



Interpersonal Needs and Suicidality of Discharged Army Veterans

RESEARCH

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ABSTRACT

Joiner's (2007) Interpersonal Theory of Suicide (IPT) has shown promise in understanding the ongoing problem of veteran suicide. Consistent with IPT, it was hypothesized that perceived burdensomeness (PB) and thwarted belongingness (TB) would significantly predict suicidal ideation (SI), while acquired capability (AC) would predict SI after controlling for the effects of PB and TB on SI. It was also hypothesized that Army veterans' help-seeking intentions would negatively predict SI after controlling for PB, TB, and AC and that veterans who had been discharged for one or more years ($n = 165$) would have higher SI than those discharged for less than one year ($n = 105$). Data from 270 Army veterans were collected. Measures included the Interpersonal Needs Questionnaire-10, the Acquired Capability for Suicide Scale, the Beck Scale of Suicidal Ideation, and the General Help-Seeking Questionnaire. Results indicated that PB and TB were significant predictors of SI ($R^2 = .36$, $F(2, 267) = 74.66$, $p = .000$); neither AC nor veterans' help-seeking intentions significantly predicted SI. Army veterans' time since discharge positively predicted SI ($R^2 = .36$, $F(1, 264) = 31.84$, $p = .000$) and veterans who were discharged longer than 1 year had higher levels of SI than those discharged more recently ($R^2 = .38$, $F(1, 268) = 9.61$, $p = .002$). Results are consistent with the literature and support the need for further research regarding Army veterans and their levels of SI help-seeking behaviors.

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Suicide is the tenth leading cause of death in the United States (US); a considerable number of those who die from suicide are military veterans (Hedegaard et al., 2020; Kramer et al., 2020). Furthermore, veterans are at an elevated risk of suicide compared to civilians (Lee et al., 2018). The risk of suicide for former active-duty veterans is higher than for those who served in the National Guard and Reserve components of the US Armed Forces. Furthermore, due to the Army's size, there are more completed suicides by its service members and veterans compared to the other military branches (i.e., Marines, Air Force, Navy, and Coast Guard; Brown, 2017).

In addition to sharing risk factors linked to suicide among civilians (e.g., fragmented healthcare, access to weapons), veterans returning from deployment face difficulties adjusting back to civilian life and can experience service-connected posttraumatic stress disorder (PTSD) (Britt et al., 2019; Hester, 2017). When examining suicide and PTSD in recently discharged veterans, deployment-related characteristics, such as the length and number of deployments, have not been found to be directly associated with increased suicide risk (LeardMann, 2013; Shen et al., 2016). However, researchers have also noted that many veterans experience at least one mental health disorder or co-occurring diagnoses, such as depression, chronic pain, and alcohol or substance abuse, which can lead to or elevate feelings of suicidal ideation (SI; LeardMann et al., 2013). Additionally, SI risks become substantial for veterans who were discharged from the military for more than 1 year (Lee et al., 2018; Shen et al., 2016). Considering the increased risks and comorbidity of mental health diagnoses among veterans, it is imperative for veterans to have access to care to assess SI (Stevens et al., 2013).

Despite the known risk of SI among veterans, a sizable portion of veterans who died by suicide were not seeking mental health services for their SI prior to their death (Chen et al., 2019). Indeed, recent studies show that while many veterans have help-seeking intentions, the majority do not receive help for their issues related to PTSD due to perceived stigma associated with accepting treatment, a lack of resources, and belief systems that discourage help seeking (Blais & Renshaw, 2013; Chen et al., 2019; Porcari et al., 2017). The ongoing elevated risk of suicide among veterans requires urgent examination. One promising theory for understanding veteran suicide is Joiner's (2007) Interpersonal Theory of Suicide (IPTS). The purpose of this study was to test IPTS as an explanatory model for Army veterans' SI. Somewhat uniquely, this study examines the potential additive role of time since discharge and help-seeking as predictors of SI.

IPTS CONCEPTUALIZATION OF VETERAN SUICIDE

As outlined in the IPTS (Joiner, 2007), for SI to escalate to a suicide attempt, three factors must be present: thwarted belongingness (TB), perceived burdensomeness (PB), and acquired capacity (AC).

