

Unique PTSD Clusters Predict Intention to Seek Mental Health Care and Subsequent Utilization in US Veterans with PTSD Symptoms

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Many veterans return from deployment with posttraumatic stress disorder (PTSD), but most attend only a limited number of mental health care visits. Although global PTSD relates to seeking mental health care, it is unclear whether specific features of PTSD inform the low rates of mental health care utilization. This study examined PTSD cluster severities of avoidance, reexperiencing, dysphoria, and hyperarousal as predictors of intention to seek mental health care and prospective treatment utilization. US veterans with at least subthreshold PTSD ($N = 189$) completed a PTSD symptom measure and indicated whether they intended to seek mental health care. Prospective Department of Veterans Affairs mental health care utilization was extracted from the medical record. At the bivariate level, each cluster was positively associated with a positive intention to seek mental health care and prospective treatment utilization. In multivariate models, however, dysphoria severity ($OR = 1.16$, 95% CI [1.06, 1.26]) was uniquely and positively correlated with intention to seek mental health care, whereas higher avoidance severity ($IRR = 0.86$, 95% CI [0.76, 0.98]) predicted lower treatment utilization, and higher reexperiencing severity ($IRR = 1.07$, 95% CI [1.01, 1.14]) predicted greater treatment utilization. It is critical to tailor interventions to target specific features of PTSD and to meet patients where they are.

Posttraumatic stress disorder (PTSD) is a common mental health problem for service members deployed to Iraq and Afghanistan (Hoge et al., 2004; Seal et al., 2009). Most veterans with PTSD, however, will not follow through with treatment referrals, will not receive the recommended course of therapy (i.e., nine or more sessions), or will terminate mental health care prematurely (Garcia, Kelley, Rentz, & Lee, 2011; Harpaz-Rotem & Rosenheck, 2011; Hoerster et al., 2012; Johnston & Dipp, 2009; Milliken, Auchterlonie, & Hoge, 2007; Seal et al., 2010). Several researchers have studied possible barriers to care, such as stigma and negative beliefs about mental health and mental health care, but few have linked such barriers with actual utilization (see review, Vogt, 2011). Of the available research, Hoerster et al. (2012) found that trust, access, and stigma barriers did not predict actual utilization (Hoerster et al., 2012), and Rosen and colleagues (2011) found that stigma concerns were highest among veterans actually engaged in care. Given the limited extant research examining barriers related to actual

mental health care utilization in veterans, is important to identify other factors that inform veterans' intention to seek and subsequent utilization of mental health care.

Veterans with PTSD, or those who report more severe global PTSD symptom severity, are more likely to receive the recommended course of therapy compared to veterans without PTSD or those reporting lower PTSD symptoms (Hoerster et al., 2012; Seal et al., 2010). Specific features, however, of PTSD might constitute barriers to care (Hoge, 2011). PTSD is a multidimensional disorder of stress. Though the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*, American Psychiatric Association [APA], 2000) states that PTSD is composed of reexperiencing, avoidance, and hyperarousal symptoms, research using confirmatory factor analysis in Iraq veterans suggests that PTSD is composed of four factors—avoidance, reexperiencing, dysphoria, and hyperarousal (Meis, Erbes, Kaler, Arbisi, & Polusny, 2011; Simms, Watson, & Doebbeling, 2002; Williams, Monahan, & McDevitt-Murphy, 2011; Yufik & Simms, 2010). This model is referred to as the dysphoria model of PTSD. Another 4-factor model of PTSD, the numbing model (King, Leskin, King, & Weathers, 1998), has been posited, but the dysphoria model shows superior model fit and stability in samples of Iraq veterans (Meis et al., 2012). The *DSM-5* (APA, 2013) presents an updated conceptualization of PTSD that includes reexperiencing, avoidance, negative changes in mood and cognitions, and hyperarousal—a conceptualization similar to the dysphoria model of PTSD.

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Studies examining the *DSM-IV-TR* dysphoria model of PTSD show that the symptom clusters relate differentially to personal and interpersonal functioning. Pietrzak, Goldstein, Mallery, Rivers, and Southwick (2010) found that the interpersonal difficulties experienced by veterans were largely attributable to the dysphoria cluster of PTSD. Blais, Renshaw, and Jakupcak (2014) found that overall PTSD symptom severity was associated with lower willingness to seek social support. Post hoc analyses replacing the global PTSD score with the four PTSD symptom clusters revealed that only higher dysphoria was associated with lower willingness to seek social support after accounting for other symptom clusters. Given the interpersonal and personal difficulties associated with dysphoria, it is possible that higher dysphoria is related to greater intention to seek and utilize mental health care. There is also evidence that PTSD-related avoidance could be a barrier to treatment seeking for PTSD. Zayfert and Becker (2000) found that 17% of their civilian sample declined evidenced-based treatment for PTSD to avoid repeated disclosures of their trauma history. Further, in a qualitative study of Vietnam and Iraq/Afghanistan veterans examining factors related to utilization, veterans stated that they were less likely to engage in mental health care as a way to decrease trauma disclosures (Sayer et al., 2009). These latter two studies suggest that avoidance could have unique negative associations with engagement in mental health treatment. Finally, higher reexperiencing symptoms are associated with several problematic behaviors, including suicidal ideation (Bell & Nye, 2007), alcohol misuse, and aggression (Hellmuth, Stappenback, Hoerster, & Jakupcak, 2012). It is possible that the difficulties associated with reexperiencing symptoms could facilitate treatment seeking and engagement.

