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## The Association between Discharge Status, Mental Health, and Substance Misuse among Young Adult Veterans

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#### Abstract

Although 85% of military service members are discharged honorably, veterans who engage in misconduct during military service may receive other types of administrative or punitive discharges. The discharge type not only affects eligibility for benefits, but is associated with negative downstream consequences (e.g., homelessness, criminal justice involvement). However, limited empirical research has examined the mental health and substance use-related needs of veterans who were not Honorably discharged, and the few that have only focus on veterans who received punitive discharges. This study addressed gaps in the research literature on discharge status by examining differences in mental health, substance use, and attitudes toward psychological treatment among veterans who received Honorable, General Under Honorable Conditions, and Other Than Honorable (OTH) discharges. Young adult veterans (N= 734) were recruited online and completed a battery of self-report measures. Results indicated that veterans who received General and OTH discharges endorsed significantly greater rates of mental health conditions and substance misuse. They also reported more negative perceptions of mental health services, it is critical to consider ways to connect these veterans with needed services.

#### Keywords

depression; posttraumatic stress disorder; alcohol use; cannabis use; stigma; military; separation

#### 1. Introduction

#### 1.1 Differentiation of discharge status

Due to the drawdown of the United States (U.S.) military from formal military operations in Iraq and Afghanistan, the numbers of American veterans reintegrating into the community has been on the rise. Recent census estimates suggest that there are approximately 2.6 million post-2001 era veterans in the U.S. (U.S. Census Bureau, 2016). The majority of veterans are discharged honorably from the military (i.e., Honorable discharge), meaning that they have fulfilled their service to the military and are separating on favorable terms.

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They are therefore eligible for a full range of benefits, including access to quality physical and mental health care from the Department of Veterans Affairs (VA), VA compensation and pension benefits, educational benefits such as the GI Bill program, and home loan benefits from the VA (U. S. Department of Veterans Affairs, 2015).

However, across services, roughly 16% of service members do not receive an Honorable discharge (Veterans Legal Clinic, 2016). Of these veterans, 15% receive other types of administrative separations. These include veterans whose discharge is characterized as "General Under Honorable Conditions" (10%; henceforth referred to as "General" discharge), as well as veterans who receive an "Other Than Honorable" discharge (5%; henceforth referred to as "OTH" discharge) (Veterans Legal Clinic, 2016). General discharges are assigned when a service member does not fully meet Honorable discharge standards (e.g., due to conduct problems), but has otherwise demonstrated good quality performance during service (Sandel, 1983; Velez Pollack, 2004). OTH discharges may be assigned when a service member has displayed a pattern of conduct that substantially departed from military standards, or exhibited one or more significant acts of omission or commission that significantly departed from military standards (e.g., endangering the health or welfare of other service members) (Moulta-Ali and Panangala, 2015). The remaining 1% of veterans receive punitive discharges, characterized as "Bad Conduct" or "Dishonorable" for enlisted service members, or "Dismissals" for officers. These discharges are the result of a court-martial (Veterans Legal Clinic, 2016). A court-martial process is initiated when a service member violates the Uniform Code of Military Justice (UCMJ), and the proceedings are analogous to civilian criminal court proceedings in many ways (U.S. Marine Corps, 2016). Under some circumstances, a service member who faces a court-martial may be eligible for an administrative discharge in lieu of trial by court-martial. In these circumstances, the characterization of the administrative discharge is generally OTH, though there are situations in which a General characterization is assigned (e.g., depending on the quality of service member's service) (U.S. Department of Defense, 2014).

These distinctions of discharge types are important because they affect veterans' eligibility for benefits. Veterans who received a General discharge are eligible for the majority of VA and other veteran benefits (U.S. Department of Veterans Affairs, 2016), although they are not eligible for certain educational benefits (e.g., the Montgomery GI Bill) (Poche, 2004; U.S. Department of Veterans Affairs, 2016). By contrast, veterans who received a punitive discharge are presumptively ineligible for these services (38 C.F.R. § 3.12). For veterans who received an OTH discharge, however, the determination of eligibility is somewhat more complex. The federal statute guiding VA eligibility states that veterans who were "terminated by discharge or release under conditions other than dishonorable" are eligible for VA services (38 C.F.R. § 3.12). This statute also outlines a number of conditions under which veterans are barred from VA benefits. For instance, veterans are disqualified from receiving benefits if they were discharged as a deserter or by reason of a general courtmartial, or if they were discharged under other than honorable conditions "as a result of an absence without official leave for a continuous period of at least 180 days" (38 C.F.R. § 3.12). However, if a veteran received an OTH discharge but is not disqualified as a result of one of these statutory bars to services, he or she may be eligible to receive VA services (U. S. Department of Veterans Affairs, 2014).

