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Uniformed Services University

Research Update -- February 27, 2025

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https://doi.org/10.1177/0095327X251317445

U.S. Army Reserve and National Guard Soldiers' Motivations for Joining the Military and Their Effects on Post-Deployment Mental Health.

Hoopsick, R. A., Vest, B. M., Arif, M., Homish, D. L., & Homish, G. G.

Armed Forces & Society
First published online February 18, 2025

The link between combat exposure and mental health among military service members has been well-established, and reservists are at increased risk. This study uses a subset of cross-sectional data (N = 239) from Operation: SAFETY, an ongoing study of U.S. Army Reserve/National Guard soldiers, to examine the moderating effects of reasons for joining the military on the relations between combat exposure and post-deployment mental health symptomatology. Soldiers who served for reasons associated with "wanting a military life" had an increasingly higher likelihood of anxiety symptomatology with greater combat exposure. Conversely, soldiers who served for reasons associated with "wanting material benefits" reported fewer mental health symptoms as combat exposure increased.

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https://doi.org/10.1080/10826084.2025.2465967

Association of Risk-Related Behaviors and Mental Health Symptomatology on Problematic Alcohol Use Among U.S. Army Reserve and National Guard Soldiers.

Arif, M., Homish, D. L., Butler, L. D., Kulak, J. A., Collins, R. L., & Homish, G. G.

Substance Use & Misuse
Published online: 20 Feb 2025

Objective
We sought to examine the association of risk behaviors (i.e., risk perception, risk-taking/impulsivity, and sensation-seeking) and mental health symptomatology (depression, posttraumatic stress disorder [PTSD], anxiety and anger) on problematic alcohol use (alcohol problems and frequent heavy drinking [FHD]) among United States Army Reserve and National Guard (USAR/NG) soldiers.

Methods
Cross-sectional data (N = 343) from Operation: SAFETY (Soldiers And Families Excelling Through the Years), an ongoing study of USAR/NG soldiers were utilized. Negative binomial regression models investigated risk behaviors and alcohol use controlling for age and sex, with interaction models among risk behaviors and mental health symptoms.

Results
Greater risk perception was associated with a lower likelihood of alcohol problems ($p < .05$), and FHD ($p < .01$). Greater risk-taking/impulsivity was associated with a greater likelihood of alcohol problems ($p < .01$). Interaction models showed moderate risk-taking/impulsivity and high sensation-seeking with depression predicted greater alcohol problems ($p < .01$, respectively). Greater sensation-seeking and PTSD symptomatology, and sensation-seeking and anxiety were associated with increased alcohol problems ($p < .05$, respectively). Moderate risk-taking/impulsivity and depression ($p < .05$), greater risk perception and greater sensation-seeking and anxiety had the highest probability of FHD ($p < .05$ and $p < .01$, respectively). No associations between risk behaviors and anger were observed.

Conclusions
This study assesses the combined associations of risk behaviors and mental health on alcohol use among USAR/NG soldiers. USAR/NG soldiers may benefit from alcohol use interventions that target risk-taking/impulsivity, sensation-seeking behaviors, and mental health symptomatology such as depression, PTSD, and anxiety.

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https://doi.org/10.1001/jamainternmed.2024.8193

Growing Health Concern Regarding Gambling Addiction in the Age of Sportsbooks.

Yeola, A., Allen, M. R., Desai, N., Poliak, A., Yang, K. H., Smith, D. M., & Ayers, J. W.

JAMA Internal Medicine
February 17, 2025

Key Points

Question

How has sports betting in the US evolved since the Murphy v National Collegiate Athletic Association decision of the US Supreme Court, and what association has this had with gambling addiction help-seeking?

Findings

In this time series study of US states with legalized sports betting, it was found that sportsbooks (physical or online places where individuals can place wagers on the outcomes of sporting events) have expanded from a single state to 38 states, with wagers increasing from $4.9 billion in 2017 to $121.1 billion in 2023. Pre/post analyses revealed substantial national increases in online searches for gambling addiction after Murphy v National Collegiate Athletic Association, with pronounced increases in states that introduced online sportsbooks.

Meaning

These findings emphasize the need for public health efforts to study and address the potential harms associated with the rapid growth of sports betting.