The purpose of the current study was to examine the associations between symptom clusters in the dysphoria model of PTSD in US veterans seeking Department of Veterans Affairs (VA) care with (a) reported intention to seek mental health treatment and (b) prospective utilization in the year following intake to a VA postdeployment clinic. These associations were examined in a sample of Iraq/Afghanistan veterans enrolling in a VA postdeployment health clinic who reported at least subthreshold PTSD symptoms on our PTSD assessment. Veterans with at least subthreshold PTSD were included in the current study because subthreshold PTSD is linked with significant dysfunction and impairment that is amenable to psychological intervention. For example, compared to those without PTSD, those with subthreshold PTSD are more likely to meet criteria for comorbid psychiatric diagnoses (Grubaugh et al., 2005), exhibit greater family, social, and occupational dysfunction (Cukor, Wyka, Jayasinghe, & Difede, 2010), report greater suicidal ideation (Jakupcak et al., 2011), and report higher problems with hostility and anger (Jakupcak et al., 2007). Subthreshold PTSD can be a persistent problem, developing into full-blown PTSD over time (Bliese et al., 2008; Cukor et al., 2010). Finally, utilization research shows that veterans with subthreshold PTSD use the same amount of mental health care as those with no PTSD (Grubaugh et al., 2005), suggesting that despite

impairment and dysfunction across several life domains, veterans with subthreshold PTSD may experience barriers to mental health care. Based on prior research linking specific symptom clusters with poorer adjustment across several life domains, we hypothesized that higher avoidance symptoms would be associated with lower intention to seek and utilize mental health care and higher reexperiencing and dysphoria symptoms would be associated with higher intention to seek and utilize mental health care. Given the lack of prior research linking hyperarousal symptoms to mental health care, no a priori hypotheses were made regarding hyperarousal.

Method

Participants

A pool of 316 Iraq and Afghanistan service members presented to a VA postdeployment clinic for an initial evaluation. Members met with a mental health clinician, a physician, and a social worker to assess mental health, medical, and social work needs, and completed self-report intake questionnaires. One hundred twenty-five participants (39.6%) were excluded because they scored ≤ 29 on the PTSD Checklist-Military Version (PCL-M; Weathers, Litz, Herman, Huska, & Keane, 1993), suggesting the absence of clinically meaningful PTSD symptoms. Prior research using this dataset demonstrated that military branch was associated with mental health care utilization (Hoerster et al., 2012). Given the low number of Coast Guard veterans ($n = 2$) in the dataset, we excluded these from analyses as we did not have adequate power to test the associations between Coast Guard service and outcomes of interest. The remaining 189 participants composed the current sample. Of those, 16 veterans did not have utilization data either because they did not have patient identifiers on their questionnaires or their identifiers were incorrect, so their data were excluded from analyses of utilization. The average age of participants was 29.8 years ($SD = 7.8$). The majority was male (92.4%), Caucasian (70.4%), not married (65.4%), employed (57.3%), and had an annual income $< \$35,000$ (70.7%). Over half served in the Army (61.4%). The Institutional Review Board of VA Puget Sound Health Care System approved this research.

Measures

The PCL-M (Weathers et al., 1993) is a commonly used assessment of PTSD symptoms. Participants rate how much each symptom has bothered them over the last month using a Likert scale ranging from 1 = *not at all* to 5 = *extremely*. Scores on the reexperiencing (questions 1–5), avoidance (questions 6–7), dysphoria (questions 8–15), and hyperarousal (questions 16–17) symptom clusters range from 5 to 25, 2 to 10, 8 to 40, and 2 to 10, respectively. Using receiver operating characteristics, Bliese et al. (2008) examined the diagnostic efficiency of the PCL-M in Iraq/Afghanistan troops. They found that scores on the PCL-M of 26–34 maximized sensitivity and specificity. For

Table 1
Means, Standard Deviations, Internal Consistency, and Intercorrelations for PTSD Symptom Clusters

