Rethinking Major Depressive Disorder: How Group Affiliation Impacts Symptom Patterns That Inform MDD Diagnosis

PURDUE UNIVERSITY

Katelyn A. Wasson[1]; Sean P. Lane[2], Ph.D.; Erin P. Hennes[2], Ph.D.

[1]College of Health & Human Sciences, Purdue University; [2]Department of Psychological Sciences, University of Missouri

Mizzou University of Missouri

Background

- The DSM-5[1] is the dominant approach for diagnosing major depressive disorder (MDD). Requires endorsement of 5+ of the 9 MDD symptoms, with at least one being depressed mood or anhedonia (loss of interest).
- Researchers estimate **about half of MDD patients do not receive accurate diagnoses**[2,3], indicating a need to improve this current symptom count approach.
- We examine two problems with the current approach:

  1. Assumes all symptoms contribute equally to MDD. Assumption is not empirically validated. May lead to diagnostic imposters (do not have MDD but are diagnosed) & orphans (have MDD but are not diagnosed)[4].

  2. Assumes symptom manifestations are homogenous across persons. Not considering this variable might be contributing to unexplained variance in diagnostic accuracy. To explore this, we examine:

  - Military members. Military members are susceptible to various MDD risk factors: being far from loved ones, witnessing violence/death, and guilt about violent acts[5,6]. Yet, military members are less likely to endorse MDD symptoms in part due to mental health stigma[6].
  - Natural disaster survivors. Those exposed to disasters have higher rates of psychological distress and MDD than the general population[7,8].

- **Hypotheses:**
  - MDD symptoms will not all be equally severe.
  - MDD symptom manifestations will differ across groups.

Measures & Method

- We analyzed MDD symptom manifestations in all respondents from Wave 1 (collected 2001-2002) of the National Epidemiological Survey on Alcoholism and Related Conditions[9] (NESARC; N = 42,123).
- We also examined symptoms in sub-groups at heightened risk for MDD:
  - Military members (n = 1,420): reported military combat experience.
  - Natural disaster survivors (n = 901): reported experiencing a natural disaster in the past year.
- To assess for MDD, NESARC respondents were first asked about conditional symptoms (i.e., depressed mood and anhedonia). If they endorsed either, they were assessed for the remaining seven (resulting in nine total). We used symptom endorsement to make MDD diagnostic decisions for respondents.
- To examine the relationship between MDD symptoms and MDD, we conducted a 2-parameter logistic Item Response Theory (IRT) analysis, fitting a 1-factor structure to the overall and at-risk samples.
  - Analysis only includes symptom manifestations in respondents who endorsed at least one conditional symptom.

Results

Figure 1. Breakdown of NESARC Respondents Analyzed.

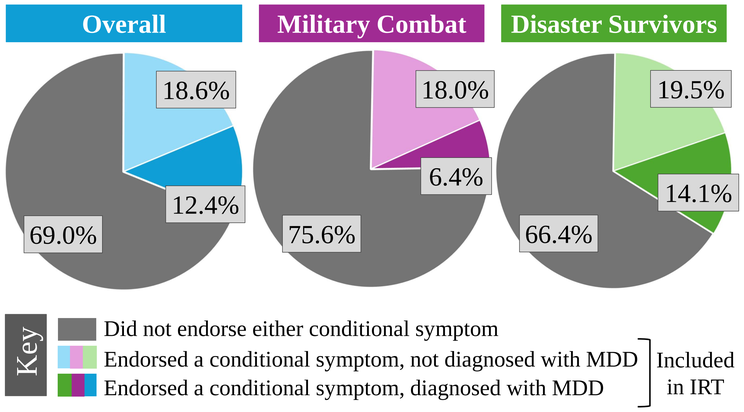


Table 1. Prevalence Rates for MDD Criteria and Diagnosis Amongst Analyzed Respondents.