Abstract

Importance

The US Supreme Court decision Murphy v National Collegiate Athletic Association allowed states beyond Nevada to legalize sports betting, including online wagers. How sports betting has evolved and its association with gambling harms has not been studied.

Objective

To describe how US sports betting evolved after Murphy v National Collegiate Athletic Association and offer insights into the potential health effects of sportsbooks, which are platforms for wagering on sporting events.

Exposure

Enactment of (1) Murphy v National Collegiate Athletic Association nationally and (2) the opening of retail or online sportsbooks in states.

Design, Setting, and Participants

In this longitudinal study, aggregate US internet search trends for gambling addiction and wagers on sports were described before and after the emergence of legalized sportsbooks.

Main Outcomes and Measures
Internet searches per 10 million queries that mentioned gambling and addiction, addict, anonymous, or hotline (such as gambling addiction hotline) made to Google from January 1, 2016, through June 30, 2024.

Results
The number of states with operational sportsbooks increased from 1 during 2017 to 38 during 2024. Total sports wagers increased from $4.9 billion during 2017 to $121.1 billion during 2023, with 94% of wagers during 2023 being placed online. There were 23% (95% CI, 15%-30%) more searches nationally for gambling addiction help-seeking after Murphy v National Collegiate Athletic Association. Massachusetts (47%; 95% CI, 21%-79%), New Jersey (34%; 95% CI, 21%-45%), New York (37%; 95% CI, 26%-50%), and Pennsylvania (50%; 95% CI, 35%-66%) each had more searches than expected after the opening of any sportsbooks in their state. Additional analyses suggest the opening of online, vs retail, sportsbooks corresponded with a larger increase in searches.

Conclusions and Relevance
The results of this time series study suggest that access to sportsbooks, sports wagers, and potential help-seeking for gambling addiction increased substantially and highlight the need to address the health implications of sportsbooks, including recognition and treatment of gambling problems and their broader societal implications.

See also: Invited Commentary: Gambling Harms in the Era of Legal Gambling Expansion—A Growing Health Problem

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https://health.mil/News/Articles/2025/01/01/MSMR-TBI-Readiness

The Association of Deployment-related Probable Traumatic Brain Injury with Subsequent Medical Readiness Status.

Andrew J. MacGregor, PhD; Amber L. Dougherty, MPH; James M. Zouris, MS; Sarah M. Jurick, PhD

Medical Surveillance Monthly Report
1/1/2025

Traumatic brain injury has been a major source of morbidity within military forces during the last two decades, but research on the relationship between TBI and medical readiness is limited. This study population included 41,442 service members from the U.S. Navy and Marine Corps who completed a Post-Deployment Health Assessment and a Periodic Health Assessment. Presence of TBI was ascertained from a screening instrument on the PDHA, and provider determination of medical readiness was abstracted from the PHA. Multivariable logistic regression assessed the association between probable TBI and 'not medically ready' service member disposition while adjusting for covariates. Overall, 1.8% of the study population screened positive for TBI, and individuals with TBI had a significantly higher prevalence of NMR disposition (7.8%) than those without (3.7%). After adjusting for all covariates, TBI was associated with higher odds of post-deployment NMR disposition (odds ratio 1.5; 95% confidence interval, 1.2-2.0). Deployment-related TBI is associated with medical readiness. Future studies are needed to elucidate the TBI sequelae that may lead to NMR disposition as well as the impact of repeated TBIs.

What are the new findings?
This study identified 54% increased odds of 'not medically ready' disposition for military personnel with probable traumatic brain injury following deployment, after adjusting for post-traumatic stress disorder and other covariates.

What is the impact on readiness and force health protection?
This analysis measures the association of TBI with medical readiness, which could inform future TBI screening, referral, and patient management protocols. Awareness of this association is particularly important in times of high operational tempo, during which maintaining force readiness through multiple deployment cycles is imperative.

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https://doi.org/10.1037/tra0001859

Should the perpetration of or the failure to intervene with or report military sexual trauma be assessed?

Yeomans, P. D., & Rivera, L. A.