For these veterans who received an OTH discharge, the process of determining eligibility can be complex, and both veterans and VA providers may find it difficult to understand what benefits they are eligible for. When these veterans present for services at a VA medical center, the local eligibility staff must submit a request to the local VA Regional Office, which reviews the case to determine health care eligibility (U. S. Department of Veterans Affairs, 2014). According to a recent report, some potentially eligible veterans may not receive an eligibility evaluation, in part because local VAs may be unaware of the review process and unknowingly turn away these veterans (Veterans Legal Clinic, 2016). For those veterans who do receive a review, the average length of review is more than three years (Veterans Legal Clinic, 2016), during which time they are unable to access services.

#### 1.2 Current concerns related to discharge status

Over the past several years, the implications of discharge status have increasingly entered the public discourse. In part, this is because the proportion of current veterans receiving OTH discharges is substantially larger than previous conflicts. According to a report by the Veterans Legal Clinic (2016), only 1.0% of World War II era veterans received OTH discharges; during the Vietnam War era, this proportion had increased to 2.5%. However, among veterans of Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn (OEF/OIF/OND), the proportion of OTH discharges has increased to 5.8% (Veterans Legal Clinic, 2016).

There are also concerns regarding the circumstances under which these veterans have been discharged - and more specifically, whether mental health problems contributed to the behaviors that led to the discharge. A study of Marines serving from 2001 to 2006 found that those service members who had a diagnosis of PTSD or some other psychiatric diagnosis were more likely to have a drug-related discharge or non-drug related punitive discharge than their peers without a psychiatric diagnosis (Highfill-McRoy et al., 2010). This suggests that service members with psychiatric diagnoses are engaging in patterns of behavior that put them at risk of punitive discharge (e.g., self-medication with drugs and alcohol). A study of Marines deployed during OEF/OIF found similar results, with younger age at first combat deployment and post-combat psychiatric diagnoses emerging as some of the strongest predictors of Bad Conduct discharges, defined as being discharged for "disciplinary problems, criminal behavior, or persistent misconduct" (Booth-Kewley et al., 2010). In fact, this study found that individuals with a postcombat diagnosis were nine times more likely to have received a Bad Conduct discharge. Although these studies have identified service members who had mental health diagnoses documented prior to discharge, there have also been concerns that some service members who receive OTH and punitive discharges had mental health disorders that went undiagnosed during military service (Phillips, 2013). These veterans may face an especially difficult challenge in requesting a benefits-related review through the VA, which is particularly important given they could likely benefit from mental health treatment available at the VA.

In addition, there is an increasing recognition of the negative downstream consequences experienced by veterans who are discharged under OTH or punitive conditions. There is evidence that these veterans have an increased risk of homelessness (Gundlapalli et al.,

2015) and suicide (Reger et al., 2015). These veterans are also disproportionately involved in the criminal justice system (Bronson et al., 2015). At the same time, as described above, veterans who have received OTH or punitive discharges have limited access to services due to the character of their discharge.

The psychosocial challenges faced by veterans who receive any discharge besides Honorable may contribute to mental health concerns, substance use, and a sense of self-stigma potentially above and beyond symptoms that were present prior to discharge. However, there has been very limited empirical research in this area, and what limited research has examined this question has focused largely on veterans with punitive discharges. Therefore, there is a critical need to better understand the post-military needs of veterans who have received General or OTH discharges. The present study begins to address this gap. More specifically, we examined differences in mental health symptoms, substance use, perceived stigma for treatment seeking, and attitudes toward seeking mental health care among a community sample of young adult veterans who had received Honorable, General, and OTH discharges. We hypothesized that veterans who received a General discharge would have greater levels of mental health symptomatology, and would be more likely to screen positive for mental health disorders, substance misuse, and TBI. In addition, we hypothesized that veterans who received OTH discharges would have significantly higher rates of mental health concerns, substance misuse, and TBI than those who received a General discharge. Given the prior work looking at veterans with punitive discharges, combined with the low prevalence of this behavior, we did not include veterans with these discharges.