Variable	<i>M</i>	<i>SD</i>	Cronbach's α	1	2	3	4
1. Global PTSD	51.84	15.02	.93	–			
2. Reexperiencing	14.30	5.12	.88	.87	–		
3. Avoidance	6.18	2.42	.80	.80	.74	–	
4. Dysphoria	24.81	7.47	.87	.90	.61	.58	–
5. Hyperarousal	6.45	2.37	.82	.77	.61	.57	.61

Note. *N* = 189. PTSD = posttraumatic stress disorder. All correlations are $p < .001$.

the current study, we employed a cutoff of 30 or higher as an indicator of problematic PTSD symptomology, which had a sensitivity index of .78 and a specificity index of .88 to detect PTSD in Bliese et al.

The Perceived Stigma and Barriers to Care Scale (Britt, 2000) was used to assess access, stigma, and trust barriers to seeking mental health treatment. Responses to the 10 items were coded into dichotomous responses (yes/no barrier endorsed) and affirmative responses to each question were summed to create global access (range = 0–4), stigma (range = 0–4), and trust (range = 0–2) scores.

Andersen's model of health care utilization (1995) was used to identify possible covariates with intention to seek and utilize mental health care. Using the standard sociodemographic questionnaire distributed to all veterans upon clinic intake, predisposing (age, gender, education level, race/ethnicity, and military characteristics—branch, active vs. reserve status, combat experiences), and enabling (marital status, income) characteristics were assessed as correlates of intention to seek mental health care and subsequent utilization. Combat experiences were assessed using the 18-item combat experience scale as reported by Hoge et al. (2004). Responses to items were coded into dichotomous responses (yes/no) and summed for a total score.

Intention to seek mental health care was assessed via a single item that asked participants why they were seeking care during the intake visit. Choices included “medical concerns,” “mental health concerns,” and “both medical and mental health concerns.” “Mental health concerns” and “both medical and mental health concerns” were collapsed into a single response, creating a dichotomous outcome variable of intention to seek mental health care versus seeking only medical care. Prospective mental health care utilization in the year following intake included individual psychotherapy, group psychotherapy, and psychiatry appointments delivered through outpatient psychology clinics (e.g., PTSD Outpatient Clinic, Mental Health Clinic, and the Primary Care–Mental Health Clinic). Visits to social work service for practical needs (e.g., housing, finances) or to physicians for medical needs were not included. The number of visits was gathered through electronic medical records obtained from the VA Northwest Veterans Integrated Service Network (VISN 20) Data Warehouse.

Data Analysis

Pearson *r* correlations were used to examine the associations among global PTSD and symptom cluster severity scores. Bivariate associations of sociodemographic characteristics, access, stigma, and trust barriers with the intention to seek mental health care were tested using chi-square analyses or analysis of variance (ANOVA) to identify relevant covariates. Covariates for utilization were identified using negative binomial regression. Sociodemographic characteristics, access, stigma, and trust barriers significantly associated ($p < .05$) with outcomes were included as covariates in multivariate models. Adjusted models were run to examine the independent associations of PTSD symptom cluster severity with intention to seek mental health care (logistic regression) and prospective utilization (negative binomial regression).

Results

The majority (81.8%) reported that they intended to seek mental health care, and 89.5% attended two or more visits with a mental health clinician. The modal number of mental health care visits was two, the average number of visits was 8.60 ($SD = 16.83$), and the range of visits was 1 to 179. As reported on this sample elsewhere, higher PTSD symptom severity was associated with more mental health care utilization (Hoerster et al., 2012). Nearly half of the sample (47.8%) scored between 30–49 on the PCL-M, and the remainder had a score of at least 50. Means, *SD*s, and intercorrelations for and among global PTSD and each symptom cluster are presented in Table 1. Bivariate correlations among global PTSD and symptom clusters were all large in effect size.

Sociodemographic characteristics, access, stigma, and trust barriers were unrelated to intention to seek mental health care (all $ps > .05$). At the bivariate level, higher dysphoria, re-experiencing, hyperarousal, and avoidance symptom severity were all associated with a positive intention to seek mental health care versus seeking only medical treatment at intake (see Table 2). When the PTSD symptom cluster severity scores were entered into the model simultaneously, higher dysphoria severity was significantly associated with positive intention to

Table 2

Bivariate and Multivariate Associations Between PTSD Symptoms and Intention to Seek Mental Health Care^a

Symptom	Bivariate associations					Multivariate Associations		
	Seeking mental healthcare		Seeking medical care only		F	n	OR	CI
	M	SD	M	SD				
Reexperiencing	15.00	5.34	11.68	2.98	10.08 ^{**b}	153	1.10	[0.95, 1.27]
Avoidance	6.41	2.40	5.22	2.01	5.50 ^{*c}	152	0.87	[0.67, 1.17]
Dysphoria	26.24	7.34	19.11	6.43	22.45 ^{***d}	150	1.16 ^{***}	[1.06, 1.26]
Hyperarousal	6.80	2.23	5.36	2.10	8.92 ^{**e}	153	1.06	[0.83, 1.35]

Note. PTSD = posttraumatic stress disorder; OR = odds ratio; CI = confidence interval.

