom Identification Scale-24, Patient Health Questionnaire-9, Generalized Anxiety Disorder 7-item scale, and Post-traumatic Stress Disorder Checklist for Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5). Stigma was measured using the Military Stigma Scale (MSS). The demographic data collected included military rank and ethnicity. Pearson correlations, t-tests, and linear regression were used to further explore the relationships between the MSS scores, demographic covariates, and behavioral health measures.

Results

In unadjusted linear regression models, non-white ethnicity and higher behavioral health assessment intake measures were associated with higher MSS scores. However, after adjusting for gender, military rank, race, and all mental health questionnaires, only Post-traumatic Stress Disorder Checklist for DSM-5 intake scores remained associated with MSS scores. No relationship between gender or military rank and average stigma score was observed in either the unadjusted or adjusted regression models. One-way analysis of variance detected a statistically significant difference between the white/Caucasian group and Asian/Pacific Islander group and a near significant difference between white/Caucasian group and black/African American group. The rates of stigma were higher in non-whites than whites.

Conclusions

In this active duty military cohort, greater mental health stigma was associated with greater severity of mental health symptoms, especially post-traumatic stress symptoms. Some evidence found that ethnicity may also play a role in stigma score differences, particularly in the Asian/Pacific Islander group. Service providers could consider assessing mental health stigma to meet the clinical needs of their patients within the context of their willingness to obtain and adhere to treatment. Anti-stigma efforts to reduce stigma and its impacts on mental health are discussed. Additional research investigating the effect stigma has on treatment outcomes would help guide the relative importance of assessing stigma, in addition to other behavioral health realms.

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Meaningful Occupation and Resilience among Older U.S. Veterans: A Mixed Methods Study.

Amanda L. Carroll & Antoine L. Bailliard

Background
Research on the factors that promote the health of older veterans is limited.

Purpose
To explore the relationships between military service, occupational participation, resilience and successful aging for older U.S. military veterans.

Method
A sequential explanatory mixed methods design was used, a survey (n = 41) and follow-up interviews (n = 9).

Findings
Occupational participation was associated with resilience (r = 0.60, p < .01). Three integrated themes emerged: (1) staying engaged & connected, (2) relationship between occupation and resilience, and (3) positive impact of military service.

Conclusion
Findings help fill the gap in research identifying intervention targets for older veterans.

KEY MESSAGES
- The meaningful occupational participation of older veterans has received little attention in previous literature and is an important area of focus with strong relevance for occupational therapy
- Occupational therapy practitioners can play an important role in promoting the healthy aging and resilience of this population through occupation-based interventions

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I AM FAMILY: Understanding the adapted sport experiences of family members of military personnel with physical and psychological illnesses and injuries through the lens of the Invictus Games.

Amber Duong, Lauren Roberts, Heidi Cramm, M. Blair Evans, ... Celina H. Shirazipour

Family are influential actors in adapted sport participation. However, little is known about their experiences with adapted sport. The current study sought to explore the experiences of families in adapted sport through the context of the Invictus Games, an

international adapted sport competition for military personnel with physical and psychological illnesses and injuries that is unique in its inclusion of family programming. Family members (n = 21; partners, parents, siblings, and children) of Invictus Games Toronto 2017 competitors participated in semi-structured interviews. Data were analyzed using reflexive thematic analysis. Three themes were identified: recognition of family experiences during service and after onset of disability; creating a sense of belonging; and improving family knowledge and perceptions. This study provides insight regarding how adapted sport events can support the well-being of both individuals with illnesses and injuries and their families.

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Early prediction of mental health problems following military deployment: Integrating pre- and post-deployment factors in neural network models.

Karen-Inge Karstoft, Kasper Eskelund, Jaimie L. Gradus, Søren B. Andersen, Lars R. Nissen

Military personnel deployed to war zones are at increased risk of mental health problems such as posttraumatic stress disorder (PTSD) or depression. Early pre- or post-deployment identification of those at highest risk of such problems is crucial to target intervention to those in need. However, sufficiently accurate models predicting objectively assessed mental health outcomes have not been put forward. In a sample consisting of all Danish military personnel who deployed to war zones for the first (N = 27,594), second (N = 11,083) and third (N = 5,161) time between 1992 and 2013, we apply neural networks to predict psychiatric diagnoses or use of psychotropic medicine in the years following deployment. Models are based on pre-deployment registry data alone or on pre-deployment registry data in combination with post-deployment questionnaire data on deployment experiences or early post-deployment reactions. Further, we identified the most central predictors of importance for the first, second, and third deployment. Models based on pre-deployment registry data alone had lower accuracy (AUCs ranging from 0.61 (third deployment) to 0.67 (first deployment)) than models including pre- and post-deployment data (AUCs ranging from 0.70 (third deployment) to 0.74 (first deployment)). Age at deployment, deployment year and previous physical trauma were important across deployments. Post-deployment

predictors varied across deployments but included deployment exposures as well as early post-deployment symptoms. The results suggest that neural network models combining pre- and early post-deployment data can be utilized for screening tools that identify individuals at risk of severe mental health problems in the years following military deployment.

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Diagnosed Posttraumatic Stress Disorder and Other Trauma-Associated Stress Disorders and Risk for Suicide Mortality.

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Objective:
Strong evidence exists for posttraumatic stress disorder (PTSD) as a risk factor for suicidal thoughts and behaviors across diverse populations. However, few empirical studies have examined PTSD and other trauma-associated stress disorders as risk factors for suicide mortality among health system populations. This study aimed to assess trauma-associated stress diagnoses as risk factors for suicide mortality in a U.S. health system population.

