RESEARCH BRIEF

2018 Health Related Behaviors Survey

Mental and Emotional Health Among the Active Component

The Health Related Behaviors Survey (HRBS) is the U.S. Department of Defense's (DoD's) flagship survey for understanding the health, health-related behaviors, and well-being of service members. Fielded periodically for more than 30 years, the HRBS includes content areas that might affect military readiness or the ability to meet the demands of military life. The Defense Health Agency asked the RAND Corporation to revise and field the 2018 HRBS among members of both the active component and the reserve component. This brief discusses findings for the active component.

In this brief, results for mental and emotional health are reviewed. Some results are also compared with Healthy People 2020 (HP2020) objectives established by the U.S. Department of Health and Human Services for the general U.S. population. Because the military differs notably from the general population (for example, service members are more likely to be young and male than is the general population), these comparisons are offered only as a benchmark of interest.

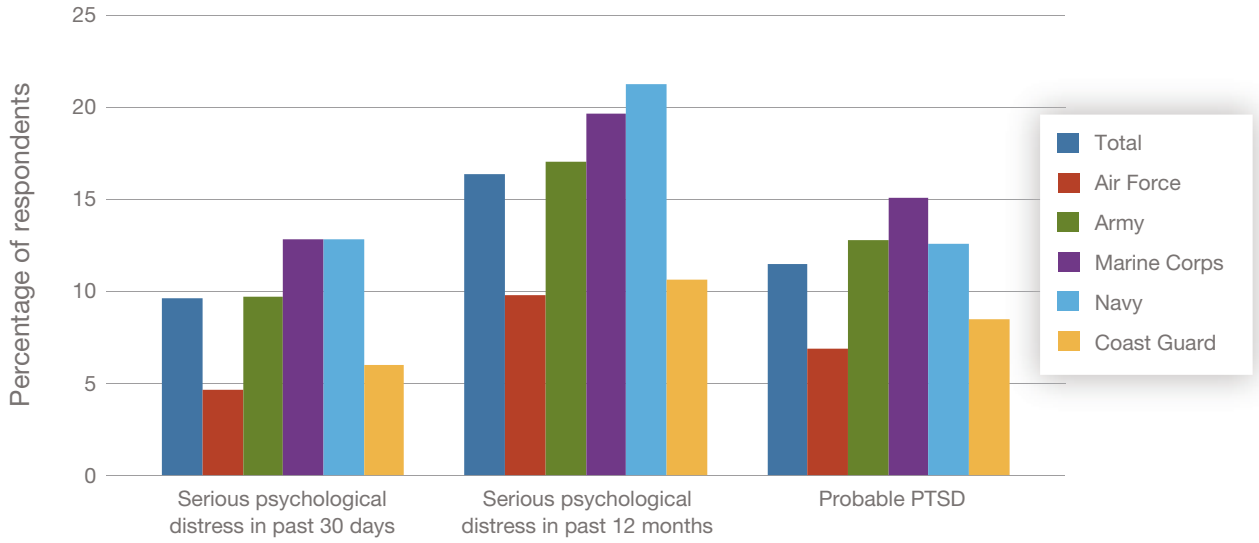
Mental Health Status

The HRBS assessed overall mental health status using the Kessler-6 (K6), a commonly used measure of nonspecific serious psychological distress. The K6 is designed to distinguish between distress that indicates the presence of a psychiatric disorder that a clinician would recognize and treat and distress that is commonly experienced but not suggestive of a medical condition. Respondents were asked about their level of distress over the past 30 days and during the worst month that they had experienced in the past year. Researchers calculated K6 scores and classified those with a score of 13 or higher as having serious psychological distress, following accepted practice in the field.

The HRBS found that 16.4 percent (confidence interval [CI]: 15.5–17.4) of all active component service members reported serious psychological distress in the past year, and 9.6 percent (CI: 8.7–10.4) reported it in the past 30 days. By comparison, the National Survey of Drug Use and Health (NSDUH) found that 10.8 percent of U.S. adults 18 years or older have had serious psychological distress in the past year; the NSDUH and other similar studies using the K6 estimate that 2.9 to 5.2 percent of U.S. adults have had serious psychological distress in the past 30 days. In other words, serious psychological distress appears to be higher in the military than in the total U.S. population. Within the services, serious psychological distress is higher in the Army, Marine Corps, and Navy than it is in the other services (Figure 1). It is also higher among junior enlisted personnel than it is for others.