^aOne hundred fifty-four veterans reported an intention to seek mental health care or medical care only; 35 did not report any intention to seek either form of care. ^bdf = 152. ^cdf = 151. ^ddf = 149. ^edf = 152.

p* < .05. *p* < .01. ****p* < .001.

seek mental health care at intake. Reexperiencing, avoidance, and hyperarousal were no longer significantly associated with positive intention to seek mental health care at intake after dysphoria was in the model (see Table 2).

Active duty versus reserve status, gender, combat exposure, and race/ethnicity were significantly related to utilization at the bivariate level (see Table 3). Higher reexperiencing, hyperarousal, avoidance, and dysphoria symptom severity predicted higher utilization at the bivariate level (see Table 3). When the PTSD symptom cluster severity scores and relevant covariates were entered into the model simultaneously, higher avoidance symptom severity predicted lower utilization, whereas higher reexperiencing symptom severity predicted higher utilization. Dysphoria and hyperarousal symptom severity scores were no longer significantly related to utilization when other variables were included in the model. Females and veterans identifying as White utilized more mental health care than male veterans or those reporting another race. Those with higher combat exposure utilized more mental health care than those reporting lower exposure (see Table 3).

Table 3

Associations Between PTSD Symptoms, Covariates, and Mental Healthcare Utilization

Variable	Bivariate associations		Multivariate Associations	
	IRR	CI	IRR ^a	CI ^a
Reexperiencing	1.06 ^{***}	[1.03, 1.10]	1.07 [*]	[1.01, 1.14]
Avoidance	1.07 ^{***}	[1.00, 1.15]	0.86 [*]	[0.76, 0.98]
Dysphoria	1.05 ^{***}	[1.02, 1.07]	1.03	[0.99, 1.06]
Hyperarousal	1.10 ^{**}	[1.03, 1.18]	1.01	[0.89, 1.14]
Male versus female	0.55 [*]	[0.31, 1.00]	0.33 ^{**}	[0.17, 0.67]
White versus Other	1.82 ^{***}	[1.26, 2.62]	1.75 ^{**}	[1.18, 2.61]
Active duty versus Reserve	1.51 [*]	[1.04, 2.19]	1.39	[0.91, 2.12]
Combat exposure	1.81 [*]	[1.04, 3.15]	1.05 [*]	[1.00, 1.11]

Note. Bivariate (*n* = 150); multivariate (*n* = 142). PTSD = posttraumatic stress disorder; IRR = incident rate ratio; CI = confidence interval.

^aAccounts for PTSD symptom clusters, gender, race/ethnicity, and active duty/reserve status.

p* < .05. *p* < .01. ****p* < .001.

Discussion

Despite the high rate of PTSD following deployment to combat theaters, many veterans with PTSD do not receive the recommended course of therapy (Garcia et al., 2011; Harpaz-Rotem & Rosenheck, 2011; Hoerster et al., 2012; Johnston & Dipp, 2009; Milliken, Auchterlinie, & Hoge, 2007; Seal et al., 2010). The current study examined the association between PTSD symptom cluster severity and intention to seek mental health care and prospective utilization in a sample of Iraq and Afghanistan veterans with at least subthreshold PTSD symptoms who were enrolling in a VA postdeployment clinic. After accounting for covariates and each of the PTSD symptom cluster severities, only higher dysphoria severity was associated with a positive intention to seek mental health care. Higher reexperiencing and lower avoidance were the only PTSD symptom clusters associated with prospective utilization.

The positive link between dysphoria severity and intention to seek mental health care is not surprising, as prior studies have found that dysphoria is most strongly associated with poorer

postdeployment adjustment (Blais et al., 2014; Hassija, Gray, & Jakupcak, 2012; Pietrzak et al., 2010). Thus, the dysphoric features of PTSD may most closely represent impairment across life domains and veterans' perceived need for treatment. These results differ from recent research showing that higher dysphoria is linked with lower willingness to seek support from friends and family (Blais et al., 2014). If dysphoria is associated with deteriorating social functioning, this may increase a veteran's intention to seek professional help due to fewer social support resources. The lack of a significant association between avoidance and intention to seek mental health care may be a result of self-selection among this treatment-seeking sample, 81.8% of whom indicated they were interested in mental health services at intake. It is unclear whether similar findings would have been obtained in a sample composed of an equal number of participants interested/not interested in seeking mental health care.

