

Supplementary Material

Article Title: Resilience and Vulnerability: Suicide-Specific Cognitions in a Nationally Representative Sample of US Military Veterans

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Supplementary Material

Participants

The National Health and Resilience in Veterans Study (NHRVS) is a nationally representative survey of U.S. military veterans consisting of three waves. In 2019, a total of 4,069 veterans completed a baseline survey (median completion date: 11/21/2019). One year later, 3,078 veterans completed a follow-up survey (median completion date: 11/14/2020). Finally, in 2022, a total of 2,441 veterans (60% of Wave 1 sample; 79% of Wave 2 sample) completed a third wave of data collection (median completion date: 08/18/2022). A comparison of veterans who did (N=2,441) and did not (N=1,628) complete all three survey waves did not reveal any differences in major sociodemographic characteristics. In the current study, all independent variables were assessed in Wave 1. The Brief Suicide Cognitions Scale was assessed in 2022 only, and 2,430 veterans provided data.

The NHRVS sample was drawn from KnowledgePanel, a research panel of more than 50,000 households that is maintained by Ipsos, a survey research firm. KnowledgePanel® is a probability-based, online non-volunteer access survey panel of a nationally representative sample of U.S. adults that covers approximately 98% of U.S. households. Panel members are recruited through national random samples, originally by telephone and now almost entirely by postal mail. Households are provided with access to the Internet and computer hardware if needed. KnowledgePanel® recruitment uses dual sampling frames that include both listed and unlisted telephone numbers, telephone and non-telephone households, and cell-phone-only households, as well as households with and without Internet access.

Demographic data of survey panel members are assessed regularly by Ipsos using the same set of questions used by the U.S. Census Bureau. Race/ethnicity was assessed via self-report using a standard set of questions used by the U.S. Census Bureau; this information was assessed in the current study to characterize the demographic composition of the sample and to adjust for any influence of race/ethnicity in multivariable models.

To permit generalizability of study results to the entire population of U.S. veterans, the Ipsos statistical team computed post-stratification weights using the following benchmark distributions of U.S. military veterans from the most recent (August 2019) Current Veteran Population Supplemental Survey of the U.S. Census Bureau's American Community Survey: age, gender, race/ethnicity, Census Region, metropolitan status, education, household income, branch of service, and years in service. An iterative proportional fitting (raking) procedure was used to produce the final post-stratification weights.

All participants provided informed consent and the study was approved by the Human Subjects Committee of the VA Connecticut Healthcare System.