FIGURE 1

Serious Psychological Distress and Posttraumatic Stress Disorder, by Service Branch



NOTE: PTSD = posttraumatic stress disorder.

Methods

RAND fielded the 2018 HRBS among active component and reserve component U.S. military service members in the Air Force, Army, Marine Corps, Navy, and Coast Guard between October 2018 and March 2019. The 2018 HRBS was a web-based confidential survey, which allowed researchers to target reminders to nonresponders and to reduce survey burden by linking responses to administrative data.

The sampling frame used a random sampling strategy stratified by service branch, pay grade, and gender. The overall weighted response rate for the survey was 9.6 percent, yielding a final analytic sample of 17,166 responses. Imputation was used to address missing data, a statistical procedure that uses the available data to predict missing values. To represent the active component population, RAND researchers weighted responses to account for the oversampling of service members in certain strata. In this research brief, point estimates and 95-percent CIs are reported.*

RAND researchers tested differences in each outcome across levels of key factors or by subgroups—service branch, pay grade, gender, race/ethnicity, and age group—using a two-stage procedure based on a Rao-Scott chi-square test for overall differences across levels within a single factor and, if the overall test was statistically significant, two-sample *t*-tests that explored all possible pairwise comparisons between levels of the factors (for example, men versus women). Readers interested in these differences should consult the full 2018 HRBS active component final report at www.rand.org/t/rr4222.

This brief is one of eight on the active component; this brief and six of the other seven each correspond to a different chapter in the full report, with the eighth presenting an overview of all findings and policy implications. A similar series of eight briefs discusses findings for the reserve component.

* CIs provide a range in which the true population value is expected to fall. They account for sampling variability when calculating point estimates but do not account for problems with question wording, response bias, or other methodological issues that, if present in the HRBS, might bias point estimates.

Although most individuals who experience traumatic events do not develop PTSD, individuals who develop PTSD experience significant functional impairments and have greater medical morbidity and riskier health behaviors than the general population.

Exposure to traumatic events, combat in particular, is a well-known hazard of military service. PTSD can contribute to military attrition, absenteeism, and misconduct. The 2018 HRBS measured PTSD with a brief screening measure that asked respondents whether they had experienced a traumatic event in their lifetimes and, if so, whether they had experienced symptoms characteristic of PTSD in the past 30 days. Responses to the screening measure were used to identify respondents with probable PTSD, meaning that there was a high likelihood of them having PTSD based on endorsement of hallmark symptoms. Of note, this does not mean that a clinician had made or would make a formal PTSD diagnosis.

The HRBS found that 11.5 percent (CI: 10.8–12.3) of active component service members reported probable PTSD. This was higher than estimates of probable PTSD for the general population (approximately 3.5 percent in the past year) but lower than some estimates of probable PTSD observed in service members (between 13 and 18 percent) following recent combat deployments. Probable PTSD was more common in the Army, Marine Corps, and Navy than in the Air Force and Coast Guard.

Anger and Aggression

Anger and aggression were frequently reported among combat veterans. Angry or aggressive behavior could result in military personnel physically harming themselves or others, could lead to domestic violence and other illegal acts, and could adversely affect military readiness.