Higher avoidance severity predicted higher prospective utilization at the bivariate level. Accounting for relevant covariates and the other PTSD symptom clusters, however, higher avoidance severity predicted lower prospective utilization. These findings are consistent with those of Zayfert and Becker (2000) and Sayer et al. (2009), who found that civilian and military trauma victims reported avoidance of treatment as a way to decrease the frequency of trauma disclosures. It is possible that avoidance manifests itself as a barrier to care, not only by preventing trauma disclosures, but by decreasing veterans' willingness to leave their homes, negotiate travel, and present to a care facility, all of which could decrease willingness to attend psychotherapy visits. The positive bivariate association between avoidance severity and utilization could be reflective of the association between higher global PTSD severity and higher utilization (Hoerster et al., 2012) as well as the high correlation among the symptom cluster severities identified in our analyses.

The positive association between higher reexperiencing severity and greater utilization is encouraging as prior research has shown that reexperiencing symptoms are associated with suicidal ideation (Bell & Nye, 2007), aggressive behaviors, and alcohol misuse (Hellmuth et al., 2012), which suggests that such symptoms may be salient markers of distress and underscore the need to remain in treatment. Furthermore, because of their direct association with trauma reminders, prominent reexperiencing may facilitate veterans' recognition and acceptance that their distress is caused by PTSD, thus promoting more use of VA mental health services. In contrast, veterans might attribute other symptoms of PTSD (e.g., dysphoria, hyperarousal) to psychosocial stressors (e.g., financial or relationship problems), readjustment difficulties (e.g., sleep habits learned on deployment), or medical disorders (e.g., musculoskeletal pain, poor thyroid functioning, vitamin D deficiencies). Veterans with prominent dysphoria or hyperarousal symptoms might seek out other types of services, such as social work care management or primary medical care.

The differing associations between PTSD symptom clusters from intention to seek care to actual utilization may reflect a growing understanding on the part of the veteran that their distress is caused by PTSD, and therefore specialized treatment is needed. It is possible that when simply intending to seek treatment, the mechanism behind their distress is unknown. It is also possible that any attempts to suppress symptoms of PTSD by using avoidance or other avoidant coping strategies (e.g., drinking, drug use) prior to seeking treatment become less effective as individuals engage in treatment, making other symptoms more strongly associated with remaining in care over time.

Our findings show that men are less likely to utilize care than women and individuals identifying as Caucasian are more likely to seek care than individuals reporting other races. These findings are consistent with other research (Blais & Renshaw, 2013; Seal et al., 2010). Additionally, higher combat exposure predicted greater utilization. These findings demonstrate that greater outreach efforts are needed for male and minority veterans as well as those with lower combat experiences. It is possible that interventions that focus on treatment-seeking barriers specific to males, including those associated with traditional male gender norms that discourage help seeking (see Addis & Mahalik, 2003), could be particularly beneficial.

Our findings show that veterans did not attend sufficient visits to accommodate a formal treatment protocol for PTSD, such as prolonged exposure or cognitive processing therapy. The modal number of visits attended, including the mental health intake, was only two. It is possible that those veterans meeting subthreshold criteria for PTSD could have received adequate symptom relief after only two visits. The rate of utilization observed in the current sample is not very different from other studies examining mental health care utilization in Iraq/Afghanistan veterans, which have found that the majority of veterans attended between one and eight mental health care visits in the year following receiving a mental health diagnosis (Seal et al., 2010). The limited contact with mental health services means that posttraumatic stress and other postdeployment problems will likely continue and worsen over time (Bliese et al., 2008; Milliken et al., 2007), making this distress more difficult to treat. It may be beneficial to develop interventions that initially target dysphoria and subsequently transition to focus on avoidance and reexperiencing symptoms when attempting to engage veterans in care. This is also consistent with a patient-centered approach to treating veterans by "meeting them where they are" (Hoge, 2011). Although they have proven efficacy, initially offering trauma-focused interventions such as cognitive processing therapy or prolonged exposure therapy may be initially challenging to some veterans (Terrier, Sommerfield, Pilgrim, & Humphreys, 1999) and facilitate early termination in veterans with prominent avoidance symptoms. Indeed, recent findings suggest that initially focusing on developing emotional regulation strategies may improve retention and response to cognitive-behavioral

interventions for PTSD (Bryant et al., 2013). Retention in mental health care may also be improved by first delivering motivational enhancement interventions for highly avoidant veterans (Seal et al., 2012).

