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Research report

Guilt is more strongly associated with suicidal ideation among military personnel with direct combat exposure

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ABSTRACT

Background: Suicide rates in the U.S. military have been rising rapidly in the past decade. Research suggests guilt is a significant predictor of suicidal ideation among military personnel, and may be especially pronounced among those who have been exposure to combat-related traumas. The current study explored the interactive effect of direct combat exposure and guilt on suicidal ideation in a clinical sample of military personnel.

Methods: Ninety-seven active duty U.S. Air Force personnel receiving outpatient mental health treatment at two military clinics completed self-report symptom measures of guilt, depression, hopelessness, perceived burdensomeness, posttraumatic stress disorder, and suicidal ideation.

Results: Generalized multiple regression analyses indicated a significant interaction of guilt and direct combat exposure (B=.124, SE=.053, p=.020), suggesting a stronger relationship of guilt with suicidal ideation among participants who had direct combat exposure as compared to those who had not. The interactions of direct combat exposure with depression (B=.004, SE=.040, p=.926), PTSD symptoms (B=.016, SE=.018, p=.382), perceived burdensomeness (B=.159, SE=.152, p=.300) and hopelessness (B=.069, SE=.036, p=.057) were nonsignificant.

Conclusions: Although guilt is associated with more severe suicidal ideation in general among military personnel, it is especially pronounced among those who have had direct combat exposure.

1. Introduction

The suicide rate in the United States Armed Forces has doubled since the initiation of military operations in Afghanistan and Iraq, recently surpassing the age- and gender-adjusted suicide rate for the U.S. general population despite historical trends for decreased risk for suicide (Department of Defense [DOD], 2011). Within the U.S. Air Force, a dramatic increase in suicides has occurred in recent years, with 2010 marking the highest suicide rate in 17 years (Department of Defense, 2011). Given these temporal trends, questions have been raised about the possible role of deployment and combat exposure on increased suicide rates in the military as a whole. Data to date indicate that only one-quarter of active duty Air Force personnel who die by suicide have ever deployed to a combat zone, however, and less than 7% have directly experienced combat (Department of Defense, 2011), suggesting that direct combat exposure might not be a significant contributor to suicidal behaviors suicides among Air Force personnel. Military data from other branches of the military also indicate that history of deployment and direct combat exposure are not over-represented among military suicides (Department of Defense, 2011). Among military veterans, studies have similarly failed to support an association between direct combat exposure with suicide attempts, although significant associations with increased rates and severity of suicidal ideation have been noted, especially among military veterans with elevated levels of trauma symptoms (Maguen et al., 2012; Rudd, in press; Sareen et al., 2007).

Evidence for a relationship between direct combat exposure and suicide risk has also been indirectly inferred from studies demonstrating that significantly higher rates of death by suicide (Boscarino, 2006; Drescher et al., 2003; Farberow et al., 1990), suicide attempts (Freeman et al., 2000; Kramer et al., 1994; Nad et al., 2008), and suicidal ideation (Butterfield et al., 2005) are observed among combat veterans with posttraumatic stress disorder (PTSD) relative to combat veterans without PTSD. In light of these findings, Bryan and colleagues (in press) have recently suggested that guilt might be an important contributor to suicide risk among military personnel. Guilt is typically conceptualized as a controllable psychological state that is linked to a specific action or behavior, and often entails a sense of regret or

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remorse, or "feeling bad about what I did" (Kim et al., 2011; Tangney and Dearing, 2002). Guilt is a common experience of trauma victims, including combat veterans, and is believed to be a core affective feature of combat-related PTSD (Litz et al., 2009). The central role of guilt in PTSD is further supported by clinical trials demonstrating that guilt decreases for trauma victims who receive trauma-focused therapies for PTSD (i.e., prolonged exposure and cognitive processing therapy), but does not decrease for trauma victims who do not receive these therapies (Resick et al., 2002).

Guilt has also been proposed to be a central cognitive-affective state for many suicidal individuals (e.g., Orbach, 1997), including military and veteran samples. For instance, combat-related guilt was the most significant predictor of suicidal ideation and suicide attempts among Vietnam combat veterans (Hendin and Haas, 1991), and was significantly correlated with suicidal ideation in a clinical sample of Iraq and Afghanistan combat veterans with combat-related PTSD (McLean et al., 2012). In a more general clinical sample of military personnel, guilt was significantly associated with severity of suicidal ideation among military personnel beyond the effects of other robust risk factors such as hopelessness, past suicide attempts, and depression (Bryan et al., in press). Unfortunately, these studies did not consider how the relationship of guilt with suicidal ideation might differ according to history of direct combat exposure.

Given that guilt might be especially salient among those military personnel and veterans who have been exposed to combat-related traumas, the primary aim of the current study was to determine if guilt was differentially associated with suicidal ideation according to history of direct combat exposure in a clinical sample of active duty Air Force personnel. We specifically hypothesized that military personnel who had direct combat exposure would report a stronger relationship of guilt and suicidal ideation as compared to military personnel who had not been in direct combat.