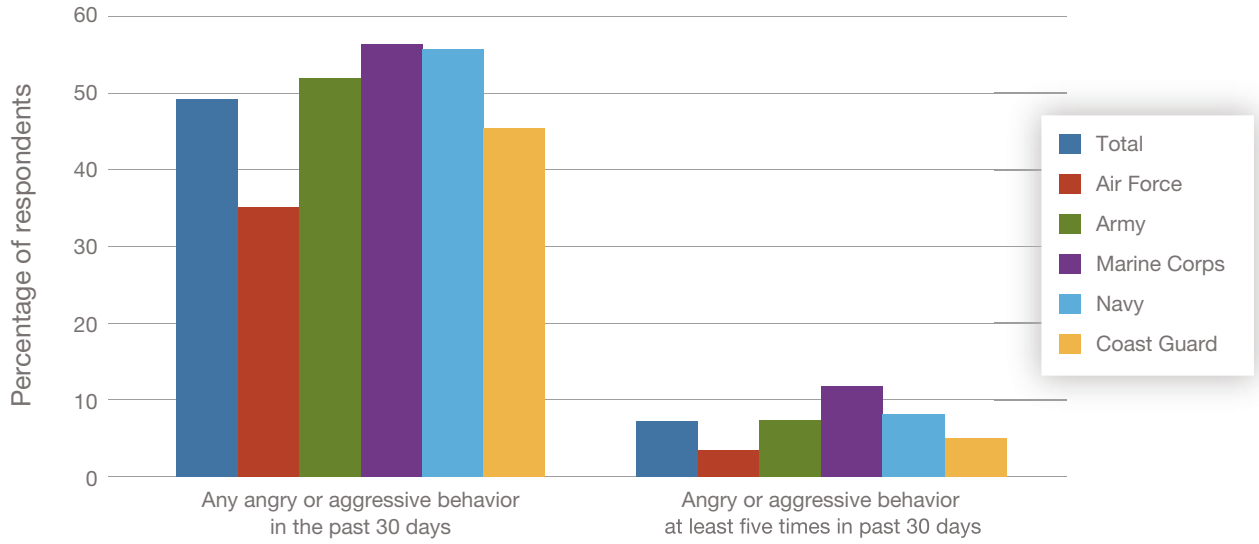
The 2018 HRBS asked respondents how often in the past 30 days they had gotten angry at someone and yelled or shouted; gotten angry with someone and kicked, slammed, or punched something; made a violent threat; or fought or hit someone. Overall, 49.1 percent (CI: 47.9–50.3) of active component service members reported at least one of these four behaviors in the past 30 days, and 7.1 percent reported one or more of these behaviors occurring at least five times in the past 30 days. Angry and aggressive behavior in the past 30 days was higher in the Army, Marine Corps, and Navy than it was in the Air Force and Coast Guard. Frequent angry and aggressive behavior in the past 30 days was higher in the Marine Corps than it was in each of the other services (Figure 2).

Unwanted Sexual Contact

The experience of a sexual assault has potentially severe consequences for the victim as well as for society. Negative consequences for victims may include immediate physical harm from the assault itself, increased

FIGURE 2

Angry or Aggressive Behavior in Past 30 Days, by Service Branch



risks of sexually transmitted illnesses, pregnancy, mental health problems (such as PTSD), and chronic physical health problems.

The 2018 HRBS found that, among all active component service members, 9.6 percent (CI: 9.0–10.2) indicated experiencing any unwanted sexual contact since joining the military, and 2.5 percent (CI: 2.1–2.9) indicated experiencing any unwanted sexual contact in the past 12 months. These rates were similar across the services.

Women indicated experiencing substantially higher rates of unwanted sexual contact than men did. Specifically, 31.6 percent (CI: 29.7–33.4) of women in the active component indicated that they had experienced unwanted sexual contact since joining the military, and 9.1 percent (CI: 7.7–10.5) had experienced it in the past 12 months. Among men in the active component, 5.2 percent (CI: 4.6–5.7) indicated experiencing unwanted sexual contact since joining the military, and 1.2 percent (CI: 0.9–1.5) had experienced it in the past 12 months. It is important to keep in mind that the Workplace and Gender Relations Survey of Active Duty Members (WGRA) and the HRBS measure different constructs. The WGRA measures *sexual assault*. The HRBS measures *unwanted sexual contact*, which is a broader construct. The HRBS defined *unwanted sexual contact* as "times when someone has touched you in a sexual way, had sex with you, or attempted to have sex with you when you did not consent or could not consent. By sexual contact we mean any sexual touching as well as oral, anal or vaginal penetration." Thus, results are not comparable across the two surveys. The 2018 HRBS items are also not comparable with existing civilian surveys.