Our findings underscore the importance of understanding PTSD as a multidimensional disorder with specific features differentially related to key clinical outcomes. Continuing to study the various symptom clusters of PTSD in place of global severity may inform specific interventions that can be continually tailored to meet the most pertinent treatment needs. As the *DSM-5* (APA, 2013) released a new model of PTSD shortly after this study was completed, it will be important to re-examine these associations using new measures of PTSD to best understand how PTSD, as it is now defined, relates to intention to seek and utilize mental health care.

There are limitations to the current study. Methods relied on self-reported symptoms of PTSD, which may be minimized or exaggerated. Our sample was composed of veterans presenting for VA care, the majority of whom indicated that they were interested in receiving mental health care. It is not clear whether these results can be generalized to veterans not seeking treatment or not enrolled in VA care. Follow-up studies should examine intention to seek mental health care and utilization in community samples of veterans who are not (yet) presenting to VA care. We did not assess for a history of mental health care utilization. There is evidence that prior utilization is related to intention to seek mental health treatment in Iraq/Afghanistan veterans (Blais & Renshaw, 2013). Future investigations should account for previous engagement with mental health care when studying correlates of current or prospective mental health care utilization. Given the high correlation among the PTSD symptom clusters, our results are subject to complications with multicollinearity. We employed similar approaches to other investigators, however, who have examined the impact of PTSD symptom clusters on veteran functioning (e.g., Cook, Jakupcak, Rosenheck, Fontana, & McFall, 2009; Erbes, Meis, Polusny, & Compton, 2011; Schnurr & Lunney, 2011). It is possible that the observed associations may be better accounted for by other patient-level variables (e.g., prior utilization, higher social support) and systems-level variables (e.g., therapist availability, treatment recommendations) not examined in this study. Finally, it is possible that the PTSD symptom clusters could have unique associations with different types of treatment (e.g., group psychotherapy, psychiatry visits, individual psychotherapy). Unfortunately, specific types of visits attended were not measured in this study. Notwithstanding, this study presents novel findings regarding the associations between specific PTSD symptoms and utilization that may serve as the foundation to follow-up studies.

Many veterans do not use mental health services despite experiencing posttraumatic stress following deployment to combat theatres (e.g., Hoge et al., 2004). Intention to seek mental health care is most closely related to dysphoria severity

whereas prospective utilization is most closely related to lower avoidance and higher reexperiencing severities among veterans reporting symptoms of PTSD. These findings show that the symptoms most closely associated with intention to seek mental health care may not be the same symptoms associated with utilizing mental health care. Future work should (a) examine whether patient-centered interventions that target specific features of PTSD increase veterans' willingness to engage and remain in mental health care; (b) assess how specific features of PTSD relate to different types of mental health care, including individual psychotherapy, group psychotherapy, and psychiatry visits; (c) examine the *DSM-5* model of PTSD as it relates to intention to seek care and mental health care utilization; and (d) explore these associations in a nontreatment-seeking sample of distressed veterans, given that barriers to mental health care likely differ across treatment-seeking and nontreatment seeking distressed veterans.

References

- Addis, M. E., & Mahalik, J. R. (2003). Men, masculinity, and the contexts of help seeking. *American Psychologist, 58*, 5–14. doi: 10.1037/0003-066X.58.1.5
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders*. (4th ed., text rev.). Washington, DC: Author.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders*. (5th ed.). Washington, DC: Author.
- Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior, 36*, 1–10. doi: 10.2307/2137284
- Bell, J. B., & Nye, E. C. (2007). Specific symptoms predict suicidal ideation in Vietnam combat veterans with chronic post-traumatic stress disorder. *Military Medicine, 172*, 1144–1147.
- Blais, R. K., & Renshaw, K. D. (2013). Stigma and demographic correlates of help-seeking intentions in returning service members. *Journal of Traumatic Stress, 26*, 77–85. doi: 10.1002/jts.21772
- Blais, R. K., Renshaw, K. D., & Jakupcak, M. (2014). Posttraumatic stress and stigma in active duty service members relate to lower likelihood of seeking support. *Journal of Traumatic Stress, 27*, 116–119. doi: 10.1002/jts.21888
- Bliese, P. D., Wright, K. M., Adler, A. B., Cabrera, O., Castro, C. A., & Hoge, C. W. (2008). Validating the Primary Care Posttraumatic Stress Disorder Screen and the Posttraumatic Stress Disorder Checklist with soldiers returning from combat. *Journal of Consulting and Clinical Psychology, 76*, 272–281. doi: 10.1037/0022-006X.76.2.272
- Britt, T. W. (2000). The stigma of psychological problems in a work environment: Evidence from the screening of service members returning from Bosnia. *Journal of Applied Social Psychology, 30*, 1599–1618. doi: 10.1111/j.1559-1816.2000.tb02457.x
- Bryant, R. A., Mastrodomenico, J., Hopwood, S., Kenny, L., Cahill, C., Kandris, E., & Taylor, K. (2013). Augmenting cognitive behaviour therapy for posttraumatic stress disorder with emotion tolerance training: A randomized controlled trial. *Psychological Medicine, 43*, 2153–2160. doi:10.1017/S0033291713000068
- Cook, J., Jakupcak, M., Rosenheck, R., Fontana, A., & McFall, M. (2009). Influence of PTSD symptom clusters on smoking status among help-seeking Iraq and Afghanistan veterans. *Nicotine & Tobacco Research, 11*, 1189–1195. doi: 10.1093/ntr/ntp123