Methods:
This case-control, matched-design study examined individuals who died by suicide between 2000 and 2015 and had received care from nine U.S. health systems affiliated with the Mental Health Research Network (N=3,330). Individuals who died by suicide were matched with individuals from the general health system population (N=333,000): 120 individuals with PTSD who died by suicide were matched with 1,592 control group members, 84 with acute reaction to stress were matched with 2,218 control individuals, and 331 with other stress reactions were matched with 8,174 control individuals.

Results:
After analyses were adjusted for age and sex, individuals with any trauma-associated stress condition were more likely to have died by suicide. Risk was highest among individuals with PTSD (adjusted OR [AOR]=10.10, 95% CI=8.31–12.27), followed by those with other stress reactions (AOR=5.38, 95% CI=4.78–6.06) and those with acute reaction to stress (AOR=4.49, 95% CI=3.58–5.62). Patterns of risk remained the same when the analyses were adjusted for any comorbid psychiatric condition.

Conclusions:
All trauma-associated stress disorders are risk factors for suicide mortality, highlighting the importance of health system suicide prevention protocols that consider the full spectrum of traumatic stress diagnoses.

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Sleep disorders in veterans with serious mental illnesses: prevalence in VA health record data.

Kelsey A. Bonfils, PhD , Julia M. Longenecker, PhD , Isabella Soreca, MD , Lillian A. Hammer, MPS , Caitlan A. Tighe, PhD , Gretchen L. Haas, PhD , Adam D. Bramoweth, PhD

STUDY OBJECTIVES:
This study aimed to estimate the 12-month prevalence of diagnosed sleep disorders among veterans with and without serious mental illnesses (SMI) in VA health record data in 2019. We also examined diagnosed sleep disorders across a 9-year period and explored associations with demographic and health factors.

METHODS:
This study used health record data from VISN 4 of the Veterans Health Administration (VHA) from 2011-2019. SMI diagnoses included schizophrenia and bipolar spectrum diagnoses as well as major depression with psychosis. Sleep diagnoses included insomnias, hypersomnias, sleep-related breathing disorders, circadian rhythm sleep-wake disorders, and sleep-related movement disorders. Demographic and health-related factors were also collected from the record.

RESULTS:
In 2019, 21.8% of veterans with SMI were diagnosed with a sleep disorder. This is a significantly higher proportion than for veterans without SMI, 15.1% of whom were diagnosed with a sleep disorder. Sleep disorder rates were highest in veterans with a chart diagnosis of major depression with psychosis. From 2011 to 2019, the overall prevalence of sleep disorders in veterans with SMI more than doubled (10.2% to 21.8%), suggesting improvements in the detection and diagnosis of sleep concerns for this group.

CONCLUSIONS:
Our findings suggest that identification and diagnosis of sleep disorders for veterans with SMI has improved over the past decade, though diagnoses still likely underrepresent actual prevalence of clinically relevant sleep concerns. Sleep concerns may be at particularly high risk of going untreated in veterans with schizophrenia-spectrum disorders.

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Exploring Influences of Eating Behaviors Among Emerging Adults in the Military.

Melissa R. Troncoso, Candy Wilson, Jonathan M. Scott, Patricia A. Deuster

Journal of Nutrition Education and Behavior
Volume 55, Issue 5, May 2023, Pages 331-342

Objective
Identify factors influencing eating behaviors among emerging adults in the military.

Design
Focused ethnography using interviews, observations, and artifacts for data.

Setting
Three US Naval installations.

Participants
Thirty-two active-duty Sailors aged 18–25 years.

Analysis
Qualitative data were organized in NVivo and analyzed sequentially to categorize culturally relevant domains and themes using a social ecological model (SEM). Descriptive statistics were used to describe questionnaire data in SPSS (version 27.0, IBM, 2020).

Results
Leaders encouraged healthy eating through policies and messages, but cultural contradictions and environmental barriers undermined Sailors' efforts to eat healthily. Stress and resource constraints (intrapersonal), peer pressure (social), unhealthy food environments and lack of access to food preparation (environmental), and eating on the go because of mission-first norms (cultural) promoted unhealthy eating behaviors. Nutrition and culinary literacy (intrapersonal); peer support and leadership engagement (social); access to healthy, convenient, and low-cost foods (environmental); and indoctrination to healthy eating during recruit training (cultural) positively influenced eating behaviors.

Conclusion and Implications
The eating behaviors of service members are influenced by many modifiable factors. Targeted education, leadership engagement, and policies that make nutritious foods easily accessible, appealing, and preferred are needed.

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Subjective well-being and suicidal ideation in a military community sample.

Craig J. Bryan, AnnaBelle O. Bryan, Justin C. Baker, Kent A. Corso, Christopher J. Button, Katie M. Ragan & Brian R.W. Baucom

Preliminary evidence suggests different dimensions of subjective well-being (SWB) may be differentially associated with reduced suicide risk when measured at the person versus group level. In this longitudinal study, 2055 military personnel and civilian government employees completed self-report surveys administered 6 times from January 2020 to November 2021. Generalized estimating equation (GEE) models were used to examine associations among life satisfaction, perceptions of life being

worthwhile, happiness, negative affect, and suicidal ideation. At the participant level, life satisfaction and worthwhile life were significantly correlated with reduced suicidal ideation whereas negative affect was significantly correlated with increased suicidal ideation. At the unit level, happiness was significantly correlated with reduced suicidal ideation. When covarying for participant-level depression and hopelessness, participant-level life satisfaction was no longer statistically significant. Results suggest eudaimonic SWB may be protective at the individual level whereas hedonic SWB may be protective at the group level.

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Welcome to the U.S. Army: A Qualitative Examination of the Army's Reception of New Soldiers.

Kintzle, S., Schnyder, L. P., Alday, E., Gonzalez, L. A., Mor Barak, M., & Castro, C. A.