Physical Assault

Physical assault is associated with a range of negative consequences, including PTSD and other psychological problems. Reducing physical assaults from 21.3 per 1,000 population to 19.2 per 1,000 is an HP2020 objective.

The HRBS indicates that 5.3 percent (CI: 4.8–5.8) of service members had experienced a physical assault since joining the military, and 1.1 percent (CI: 0.8–1.4) indicated experiencing a physical assault in the past 12 months. In 2016, 1.7 percent of individuals age 12 and older reported experiencing a physical assault in the past year.[1] Within the active component, members of the Marine Corps were more likely to indicate having experienced a physical assault since joining the military than were members of any other service.

Suicidality

Suicide rates have increased in most U.S. states in recent years. In 2017, there were 14.0 suicide deaths per 100,000 population; reducing this rate to 10.2 per 100,000 is an HP2020 objective.[2] Reports of increased rates of suicide among active component military personnel have garnered considerable attention and have spurred significant investments into research and prevention efforts. Assessing service members' experiences with suicidal ideation and behaviors is critical for informing these efforts.

The 2018 HRBS found that, in the past 12 months, 8.3 percent (CI: 7.5–9.0) of all active component members endorsed thoughts of suicide, 2.7 percent (CI: 2.3–3.2) reported suicide plans, and 1.2 percent (CI: 0.9–1.6) reported a suicide attempt. These rates are higher than those for the general population. The 2018 NSDUH found that, among all adults 18 or older, 4.3 percent endorsed thoughts of suicide, 1.3 percent endorsed suicide plans, and 0.6 percent reported a suicide attempt. Within the active component, suicide ideation in the past 12 months is more common in the Army, Marine Corps, and Navy than it is in the Air Force and Coast Guard (Figure 3).

Problematic Gambling

Many forms of gambling have become increasingly accessible and legal in the United States. The widening availability of gambling raises concerns about problem gambling that results in adverse consequences for an individual and gambling disorder, a psychiatric disorder characterized by loss of control over gambling behavior and serious functional impairments. Both problem gambling and gambling disorder are associated with other problem behaviors and adverse life events.

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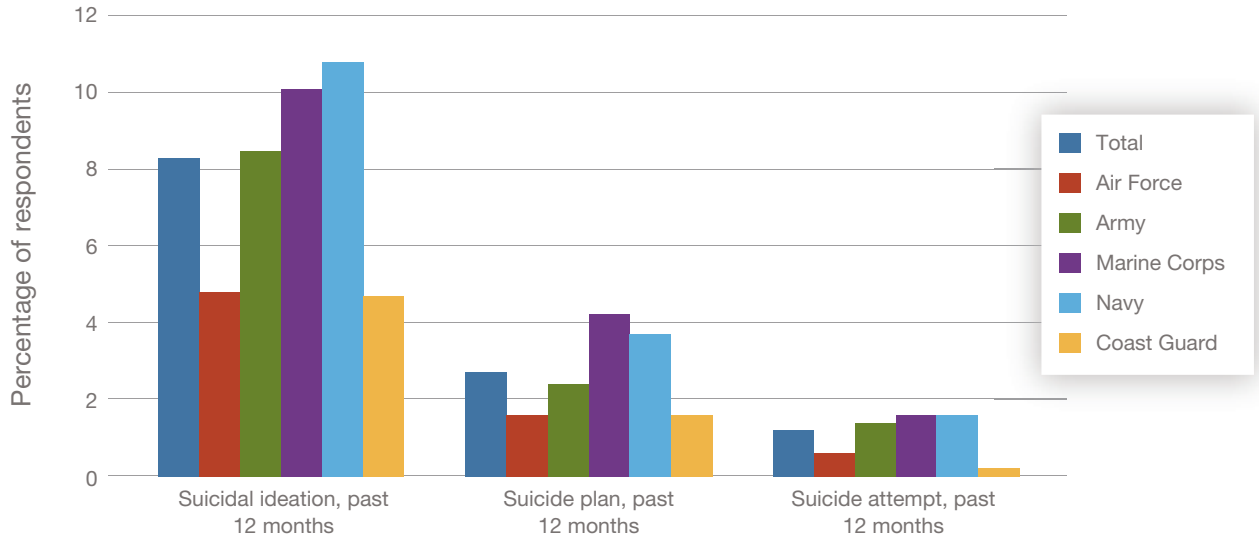
[1] Rachel E. Morgan and Grace Kena, *Criminal Victimization*, Bureau of Justice Statistics, revised October 24, 2018 (http://www.bjs.gov/index.cfm?ty=pbdetail&iid=6427).

