



Examining the Association between PTSD Symptom Heterogeneity and Alcohol Use Disorder in Veterans

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Introduction

Background:

- Veterans are at increased risk of comorbid posttraumatic stress disorder (PTSD) and alcohol use disorder (AUD) relative to civilians.
- Few studies have explored the association between distinct PTSD symptom clusters and AUD in veterans, and existing findings are highly discrepant.

Aim:

- Identify which PTSD symptom clusters are most associated with AUD in a nationally-representative veteran sample using the 7-factor 'hybrid' model of PTSD.

Method

Participants: 4,069 U.S. veterans (M_{age} : 56.4 years; 86.5% male; 74.9% Caucasian)

National Health and Resilience in Veterans Study

(NHRVS): A nationally-representative, cross-sectional survey of veterans conducted between November 18, 2019 and March 8, 2020. Within this survey, self-report assessments were collected to evaluate:

•**Sociodemographic and military characteristics**

•**Trauma history:** Life-Events Checklist for DSM-5

•**Depressive symptoms:** Patient Health Questionnaire-2

PTSD symptoms: Posttraumatic Stress Disorder Checklist for DSM-5. A score ≥ 33 was indicative of a positive screen for PTSD (Bovin et al., 2016).

•**AUD:** Alcohol Use Disorders Identification Test. A score of ≥ 8 was indicative of a positive screen for AUD (Crawford et al., 2013, Rumpf et al., 2002).

Comparison between the DSM-5 and 7-Factor Hybrid models of PTSD

| DSM-5 PTSD symptom | DSM-5 | 7-Factor Hybrid |
|--|-------|-----------------|
| 1. Intrusive thoughts | R | R |
| 2. Nightmares | R | R |
| 3. Flashbacks | R | R |
| 4. Emotional cue reactivity | R | R |
| 5. Physiological cue reactivity | R | R |
| 6. Avoidance of thoughts | A | A |
| 7. Avoidance of reminders | A | A |
| 8. Trauma-related amnesia | NACM | NA |
| 9. Negative beliefs | NACM | NA |
| 10. Blame of self or others | NACM | NA |
| 11. Negative trauma-related emotions | NACM | NA |
| 12. Loss of interest | NACM | An |
| 13. Detachment | NACM | An |
| 14. Restricted affect | NACM | An |
| 15. Irritability/anger | Ar | EB |
| 16. Self-destructive/reckless behavior | Ar | EB |
| 17. Hypervigilance | Ar | AA |
| 18. Exaggerated startle response | Ar | AA |
| 19. Difficulty concentrating | Ar | DA |
| 20. Sleep disturbance | Ar | DA |

R = re-experiencing; A = avoidance; H = hyperarousal; NACM = negative alterations in cognition and mood; AR = altered arousal and reactivity; NA = negative affect; An = anhedonia; EB = externalizing behaviors; AA = anxious arousal; DA = dysphoric arousal

Main Findings

Current AUD: 10.5% ($n=360$); **Current PTSD:** 6.3% ($n=217$)

Associations between PTSD symptom clusters and AUD:

Full sample:

•Dysphoric arousal ($\beta=0.16$, $p<0.001$, OR (95%CI)=1.18 (1.08-1.29))

•Externalizing behaviors ($\beta=0.13$, $p=0.04$, OR (95%CI)=1.13 (1.01-1.28))

Veterans with PTSD:

•Externalizing behaviors ($\beta=0.20$, $p=0.05$, OR (95%CI)=1.22 (1.01-1.49))

•Anxious arousal ($\beta=-0.20$, $p=0.02$, OR (95%CI)=0.82 (0.69-0.97))

•Dysphoric arousal ($\beta=0.27$, $p=0.01$, OR (95%CI)=1.32 (1.06-1.64))

Figure 1. Relative contribution of significant variables to the model explained variance in AUD in the full sample

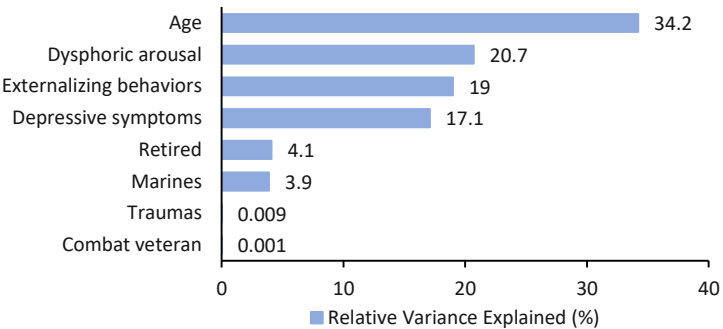
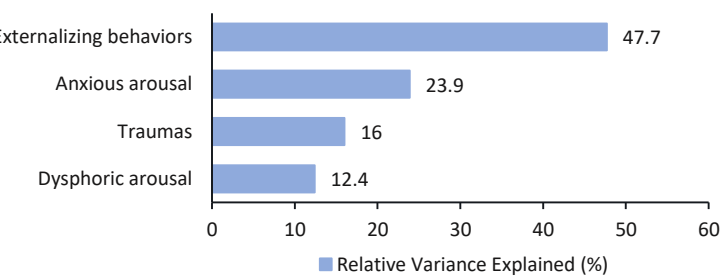


Figure 2. Relative contribution of significant variables to the model explained variance in AUD in veterans with PTSD



Conclusion

- Dysphoric arousal symptoms drove PTSD-AUD association at population level
- Externalizing behaviors symptoms drove PTSD-AUD association in veterans with PTSD
- The 7-factor Hybrid model of PTSD provides a more nuanced understanding of PTSD-AUD associations than DSM-5 model