Joining the Army, a new installation or a new unit are times of significant stress for Soldiers. Support provided during these transitions can affect unit cohesion, Soldier well-being, retention, and mission readiness. This research aimed to explore how Soldiers experience the Army onboarding process as well as perceptions of the welcome experience. Nineteen focus groups were conducted with 120 Soldiers using a semistructured interview protocol. Thematic analysis of focus group transcripts revealed two major themes, varied welcome experience and an inconsistent Total Army Sponsorship Program. Soldiers reported varied transition experiences ranging from positive, neutral, nonexistent, to negative. Results indicate that Soldiers welcome experience was dependent on the specific installation, leaders, and unit. Findings demonstrate that at the installation and unit level, the Army currently lacks standardized processes for onboarding new service members. We note the research limitations and offer several recommendations that can be drawn from the present findings.

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"A Hidden Community": The Experiences of Help-Seeking and Receiving Mental Health Treatment in U.K. Women Veterans. A Qualitative Study.

Campbell, G. M., Williamson, V., & Murphy, D.

Women veterans are often underserved in both the research into and provision of mental health treatment. This study explored women veterans' experiences of mental health difficulties, help-seeking, and treatment provision. Semistructured telephone interviews with 19 U.K. women veterans who met criteria for posttraumatic stress disorder were conducted and Reflexive Thematic Analysis was used in analysis. Three superordinate themes encompassing participants' experiences were developed: (a) attitudes toward mental health and help-seeking; (b) the need to acknowledge the uniqueness of women veterans; and (c) the structural elements of care provision. The findings indicate that women veterans have additional gender-specific challenges and needs concerning tailored pathways into help and support, as well as the environment and modality of treatment delivery, as distinct from veteran men.

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The Relative Impact of Different Types of Military Sexual Trauma on Long-Term PTSD, Depression, and Suicidality.

Galovski, T. E., McSweeney, L. B., Woolley, M. G., Alpert, E., & Nillni, Y. I.

Sexual assault and harassment in the U.S. military are very common. Military sexual trauma (MST) is defined as sexual assault or harassment experienced during military service; yet, the relative impact of sexual assault, harassment, and their combination is not well understood. Given the extent and potential severity of the long-term outcomes of MST, it is critical to evaluate the relative impacts of these types of MST on long-term mental health outcomes. Veterans (n = 2499; 54% female) completed self-report

measures of experiences of sexual assault and harassment perpetrated by coworkers during military service, posttraumatic stress disorder (PTSD), depression, and suicidality. Controlling for combat exposure, all types of MST experiences (Harassment Only, Assault Only, or Both) compared to No MST predicted greater severity of PTSD, depression, and suicidality after military service. Compared to Veterans with No MST, those who experienced Both Assault and Harassment reported significantly more severe PTSD, depression, and suicidality followed by Harassment Only, and then Assault Only. Data suggest that different types of MST experiences have an impact on long-term mental health outcomes, and the combination of Both sexual Assault and Harassment is particularly deleterious.

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Neuropsychological deficit profiles for service members with mild traumatic brain injury.

Jones, C., Ramsey, K., Beydoun, H. A., & Johnstone, B.

Background:
Neuropsychological deficits are generally assessed in terms of absolute level of functioning, e.g. high average, average, low average, although there is increased interest in calculating indices of relative degree of decline, e.g. mild, moderate, severe.

Objective:
To examine differences in demographic, psychiatric, and military-specific characteristics for relative degree of decline in neuropsychological profiles attributed to traumatic brain injuries (TBIs) among service members (SMs).

Methods:
Data were drawn from an existing clinical database of 269 SMs who received neuropsychological evaluations for TBI (Wechsler Test of Adult Reading, Wechsler Adult Intelligence Scale, California Verbal Learning Test, Delis-Kaplan Executive Function System) at a military treatment facility between 2013 and 2018. Independent sample t-tests and one-way ANOVA tests with pairwise comparisons were performed.

Results:
Memory and problem-solving abilities were the most and least affected domains, respectively. Greater relative decline was observed among male and White SMs and those with post-traumatic stress disorder (PTSD). By contrast, there were no differences in relative decline according to military rank or work status.

Conclusion:
Relative degree of decline after TBI among SMs is differentially impacted according to neuropsychological domain, with greater impairment among male and White SMs as well as those with PTSD.

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Characteristics and Correlates of Ten-Year Trajectories of Posttraumatic Stress Symptoms in Older U.S. Military Veterans.

Moye, J., Kaiser, A. P., Cook, J. M., Fischer, I. C., Levy, B. R., & Pietrzak, R. H.

American Journal of Geriatric Psychiatry
2023 Jun 6; S1064-7481(23)00315-9

Objectives:
To examine the nature and correlates of 10-year trajectories of posttraumatic stress disorder (PTSD) symptoms in older U.S. military Veterans.

Design and setting:
A nationally representative web-based survey of older U.S. Veterans who participated in the National Health and Resilience in Veterans Study over 5 waves between 2011 and 2021.

Participants:
A total of 1,843 U.S. Veterans aged 50 and older (mean age = 67).

Measurements:
PTSD symptoms were assessed using the PTSD Checklist. Self-report measures at baseline assessed sociodemographic characteristics; trauma exposures; psychiatric and substance use disorders; mental, cognitive, and physical functioning; and

psychosocial factors including expectations of aging. Latent growth mixture modeling identified the nature and correlates of 10-year PTSD symptom trajectories.

Results:
Most of the sample had no/low PTSD symptoms (88.7%), while 6.0% had consistently subthreshold symptoms, 2.7% consistently high symptoms, and 2.6% increasing symptoms. Relative to the no/low symptom group, the subthreshold and high symptom groups reported more medical conditions and cognitive difficulties, with younger age and more lifetime traumatic events additionally linked to the high symptom trajectory. Relative to the no/low symptom group, Veterans with increasing symptoms were more likely to report functional disability and lifetime nicotine use disorder, cognitive difficulties, negative expectations regarding physical and emotional aging, and traumatic events over the study period.