#### 2. Methods

#### 2.1 Procedure

The present study focused on a sample of young adult veterans, age 18–34, who were recruited as part of a larger research effort to document drinking behaviors among a community sample of young adult veterans (Pedersen et al., 2016). Participants were recruited online to reach veterans outside of traditional VA population recruitment methods, such as through posting flyers in VA waiting rooms or through VA clinician referral. This allowed us to examine behaviors and attitudes among veterans both within and outside the VA, which offered a unique opportunity to collect information on discharge status. The sample was recruited via Facebook advertisements for a study on "veteran behaviors and attitudes," in which targeted advertisements were displayed to Facebook users indicating interest in military/veteran-specific content (e.g., followers of the Iraq and Afghanistan Veterans of America organization). If individuals clicked on ads, they were directed to a study website where they could read about the study and consent to participate. The study involved a one-time online survey, completed via computer or smartphone. Eligibility criteria were (1) U.S. veteran separated from service in the Air Force, Army, Marine Corps, or Navy and (2) between the ages of 18 and 34. More detail about the recruitment strategy and the sample can be found in our other work (Pedersen et al., 2015).

#### 2.2 Sample

A total of 1,023 veterans met eligibility criteria and participated in the larger survey. For these secondary data analyses, we first selected participants who indicated that they had received Honorable, General, or OTH discharges (n = 963). We then selected participants with complete data on our primary variables of interest (demographic variables, mental health, substance use, perceived stigma, attitudes toward seeking help), which yielded a final sample of 734 veterans. The mean age of participants was 28.29 years (SD = 3.39, range = 19–34). The majority of participants were white (76.3%).

Nearly half (49.5%) of the veterans had achieved the rank of E-4 at discharge, followed by E-5 (27.5%), E-3 (13.4%), and E-6 (5.6%). Three participants were senior noncommissioned officers (E-7), and 2.7% reported a rank of E-1 or E-2. Six participants were junior or company grade officers. Within this sample, 84.5% of veterans reported Honorable discharges, 11.6% reported General discharges, and 4.0% reported OTH discharges. This distribution closely matches the proportions reported in a previous study based on FY 2011 Department of Defense data (84%, 10%, and 5% respectively) (Veterans Legal Clinic, 2016).

#### 2.3 Measures

**2.3.1 Demographic variables and military history**—Participants responded to a number of demographic questions, including age, marital status, and income at time of survey; gender; race and ethnicity; and former branch of service. Combat exposure was measured with an 11-item scale, on which participants indicated experiences that took place during a deployment. This scale was scored to yield two indices of combat exposure: a dichotomous indicator of whether or not participants experienced combat (yes vs. no), and a continuous indicator on which higher scores indicate greater severity of combat experiences (Schell and Marshall, 2008). Participants responded to a single item about their discharge status, with options of Honorable, General, OTH, and "other." We did not assess punitive discharges directly as an option for discharge status in the survey, though we relied on this "other" category to capture these individuals. However, only nine participants selected the "other" option; of these, just one veteran indicated that he or she received a Bad Conduct discharge. Given the low prevalence of punitive discharges in the general population of veterans, this low rate is not unexpected. However, it precluded us from including veterans who received a punitive discharge in any analyses.

#### 2.3.2 Patient Health Questionnaire - 2 (PHQ-2) (Kroenke et al., 2003)-

Depressive symptoms were assessed with the PHQ-2. This 2-item measure asks participant to indicate the frequency of depressed mood and anhedonia over the past two weeks. Responses are made on a 4-point scale ranging from *Not at all* to *Nearly every day*. Higher scores indicate more depressive symptoms. A cutoff of 3 has been associated with 83% sensitivity and 92% specificity for a diagnosis of major depressive disorder (Kroenke et al., 2003)

#### 2.3.3 Generalized Anxiety Disorder 7-Item Scale (GAD-7) (Spitzer et al., 2006)

-Symptoms of generalized anxiety disorder (GAD) were measured with the GAD-7. This

measures asks respondents to indicate the frequency of each of seven symptoms of GAD over the past two weeks. Responses are made on a 4-point scale ranging from *Not at all* to *Nearly every day*, and higher scores are indicative of more anxiety symptoms. A cutoff of 10 is associated with a sensitivity of 89% and specificity of 82% (Spitzer et al., 2006).

#### 2.3.4 Primary Care Posttraumatic Stress Disorder Screen (PC-PTSD)

**(Cameron and Gusman, 2003)**—PTSD symptoms were measured with the 4-item PC-PTSD screener. The measure comprises 4 items that assess specific symptoms of PTSD, and respondents indicate whether they have experienced each of the symptoms over the past month. Higher scores indicate more PTSD symptoms, and a cutoff of 3 is associated with 78% sensitivity and 87% specificity (Cameron and Gusman, 2003).

**2.3.5 TBI history**—The survey included a single question adapted from the Behavioral Risk Factor Surveillance System (BRFSS) survey (Centers for Disease Control and Prevention, 2016) to assess TBI history. This question provides a brief definition of traumatic brain injury, and then asks participants to indicate whether "a doctor or other health professional ever told you that you have suffered a traumatic brain injury (TBI)?" Response options include *no*, *yes*, and *don't know/not sure*. For the present study, we limited the sample to respondents who indicated *no* or *yes* (n = 691).