[2] S. Curtin and H. Hedegaard, "Suicide Rates for Females and Males by Race and Ethnicity: United States, 1999 and 2017," NCHS Health E-Stat, Centers for Disease Control and Prevention, 2019.

FIGURE 3

Suicide Ideation, Plans, and Attempts, by Service Branch



Concern with problem gambling and gambling disorder in the military has been raised by evidence that service members are at high risk.

The 2018 HRBS assessed problem gambling with the Lie-Bet questionnaire. This questionnaire asked respondents whether in the past 12 months they had "had to lie to people important to you about how much you gambled" or they had "ever felt the need to bet more and more money." Those answering "yes" to either of these questions were considered to have problem gambling. The HBRS found that 1.6 percent (CI: 1.3–1.9) of active component members had problem gambling. This is lower than an estimate of 2.3 percent for problem gambling among U.S. civilians in the early 2000s.[3]

Mental Health Services

There is long-standing concern for both military and civilian populations about low levels of use of mental health services. Accordingly, the HRBS asked respondents about their use of mental health services, perceived unmet need for mental health services, and barriers to mental health care.

Overall, 25.5 percent (CI: 24.4–26.5) of active component members reported using any mental health services in the past 12 months. This was higher than comparable rates for the general population; in the 2018 NSDUH, 15.2 percent of those 18 to 25 years of age and 16.1 percent of those 26 to 49 years of age reported receiving mental health services. Within the active component, use of any mental health services in the past 12 months was higher in the Army, Marine Corps, and Navy than it was in the Air Force or Coast Guard (Figure 4). Those who used mental health services reported an average number of 11.9 visits (CI: 11.0–12.9), with little variation across the services.

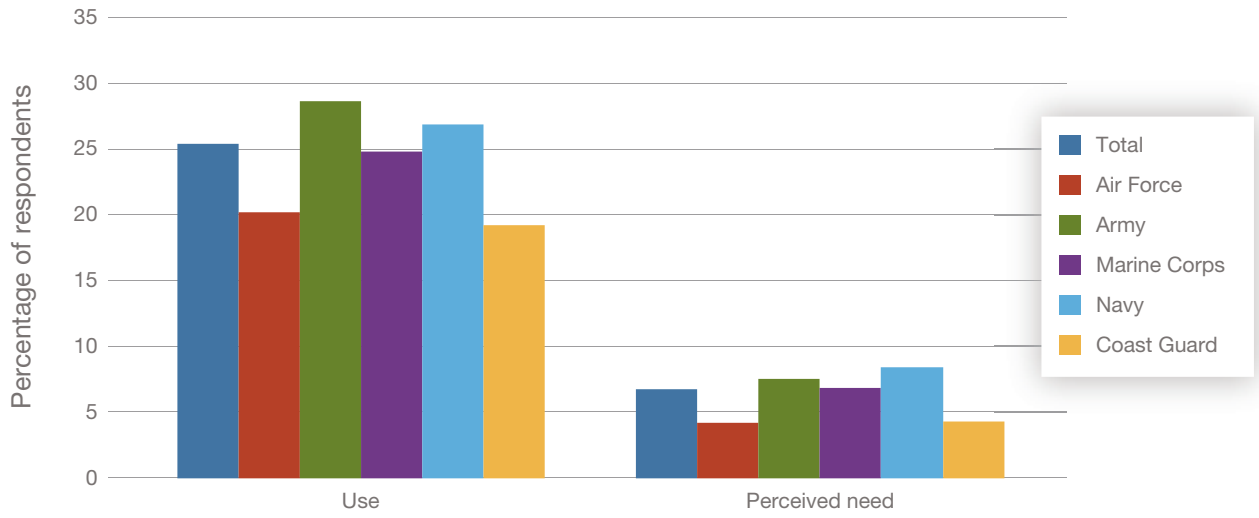
Among all respondents, 6.8 percent (CI: 6.2–7.5) reported unmet need for mental health treatment in the past 12 months. Respondents with perceived unmet need included those receiving no care as well as those who received some care but indicated that they needed more or different care than they received.