Conclusions:
Despite high rates of trauma exposure, most older Veterans do not evidence symptomatic PTSD trajectories; however, about 11% do. Results underscore the importance of assessing PTSD symptoms in this population and considering longitudinal trajectories as well as associated risk and protective factors.

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Development and Validation of a Machine Learning Prediction Model of Posttraumatic Stress Disorder After Military Deployment.

Papini, S., Norman, S. B., Campbell-Sills, L., Sun, X., He, F., Kessler, R. C., Ursano, R. J., Jain, S., & Stein, M. B.

JAMA Network Open
2023 Jun 1; 6(6): e2321273

Importance:
Military deployment involves significant risk for life-threatening experiences that can lead to posttraumatic stress disorder (PTSD). Accurate predeployment prediction of PTSD risk may facilitate the development of targeted intervention strategies to enhance resilience.

Objective:
To develop and validate a machine learning (ML) model to predict postdeployment PTSD.

Design, setting, and participants:
This diagnostic/prognostic study included 4771 soldiers from 3 US Army brigade combat teams who completed assessments between January 9, 2012, and May 1, 2014. Predeployment assessments occurred 1 to 2 months before deployment to Afghanistan, and follow-up assessments occurred approximately 3 and 9 months post deployment. Machine learning models to predict postdeployment PTSD were developed in the first 2 recruited cohorts using as many as 801 predeployment predictors from comprehensive self-report assessments. In the development phase, cross-validated performance metrics and predictor parsimony were considered to select an optimal model. Next, the selected model's performance was evaluated with area under the receiver operating characteristics curve and expected calibration error in a temporally and geographically distinct cohort. Data analyses were performed from August 1 to November 30, 2022.

Main outcomes and measures:
Posttraumatic stress disorder diagnosis was assessed by clinically calibrated self-report measures. Participants were weighted in all analyses to address potential biases related to cohort selection and follow-up nonresponse.

Results:
This study included 4771 participants (mean [SD] age, 26.9 [6.2] years), 4440 (94.7%) of whom were men. In terms of race and ethnicity, 144 participants (2.8%) identified as American Indian or Alaska Native, 242 (4.8%) as Asian, 556 (13.3%) as Black or African American, 885 (18.3%) as Hispanic, 106 (2.1%) as Native Hawaiian or other Pacific Islander, 3474 (72.2%) as White, and 430 (8.9%) as other or unknown race or ethnicity; participants could identify as of more than 1 race or ethnicity. A total of 746 participants (15.4%) met PTSD criteria post deployment. In the development phase, models had comparable performance (log loss range, 0.372-0.375; area under the curve range, 0.75-0.76). A gradient-boosting machine with 58 core predictors was selected over an elastic net with 196 predictors and a stacked ensemble of ML models with 801 predictors. In the independent test cohort, the gradient-boosting machine had an area under the curve of 0.74 (95% CI, 0.71-0.77) and low expected calibration error of 0.032 (95% CI, 0.020-0.046). Approximately one-third of participants with the highest risk accounted for 62.4% (95% CI, 56.5%-67.9%) of the PTSD cases. Core predictors cut across 17 distinct domains: stressful experiences, social network, substance use, childhood or adolescence, unit experiences, health, injuries, irritability or anger,

personality, emotional problems, resilience, treatment, anxiety, attention or concentration, family history, mood, and religion.

Conclusions and relevance:
In this diagnostic/prognostic study of US Army soldiers, an ML model was developed to predict postdeployment PTSD risk with self-reported information collected before deployment. The optimal model showed good performance in a temporally and geographically distinct validation sample. These results indicate that predeployment stratification of PTSD risk is feasible and may facilitate the development of targeted prevention and early intervention strategies.

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Post-Traumatic Stress Disorder and End-of-Life Care: A Well-Being Review.

Eleff, A., & Shloush, M.

Post-Traumatic Stress Disorder can be a debilitating comorbidity for a patient on end-of-life care. Combat veterans make up a vast majority of patients diagnosed with Post-Traumatic Stress Disorder and are therefore a vulnerable group requiring a comprehensive approach to their health care management. This paper addresses certain challenges the hospice and palliative care providers may encounter and offers solutions to ensure the patients maintain a high quality of life.

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Increasing Maternity Leave and Decreasing Attrition Rates of U.S. Active Duty Women in the Prenatal and Immediate Postpartum Period.

Minette S R Herrick, USAF, BSC, Weiwen Chai, PhD

Introduction

The USA currently does not have a national parental leave policy. In 2016, the Secretary of Defense increased the allotted maternity leave for active duty U.S. military members from 6 to 12 weeks. The purpose of this study was to understand the potential impact of this change on attrition rates of active duty women in the Army, Air Force, Navy, and Marines from their initial prenatal visit through the first year postpartum.

Methods

All active duty women who had a confirmed pregnancy in the electronic health record from 2011 to 2019 were included for consideration in the study. A total of 67,281 women met the inclusion criteria. These women were followed from their initial documented prenatal visit for 21 months (9 months gestation and 12 months postpartum) for removal from the Defense Eligibility and Enrollment Reporting System signaling attrition from service presumably related to pregnancy or childbirth. Logistic regression models were used to assess the association between maternity leave policy and attrition adjusting for covariates.

Results

Overall, women who were allotted 6 weeks of maternity leave were associated with higher attrition relative to women provided 12 weeks of maternity leave (odds ratio = 1.36; 95% CI, 1.31-1.42; $P < .0001$), representing a 22% decrease in attrition rates of women given 12 weeks vs. 6 weeks of leave. This impact of attrition rate was the greatest among members who were of lower rank (6 weeks vs. 12 weeks of leave: junior enlisted (E1-E3), 29.2% vs. 22.0%, $P < .0001$ and non-commissioned officer (E4-E6), 24.3% vs. 19.4%, $P < .0001$) and who served in the Army (28.0% vs. 21.2%, $P < .0001$) and Navy (20.0% and 14.9%, $P < .0001$).