#### 2.3.6 Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al., 1993)

—Alcohol misuse was measured using the AUDIT, a widely used 10-item questionnaire that assesses alcohol consumption (including frequency and quantity), drinking behaviors, and alcohol-related problems. Higher scores indicate more hazardous alcohol use, and a cutoff score of 8 has been associated with a sensitivity of 92% and specificity of 94%.

#### 2.3.7 Cannabis Use Disorders Identification Test – Revised (CUDIT-R)

(Adamson et al., 2010)—Cannabis misuse was measured using the 8-item CUDIT-R. This measure assesses cannabis consumption, cannabis-related problems, and cannabis-related behaviors. The measure has excellent internal consistency (alpha = 0.91) from prior work, and a cutoff of 8 has been associated with 97.1% sensitivity and 70.0% specificity for hazardous cannabis use. The measure begins with a question asking whether the respondent has used cannabis over the past 6 months, and the full scale was only administered to those participants who answered "yes" to this question. Therefore, results based on the continuous CUDIT-R measure include only those veterans who answered "yes" to the initial screen (n = 182), whereas the results based on the dichotomized CUDIT-R measure include veterans who answered "yes" or "no" to the initial screen (as those who answered "no" were coded as having no hazardous cannabis use).

**2.3.8 Perceived stigma**—Perceived stigma regarding psychological treatment was measured with a 6-item scale (Britt et al., 2008). This scale was initially adapted from a measure assessing mental health-related stigma among military soldiers (Britt, 2000), and asks respondents to "rate each of the possible concerns that might affect your decision to seek treatment for a psychological problem." Items include statements such as "My peers might treatment differently" and "It would harm my reputation," and responses are made on a 5-point scale ranging from *Strongly disagree* to *Strongly agree*. Higher scores indicate

greater perceptions of stigma. This scale has been shown to have excellent internal consistency in a sample of military service members (alpha = 0.94) (Britt et al., 2008).

# **2.3.9 Attitudes Toward Seeking Professional Psychological Help Scale – Short Form (ATSPPHS-SF) (Fischer and Farina, 1995)**—The ATSPPHS-SF was administered to assess attitudes toward mental health help-seeking. This scale comprises 10 statements about seeking psychological care (e.g., "If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in therapy," "Personal and emotional troubles, like many things, tend to work out by themselves"), and asks respondents to indicate their feelings about each statement. Responses are made on a 4-point scale, with options ranging from *Disagree* to *Agree*.

Responses to negative statements about help-seeking are reverse-scored, such that higher total scores on the scale indicate more positive attitudes toward seeking help. This measure has good internal consistency (0.82 to 0.84) and test-retest reliability (0.80), and has been found to significantly correlate with use of mental health services (Elhai et al., 2008).

#### 2.4 Analytic Plan

Outcomes of interest included the mental health, TBI, and substance use screening measures, and the two treatment attitude scales. Data were analyzed using SPSS Version 21 and R 3.2.2. We first examined associations between demographic and military history variables, discharge status, and each of the outcomes of interest. We also examined correlations among the outcome measures. For these analyses, we focused on the continuous version of all measures. One-way ANOVAs, Pearson and point biserial correlations, and Fisher's exact and chi square analyses were used as appropriate for each pair of variables.

Next, we examined differences among veterans who received Honorable, General, and OTH discharges on each of the outcome measures. For the mental health screening measures, analyses were conducted with both continuous and dichotomous versions of the variable. Differences were evaluated using one-way ANOVAs for continuous variables, followed by the Scheffe test for post hoc comparisons. When the assumption of homogeneity of variance was violated, an adjusted *F* statistic was calculated using the Welch test, followed by the Games-Howell test for post hoc comparisons. For categorical variables, chi square analyses were conducted, followed by a comparison of column proportions as a post hoc test. For certain demographic categories, the assumptions of chi square were violated due to multiple cells with expected value <5; in these instances, Fisher's exact test (with simulated p-value) was conducted, followed by a comparison of column proportions.

Finally, we examined whether the associations between discharge status and the mental health, TBI, and attitude toward treatment measures were consistent after controlling for relevant covariates. We conducted a series of ANCOVA analyses to examine the association between discharge status and each measure, controlling for significant demographic and military history covariates. For these analyses, we focused on the continuous version of each mental health and substance use measure (when available) to increase power and limit the risk of Type I error. Because there was only a dichotomous version of the TBI screening variable, we used multiple logistic regression to examine this outcome.