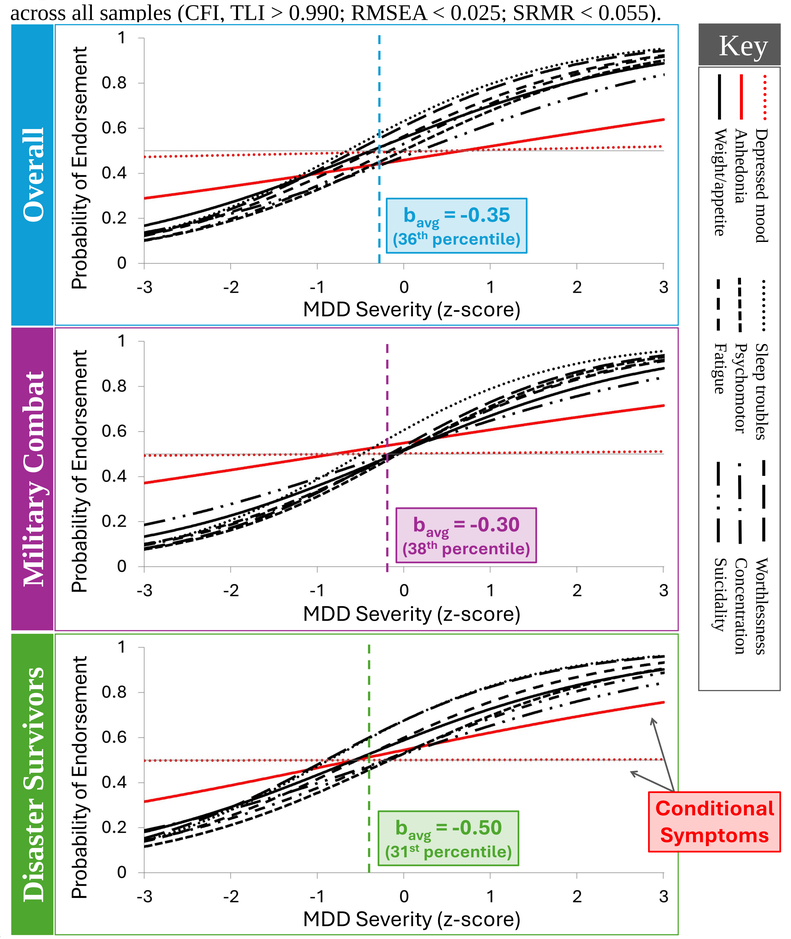
	Overall	Military Combat	Disaster Survivors
Sample Size	13,717	364	322
MDD (%)	57.1	47.3	64.3
Symptom (%)			
Depressed mood	93.0	91.2	93.5
Anhedonia	76.8	77.5	78.9
Weight/appetite changes	66.8	53.2	71.0
Sleep troubles	74.8	68.3	80.1
Psychomotor troubles	50.9	47.0	56.5
Fatigue	63.0	52.2	68.7
Worthlessness	55.6	50.6	58.0
Difficulty concentrating	70.4	57.9	78.1
Suicidality	43.3	43.6	46.0

- **Endorsement rates vary across symptoms and groups**, indicating symptoms are not equally severe across persons.
- Despite heightened risk for MDD, military combat members' MDD prevalence rate is lower than the baseline population.

Item Characteristic Curves show two symptom features:

1. Slope (a): *How diagnostic is the symptom?*
   - Steeper slope → more diagnostic (differentiates b/w those w/ vs w/o MDD)
2. Intersect with y = 0.5 (b): *How severe is the symptom?*
   - Intersect further to the right → more severe (harder to endorse)

Figure 2. Item Characteristic Curves of MDD Criteria. Excellent fit across all samples (CFI, TLI > 0.990; RMSEA < 0.025; SRMR < 0.055).



- **Conditional symptoms are less diagnostic.**
  - a_{avg} = 0.02 (depressed mood), = 0.27 (anhedonia), = 0.73 (others)
- **Endorsement harder for military, easier for disaster survivors.**

Conclusions

- **Once depressed mood and anhedonia are endorsed, they tell us little about MDD severity.** Seem to be optimal gateway criteria (required for diagnosis) but ill-fitted for equal inclusion in overall symptom count (approximately equally severe to endorse none, one, or both). Further research should explore their ideal role in diagnosis.
- **MDD symptom manifestations change across groups.** This suggests group affiliations might affect likelihood for endorsing depression symptoms, even between at-risk groups. Poor understanding of the role of group membership in symptom endorsement might be contributing to variability in diagnostic accuracy. Further research should examine factors impacting symptom reporting within groups.

References