Conclusions

Family-friendly health policy appears to have the intended outcome of retaining talent in the military workforce. The impact of health policy on this population can provide a glimpse into the influence of similar policies should they be implemented nationwide.

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Physical Fitness in Relationship to Depression and Post-Traumatic Stress Disorder During Pregnancy Among U.S. Army Soldiers.

Danielle M. Panelli, D. Alan Nelson, Samantha Wagner, Jonathan G. Shaw, Ciaran S. Phibbs, and Lianne M. Kurina

Background:
Depression and post-traumatic stress disorder (PTSD) are prevalent in pregnancy, especially among military members. These conditions can lead to adverse birth outcomes, yet, there's a paucity of evidence for prevention strategies. Optimizing physical fitness is one understudied potential intervention. We explored associations between prepregnancy physical fitness and antenatal depression and PTSD in soldiers.

Materials and Methods:
This was a retrospective cohort study of active-duty U.S. Army soldiers with live births between 2011 and 2014, identified with diagnosis codes from inpatient and outpatient care. The exposure was each individual's mean Army physical fitness score from 10 to 24 months before childbirth. The primary outcome was a composite of active depression or PTSD during pregnancy, defined using the presence of a code within 10 months before childbirth. Demographic variables were compared across four quartiles of fitness scores. Multivariable logistic regression models were conducted adjusting for potential confounders selected a priori. A stratified analysis was conducted for depression and PTSD separately.

Results:
Among 4,583 eligible live births, 352 (7.7%) had active depression or PTSD during pregnancy. Soldiers with the highest fitness scores (Quartile 4) were less likely to have active depression or PTSD in pregnancy (Quartile 4 vs. Quartile 1 adjusted odds ratio 0.55, 95% confidence interval 0.39–0.79). Findings were similar in stratified analyses.

Conclusion:
In this cohort, the odds of active depression or PTSD during pregnancy were significantly reduced among soldiers with higher prepregnancy fitness scores. Optimizing physical fitness may be a useful tool to reduce mental health burden on pregnancy.

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Veterans' experiences of moral injury, treatment and recommendations for future support.

Bonson, A., Murphy, D., Aldridge, V., Greenberg, N., & Williamson, V.

Introduction
Moral injury (MI) significantly impacts the lives of many UK military veterans however, there is a lack of manualised treatment to address the needs of this population. To develop future treatments that are acceptable and well tolerated, veterans should be consulted on their experiences of existing psychological treatments and suggestions for future treatments.

Methods
10 UK military veterans were interviewed about their experiences of receiving treatment for psychological difficulties after MI, and beliefs about core components of future treatments. Thematic analysis of these interviews were conducted.

Results
2 superordinate themes were identified: experiences of previous mental health treatment and perceptions of the proposed treatments. Reflections on cognitive behavioural therapy were mixed, with some describing that it did not ameliorate their guilt or shame. In future treatments, focusing on values, using written letters and including therapy sessions with close companions were considered beneficial. Veterans reported that a strong rapport with therapist was key for MI treatment.

Conclusion
Findings provide a useful account of how current post-trauma treatments may be experienced by patients with MI. Although limited by sample size, the results highlight therapeutic approaches that may be helpful in future and provide important considerations for therapists treating MI.

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The Re-Emerging Suicide Crisis in the U.S.: Patterns, Causes and Solutions.

Dave E. Marcotte and Benjamin Hansen

NBER (National Bureau of Economic Research) Working Paper No. 31242
May 2023

The suicide rate in the United States has risen nearly 40 percent since 2000. This increase is puzzling because suicide rates had been falling for decades at the end of the 20th Century. In this paper, we review important facts about the changing rate of suicide. General trends miss the story of important differences across groups – suicide rates rose substantially among middle aged persons between 2005 and 2015 but have fallen since. Among young people, suicide rates began a rapid rise after 2010 that has not abated. We review empirical evidence to assess potential causes for recent changes in suicide rates. The economic hardship caused by the Great Recession played an important role in rising suicide among prime-aged Americans. We illustrate that the increase in the prevalence of depression among young people during the 2010s was so large it could explain nearly all the increase in suicide mortality among those under 25. Bullying victimization of LGBTQ youth could also account for part of the rise in suicide. The evidence that access to firearms or opioids are major drivers of recent suicide trends is less clear. We end by summarizing evidence on the most promising policies to reduce suicide mortality.

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The Insomnia-Suicide Link Across the Life Cycle: a Review.

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Purpose of Review
The purpose of this review is to examine the literature regarding the link between

suicidal ideation and behavior with insomnia and briefly discuss how treatment of the latter may reduce the former.

Recent Findings
We considered the literature in three categories: adolescents, non-elderly adults and elderly adults. Each group had distinct presentations; adolescents displayed increased hopelessness as insomnia symptom severity increased, non-elderly adults displayed elevated rates of impulsive behavior and lastly older persons displayed increasing and persistent levels of depression related to thwarted belongingness as they transitioned into late life. Possible mechanisms underlying the suicide-insomnia link varied with each group; however, increasing insomnia symptom severity increased risk for suicide for all groups.

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Trends in Mortality From Poisonings, Firearms, and All Other Injuries by Intent in the US, 1999-2020.

Lawrence, W. R., Freedman, N. D., McGee-Avila, J. K., Berrington de González, A., Chen, Y., Emerson, M. A., Gee, G. C., Haozous, E. A., Haque, A. T., Inoue-Choi, M., Jackson, S. S., Lord, B., Nápoles, A. M., Pérez-Stable, E. J., Vo, J. B., Williams, F., & Shiels, M. S.