#### 3. Results

Analyses of demographic variables by discharge status revealed some significant differences (see Table 1). Veterans who received OTH discharges were significantly younger than veterans who received an Honorable or General discharge. A higher proportion of Hispanic/Latino veterans received OTH discharges. Results of the Fisher's exact test found a significant association between race and discharge status; although an analysis of column proportions did not identify significant differences across groups, this may have been due to the small number of participants in certain categories, and it appears that white veterans were more likely to receive an OTH discharge. Veterans who received a General discharge were significantly less likely to be married and reported a lower annual income. Although analyses found no significant association between discharge status by military branch, the analysis of column proportions suggested that a substantially larger proportion of Army veterans received General discharges, whereas fewer Marine Corps veterans received General discharges, whereas fewer Marine Corps veterans received combat exposure; however, veterans who received OTH discharges reported greater severity of combat experiences than those who received Honorable discharges.

Bivariate associations between the demographic and military history variables and the outcome measures are presented in Table 2. These analyses indicated that income, branch of service, marital status, and combat exposure were associated with several of these measures; by contrast, gender and race were associated with few of the outcome measures. Regarding associations among the outcome variables, there were small to moderate correlations between many of the variables (see Table 3). The largest correlations were between the PTSD screener and both the depression and generalized anxiety screening measures, and between the depression and generalized anxiety screening measures.

For each of the mental health and substance use measures, we report both continuous scores and the proportion that scored above the clinically established cutoff points (see Table 4). Across these analyses, veterans who received both General and OTH discharges reported significantly more mental health symptoms and were more likely to screen positive for each mental health concern than veterans who received an Honorable discharge. Similarly, these veterans reported more severe levels of alcohol and cannabis use. Significantly more veterans who received General or OTH discharges screened positive for hazardous alcohol use. There were no significant differences between the two groups on any of the mental health and substance use measures except for hazardous cannabis use. A greater proportion of veterans who received a General discharge screened positive for hazardous cannabis use (27.1% vs. 6.8%). The difference between veterans who received OTH and General discharges was also significant (58.6% vs. 27.1%).

Veterans who received both General and OTH discharges reported more negative attitudes toward seeking psychological health than veterans who received Honorable discharges. Veterans who received General discharges perceived greater stigma toward help-seeking than Honorably discharged veterans. Although veterans who received OTH discharges had the same mean score on this measure, the difference between OTH and Honorably

Finally, we conducted ANCOVA analyses with discharge status as a predictor variable and each of the previously identified measures as outcome variables, controlling for the covariates that were significant for each respective outcome. The effect of discharge status remained significant in each analysis.

#### 4. Discussion

There is evidence that veterans who engage in misconduct during their military service and receive any discharge besides Honorable have greater rates of mental health issues (Booth-Kewley et al., 2010; Highfill-McRoy et al., 2010). There is also increasing evidence that veterans who were discharged OTH, or who received punitive discharges, are at increased risk for negative psychosocial outcomes (e.g., homelessness, suicidality) (Bronson et al., 2015; Gundlapalli et al., 2015; Reger et al., 2015). However, few studies have distinguished between veterans who received Honorable and General discharges, since veterans who receive General discharges are eligible for most VA services. In addition, there has been little emphasis on the more specific psychological needs of these veterans following discharge from the military. Moreover, few studies have looked at self-reported mental health symptoms; instead, the previous studies examining the association between mental health concerns during active duty and punitive discharges using military administrative records (e.g., the Defense Manpower Data Center records, military health system records, Career History Archival Medical and Personnel System data) (Booth-Kewley et al., 2010; Highfill-McRoy et al., 2010). The rates of mental health symptoms in these official records may be underreported given the concerns about confidentiality among active duty service members (e.g., possible negative repercussions if reporting hazardous substance use while on active duty). The present study makes a significant contribution to the literature by addressing these gaps.

Because the veterans in this study had substantial mental health needs, it is important to consider their attitudes toward and eligibility for services. For example, veterans who received an Honorable discharge screened positive for mental health disorders at rates ranging from approximately 36% for depression to approximately 48% for PTSD. Yet corresponding rates were over 1.6x higher in the General and OTH groups, suggesting that these veterans, as a group, may perhaps be in greater need of services. This is supported even further by the findings that veterans who received Honorable discharges reported significantly less severe mental health and substance use symptoms. Yet those veterans who received General or OTH discharges also reported more perceived stigma for care seeking and less positive attitudes toward care seeking, making it less likely that they will actually seek the care the need. Compounding this, veterans who receive them.

