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## The Association Between Post-traumatic Stress Disorder and Lifetime DSM-5 Psychiatric Disorders among Veterans: Data from the National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III)

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### Abstract

This study examined the prevalence, correlates and psychiatric comorbidity of Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) posttraumatic stress disorder (PTSD) in a nationally representative sample of U.S. veterans using data from the National Epidemiologic Survey on Alcohol and Related Conditions-III (n=3119 veteran respondents). The overall prevalence of lifetime PTSD was 6.9%. Lifetime PTSD prevalence was higher among veterans who were female (13.2%), aged 18–29 years (15.3%), Native American (24.1%) or Black (11.0%), previously or never married (9.6% and 11.2, respectively), had incomes less than \$70,000 (7.2%–10.1%) and had >2 traumatic events (5.2%–14.7%). After adjusting for sociodemographic characteristics, comorbidity between lifetime PTSD and other psychiatric disorders was highest for any personality disorder (adjusted odds ratio [AOR] =11.1, 95% confidence interval [CI], 5.7, 21.5), any mood disorder (AOR=9.7, 95% CI, 4.6, 20.4) and any anxiety disorder (AOR=9.6, 95% CI, 5.1, 17.7), followed by nicotine, drug, and alcohol use disorders (AOR= 3.4, 95% CI, 1.8, 6.5; AOR= 3.1, 95% CI, 2.0, 5.9; 2.1, 95% CI, 1.5, 3.1, respectively). Associations remained with any mood, anxiety, and personality disorders after controlling for other psychiatric disorders (AOR= 3.7, 95% CI, 1.2, 10.9; AOR= 3.5, 95% CI, 1.6, 7.4; AOR=4.5, 95% CI, 2.3, 8.7, respectively). Veterans who sought treatment for PTSD had more comorbid conditions, although treatment was only associated with comorbid drug use disorder (AOR=2.4, 95% CI, 1.0, 5.7). In U.S. veterans, PTSD is highly comorbid with other psychiatric disorders. Although many veterans remain untreated, comorbidity may influence treatment seeking.

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Posttraumatic stress disorder (PTSD) is one of the most common mental disorders among US veterans (Wisco et al., 2014). PTSD is frequently chronic and associated with long term personal, social, and health problems (Pietrzak et al., 2011a). In the general U.S. population, estimated 12-month prevalence of DSM-IV PTSD ranged from 1.3 to 3.7% (Creamer et al., 2001; Kessler et al., 2012); and lifetime prevalence, between 6.6% and 7.8% (Breslau et al., 1991, 1998; Kessler et al., 1995; Pietrzak et al., 2011b; Resnick et al., 1993). PTSD shows considerable comorbidity in the general US population with substance use disorders (22.3%–41.8%), mood (4.4%–59.0%) and anxiety disorders (0.7%–37.3%) (Pietrzak et al., 2011b). However, differences in sociodemographic characteristics, traumatic exposure, and risk and protective factors in the veteran population make it unclear whether general population estimates are appropriately extrapolated to the U.S. veteran population.

Estimates of lifetime prevalence of PTSD in era-specific cohorts of veterans (e.g. Vietnam-era, Operation Desert Storm, Operation Enduring Freedom/Operation Iraqi Freedom [OEF/OIF]) have ranged from 18.7% to 37.3% (Dohrenwend et al., 2007; Ikin et al., 2010; Jakupcak et al., 2010). Estimates among these specific cohorts, however, are not representative of the overall veteran population. The National Health and Resilience in Veterans Study reported the U.S. veteran population-based prevalence of probable lifetime DSM-IV PTSD was 7.95% (Wisco et al., 2014).