Psychological Trauma: Theory, Research, Practice, and Policy
Advance online publication

Military sexual trauma (MST) has gained national attention since the Navy Tailhook scandal, in which 90 service members reported being sexually assaulted and/or harassed by military personnel (Monteith et al., 2015). Screenings administered in the early 2000s revealed that approximately one in five women and one in 100 men seen in Veteran Affairs medical hospitals screen positive for MST (Schweitzer, 2013). The current literature has advanced our understanding of the prevalence of MST and the impact sexual trauma has on the overall health and well-being of MST survivors. Additionally, the literature on moral injury has expanded inquiry into how perpetration of and failure to prevent violence is associated with psychiatric distress and decreased functioning. However, there is a dearth of research on service members who perpetrate MST and those who fail to intervene or report sexual trauma, and the psychiatric effects of these actions or inactions on these individuals. This commentary explores the possible benefits and risks of expanding the assessment of MST to include perpetration and failing to intervene or report MST. We discuss this within the larger context of MST assessment, future research, and prevention and intervention efforts. (PsycInfo Database Record (c) 2025 APA, all rights reserved)

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https://doi.org/10.1017/S0033291724001028

Undetected suicide attempts among U.S. soldiers: Results from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS).

Naifeh, J. A., Ursano, R. J., Shor, R., Mash, H. B. H., Aliaga, P. A., Fullerton, C. S., Nock, M. K., Kao, T. C., Sampson, N. A., Kessler, R. C., & Stein, M. B.

Psychological Medicine
2024; 54(11): 2947-2955

Background
While previous studies have reported high rates of documented suicide attempts (SAs) in the U.S. Army, the extent to which soldiers make SAs that are not identified in the healthcare system is unknown. Understanding undetected suicidal behavior is important in broadening prevention and intervention efforts.

Methods
Representative survey of U.S. Regular Army enlisted soldiers (n = 24 475). Reported SAs during service were compared with SAs documented in administrative medical records. Logistic regression analyses examined sociodemographic characteristics

differentiating soldiers with an undetected SA v. documented SA. Among those with an undetected SA, chi-square tests examined characteristics associated with receiving a mental health diagnosis (MH-Dx) prior to SA. Discrete-time survival analysis estimated risk of undetected SA by time in service.

Results
Prevalence of undetected SA (unweighted n = 259) was 1.3%. Annual incidence was 255.6 per 100 000 soldiers, suggesting one in three SAs are undetected. In multivariable analysis, rank ⩾E5 (OR = 3.1[95%CI 1.6–5.7]) was associated with increased odds of undetected v. documented SA. Females were more likely to have a MH-Dx prior to their undetected SA (Rao-Scott χ 21 = 6.1, p = .01). Over one-fifth of undetected SAs resulted in at least moderate injury. Risk of undetected SA was greater during the first four years of service.

Conclusions
Findings suggest that substantially more soldiers make SAs than indicated by estimates based on documented attempts. A sizable minority of undetected SAs result in significant injury. Soldiers reporting an undetected SA tend to be higher ranking than those with documented SAs. Undetected SAs require additional approaches to identifying individuals at risk.

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https://doi.org/10.1001/jamapsychiatry.2024.4816

National Incidence of Physician Suicide and Associated Features.

Makhija, H., Davidson, J. E., Lee, K. C., Barnes, A., Choflet, A., & Zisook, S.

JAMA Psychiatry
February 26, 2025

Key Points
Question
Do physicians in the US have a higher rate of suicide than the general population?

Findings
In this cohort study including 97 915 decedents, female physicians had a significantly higher suicide incidence per 100 000 person-years than the female general population in 2017 and 2019, with overall higher 2017 to 2021 suicide incidence. Male physicians

had an overall significantly lower 2017 to 2021 suicide incidence than the male general population.

Meaning
Comprehensive and multimodal suicide prevention strategies remain warranted, particularly for female physicians.

Abstract
Importance
Previous reports regarding comparative suicide incidence among US physicians vs nonphysicians have been inconclusive.

Objective
To estimate the national incidence of male and female physician suicide and analyze associated factors, comparing findings to the general population.

Design, Setting, and Participants
This retrospective cohort study investigated suicides among physicians and nonphysicians aged 25 years and older in the US from January 2017 to December 2021. The analysis took place from November 2023 to September 2024. National Violent Death Reporting System data from 30 US states and Washington, DC, were used. Decedents with missing age or sex were excluded for incidence, and missing race, ethnicity, or marital status for further analyses.