- Cukor, J., Wyka, K., Jayasinghe, N., & Difede, J. (2010). The nature and course of subthreshold PTSD. *Journal of Anxiety Disorder, 24*, 918–923. doi: 10.1016/j.janxdis.2010.06.017
- Erbes, C. R., Meis, L. A., Polusny, M. A., & Compton, J. S. (2011). Couple adjustment and posttraumatic stress disorder symptoms in National Guard veterans of the Iraq war. *Journal of Family Psychology, 54*, 479–487. doi: 10.1037/a0024007
- Garcia, H. A., Kelley, L. P., Rentz, T. O., & Lee, S. (2011). Pretreatment predictors of dropout from cognitive behavioral therapy for PTSD in Iraq and Afghanistan war veterans. *Psychological Services, 8*, 1–11. doi:10.1037/a0022705
- Grubaugh, A. L., Magruder, K. M., Waldrop, A. E., Elhai, J. D., Knapp, R., & Frueh, B. (2005). Subthreshold PTSD in Primary Care: Prevalence, psychiatric disorders, healthcare use, and functional status. *Journal of Nervous and Mental Disease, 193*, 658–664. doi: 10.1097/01.nmd.0000180740.02644.ab
- Harpaz-Rotem, I., & Rosenheck, R. A. (2011). Serving those who served: Retention of newly returning veterans from Iraq and Afghanistan in mental health treatment. *Psychiatric Services, 62*, 22–27. doi:10.1176/appi.ps.62.1.22
- Hassija, C. M., Jakupcak, M., & Gray, M. J. (2012). Emotional numbing symptoms of posttraumatic stress disorder among OEF/OIF veterans: A review of findings and implications for treatment. *Behavior Modification, 36*, 834–856. doi: 10.1177/0145445512453735
- Hellmuth, J. C., Stappenbeck, C. A., Hoerster, K. D., & Jakupcak M. (2012). Modeling PTSD symptom clusters, alcohol misuse, anger, and depression as they relate to aggression and suicidality in returning veterans. *Journal of Traumatic Stress, 25*, 527–534. doi: 10.1002/jts.21732
- Hoerster, K. D., Malte, C.A., Imel, Z. E., Ahmad, Z. S., Hunt, S., & Jakupcak, M. (2012). Association between perceived barriers and prospective VA mental healthcare use among Iraq and Afghanistan War veterans. *Psychiatric Services, 4*, 380–382. doi: 10.1176/appi.ps.201100187
- Hoge, C. W. (2011). Interventions for war-related posttraumatic stress disorder: Meeting veterans where they are. *Journal of the American Medical Association, 306*, 549–551. doi:10.1001/jama.2011.1096
- Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine, 351*, 13–22. doi: 10.1056/NEJMoa040603
- Jakupcak, M., Conybear, D., Phelps, L., Hunt, S., Holmes, H. A., Felker, B., & . . . Mcfall, M. E. (2007). Anger, hostility, and aggression among Iraq and Afghanistan war veterans reporting PTSD and subthreshold PTSD. *Journal of Traumatic Stress, 20*(6), 945–954. doi: 10.1002/jts.20258
- Jakupcak, M., Hoerster, K. D., Varra, A., Vannoy, S., Felker, B., & Hunt, S. (2011). Hopelessness and suicidal ideation in Iraq and Afghanistan war veterans reporting subthreshold and threshold posttraumatic stress disorder. *Journal of Nervous and Mental Disease, 199*, 272–275. doi: 10.1097/NMD.0b013e3182124604
- Johnston, S. L., & Dipp, R. D. (2009). Support of marines and sailors returning from combat: A comparison of two different mental health models. *Military Medicine, 174*, 455–459.
- King, D. W., Leskin, G. A., King, L. A., & Weathers, F. W. (1998). Confirmatory factor analysis of the clinician-administered PTSD Scale: Evidence for the dimensionality of posttraumatic stress disorder. *Psychological Assessment, 10*, 90–96. doi: 10.1037/1040-3590.10.2.90
- Meis, L. A., Erbes, C. R., Kaler, M. E., Arbisi, P. A., & Polusny, M. A. (2011). The structure of PTSD among two cohorts of returning soldiers: Before, during, and following deployment to Iraq. *Journal of Abnormal Psychology, 120*, 807–818. doi: 10.1037/a0023976
- Milliken, C. S., Auchterlonie, J. L., & Hoge, C. W. (2007). Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. *Journal of the American Medical Association, 298*, 2141–2148. doi:10.1001/jama.298.18.2141