Importance:
Although deaths due to external causes are a leading cause of mortality in the US, trends over time by intent and demographic characteristics remain poorly understood.

Objective:
To examine national trends in mortality rates due to external causes from 1999 to 2020 by intent (homicide, suicide, unintentional, and undetermined) and demographic characteristics. External causes were defined as poisonings (eg, drug overdose), firearms, and all other injuries, including motor vehicle injuries and falls. Given the repercussions of the COVID-19 pandemic, US death rates for 2019 and 2020 were also compared.

Design, setting, and participants:
Serial cross-sectional study using national death certificate data obtained from the National Center for Health Statistics and including all external causes of 3 813 894 deaths among individuals aged 20 years or older from January 1, 1999, to December 31, 2020. Data analysis was conducted from January 20, 2022, to February 5, 2023.

Exposures:
Age, sex, and race and ethnicity.

Main outcomes and measures:
Trends in age-standardized mortality rates and average annual percentage change (AAPC) in rates calculated by intent (suicide, homicide, unintentional, and undetermined), age, sex, and race and ethnicity for each external cause.

Results:
Between 1999 and 2020, there were 3 813 894 deaths due to external causes in the US. From 1999 to 2020, poisoning death rates increased annually (AAPC, 7.0%; 95% CI, 5.4%-8.7%). From 2014 to 2020, poisoning death rates increased the most among men (APC, 10.8%; 95% CI, 7.7%-14.0%). During the study period, poisoning death rates increased in all the racial and ethnic groups examined; the most rapid increase was among American Indian and Alaska Native individuals (AAPC, 9.2%; 95% CI, 7.4%-10.9%). During the study period, death rates for unintentional poisoning had the most rapid rate of increase (AAPC, 8.1%; 95% CI, 7.4%-8.9%). From 1999 to 2020, firearm death rates increased (AAPC, 1.1%; 95% CI, 0.7%-1.5%). From 2013 to 2020, firearm mortality increased by an average of 4.7% annually (95% CI, 2.9%-6.5%) among individuals aged 20 to 39 years. From 2014 to 2020, mortality from firearm homicides increased by an average of 6.9% annually (95% CI, 3.5%-10.4%). From 2019 to 2020, mortality rates from external causes accelerated further, largely from increases in unintentional poisoning, and homicide due to firearms and all other injuries.

Conclusions and relevance:
Results of this cross-sectional study suggest that from 1999 to 2020, death rates due to poisonings, firearms, and all other injuries increased substantially in the US. The rapid increase in deaths due to unintentional poisonings and firearm homicides is a national emergency that requires urgent public health interventions at the local and national levels.

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Distress tolerance mitigates effects of posttraumatic stress, traumatic brain injury, and blast exposure on psychiatric and health outcomes.

Martindale, S. L., Vujanovic, A. A., Ord, A. S., Cary, A., & Rowland, J. A.

Background:
Exposure to blasts is common among service members and history of these exposures has been associated with chronic psychiatric and health outcomes. Evidence suggests that distress tolerance (DT) may moderate this relationship and be a valuable treatment target in this population. The purpose of this manuscript was to evaluate DT as a modifying factor in the association between posttraumatic stress disorder (PTSD), mild traumatic brain injury (TBI), blast exposure, and functional indicators.

Method:
 Participants were 275 (86.55% male) combat veterans who served in Iraq or Afghanistan after September 11, 2001. Clinical interviews for PTSD diagnosis, TBI history, and blast exposure were administered, and participants completed self-report questionnaires (DT, PTSD symptom severity, depressive symptom severity, neurobehavioral symptom severity, sleep quality, pain interference, and quality of life).

Results:
DT was significantly associated with all functional indicators beyond PTSD diagnosis, mild TBI, and blast severity. There were significant interaction effects between DT and PTSD diagnosis for posttraumatic stress symptom severity, sleep quality, and quality of life. Specifically, there were significant differences in these reported functional indicators between individuals with and without a PTSD diagnosis as DT increases, such that reported symptoms were lower (quality of life better) for individuals without PTSD as DT improved.

Conclusion:
Our results demonstrate that DT might be a key factor in postdeployment function for military service members. Treatments targeting DT may be particularly effective in individuals who attribute psychiatric symptoms to history of blast exposure. (PsycInfo Database Record (c) 2023 APA, all rights reserved)

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Adolescent difficulties during parental deployment and anxiety: A focus on measurement and family processes.

Haley Sherman MS, CFLE, Catherine Walker O'Neal PhD, Allison Tidwell MS, Mallory Lucier-Greer PhD, LMFT

Approximately 60% of deployed service members leave behind immediate family members, and although military families tend to be adaptive and resilient, evidence suggests that deployments are challenging and difficulties can arise during transitions and family separation, especially for adolescents. Grounded in the family attachment network model and the ABC-X model of family stress, the current study utilized a sample of 204 military families with an active-duty father, civilian mother and adolescent and examined parents' perceptions of adolescents' difficulties during deployment in relation to all three family members' perceptions of the adolescents' mental health (i.e., anxiety symptoms) following deployment. First, analyses of measurement invariance indicated that service members and civilian parents were generally reporting on the same underlying construct of their adolescents' difficulties during parental deployment. Next, a structural equation model demonstrated considerable overlap in service member and civilian parent reports of their adolescents' difficulties during a parental deployment ($r = 0.47$). Finally, both parents' perceptions of adolescent difficulties during parental deployment were related to their own perceptions of the adolescent's current anxiety but not to the adolescents' reports of their own anxiety symptoms or to the other parent's report of the adolescents' anxiety symptoms. Findings provide support for utilizing these theories in combination, such that disruptions to the family system, and the attachment relationships within that system, in one stage of the deployment cycle, may imply that there are implications for individual-level functioning, namely, anxiety, in the next stage of the deployment cycle. Findings also underscore the importance of examining our measurement tools and collecting data from multiple family members to understand family processes.