More than 50% of veterans with PTSD have at least one comorbid condition (Ikin et al., 2010; Jakupcak et al., 2010; Skodol et al., 1996; Davidson et al., 1990; Keane et al., 1988; Roszell et al., 1991; Mellman et al., 1992). Era-specific rates of comorbid disorders have been as high as 76% for depression, 45% for anxiety disorders, and 76% for substance use disorders (Ginzburg et al., 2010; Ikin et al., 2010; Jakupcak et al., 2010; Seal et al., 2011; Marshall et al., 2012). In the National Health and Resilience in Veterans Study, the highest rates of comorbidity with probable lifetime DSM-IV PTSD were with major depressive disorder (72%), alcohol abuse (68%) and social anxiety disorder (49%). Comorbidity rates with nicotine dependence and drug use disorders were 32% and 36%, respectively (Wisco et al., 2014). In addition to being based on DSM-IV criteria, however, this study utilized online assessments of a somewhat limited range of psychopathology that were based largely on screening tools. In view of these methodologic concerns, and the changes from the DSM-IV to DSM-5 criteria for both PTSD and comorbid disorders, an examination of the prevalence, sociodemographic correlates, and psychiatric comorbidity of DSM-5 PTSD based on a comprehensive diagnostic interview assessment of a nationally representative veteran sample is indicated.

Most studies indicate that a large proportion of veterans with psychiatric disorders, including PTSD, either do not initiate treatment or fail to complete a full course of treatment (Hoge et al. 2014; Kehle et al., 2010). Little is known about correlates of PTSD treatment uptake in general population veterans, including whether specific comorbid disorders are associated with increased or decreased rates of help seeking. Specific PTSD treatment modalities may require modification to take appropriate account of comorbidity (Jeffreys, Capehart, and Friedman, 2012). Therefore identifying diagnostic correlates of PTSD among veterans plays a potentially important role in individualized treatment planning and provision.

Accordingly, the current study examines PTSD and its comorbidity with mood, anxiety, personality, and substance use disorders and examines associations of comorbidity with treatment seeking for PTSD among affected individuals in a nationally representative general population sample of U.S. Veterans. This study extends previous research with in-person interviews that administer a comprehensive, diagnostic assessment of a range of psychiatric and substance use disorders based on the Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5) (American Psychiatric Association, 2013).

## Methods

### Sample

As detailed elsewhere (Grant et al., 2014), the National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III) represented the non-institutionalized civilian U.S. population 18 years and older, residing in households and group quarters. Face-to-face interviews were conducted with 36,309 respondents between April 2012 and June 2013. Multistage probability sampling was employed to select respondents. Primary sampling units (PSU) were individual or groups of counties. Secondary sampling units (SSU) included groups of Census-defined blocks. Households within the SSU comprised tertiary sampling units; within these households, eligible adults were randomly sampled. Higher selection probabilities were assigned to Asian, Black, and Hispanic individuals than to non-Hispanic whites; two respondents were selected from households with 4 eligible minority residents, ( $n = 1661$ ). The screener response rate was 72.0% and the person response rate was 84%, for an overall response rate of 60.1%, comparable with other current U.S. national surveys (Substance Abuse and Mental Health Services Administration, 2014; Center for Disease Control and Prevention, 2013). Data were adjusted for oversampling and nonresponse, then weighted to represent the US civilian population based on the 2012 American Community Survey. Respondents were similar to the eligible sample with the exception that they were more likely to be male, ages 60–69 years, and less likely to be 30–49 years old, than the eligible sample. Respondents gave informed consent and received \$90.00 for survey participation. Protocols were approved by National Institutes of Health and Westat Institutional Review Boards.

The present study was restricted to the subsample of 3119 veterans. Veteran status was assessed using the question: “Have you ever served on Active Duty in the U.S. Armed Forces, Military Reserves, or National Guard?” Respondents answering “Yes, on active duty in past, but not now”, were included. Current active duty military personnel were ineligible to participate in the NESARC-III.

### Assessment

The Alcohol Use Disorder and Associated Disabilities Interview Schedule –DSM-5 Version (AUDADIS-5; Grant et al., 2011), is a fully structured diagnostic interview designed for use by non-clinician interviewers. This instrument operationalizes the DSM-5 criteria for PTSD, 4 specific mood disorders (major depressive disorder, bipolar I disorder, bipolar II disorder and persistent depression); 5 anxiety disorders (generalized anxiety disorder, specific phobia, social anxiety disorder, panic disorder, agoraphobia); 3 personality disorders

(borderline, antisocial and schizotypal), nicotine use disorder (NUD), alcohol use disorders (AUD), and 9 specific drug use disorders (DUDs: opioid, cannabis, sedative/tranquilizer, stimulants, cocaine, heroin, hallucinogen, inhalant/solvent, club drug use disorders).