Exposure
Physician occupation.

Main Outcome and Measures
Suicide incidence rate ratios (IRRs) and odds ratios (aORs) adjusted by age, sex, race, ethnicity, and marital status were used to compare preceding circumstances, primary method, and substances.

Results
A total of 448 physician (354 [79%] male and 94 [21%] female; mean [SD] age, 60 [16] years) and 97 467 general population (76 697 [79%] male and 20 770 [21%] female; mean [SD] age, 51 [17] years) suicides were identified. Female physicians had higher rates of suicide than female nonphysicians in 2017 (IRR, 1.88; 95% CI, 1.19-2.83) and 2019 (IRR, 1.75; 95% CI, 1.09-2.65), with overall higher 2017 to 2021 suicide risk (IRR, 1.53; 95% CI, 1.23-1.87). Male physicians had lower 2017 to 2021 suicide risk than male nonphysicians (IRR, 0.84; 95% CI, 0.75-0.93). Compared to the general

population and including all available jurisdiction data, physicians had higher odds of depressed mood (aOR, 1.35; 95% CI, 1.14-1.61; P < .001) as well as mental health (aOR, 1.66; 95% CI, 1.39-1.97; P < .001), job (aOR, 2.66; 95% CI, 2.11-3.35; P < .001), and legal (aOR, 1.40, 95% CI, 1.06-1.84; P = .02) problems preceding suicide as well as use of poisoning (aOR, 1.85; 95% CI, 1.50-2.30; P < .001) and sharp instruments (aOR, 4.58; 95% CI, 3.47-6.06; P < .001). Physicians also had higher odds of positive toxicology for caffeine; poison; cardiovascular agents; benzodiazepines; anxiolytics, nonbenzodiazepines, or hypnotics; and drugs not prescribed for home use.

Conclusion and Relevance
These findings show a higher incidence of suicide for US female physicians compared to female nonphysicians. Comprehensive and multimodal suicide prevention strategies remain warranted.

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https://doi.org/10.1001/jamapsychiatry.2024.4825

Genetic Correlates of Treatment-Resistant Depression.

Xu, B., Forthman, K. L., Kuplicki, R., Ahern, J., Loughnan, R., Naber, F., Thompson, W. K., Nemeroff, C. B., Paulus, M. P., & Fan, C. C.

JAMA Psychiatry
February 26, 2025

Key Points
Question
What are the predisposing characteristics among individuals who develop treatment-resistant depression (TRD)?

Findings
This cohort study of data from 292 663 participants in the All of Us Research Program revealed that polygenic scores for traits including neuroticism, temperament, cognitive function, and sleep patterns were significantly associated with TRD. The association patterns were consistent across different TRD definitions.

Meaning
The findings underscore the importance of considering predisposing factors when managing and treating TRD, particularly the affective and cognitive tendencies.

Abstract

Importance

Treatment-resistant depression (TRD) is a major challenge in mental health, affecting a significant number of patients and leading to considerable burdens. The etiological factors contributing to TRD are complex and not fully understood.

Objective

To investigate the genetic factors associated with TRD using polygenic scores (PGS) across various traits and explore their potential role in the etiology of TRD using large-scale genomic data from the All of Us (AoU) Research Program.

Design, Setting, and Participants

This study was a cohort design with observational data from participants in the AoU Research Program who have both electronic health records and genomic data. Data analysis was performed from March 27 to October 24, 2024.

Exposures

PGS for 61 unique traits from 7 domains.

Main Outcomes and Measures

Logistic regressions to test if PGS was associated with treatment-resistant depression (TRD) compared with treatment-responsive major depressive disorder (trMDD). Cox proportional hazard model was used to determine if the progressions from MDD to TRD were associated with PGS.