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Impact of depression and post-traumatic stress on manual and oculomotor performance in service members with a history of mild TBI.

Lars Hungerford, Stephanie Agtarap & Mark Ettenhofer

Objective
To determine the impact of depression and post-traumatic stress on an automated oculomotor and manual measure of visual attention, compared to conventional neuropsychological assessment. Setting: Military traumatic brain injury (TBI) rehabilitation program.

Participants
188 Active Duty Service Members (ADSM) with a history of mild TBI.

Design
A cross-sectional and correlational study with data obtained through an IRB-approved data registry study. Main measures: Bethesda Eye & Attention Measure (BEAM); brief neuropsychological battery; self-reported symptom surveys including Neurobehavioral Symptom Inventory (NSI), Patient Health Questionnaire-8 (PHQ-8), and PTSD Checklist-5 (PCL-5).

Results
Small effect sizes were found for partial correlations between both depression and post-traumatic stress and key BEAM metrics. In contrast, small-to-medium effects sizes were found across all traditional neuropsychological test measures.

Conclusion
This study illustrates the profile of impairments associated with depression and post-traumatic stress on saccadic eye movements and manual responses to BEAM relative to conventional neuropsychological tests. Results demonstrated that among ADSM seen for mTBI, depression and PTS exert a significant negative impact on measures of processing speed, attention, executive function, and memory across saccadic, manual, and conventional neuropsychological tests. However, the unique psychometric features of each of these assessment approaches may assist in distinguishing the effects of psychiatric comorbidities within this population.

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National Guard Deployment in Support of COVID-19: Psychological and Behavioral Health.

Holly B Herberman Mash, PhD, Carol S Fullerton, PhD, Amy B Adler, PhD, Joshua C Morganstein, MD, Quinn M Biggs, PhD, MPH, Robert J Ursano, MD

Introduction
The National Guard (NG) served as a critical component of the USA's response to the Coronavirus Disease 2019 (COVID-19) pandemic, while concurrently managing their personal responses to the pandemic. Determining whether the activation of NG service members in response to the COVID-19 pandemic was associated with a greater psychological strain can identify NG's needs for mental health support.

Materials and Methods
We surveyed 3993 NG unit (NGU) service members (75% Army NG, 79% enlisted, 52% 30-49 years old, and 81% males) during the COVID-19 pandemic, with surveys administered between August and November 2020. Almost half (46%) of NGU service members reported being activated in response to COVID-19 (mean activation length = 18.6 weeks). Activated service members completed the survey approximately 2 to 3 months post-activation. Surveys assessed demographics, service-related characteristics, unit cohesion and positive leadership skills (leadership), and COVID-19 activation, and outcomes including probable post-traumatic stress disorder (PTSD), clinically significant anxiety and depression, and anger. Descriptive and logistic regression analyses were conducted. The study was approved by the Institutional Review Board of the Uniformed Services University of the Health Sciences in Bethesda, MD.

Results
In all, 9.7% met the criteria for probable PTSD, 7.6% reported clinically significant anxiety and depression, and 13.2% reported feeling angry/anger outbursts. Multivariate logistic regression analyses, adjusting for demographic and service-related characteristics, indicated that COVID-19 activation was not associated with a greater

risk of PTSD, anxiety and depression, or anger. Regardless of activation status, NGU service members with low levels of unit cohesion and leadership were more likely to report PTSD and anger, and low levels of unit cohesion were associated with clinically significant anxiety and depression.

Conclusions
COVID-19 activation did not increase the risk of mental health difficulties among NGU service members. However, low levels of unit cohesion were associated with the risk of PTSD, anxiety and depression, and anger, and low levels of leadership were associated with the risk of PTSD and anger. The results suggest a resilient psychological response to COVID-19 activation and the potential for strengthening all NG service members through enhancing unit cohesion and leadership support. Future research on specific activation exposures, including the type of work tasks in which service members are engaged, particularly those associated with high-stress work conditions, is needed to help better understand their activation experience and how it may influence post-activation responses.

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Veteran Experiences With Suicide Ideation, Suicide Attempt, and Social Support in Safety Planning Within the Department of Veterans Affairs.

Monica M Matthieu, PhD, Sandra B Morissette, PhD, Stephanie Clafferty, LCSW, Linda Degutis, DrPH, Ciara M Oliver, BS, David A Adkins, MHA, USAF (Ret.), Bryann B DeBeer, PhD

Introduction
This evaluation examined the role of safety plans, one of a host of clinical suicide prevention interventions available for veterans through the United States Department of Veterans Affairs' national network of health care facilities managed by the Veterans Health Administration (VHA).

Materials and Methods
Interviews were conducted with veterans who had experienced suicidal ideation or a suicide attempt since enrolling in the Department of Veterans Affairs health care system

(N = 29). Topics included negative life experiences, triggers for suicidal ideation or a suicide attempt, ability to recall and utilize safety plans in crisis, safety plan elements found most and least useful, and improvements to safety planning.

Results
Eighteen (62.07%) of the veterans in the sample had attempted suicide. Drug use was by far the most triggering and overdose was the most negative life event to subsequent ideation or attempt. Although all at-risk veterans should have a safety plan, only 13 (44.38%) created a safety plan, whereas 15 (51.72%) could not recall ever creating a safety plan with their provider. Among those who did recall making a safety plan, identifying warning signs was the most remembered portion. The most useful safety plan elements were: recognizing warning signs, supportive people and distracting social settings, names and numbers of professionals, giving the veteran personal coping strategies, options for using the plan, and keeping their environment safe. For some veterans, safety plans were seen as insufficient, undesirable, not necessary, or lacking a guarantee. The suggested improvements included involving concerned significant others, specific actions to take in a crisis, and potential barriers and alternatives.