## PTSD

To be classified with DSM-5 PTSD, respondents reported exposure to actual or threatened death, serious injury or sexual violence, by directly experiencing, witnessing, learning or being repeatedly exposed to traumatic events (Criterion A). Respondents with multiple traumatic events were asked to specify the most stressful event. A diagnosis of PTSD also required persistent intrusion symptoms (Criterion B), avoidance of stimuli associated with the traumatic event (Criterion C), negative mood or cognitive changes associated with the trauma (Criterion D), and increased arousal (criterion E), causing impairment or distress, for

1 month. This assessment required 3 subcriteria to meet Criterion D and three to meet Criterion E, yielding a narrowly defined PTSD diagnosis. Twelve-month and prior-to-the-past 12 month diagnoses were combined into a lifetime measure. Concordance between the AUDADIS-5/PRISM-5 PTSD diagnoses and dimensional scales was fair to moderate across timeframes ( $\kappa=0.34-0.69$ ) (Hasin et al., 2015). Test-retest reliability of past 12 months and prior to the past 12-month DSM-5 PTSD diagnoses was in the fair range ( $\kappa=0.41$  and  $\kappa=0.44$ , and greater for their associated dimensional scales ( $\kappa=0.69$ ) (Grant et. al., 2015).

## Other Psychiatric Disorders

Lifetime mood disorders assessed in the NESARC-III consisted of DSM-5 major depressive, persistent depressive, bipolar I, and bipolar II disorders. Lifetime anxiety disorders consisted of DSM-5 panic disorder, agoraphobia, social phobia, specific phobia, and generalized anxiety disorder (GAD). Personality disorders (PDs) consisted of DSM-5 schizotypal, antisocial, and borderline PDs. All mood and anxiety disorder diagnoses met the clinical significance criterion and excluded substance and illness-induced cases, in accordance with the DSM-5 criteria. AUDADIS-5/PRISM-5 concordance for psychiatric disorders was fair to moderate across timeframes ( $\kappa=0.24-0.59$ ; Hasin et al., 2015). Test-retest reliability of 12-month and prior to the past 12-months psychiatric disorders was generally fair ( $\kappa=0.35-0.51$ ; Grant et al., 2015). Kappa statistics for test-retest reliability of PDs ranged from 0.46–0.54.

Lifetime DUD diagnoses required 2 of 11 symptoms within a 12-month period, either in the past or prior. Diagnoses pertaining to the period preceding the last 12 months required that at least two criterion symptoms cluster within the same year. Twelve-month and prior to the past 12-month diagnoses were aggregated for DUDs associated with non-heroin opioids, sedatives/tranquilizers, cannabis, stimulants, cocaine, club drugs, heroin, hallucinogens, solvents/inhalants, and other drugs to yield any lifetime DUD. AUD and NUD diagnoses were derived similarly to those for DUD and were aggregated across time periods to establish lifetime measures. AUDADIS-5/PRISM-5 concordance for substance use disorders was fair to good across timeframes ( $\kappa=0.34-0.72$ ). Kappa statistics for test-retest reliability specific past 12-months and prior to the past 12-months DUDs ranged between 0.40 for opioids and 0.54 for stimulants; 0.62 and 0.60 for alcohol; and 0.87 and 0.60 for tobacco (Grant et al., 2015).

## Treatment

Respondents were asked if they ever sought treatment for their PTSD symptoms from a health professional like a psychiatrist, social worker or any kind of counselor or therapist or go to self-help or support groups or use a hotline. Respondents were also asked: (1) if they were ever a patient in a hospital for at least one night; (2) go to an emergency room for help; or (3) prescribed medicines or drugs for their PTSD symptoms. Respondents who responded “yes” to at least one of these questions were classified as treated in the present study.