The analyses comparing the two discharge groups besides Honorable revealed some unexpected results. First, veterans who received General and OTH discharges were largely similar with respect to mental health, TBI history, and hazardous substance use. This was

somewhat surprising, particularly given that many of the concerns regarding mental health and service eligibility are focused on veterans who receive OTH or punitive discharges. Since, by definition, a General discharge still occurs "under honorable conditions," these veterans are generally perceived as having a similar experience and outcomes to Honorably discharged veterans. However, the present results suggest that this may not be the case. Instead, veterans who received General and OTH discharges were significantly more likely to screen positive for generalized anxiety disorder, depression, PTSD, and hazardous alcohol use than those who received an Honorable discharge. Although we expected that veterans who received OTH discharges would fare worse than their peers who received General discharges, this was not the case. Veterans who received an OTH discharge differed from those with a General discharge on only a single metric: hazardous cannabis use. More than twice as many veterans who received an OTH reported hazardous cannabis use than veterans who received a General discharge. Otherwise, these groups had similar levels and rates of mental health and substance use-related problems. Veterans who received a General discharge may have similar rates of mental health problems as OTH veterans, but they also have more unfettered access to mental health services through the VA. By contrast, veterans who receive OTH discharges generally experience more challenges to accessing care. At the same time, veterans in both of these groups have negative attitudes toward seeking help, which may serve as a barrier to care even among those who are eligible for VA services. Therefore, addressing the stigma of mental health treatment may be an important first step toward connecting these veterans with care, regardless of service eligibility, as care is available outside the VA for those unable to access services there.

This study has certain limitations. First, the larger study for which these data were collected was focused on veterans age 18-34 only, so we did not collect data from other veterans older than 34. That said, young adult veterans comprise approximately 66% of the OEF/OIF/OND veteran population in the U.S. (U.S. Census Bureau, 2016). In addition, our discharge status classifications were based on self-report rather than official records (e.g., DD Form 2014). However, there are certain factors that support the validity of this data. First, given the negative connotation surrounding discharge types besides Honorable discharges, respondents would have little motivation to self-report that they received a General or OTH discharge. Second, as indicated previously, the proportion of veterans in each discharge category in our sample closely matched national statistics (Veterans Legal Clinic, 2016). Another limitation is the use of screening measures for mental health, TBI, or substance use diagnoses rather than more comprehensive self-report instruments. Although the measures for GAD, depression, and PTSD are all well-validated scales used with military populations, the TBI scale relied on subjective report of whether a doctor had ever told the participant they had a TBI diagnosis; thus it may be more subject to recall bias than the other measures that relied on symptom report. In addition, we were unable to distinguish between preexisting conditions (i.e., those that may have been present before military service); conditions that may have emerged during military service, and which may have led to patterns of behavior that contributed to an individual's discharge; and conditions that may have emerged after discharge. This will be an important target for future research. Finally, there were moderate to strong correlations among certain outcomes of interest - in particular, the generalized anxiety, depression, and PTSD screening measures. Therefore, it

is important to consider that scores on these scales do not represent unique mental health concerns, but might reflect a larger pattern of general psychological distress. For the time being, though, this study demonstrates that these veterans have important mental health needs following discharge, regardless of when these concerns emerged.

Despite these limitations, this study is an important first step toward understanding the needs of veterans who do not receive Honorable discharges from the military. In the future, it will be important to better understand the temporal relationship between mental health concerns and TBI, substance misuse, and discharge from the military, particularly given mounting evidence that individuals with a combat-related psychiatric diagnosis are at increased risk for a punitive discharge (Booth-Kewley et al., 2010). To ensure that these individuals are not unfairly discharged less than Honorably when a medical discharge is warranted, certain military services are putting new policies into place. For instance, in June 2016, the Secretary of the Navy signed a policy stating that service members being processed for involuntary separation who have a mental health condition can be referred to a disability evaluation (U.S. Navy Chief of Information Public Affairs, 2016). If it is determined that the mental health condition should take precedence over the misconduct when deciding on the appropriate discharge type.

In addition, the policy context surrounding military review boards is evolving. Service members who want to appeal the nature of their discharge can apply to Discharge Review Boards (DRBs) or the Board of Correction for Military/Naval Records (BCM/NRs) (10 U.S.C. 1553; (U.S. Department of Defense, 2004)). However, historically, a very small proportion of appeals were successful, and over the last several years, there have been increasing concerns that the role of mental health conditions was not being sufficiently considered in these reviews (Izzo, 2013; Sidibe and Unger, 2015). Moreover, review boards were not required to have a mental health professional review a case, even if a veteran presented a mental health concern or TBI as a mitigating factor when appealing his/her discharge. To address this issue, the Military Mental Health Review Act was introduced in 2014, and became law as part of the National Defense Authorization Act of 2015. This Act requires that DRBs include a mental health profession if a veteran's appeal is related to PTSD or TBI (10 U.S.C. § 1553(d)(1)). As these issues continue to be raised in the public eye, it will be essential to have empirical research to support policymakers.