Supplementary Table 1. Study Measures

Variable	Assessment
Sociodemographic characteristics	
	A general sociodemographic questionnaire was used to assess age, sex, race/ethnicity, education, marital status, and annual household income.
Military characteristics	
Combat veteran	Did you ever serve in a combat or war zone?
Military sexual trauma (MST)	Endorsement of either of two items from the VHA MST screen assessing for exposure to military sexual harassment (MSH) and military sexual assault (MSA) was considered a positive screen for MST. MSH was assessed using an item which asked, “When you were in the military, did you ever receive unwanted, threatening, or repeated sexual attention?” MSA was assessed using an item which asked, “When you were in the military, did you have sexual contact against your will or when you were unable to say no?”
Psychiatric and health characteristics	
Adverse childhood experiences (ACEs)	Adverse Childhood Experiences Questionnaire ¹ total score.
Cumulative trauma burden	Life Events Checklist for DSM-5 total score. ²
Frequency of non-suicidal self-injury	Questions from the Self-Injurious Thoughts and Behavior Interview-Short Form ³ were used to assess non-suicidal self-injury. These questions assessed whether individuals had hurt themselves on purpose without intent to die and how frequently they engaged in this behavior.
Posttraumatic stress disorder (PTSD)	Score ≥ 33 on the PTSD Checklist for DSM-5, past month. ⁴
Major depressive disorder (MDD)	Score ≥ 3 on the Patient Health Questionnaire for Anxiety and Depression (PHQ-4). ⁵
Generalized anxiety disorder (GAD)	Score ≥ 3 on the Patient Health Questionnaire for Anxiety and Depression (PHQ-4). ⁵
Alcohol use disorder (AUD)	Score ≥ 8 on the Alcohol Use Disorders Identification Test. ⁶
Drug use disorder (DUD)	Score ≥ 7 on the Screen of Drug Use, ⁷ which asked “How many days in the past 12 months have you used drugs other than alcohol?” or score of ≥ 2 to the question: “How many days in the past 12 months have you used drugs more than you meant to?”
Current suicidal ideation (SI)	SI was assessed using item 9 from the Patient Health Questionnaire-9 (PHQ-9) ⁸ : “Over the last 2 weeks, how often have you been bothered by: Thoughts that you would be better off dead or of hurting yourself in some way.” ⁶ Participants rated this item on a scale of 0 (Not at all) to 3 (Nearly every day), with a score of 1 or higher indicative of current SI.
Lifetime suicide attempt	Lifetime suicide attempt was assessed via positive endorsement of either “I have attempted to kill myself, but did not want to die” or “I have attempted to kill myself, but did not want to die” or “I have attempted to kill myself, and really wanted to die” on Question 1 of the SBQ-R. ⁹
Loneliness	Total score on the Three-Item Loneliness Scale. ¹⁰
Number of medical conditions	Sum of number of medical conditions endorsed in response to question: “Has a doctor or healthcare professional ever told you that you have any of the following medical conditions?” (e.g., arthritis, cancer, diabetes, heart disease, asthma, kidney disease). Range: 0-24 conditions.
Any disability	Any disability in activities of daily living or instrumental activities of daily living. The following questions was asked: “At the present time, do you need help from another person to do the following?” (e.g., bathe; walk around your home or apartment;

	get in and out of chair). Endorsement of any of these activities was indicative of having a disability with an activity of daily living. Any disability in instrumental activities of daily living. The following question was asked: “At the present time, do you need help from another person to do the following?” (e.g., pay bills or manage money; prepare bills; get dressed). Endorsement of any of these activities was indicative of having a disability. ¹¹
Protective factors	
Protective psychosocial characteristics	A composite score of adaptive psychosocial traits ^{12 13} was used to assess dispositional attitudes and capacities for coping that are associated with more positive mental health outcomes, including qualities such as resilience; a sense of life purpose; dispositional gratitude, optimism, curiosity/exploration, grit; and perceived community integration. Perceived resilience was measured using the Connor-Davidson Resilience Scale, ¹⁴ a 10-item scale with items such as “I am able to adapt when changes occur,” measured on a scale from 1 (“not at all”) to 5 (“nearly true all the time”). The Purpose in Life Test, Short Form, ¹⁵ a 4-item scale, was used to index sense of meaning and purposefulness in life, assessed on a scale from 1 (“no goals/purpose/progress/meaning”) to 7 (“very clear goals/purpose/progress/meaning”), and the Short Grit Scale ¹⁶ , an 8-item scale with items such as “I finish whatever I begin,” measured on a scale from 1 (“Not at all like me”) to 5 (“Very much like me”) was used to assess grit. Dispositional gratitude, optimism, and curiosity were each assessed using single 7-point Likert scale items adapted from the Gratitude Questionnaire (GQ-6) ¹⁷ ; the Life Orientation Test-Revised (LOTS-R) ¹⁸ ; and the Curiosity and Exploration Inventory-II (CEI-II) ¹⁹ , respectively. Sense of community integration and acceptance was assessed with a single item, “I feel well integrated in my community.”
Social connectedness	Composite score of responses to questions assessing structural social support (prompt “About how many close friends and relatives do you have (people you feel at ease with and can talk to about what is on your mind)?”, perceived social support (Score on 5-item version of the Medical Outcomes Study Social Support Scale ²⁰), and attachment style (Endorsement of secure attachment (response a) to the following question: “Please select the statement below that best describes your feelings and attitudes in relationships ²¹ : (a) feeling that it is easy to get close to others and feeling comfortable with them (secure); (b) feeling uncomfortable being close to others (avoidant); or (c) feeling that others are reluctant to get close (anxious/ambivalent).

Note. DSM=*Diagnostic and Statistical Manual of Mental Disorders*.

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