The HRBS asked two groups of respondents why they did not seek mental health treatment. The first group was those who indicated a perceived need for treatment that they did not receive. The second was those who scored 8 or above on the K6 scale, indicating at least moderate distress, but who also did not receive mental health treatment. The most common reason cited by these two groups of respondents for not seeking mental health care was not thinking it was needed; 53.7 percent (CI: 50.2–57.3) gave this reason. This is consistent with research on civilian populations suggesting that low perceived need is the most common

[3] R. C. Kessler, I. Hwang, R. LaBrie, M. Petukhova, N. A. Sampson, K. C. Winters, and H. J. Shaffer, "DSM-IV Pathological Gambling in the National Comorbidity Survey Replication," *Psychological Medicine*, Vol. 38, No. 9, September 2008, pp. 1351–1360.

FIGURE 4

Use of and Perceived Need for Mental Health Services in the Past 12 Months, by Service Branch



reason that people with mental health problems do not seek care.

Several other commonly cited reasons for not seeking mental health care—"It would have harmed my career," "Members of my unit might have less confidence in me," "My supervisor/unit leadership might have a negative opinion of me or treat me differently"—relate to potential adverse professional consequences of seeking care. The HRBS asked participants whether they thought seeking counseling or mental health treatment through the military would damage their military career. Overall, 34.2 percent (CI: 33.1–35.4) said that it would.

Conclusions and Policy Implications[4]

The 2018 HRBS indicates that symptoms of psychological distress are common among service members. If untreated, these symptoms could persist and lead to significant functional impairments with implications for service member well-being and force readiness. DoD already invests considerable resources in surveillance of service member mental health and programs to mitigate the negative impacts of mental health conditions on service member well-being. DoD and the Coast Guard should continue their efforts to monitor, understand, and support service member mental health.

About half of active component members also reported recent angry or aggressive behaviors. About one-tenth indicated experiencing unwanted sexual contact since joining the military, with nearly one-third of women indicating that they had experienced unwanted sexual contact. About one in 20 active component members indicated experiencing a physical assault while in the military.

About one in 12 active component members reported having thoughts of suicide in the past year, a figure nearly twice as high as that in the general population. The military has made a substantial investment in seeking to understand and prevent suicide among service members; additional efforts should determine whether different prevention strategies might be needed for different subgroups of service members (e.g., by level of risk). The military should also gather should more information on early precursors to suicide to improve prevention efforts.

[4] Additional implications and recommendations can be found in the full report at www.rand.org/t/RR4222.

Limitations

The response rate is considered low for survey research. Although low response rates do not automatically mean that survey data are biased, they do increase the possibility of bias. As with any self-report survey, social desirability bias is a possibility, especially for sensitive questions and topics. For some groups that make up a small percentage of the overall DoD population, survey estimates might be imprecise and should be interpreted with caution.

This brief describes research conducted in the Forces and Resources Policy Center of the RAND National Defense Research Institute and documented in *2018 Department of Defense Health Related Behaviors Survey (HRBS): Results for the Active Component*, by Sarah O. Meadows, Charles C. Engel, Rebecca L. Collins, Robin L. Beckman, Joshua Breslau, Erika Litvin Bloom, Michael Stephen Dunbar, Mary Lou Gilbert, David Grant, Jennifer Hawes-Dawson, Stephanie Brooks Holliday, Sarah MacCarthy, Eric R. Pedersen, Michael W. Robbins, Adam J. Rose, Jamie Ryan, Terry L. Schell, and Molly M. Simmons, RR-4222-OSD, 2021 (available at www.rand.org/t/RR4222). To view this brief online, visit www.rand.org/t/RB10116z4. The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.

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This brief was updated in July 2026 to correct a coding error that impacted calculations of the prevalence of probable PTSD.

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