2. Method

2.1. Participants

Participants included 97 active duty Air Force personnel (58.8% male, 39.2% female, 2.1% unknown) ranging in age from 21 to 54 years ($M=34.13$, $SD=8.69$) who were currently receiving outpatient mental health treatment at two military clinics in the South and West U.S. Consistent with this age range, rank distribution was junior enlisted (E1–E4, 23.7%), noncommissioned officer (E5–E6, 42.2%), senior noncommissioned officer (E7–E9, 14.4%), and officer (O1–O6, 19.6%). Racial distribution was 68.0% Caucasian, 19.6% African American, 2.1% Asian, 1.0% Native American, 1.0% Native Hawaiian/Pacific Islander, and 4.1% "other." Eight participants (8.2%) endorsed Hispanic or Latino ethnicity.

Reflective of a general outpatient mental health clinic patient population, participants were diagnosed with a range of DSM-IV diagnoses ($M=1.19$, $SD=.64$, range: 0 to 4) by a licensed psychiatrist, psychologist, or social worker: 27.8% posttraumatic stress disorder, 22.7% major depressive disorder, 19.6% adjustment disorder, 9.3% generalized anxiety disorder, 6.2% depression not otherwise specified, 6.2% anxiety not otherwise specified, 4.1% dysthymic disorder, 4.1% panic disorder, 3.1% bipolar II disorder, 3.1% alcohol dependence, and several additional Axis I conditions occurring in less than 1.0% of participants. Eleven participants were additionally diagnosed with an Axis II personality disorder: 5.2% borderline personality disorder, 2.1% personality disorder not otherwise specified, and 1.0% each of schizotypal, antisocial, histrionic, and dependent personality disorders.

2.2. Procedures

Participants were recruited from two outpatient military mental health clinics, one located in the South U.S. and the second located in the West U.S. All current patients and new patients were invited to participate by clinic staff following their regularly-scheduled mental health appointments or intake appointments, without exclusion. The only inclusion criterion was to be currently accessing outpatient mental health treatment; there were no exclusion criteria. Patients voluntarily provided informed consent for the study and then completed an anonymous survey packet in the waiting room immediately following invitation and agreement to participate. Completed packets were returned to collection boxes located at the check-in desks of each clinic. The current study was reviewed and approved as exempt research by the Wright–Patterson Air Force Base Institutional Review Board.

2.3. Measures

2.3.1. Beck scale for suicidal ideation (BSSI)

Severity of current suicidal ideation was assessed with the Beck scale for suicidal ideation (BSSI; Beck et al., 1988), which is a 19-item self-report measure of the individual's beliefs and attitudes about suicide such as frequency and duration of ideation, specificity of planning, and preparations for death. Responses are summed to a total score ranging from 0 to 38, with higher scores indicating more severe suicidal ideation. The BSSI has very good internal consistency and convergent validity, and has been found to predict future suicide attempts and death by suicide (Beck and Steer, 1991). Internal consistency for the BSSI in the current sample was .89.

2.3.2. Self-injurious thoughts and behaviors interview (SITBI)

Past suicide attempts were assessed using the self-injurious thoughts and behaviors interview (SITBI; Nock et al., 2007), which is a structured interview that assesses the presence, frequency, and characteristics of self-injurious thoughts and behaviors over the individual's lifespan. The interview has good interrater reliability ($\kappa=.99$), test-retest reliability over six months ($\kappa=.70$), and demonstrates strong convergent validity with other measures of suicidal ideation ($\kappa=.54$; Nock et al., 2007).

2.3.3. Future dispositions inventory (FDI)

The negative focus subscale of the FDI (Osman et al., 2010) was used to assess intensity of hopelessness and pessimism. The negative focus subscale consists of 8 items (e.g., "I worry that things will never go well for me no matter what I do," I doubt whether things will ever get better for me in life," "I fear that I will run into more difficulties in the years ahead") that respondents rate on a 5-point Likert scale ranging from 1 ("not at all true") to 5 ("extremely true"). The scale is reliable ($>.83$), correlates strongly in the expected directions with measures of hopelessness, adaptive coping, and psychological symptoms, and can differentiate between suicidal and nonsuicidal groups (Osman et al., 2010).

2.3.4. Patient health questionnaire-9 (PHQ-9)

The PHQ-9 (Kroenke et al., 2001) was used to assess depression symptom severity. The PHQ-9 directs respondents to indicate the frequency of experiencing the nine symptoms of major depressive disorder during the past two weeks, with total scores ranging from 0 to 36. The PHQ-9 is widely used in clinical and research settings, and has demonstrated good internal consistency and sensitivity and specificity for major depressive disorder