Conclusions
Safety planning is a critical component in suicide prevention within the VHA. However, future research is needed to ensure safety plans are accessible, implemented, and useful to veterans when in crisis.

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Links of Interest

Alaska's Army division is combatting high suicide rates with mandatory wellness counseling
https://alaskapublic.org/2023/07/05/alaskas-army-division-is-combatting-high-suicide-rates-with-mandatory-wellness-counseling/

Confidential Mental Health Resources Available to Military Families
https://health.mil/News/Dvids-Articles/2023/05/31/news445862

Mental Health Stigma Campaign Will Be New Hub of Hope
https://health.mil/News/Dvids-Articles/2023/05/31/news445861

Military Health System Confronts Stigma Surrounding Mental Health Care
https://health.mil/News/Dvids-Articles/2023/06/06/news446351

I Think about My Weight and Appearance a Lot. Should I be Worried?
https://health.mil/News/Dvids-Articles/2023/06/09/news446609

'Do Ask, Do Tell,' says Defense Health Agency Pride Month Panelist
https://www.health.mil/News/Dvids-Articles/2023/06/27/news448112

All Trauma Can Cause Post-Traumatic Stress Disorder
https://health.mil/News/Dvids-Articles/2023/06/26/news448008

Opinion The best PTSD treatment you've never heard of
https://www.washingtonpost.com/opinions/2023/07/10/ptsd-treatment-veterans-medicine-mental-health/

Navy Set to Implement 'Brandon Act' Mental Health Reforms
https://news.usni.org/2023/07/11/navy-set-to-implement-brandon-act-mental-health-reforms

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Resource of the Week – VA/DoD Clinical Practice Guideline (CPG) for Management of Posttraumatic Stress Disorder and Acute Stress Disorder 2023

From email:

The VA/DoD Clinical Practice Guideline (CPG) for Management of Posttraumatic Stress Disorder and Acute Stress Disorder 2023 has just been released.

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Summary of Main Findings

- Eye Movement Desensitization and Reprocessing (EMDR), Cognitive Processing Therapy (CPT), and Prolonged Exposure (PE) remain the most effective treatments; They are recommended over medications
- Ehlers' Cognitive Therapy for PTSD and Written Exposure Therapy are also suggested as effective treatments
- Present-Centered Therapy is suggested an effective non-trauma-focused option
- Paroxetine, sertraline, and venlafaxine are the medications with the strongest evidence for the treatment of PTSD

- There is strong evidence against the use of benzodiazepines and cannabis for the treatment of PTSD
- Mindfulness-Based Stress Reduction® is suggested for the treatment of PTSD
- Other complementary, integrative, and alternative approaches need more evidence to determine effectiveness for PTSD
- More evidence is needed on internet/phone interventions
- Comorbidity is not a barrier to trauma-focused treatment

VA/DoD CLINICAL PRACTICE GUIDELINE FOR MANAGEMENT OF POSTTRAUMATIC STRESS DISORDER AND ACUTE STRESS DISORDER
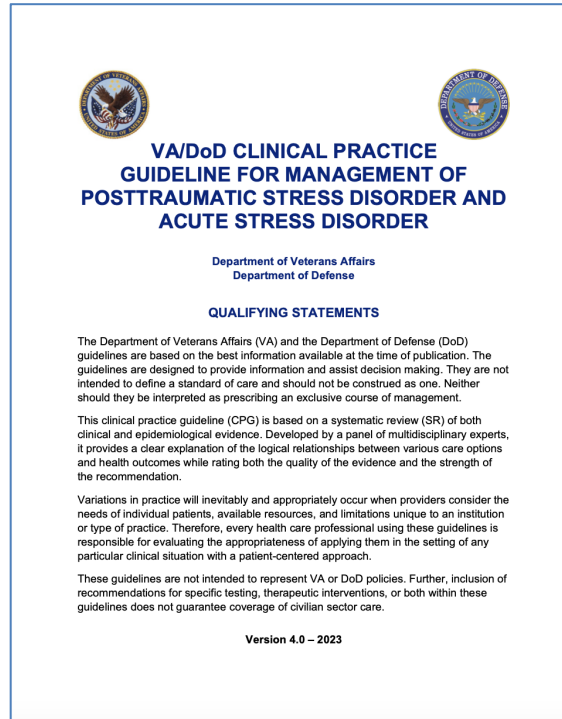
Department of Veterans Affairs
Department of Defense

QUALIFYING STATEMENTS

The Department of Veterans Affairs (VA) and the Department of Defense (DoD) guidelines are based on the best information available at the time of publication. The guidelines are designed to provide information and assist decision making. They are not intended to define a standard of care and should not be construed as one. Neither should they be interpreted as prescribing an exclusive course of management.

This clinical practice guideline (CPG) is based on a systematic review (SR) of both clinical and epidemiological evidence. Developed by a panel of multidisciplinary experts, it provides a clear explanation of the logical relationships between various care options and health outcomes while rating both the quality of the evidence and the strength of the recommendation.

Variations in practice will inevitably and appropriately occur when providers consider the needs of individual patients, available resources, and limitations unique to an institution or type of practice. Therefore, every health care professional using these guidelines is responsible for evaluating the appropriateness of applying them in the setting of any particular clinical situation with a patient-centered approach.

These guidelines are not intended to represent VA or DoD policies. Further, inclusion of recommendations for specific testing, therapeutic interventions, or both within these guidelines does not guarantee coverage of civilian sector care.

Version 4.0 – 2023

See also: CDP Presents: A Quick Walk Through the New VA/DoD Clinical Practice Guidelines for PTSD (webinar presentation by Dr. David Riggs)

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