A Taxometric Study of Suicide Risk
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Statement of the Problem

Preventing suicide among military personnel is of the utmost importance; however, it is currently unknown whether suicide risk is a categorical (i.e., high vs. low risk) or dimensional phenomenon. This knowledge could have critical implications for developing effective, efficient suicide risk assessment and intervention procedures. Specifically, if suicide risk is categorical instead of dimensional, it may be possible to use briefer and empirically based assessments to accurately group people into high and low risk categories. Additionally, categorical results would suggest the need for intervention research to focus primarily on those in the high-risk group, as opposed to subclinical samples. Thus, in this study, we used taxometric analysis (Meehl, 1973) to determine whether it is justifiable to put military personnel into suicide risk groups, or whether they should be viewed at having a certain *degree* of suicide risk.

Relevant Literature
a) Previous studies
To our knowledge, there has only been one relevant taxometric investigation of suicidal behavior. In an unpublished study of depressed inpatients ($N = 233$), Gibb, Andover, and Miller (2005) found consistent evidence of a taxon, which they designated to be a *multiple suicide attempter* taxon. Crucially, taxon membership predicted increases in suicidal ideation between hospital discharge and six-month follow-up. However, this study was limited by its small sample size. Additionally, the nature of the identified taxon is unclear. It is possible that rather than being a *multiple suicide attempter* taxon, this taxon represented those who are at high risk for suicide. Finally, the study sample consisted exclusively of civilians, as opposed to military personnel.

b) Current study
The current study assessed 1,773 participants using taxometric analyses. Of participants who reported demographic information, 77% were male, 67% self-identified as White, 66% were currently on active duty, 65% had been previously deployed, and 58% were from the Army. The six indicators used in the taxometric analysis came from the Military Suicide Research Consortium's Common Data Elements assessment, and included lifetime number of suicide attempts, objective lethality of the most serious suicide attempt to date, lifetime worst point of seriousness of wanting to die by suicide, current suicidal desire and ideation, current planning for a suicide attempt, and current insomnia severity. Taxometric results showed very strong evidence that serious suicide risk is a discrete category (MAMBAC CCFI = .85; MAXEIG CCFI = .77). In fact, the robust nature of our taxometric results surpassed the most stringent criteria used to establish a categorical solution. Approximately 36% of our sample fell into the high-risk group. Follow-up external validity analyses showed that people in the high-risk group had higher scores on measures of hopelessness, perceived burdensomeness, and suicidal desire/ideation than those in the low risk group (all effect sizes are large; average Cohen's $d = 1.50$).

Recommendations

Although the current findings that identify a high-risk group are promising (and consistent with Gibb et al., 2005), there are a number of remaining gaps in the literature that need to be addressed before making changes to existing risk assessment and intervention procedures. As such, we recommend the following steps: a) our results should be replicated in an independent sample, b) the predictive validity of the high-risk taxon should be established (i.e., does group membership predict subsequent suicidal behavior?), and c) a follow-up study should be conducted to determine which assessment procedures have the highest sensitivity and specificity for identifying people who fall into the high-risk group. Given the important potential clinical implications of our results, there is an urgent need for these follow-up studies to be conducted as soon as possible.

References

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Meehl, P. E. (1973). MAXCOV-HITMAX: A taxonomic search method for loose genetic syndromes. In Meehl, *Psychodiagnosis: Selected papers (pp. 200-224).* Minneapolis: University of Minnesota Press.

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