However, even if mental health concerns or substance misuse develop after a veteran's discharge from the military, it is important to consider the best way to meet the needs of these individuals. This is especially true given the recent evidence that veteran who are discharged under dishonorable conditions are at risk for criminal justice involvement, homelessness, and suicide (Bronson et al., 2015; Gundlapalli et al., 2015; Reger et al., 2015). Addressing the psychological needs of these veterans may help to prevent these downstream outcomes. Therefore, it will be important to address barriers to treatment services – whether issues of eligibility, access, or stigma – to ensure that all military veterans, and not just those who were Honorably discharged, receive the care they need.

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#### Highlights

• The character of a veteran's military discharge affects eligibility for services

- Punitive discharges are associated with adverse psychosocial consequences
- We examined associations among discharge status, mental health, and substance use
- General and Other Than Honorable discharge was associated with mental health issues
- These veterans endorsed more substance misuse and poorer attitudes toward treatment

#### Table 1

Demographic and military variables by discharge status

	Tomore	Garanal		
	Honorable	General	Other than Honorable	
Age	28.52 (3.30)	27.52 (3.57) <sup>a</sup>	25.62 (3.30) <sup><i>a</i>,<i>b</i></sup>	**
Gender				
Male	87.1% (540)	90.6% (77)	89.7% (26)	ns
Female	12.9% (80)	9.4% (8)	10.3% (3)	
Race				
White	76.6% (475)	70.6% (60)	86.2% (25)	**
Black/African American	3.2% (2)	5.9% (5)	3.4% (1)	
Other/Mixed Race	20.2% (125)	23.5% (20)	10.3% (3)	
Ethnicity				
Hispanic/Latino(a)	14.5% (90)	27.1% (23) <sup>a</sup>	55.2% (16) <sup><i>a</i>,<i>b</i></sup>	**
Branch of Service				
Army	56.8% (352)	70.6% (60) <sup>a</sup>	65.5% (19)	ns
Navy	8.9% (55)	10.6% (9)	10.3% (3)	
Air Force	6.9% (43)	5.9% (5)	0.0% (0)	
Marine Corps	27.4% (170)	12.9% (11) <sup>a</sup>	24.1% (7)	
Marital Status				
Married	53.7% (333)	35.3% (30) <sup>a</sup>	$65.5\% (19)^{b}$	*
Divorced/Separated/				
Widowed/Other	22.6% (140)	32.9% (28) <sup>a</sup>	17.2% (5)	
Never Married	23.7% (147)	31.8% (27)	17.2% (5)	
Income	. ,			
<\$25,000	37.3% (231)	57.6% (49) <sup>a</sup>	37.9% (11)	**
\$25,000-49,999	33.2% (206)	30.6% (26)	48.3% (14)	
\$50,000+	29.5% (183)	11.8% (10) <sup>a</sup>	13.8% (4)	
Combat Exposure		11.070 (10)		
Yes	89.8% (491)	89.2% (58)	96.0% (24)	ns
No	10.2% (56)	10.8% (7)	4.0% (1)	
Combat Severity <sup>†</sup>	4.33 (2.83)	5.32 (3.30)	7.08 (4.04) <sup>a</sup>	**

\* p<.05,

\*\* p<.01, *ns* = non-significant;

 $^{\dagger}$ Because this severity index was only calculated for veterans who reported any combat exposure, this analysis is based on a subsample of n = 637 veterans

<sup>a</sup>significantly different from honorably discharged;

 $b_{\text{significantly different from general under honorable}$ 

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## Table 2

Bivariate associations between demographic variables, military history, and outcomes