## Statistical Analysis

Weighted frequencies and cross-tabulations were computed for lifetime DSM-5 PTSD, number of traumatic events, and comorbid conditions. Multivariable logistic regression analyses examined the associations between PTSD and sociodemographic characteristics among veterans. Multiple logistic regression analyses also estimated odds ratios for associations between PTSD and psychiatric comorbidity based on two sets of models. The first adjusted only for sociodemographic characteristics; the second additionally adjusted for all other psychiatric and substance use disorders, testing the hypothesis that PTSD is associated with the pure (non-comorbid) form of the co-occurring disorder. Because of limited subgroup sizes for some specific comorbid disorders, we report results based on categories of disorders (e.g., mood, anxiety, and personality). Associations between PTSD-specific treatment-seeking and comorbid psychiatric disorders was assessed with adjustment for sociodemographic characteristics. All analyses utilized SUDAAN software (Research Triangle Institute, 2012) that accounts for the complex design of the NESARC-III.

## Results

The prevalence of lifetime PTSD was 6.9% (SE=0.42) in this U.S. veteran sample (Table 1). Females had significantly higher odds of PTSD than males. Compared with the oldest age group, the odds of PTSD was higher for all of the other age groups. Among race-ethnic groups, the odds of PTSD was higher among Blacks and Native Americans compared to Whites. The odds of PTSD were greater among widowed/divorced/separated and never married compared with married/cohabiting and among the three lowest family income groups (<\$69, 999) relative to the highest income level. The odds of PTSD increased with the number of traumatic events experienced.

Comorbidity between lifetime PTSD and other psychiatric disorders was highest for mood disorder and PD, followed by NUD, AUD, and anxiety disorders, with DUD being the least comorbid condition (Table 2). In contrast, the prevalence of disorders without PTSD was highest for NUD and AUD, followed by mood, anxiety, and personality disorders with DUD being the least prevalent. After adjusting for sociodemographic characteristics, significant associations were observed between PTSD and comorbid AUD (OR=2.1), DUD (OR=3.1), and NUD (OR=3.4). Strong significant associations were observed with mood, anxiety and personality disorders to ORs=9.7, 9.6, and 11.1, respectively. After further adjusting for additional psychiatric disorders associations between PTSD and AUD, DUD and NUD were no longer significant. Associations of PTSD with any mood, anxiety and personality

disorders retained significance although the associations were considerably attenuated (AORs= 3.7, 3.5, 4.5, respectively).

Table 3 shows the percentages of veterans receiving treatment for PTSD by the number of comorbid psychiatric disorders. Overall, those with more comorbidities were more likely to seek treatment for PTSD. Thirty-seven percent of veterans who sought treatment had six or more comorbid conditions, 17% and 30% of those who sought treatment had 4–5 and 2–3 comorbid disorders, respectively. Among veterans who sought treatment, 6.5% had one comorbid condition while 9% had none.

Table 4 presents associations between treatment for PTSD and comorbid psychiatric disorders. After adjusting for sex, age, education, race-ethnicity, and marital status, only the association with DUD remained significant, OR=2.4 (95% CI, 1.0, 5.7).

## Discussion

Overall, the prevalence of 6.3% for lifetime DSM-5 PTSD in U.S. veterans is lower than that reported in previous studies of era-specific (18.7% and 52%) (Dohrenwend et al., 2007; Ikin et al., 2010; Jakupcak et al., 2010) veteran cohorts but similar to a national sample of veterans (7.95%; Wisco et al., 2014) using previous diagnostic classifications. In part this may reflect the narrow definition used in the study. However, the lifetime prevalence of PTSD among veterans in this study was very similar to the prevalences of 6.4% and 7.8% reported for DSM-IV PTSD in the general U.S. populations (Kessler et al., 1995; Pietrzak et al., 2011b). Similar to prior studies of veteran and general population samples, prevalence of PTSD was higher among women, and those with PTSD were more likely to be younger, non-white, and have lower income, in addition to reporting more traumatic events (Wisco, et al., 2014; Pietrzak et al., 2011b; Kessler et al., 1995).