Results

A total of 292 663 participants (median [IQR] age, 57 (41-69) years; 175 981 female [60.1%]) from the AoU Research Program were included in this analysis. In the discovery set (124 945 participants), 11 of the selected PGS were found to have stronger associations with TRD than with trMDD, encompassing PGS from domains in education, cognition, personality, sleep, and temperament. Genetic predisposition for insomnia (odds ratio [OR], 1.11; 95% CI, 1.07-1.15) and specific neuroticism (OR, 1.11; 95% CI, 1.07-1.16) traits were associated with increased TRD risk, whereas higher education (OR, 0.88; 95% CI, 0.85-0.91) and intelligence (OR, 0.91; 95% CI, 0.88-0.94) scores were protective. The associations held across different TRD definitions (meta-analytic R2 >83%) and were consistent across 2 other independent sets within AoU (the whole-genome sequencing Diversity dataset, 104 388, and Microarray dataset, 63 330). Among 28 964 individuals followed up over time, 3854 developed TRD within a mean of 944 days (95% CI, 883-992 days). All 11 previously identified and replicated PGS were

found to be modulating the conversion rate from MDD to TRD.

Conclusions and Relevance
Results of this cohort study suggest that genetic predisposition related to neuroticism, cognitive function, and sleep patterns had a significant association with the development of TRD. These findings underscore the importance of considering psychosocial factors in managing and treating TRD. Future research should focus on integrating genetic data with clinical outcomes to enhance understanding of pathways leading to treatment resistance.

Links of Interest

Leaving the military? This program helps troops tap into civilian jobs
https://www.stripes.com/veterans/2025-02-24/tap-civilian-transition-assistance-program-16945786.html

Measurement-based care: A transformative approach to treatment
https://www.apa.org/monitor/2025/01/measurement-based-care-transforms-treatment

Navy to build, renovate child care facilities to accommodate another 3,000 kids in next 5 years
https://www.stripes.com/branches/navy/2025-02-25/navy-child-care-facilities-16953107.html

Research at CDP: Introducing the Sleep Ed-MC Study
https://deploymentpsych.org/blog/research-cdp-introducing-sleep-ed-mc-study

Staff Perspective: Never An Even Split
https://deploymentpsych.org/blog/staff-perspective-never-even-split

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Resource of the Week: An Analysis of the U.S. Department of Defense's Military Health Readiness Assessments

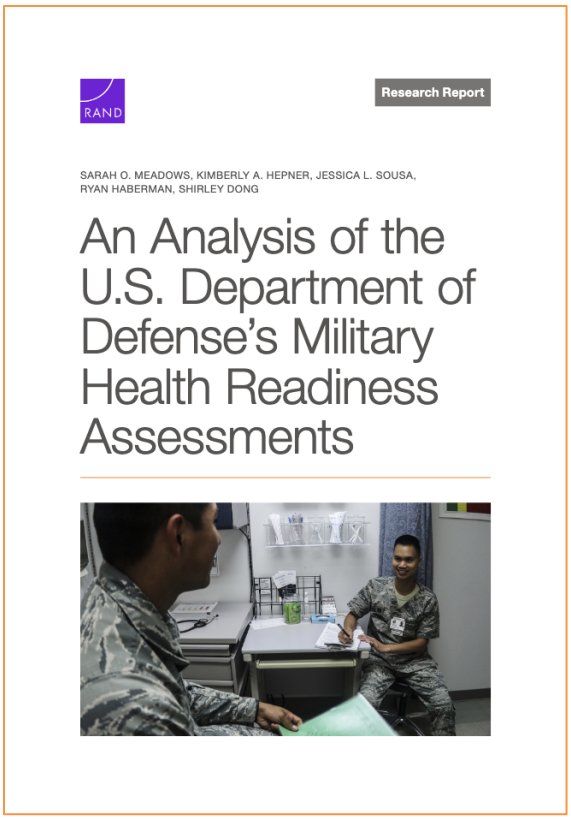
New, from the RAND Corporation:

Key Findings

- Substantial service member burden and item redundancy exist across DoD health assessments, particularly those items screening for behavioral health.
- The content of health readiness assessments largely aligns with recommended preventive screenings, but it may not always be clearly clinically relevant.
- Process issues may limit the utility of health readiness assessments for their intended purpose of assessing individual health readiness.
- Technological challenges reduce efficiency, particularly for providers who complete assessments.

Recommendations

- Use systematic criteria to evaluate the content of health assessments, especially when adding or removing items.
- Conduct an evaluation of the costs and benefits associated with the suite of health readiness assessments.
- Explore opportunities for improved technological efficiency in the health readiness assessment process.



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