				Demographic and M	filitary History Varia	bles		
Outcomes	Age	Gender	Ethnicity	Race	<b>Branch of Service</b>	<b>Marital Status</b>	Income	Combat Exposure
Generalized Anxiety	r = 0.03	F = 0.17	F < 0.01	F = 1.38	$F = 3.98^{**}$	$F = 5.99^{**}$	$F = 5.47^{**}$	$F = 35.64^{**}$
Depression	r = 0.01	F = 0.40	F = 1.42	F = 0.37	F = 3.58*	$F = 5.33^{**}$	$F = 8.32^{**}$	$F=22.34^{\ast\ast}$
PTSD	r = 0.01	F = 0.08	F = 2.90	F = 0.13	$F = 6.91^{**}$	$F = 7.93^{**}$	$F = 4.26^{*}$	$\mathrm{F}=75.15^{**}$
TBI History	r = -0.03	$\chi^2 = 2.64$	$\chi^2 = 2.24$	Fisher's exact $p = 0.04^*$	$\chi^2=18.18^{**}$	$\chi^2 = 4.41$	$\chi^2=1.38$	$\chi^2=16.37^{**}$
Alcohol Misuse	r = -0.08*	F = 0.06	$F = 24.74^{**}$	F = 1.72	F = 2.79*	$F = 16.59^{**}$	F = 2.82	$F = 11.67^{**}$
Cannabis Misuse	$r = -0.29^{**}$	F = 1.53	$F = 4.36^*$	F = 0.82	F = 2.63	F = 0.73	F = 4.37*	F = 0.47
Perceived Stigma	r = -0.07	F = 0.61	F = 5.72*	F = 1.06	F = 0.73	$\mathrm{F}=1.05$	F = 0.12	$F = 4.90^{*}$
Attitudes Toward Care	$r = 0.14^{**}$	$F = 9.24^{**}$	F = 1.15	F = 1.44	$\mathrm{F}=1.52$	F = 1.18	F = 1.37	F = 0.52
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Bivariate correlations among outcome measures

					Outcome Measu	re		
<b>Outcome Measure</b>	Generalized Anxiety	Depression	PT SD	<b>TBI History</b>	Alcohol Misuse	<b>Cannabis Misuse</b>	Perceived Stigma	Attitudes Toward Care
Generalized Anxiety	-	$0.86^{**}$	$0.62^{**}$	0.33**	$0.38^{**}$	$0.27^{**}$	0.32**	-0.30
Depression		I	$0.55^{**}$	$0.31^{**}$	$0.36^{**}$	0.29**	0.32**	-0.61
PTSD			1	0.36**	0.29**	0.07	0.26**	-0.03
<b>TBI History</b>				1	$0.16^{**}$	0.29**	$0.12^{**}$	0.02
Alcohol Misuse					I	$0.31^{**}$	0.28**	-0.17**
Cannabis Misuse						1	0.21**	-0.14
Perceived Stigma							I	-0.32**
Attitudes Toward Care								I

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#### Table 4

Mental health, substance misuse, and attitudes toward treatment by discharge status

	Honorable	General	Other than Honorable	
Generalized Anxiety				
Total Score	8.66 (7.04)	11.67 (6.98) <sup>a</sup>	11.59 (6.21)	**
Screened Positive	42.3% (262)	63.5% (54) <sup>a</sup>	$69.0\% (20)^a$	**
Depression				
Total Score	2.08 (2.09)	3.13 (2.18) <sup>a</sup>	2.86 (2.00)	**
Screened Positive	36.5% (226)	58.8% (50) <sup>a</sup>	58.6% (17) <sup>a</sup>	**
PTSD				
Total Score	2.16 (1.67)	2.87 (1.52) <sup>a</sup>	3.17 (1.39) <sup>a</sup>	**
Screened Positive	48.4% (300)	65.9% (56) <sup>a</sup>	79.3% (23) <sup>a</sup>	**
TBI History				
Yes †	20.0% (117)	29.9% (23) <sup>a</sup>	44.8% (13) <sup>a</sup>	**
Alcohol Misuse				
Total Score	6.86 (6.90)	10.89 (10.01) <sup>a</sup>	16.69 (12.44) <sup><i>a</i></sup>	**
Screened Positive	32.4% (201)	50.6% (43) <sup>a</sup>	62.1% (18) <sup>a</sup>	**
Cannabis Misuse				
Total Score <i>††</i>	7.07 (5.29)	12.56 (7.62) <sup>a</sup>	16.85 (7.05) <sup>a</sup>	**
Screened Positive	6.8% (42)	27.1% (23) <sup>a</sup>	58.6% (17) <sup><i>a</i>,<i>b</i></sup>	**
Perceived Stigma	1.99 (0.83)	2.36 (0.96) <sup>a</sup>	2.36 (0.82)	**
Attitudes Toward Care	16.82 (6.16)	14.34 (6.39) <sup>a</sup>	13.97 (3.82) <sup>a</sup>	**

\* p<.05,

\*\* p<.01

<sup>a</sup> significantly different from honorably discharged;

 ${}^{b}_{\mbox{ significantly different from general under honorable}$ 

 $^{\dagger}$ Because we only included veterans who responded "no" or "yes" to this question, this analysis is based on a subsample of n = 691 veterans

 $^{\dagger\dagger}$ Because the total score was only calculated for veterans who reported using cannabis in the last 6 months, this analysis is based on a subsample of *n* = 182 veterans