With adjustment for sociodemographic characteristics, PTSD was highly comorbid with all lifetime substance use and aggregate psychiatric disorders assessed in the NESARC-III. These estimates were lower for mood, alcohol use and drug use disorder, higher for nicotine use disorder and similar for anxiety disorders compared to the other recent nationally representative estimates among U.S. veterans (Wisco et al., 2014). Despite changes in diagnostic criteria for PTSD and many other disorders from DSM-IV to DSM-5, they were consistent with previous studies of the general U.S. population (Pietrzak et al., 2011b; Kessler et al., 1995). In models adjusting for only sociodemographic characteristics, PTSD was associated with substance use disorders (AOR=2.1–3.4) and especially mood, anxiety, and personality disorders (AOR=9.6–11.1). After further adjustment for other psychiatric disorders, associations between PTSD and substance use disorders were no longer significant, whereas associations between PTSD and mood, anxiety, and PDs were attenuated. These weaker associations, when adjusting models for psychiatric disorders, suggests shared factors underlying these associations. That the associations between PTSD and mood, anxiety, and PD remained significant, points to possible unique factors contributing to these associations (Agrawal and Lynskey, 2008; Awofala, 2013; Ball, 2008). These results emphasize the need for studies focused on identifying unique and common factors influencing PTSD comorbidity.

Several explanations have been proposed for the strong associations between PTSD and mood, anxiety and personality disorders. In the development of PTSD, mood, anxiety and personality disorders may increase susceptibility to traumatic events (Breslau, 2009). Further, these disorders can also be consequences or complications of trauma exposure and PTSD (Breslau, 2009; Pietrzak et al., 2011b). Alternatively, high rates of mood, anxiety and personality disorders among veterans with PTSD may reflect overlapping diagnostic criteria between these disorders (Pietrzak et al., 2011b). Lastly, traumatic stressors (e.g., adverse childhood events) may precipitate both PTSD and these comorbid psychiatric disorders that may depend strongly on preexisting genetic vulnerabilities (Friedman & Tenuda, 1995; Frias & Palma, 2013). Longitudinal studies are needed to elucidate the causal mechanisms underlying comorbidity patterns of PTSD.

In this study, the highest levels of comorbidity (six or more comorbid conditions) among veterans were observed among treatment seekers. However, only those with comorbid DUD were significantly more likely to seek treatment for PTSD once potentially confounding factors were accounted for. It is of concern that, in the present sample, 32% of veterans with PTSD who did not seek treatment had 6+ comorbid conditions. The 14.8% increase in completion of at least one PTSD treatment visit between 2005 and 2010, compared with 12.6% from 1997–2005 among veterans seen in the VA healthcare system (Hermes et al., 2012), is encouraging. Similarly, Mott et al., (Mott et al., 2014) recently reported an increase in psychotherapy utilization among veterans across three time points (FY 2004, 21%; FY 2007, 22%; and FY 2010, 27%). Although most of these increases were seen in those with anxiety and depression, those with PTSD had the highest rate of initiation and number of psychotherapy sessions. Nevertheless, the persistently low rates of help seeking, despite the availability of empirically supported psychotherapies and pharmacotherapies that can prevent psychiatric disorders, including PTSD, from becoming chronic (Bryant et al., 2003; Katon et al. 1996; Simon et al., 2004) is cause for concern. Although treatment may be available, it may not be accessible to all veterans who need it due to lack of proximity to these services (Lazar, 2014). Taken together these results call for efforts to understand low rates of help seeking and use the knowledge gained to increase uptake by veterans with PTSD who could benefit from these interventions wherever they present.

The strengths of this study include the large national sample of veterans, valid and reliable measures of psychopathology. NESARC-III data provided national estimates of DSM-5 diagnoses for PTSD and comorbid disorders among U.S. veterans. In addition, the large available sample size of veterans allowed analyses adjusting for broad range of sociodemographic factors as well as comorbid psychiatric disorders. This study's limitations include the cross-sectional design; prospective studies are needed to assess the stability of survey estimates over time. Some mild cases of PTSD may not have been captured by the narrow diagnostic definition. In addition, the NESARC-III's target population by design comprised civilian residents of households and selected group quarters. Therefore, it may have underrepresented subgroups most likely to manifest PTSD including individuals incarcerated in correctional facilities and those institutionalized for mental health or substance use disorders. As noted above, the NESARC-III only assessed antisocial, borderline, and schizotypal PDs. Therefore, the present study could not disaggregate the full range of underlying PD comorbidity among the veteran subsample, nor use PD diagnoses to