- Pietrzak, R. H., Goldstein, M. B., Malley, J. C., Rivers, A. J., & Southwick, S. M. (2010). Structure of posttraumatic stress disorder symptoms and psychosocial functioning in veterans of Operations Enduring Freedom and Iraqi Freedom. *Psychiatry Research, 178*, 323–329. doi:10.1016/j.psychres.2010.04.039
- Rosen, C. S., Greenbaum, M. A., Fitt, J. E., Laffaye, C., Norris, V. A., & Kimerling, R. (2011). Stigma, help-seeking attitudes, and use of psychotherapy in veterans with diagnoses of posttraumatic stress disorder. *Journal of Nervous and Mental Disease, 199*, 879–885.
- Sayer, N. A., Friedemann-Sanchez, G., Spooon, M., Murdoch, M., Parker, L. E., Chiros, C., & Rosenheck, R. (2009). A qualitative study of determinants of PTSD treatment initial in veterans. *Psychiatry: Interpersonal and Biological Processes, 72*, 238–255. doi: 10.1521/psyc.2009.72.3.238
- Seal, K. H., Abadjian, L., McCarmish, N., Shi, Y., Tarasovsky, B. A., & Weingardt, K. (2012). A randomized controlled trial of telephone motivational interviewing to enhance mental health treatment engagement in Iraq and Afghanistan veterans. *General Hospital Psychiatry, 24*, 450–459. doi: 10.1016/j.genhosppsy.2012.04.007
- Seal, K. H., Maguen, S., Cohen, B., Gima, K., Metzler, T. J., Ren, L., . . . Marmar, C. R. (2010). VA mental health services utilization in Iraq and Afghanistan veterans in the first year of receiving new mental health diagnoses. *Journal of Traumatic Stress, 23*, 5–16. doi: 10.1002.jts.20493
- Seal, K. H., Metzler, T. J., Gima, K. S., Bertenthal, D., Maguen, S., & Marmar, C. R. (2009). Trends and risk factors for mental health diagnoses among Iraq and Afghanistan veterans using Department of Veterans Affairs health care, 2002–2008. *American Journal of Public Health, 99*, 1651–1658. doi:10.2105/AJPH.2008.150284
- Schnurr, P. P., & Lunney, C. A. (2011). Work-related quality of life and post-traumatic stress disorder symptoms among female veterans. *Women's Health Issues, 21*, 169–175. doi: 10.1016/j.whi.2011.04.013
- Simms, L. J., Watson, D., & Doebbeling, B. N. (2002). Confirmatory factor analyses of posttraumatic stress symptoms in deployed and nondeployed veterans of the Gulf War. *Journal of Abnormal Psychology, 111*, 637–647. doi:10.1037/0021-843X.111.4.637
- Tarrier, N., Sommerfield, C., Pilgrim, H., & Humphreys, L. (1999). Cognitive therapy or imaginal exposure in the treatment of post-traumatic stress disorder. *The British Journal of Psychiatry, 175*, 571–575. doi: 10.1192/bjp.175.6.571.
- Weathers, F. W., Litz, B. T., Herman, D. S., Huska, J. A., & Keane, T. M. (1993, October). *The PTSD Checklist (PCL): Reliability, validity, and diagnostic utility*. San Antonio, TX: Paper presented at the meeting of the International Society for Traumatic Stress Studies.
- Williams, J. L., Monahan, C. J., & McDevitt-Murphy, M. E. (2011). Factor structure of the PTSD Checklist in a sample of OEF/OIF veterans presenting to primary care: Specific and nonspecific aspects of dysphoria. *Journal of Psychopathology and Behavioral Assessment, 33*, 514–522. doi:10.1007/s10862-011-9248-3
- Vogt, D. (2011). Mental health-related beliefs as a barrier to service use for military personnel and veterans: A review. *Psychiatric Services, 62*, 135–142. doi: 10.1176/appi.ps.62.2.135
- Yufik, T., & Simms, L. J. (2010). A meta-analytic investigation of the structure of posttraumatic stress disorder symptoms. *Journal of Abnormal Psychology, 119*, 764–776. doi:10.1037/a0020981
- Zayfert, C., & Becker, C. (2000). Implementation of empirically supported treatment for PTSD: Obstacles and innovations. *The Behavior Therapist, 23*, 161–168.

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