The three constructs within the IPTS framework pertain to specific emotions individuals experience (Joiner, 2007; Van Orden et al., 2012). TB is the feeling of loneliness and lack of connection to others and PB is the feeling of being a burden to others. TB and PB are interpersonal factors that can quickly fluctuate simultaneously, depending on the individual's self-esteem and emotional awareness (Joiner et al., 2015). AC for suicide is the third construct and is the individuals' reduced fear toward death and an increased tolerance for pain. Joiner (2007) explained that AC is a crystallized factor while the distress that results from TB and PB can fluctuate.

Feelings of TB and PB elevate and merge with continued AC, and the combination leads the individual to choose to die by suicide (Joiner, 2007; Van Orden et al., 2012). Individuals who are most capable of dying have an extensive history of trauma and dysregulation to adapt to the prospect of death; higher levels of AC are correlated with earlier suicide attempts (Chu et al., 2017; Joiner et al., 2015). However, AC does not cause a desire to die, as the aspiration stems from the fluctuating feelings of TB and PB (Joiner et al., 2015). Due to their unique experiences, veterans face challenges that elevate feelings of TB, PB, and AC. Veterans who struggle to assimilate to civilian life may be cut off from previous military social groups and can feel socially isolated in civilian settings, which can lead to feelings of not belonging (Bryan, 2011). Although legions and organizations are working to be inclusive to younger veterans, some veterans may feel socially isolated from a lack of participation in local resources (Williams, 2019). They may also view themselves as burdens to their loved ones due to negative self-perceptions and stressors, and thereby view suicide as a suitable way to resolve the situation (Castro & Kintzle, 2014; Goodin et al., 2018).

Financial stress can increase burden on veterans, as unexpected or early separation from the military can lead to unemployment and continued financial difficulty. While socioeconomic issues create distress within veterans' lives, Gooden et al. (2018) reiterated that these stressors are secondary to prominent factors, such as earlier psychopathology and access to care. Silva et al. (2017) revealed a relationship between PB, TB, AC, and SI, as well as insomnia and agitation when studying a veteran sample. The researchers found a relationship between TB and PB

with current suicidality when controlling for insomnia, agitation, and depression diagnoses; they were unable to test the effects of the three-way relationship of the IPTS theory toward SI when utilizing PB, TB, and AC. However, the results supported IPTS, and that fearlessness toward death, or AC, can increase individuals' suicidal intentions when combined with PB and TB.

Lusk et al. (2015) sampled Army soldiers 3 months post-deployment from Operation Enduring Freedom and Operation Iraqi Freedom to understand the imminent risk soldiers face during the transition from combat to the garrison settings. The researchers determined specific themes made soldiers susceptible to die by suicide: (a) habituation to physical and emotional pain, (b) negative experiences and consequences of changes in physical and emotional pain, (c) coping with feelings of burdensomeness and lack of belonging, (d) and the acquired capability for lethal self-harm. These findings align with the IPTS and serve as a foundation for further research when developing interventions to reduce suicidal capability.

Chu et al. (2017) conducted a meta-analysis to examine IPTS constructs with suicidality, as well as moderators that influence the theorized relationship between the constructs and suicidality. The researchers incorporated past studies that (a) had sufficient data to calculate an effect size association between IPTS and suicidality, (b) the use of any version of the INQ and a measure of SI, and (c) used the Acquired Capability for Suicide Scale to measure a minimum of one suicidal behavior. Though the effect sizes were modest, Chu et al. concluded the IPTS was supported. Specifically, a significant relationship between TB and PB was associated with SI, while a significant relationship between TB, PB, and AC was related to prior suicide attempts. Chu et al. did not observe significant moderation among variables, though they noted a trend in military samples and male-saturated samples showing a weaker correlation between TB, PB, and SI. Previous research suggested that AC is not considered an independent predictor of SI in the IPTS theory, but that it is correlated with SI (Chu et al., 2017). However, Army veterans can have a higher capability due to risks associated with military service (Bryan, 2011; Van Orden et al., 2008), and it was thus considered a predictor within this study.