define clinical typologies of PTSD (cf. Tsai et al., 2014). Social desirability biases in responding may also have led to an underestimate of comorbid DUD prevalence, but we cannot identify obvious disincentives to accurate reporting, particularly given the NESARC-III's strict confidentiality provisions (Tourangeau and Yan, 2007). Although reliability and validity of PTSD and the majority other psychiatric disorders was in the fair to good range ( $\kappa > 0.40$ ) some values were lower. Some researchers (Regier, 2012) have proposed that the standard of evaluation of the psychometric properties of psychiatric disorders be consistent with those observed for other medical conditions that have produced very similar or lower kappa values than observed in this study (Close et al., 2001; Marin et al., 2010; Wallace et al., 2000).

Examining prevalence and comorbidity of DSM-5 PTSD in a nationally representative sample of U.S. veterans has extended prior research by providing generalizable national estimates for veterans. Our findings indicate that veterans with PTSD have an increased odds of substance use and psychiatric disorders. The associations remaining after adjustment for additional comorbidity between PTSD and mood, anxiety and personality disorders, highlight the need for additional research examining the high rates of comorbidity. Research is also needed to examine higher rates of PTSD among subgroups, including women and nonwhite veterans; distinguish the impact of military vs nonmilitary trauma on PTSD; and identify factors that influence veterans to seek treatment and where they receive treatment.

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**Table 1**

Prevalence and odds ratios of lifetime DSM-5 PTSD and sociodemographic characteristics among veterans (N=3119)

Characteristic	Ptsd (n=229)	No PTSD (n=2890)	OR (95% CI)
Total	6.93 (0.42)	93.07 (0.42)	
Sex			
Male	6.24 (0.48)	93.76 (0.48)	<b>0.44 (0.27, 0.70)</b>
Female	13.22 (2.30)	86.78 (2.30)	1.00
Age category			
18–29	15.31 (3.23)	84.69 (3.23)	<b>4.64 (2.53, 8.50)</b>
30–44	9.65 (1.26)	90.35 (1.26)	<b>2.74 (1.76, 4.28)</b>
45–64	8.57 (0.90)	91.43 (0.90)	<b>2.41 (1.56, 3.72)</b>
65+	3.75 (0.63)	96.25 (0.63)	1.00
Education			
LT HS grad	6.89 (2.36)	93.11 (2.36)	0.97 (0.45, 2.07)
HS graduate	6.43 (0.86)	93.57 (0.86)	0.90 (0.63, 1.28)
Some college +	7.12 (0.57)	92.88 (0.57)	1.00
Race-ethnicity			
White	5.97 (0.46)	94.03 (0.46)	1.00
Black	11.03 (1.80)	88.97 (1.80)	<b>1.95 (1.30, 2.94)</b>
Native American	24.13 (6.26)	75.87 (6.26)	<b>5.01 (2.44, 10.29)</b>
Asian	4.87 (2.93)	95.13 (2.93)	0.81 (0.24, 2.73)
Hispanic	7.55 (1.66)	92.45 (1.66)	1.29 (0.75, 2.19)
Marital Status			
Married/Living as married	5.49 (0.54)	94.51 (0.54)	1.00
Widow/divorce/sep	9.56 (0.96)	90.44 (0.96)	<b>1.82 (1.31, 2.53)</b>
Never Married	11.17 (1.68)	88.83 (1.68)	<b>2.17 (1.48, 3.18)</b>
Family Income			
\$1–19,999	10.09 (1.49)	89.91 (1.49)	<b>2.56 (1.54, 4.26)</b>
\$20,000–34,999	8.62 (1.33)	91.38 (1.33)	<b>2.15 (1.23, 3.76)</b>
\$35,000–69,999	7.23 (0.83)	92.77 (0.83)	<b>1.78 (1.07, 2.95)</b>
\$70,000 or more	4.20 (0.84)	95.80 (0.84)	1.00
Urban			
Urban	6.55 (0.53)	93.45 (0.53)	0.80 (0.55, 1.17)
Rural	8.07 (1.11)	91.93 (1.11)	1.00
Region			
Northeast	8.89 (1.17)	91.11 (1.17)	1.30 (0.85, 1.99)
Midwest	5.49 (0.58)	94.51 (0.58)	0.77 (0.53, 1.14)
South	6.93 (0.72)	93.07 (0.72)	0.99 (0.67, 1.47)
West	6.98 (1.04)	93.02 (1.04)	1.00
Nconsumer			
Current drinker	6.77 (0.53)	93.23 (0.53)	3.51 (0.86, 14.28)

Characteristic	Ptsd (n=229)	No PTSD (n=2890)	OR (95% CI)
Former drinker	8.32 (1.29)	91.68 (1.29)	4.38 (0.88, 21.90)
LT abstainer	2.03 (1.42)	97.97 (1.42)	1.00
Number of traumatic events			
0	0		*
1	2.00 (0.50)	98.00 (0.50)	1.00
2	5.15 (1.35)	94.85 (1.35)	<b>3.15 (1.91, 5.20)</b>
3	7.75 (1.48)	92.25 (1.48)	<b>5.07 (2.97, 8.68)</b>
4+	14.70 (1.12)	85.30 (1.12)	<b>9.92 (5.92, 16.61)</b>

Note: Bolded figures are significant,  $p < 0.05$ .

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**Table 2**  
Prevalence and Adjusted Odds Ratios (AOR) of Lifetime DSM-5 of PTSD and other Psychiatric Disorders

Comorbid Disorder	Prevalence % (SE)		OR (95% CI) Controlling* for Sociodemographic Characteristics	OR (95% CI) Controlling** for Sociodemographic Characteristics and Other Psychiatric Disorders
	With PTSD	Without PTSD		
Alcohol use disorder	54.51 (4.41)	33.16 (1.26)	<b>2.13 (1.47, 3.09)</b>	0.70 (0.31, 1.61)
Drug use disorder	27.22 (3.77)	8.32 (0.68)	<b>3.09 (1.96, 4.86)</b>	2.44 (0.86, 6.90)
Nicotine use disorder	56.91 (3.41)	34.84 (1.27)	<b>3.39 (1.78, 6.48)</b>	1.59 (0.72, 3.51)
Any mood disorder	61.72 (4.09)	15.87 (0.82)	<b>9.69 (4.61, 20.38)</b>	<b>3.67 (1.23, 10.91)</b>
Any anxiety disorder	48.84 (3.66)	11.32 (0.85)	<b>9.55 (5.14, 17.74)</b>	<b>3.48 (1.64, 7.35)</b>
Any personality disorder	59.78 (4.45)	13.84 (0.87)	<b>11.08 (5.71, 21.52)</b>	<b>4.45 (2.28, 8.70)</b>

Note: Bolded figures are significant,  $p < 0.05$ .

\* Models adjusted for sex, age category, education, race-ethnicity, marital status, family income, region, and urbanicity.

\*\* Models adjusted for all sociodemographic characteristics (listed above) and all of the following with the exception of the comorbid disorder: alcohol use disorder, drug use disorder, nicotine use disorder, any mood disorder, any anxiety disorder, and any personality disorder.

**Table 3**  
 Percentage of Veterans Seeking Treatment by Number of Comorbid Psychiatric Disorders

Number of Comorbid Disorders	% Seeking Treatment	% Not Seeking Treatment
0	8.96 (3.45)	0.90 (0.66)
1	6.51 (2.47)	24.56 (6.91)
2-3	30.22 (4.02)	22.58 (6.32)
4-5	17.04 (3.11)	19.93 (5.87)
6+	37.28 (4.60)	32.03 (7.24)

**Table 4**

Adjusted Odds Ratios (AOR) between DSM-5 PTSD and Lifetime Treatment Among Veterans with Comorbid Conditions

Comorbid Disorder	OR (95% CI) Controlling* for Sociodemographic Characteristics
Alcohol use disorder	0.73 (0.35, 1.53)
Drug use disorder	<b>2.43 (1.03, 5.69)</b>
Nicotine use disorder	0.59 (0.32, 1.11)
Any mood disorder	1.35 (0.57, 3.19)
Any anxiety disorder	1.28 (0.56, 2.90)
Any personality disorder	0.92 (0.42, 2.02)

Note: Bolded figures are significant,  $p < 0.05$ .

\* Models adjusted for sex, age, education, race-ethnicity, marital status.