Researchers have made a connection between veteran suicides and noted an underutilization of behavioral health services (Kulesza et al., 2015). Veterans choose to opt out of Veterans Affairs (VA) resources due to a variety of reasons, such as the perceived stigma that can be related to receiving care. However, interpersonal support could increase the possibility of veterans help-seeking in the future (Currier et al., 2017; Kulesza et al., 2015). Individuals who are married are more likely to exhibit help-seeking

behaviors and are apt to reach out to their partners, spouse, or friends before reaching out to professional services (Blais & Renshaw, 2013; Porcari et al., 2017). Importantly, despite an increase in research in veteran suicide, no studies to date have examined help-seeking behaviors in conjunction with the interpersonal needs and suicidality of recently discharged Army veterans.

HYPOTHESES

Hypothesis 1: PB and TB will significantly predict SI, and AC will predict SI after controlling for the effects of PB and TB on SI.

Hypothesis 2: Army veterans' help-seeking intentions will negatively predict SI after controlling for PB, TB, and AC.

Hypothesis 3: Army veterans who have been discharged for 1 or more years will have higher SI than those who have been discharged for less than 1 year.

METHODS PARTICIPANTS

Participants were US Army veterans who were discharged from active duty, reserve, and guard components within the last 10 years. A final sample of 270 anonymous participants were included in the analysis; 105 veterans were discharged within the past 12 months (38.6%) and 165 veterans (61.4%) were discharged between 13 months to 10 years ago. The sample included 147 men (54.7%), 122 women (45.2%), and one participant who chose not to identify their gender (0.4%); respondents' ages ranged from 24 to 70 years old ($M = 37.73$, $SD = 7.76$). Participants were White (37.4%), African American (24.4%), Hispanic or Latinx (14.1%), multiracial (11.9%), Asian American (3.7%), and American Indian, Pacific Islander, and other (8.5%). Their local communities were described as urban (44.4%), small towns (40.4%), and rural (13.7%). Veterans' personal income ranged from less than \$25,000 to more than \$150,000 per year. Fourteen participants ranked their income as ranging between less than \$25,000 to \$34,999 per year (5.2%), while 155 participants described their income as ranging between \$35,000 to \$74,999 per year (57.4%), and 100 participants earned an income within \$75,000 to more than \$150,000 per year (37%); one participant chose not to answer. Veterans defined their relationship status as either married (36.7%), single (25.9%), divorced (29.6%), as well as widowed, separated, or in a relationship (7.4%), and reported having at least one child from these relationships (71.1%).

Following their service, 71% of veterans had received a mental health diagnosis from the VA, and 46% had previously sought or were currently seeking mental health care through the VA. Forty percent of the sampled veterans had previously sought or were currently seeking mental health care from somewhere other than the VA. Sixty percent of the veterans were untreated, and 37% said that they would not consider using VA facilities in the future. Data collection was completed shortly before the onset of the COVID-19 pandemic.

PROCEDURES

After obtaining approval from the Michigan School of Psychology Institutional Review Board (#20190902), the primary author contacted the administrators of eight Facebook groups to determine whether permission was needed to post the recruitment information for the study. Seven group administrators responded, communicating that no permission was required to post the recruitment information for the study. The eighth administrator indicated that permission was required; the recruitment information was submitted for review and approval. Subsequently, the recruitment information was posted on all eight Facebook group pages. Recruitment information was posted included a link to the informed consent and survey. Upon clicking the link, the veterans were directed to an informed consent page that clarified their rights as participants and the anonymous nature of the survey. Those who did not consent to continue were directed to a page containing crisis resources, while those who indicated that they read and understood the informed consent information were directed to proceed to the survey.

Veterans were asked to complete a combination of demographic questions and items from four standardized measures. At no point was identifying information collected from the respondents. The anonymous data collection method limited the researchers' ability to act on safety concerns for individuals who indicated suicidal risk (Hom et al., 2017). However, following completion of the survey, participants were directed to a page containing a list of free resources (e.g., the National Suicide Prevention Hotline, the Veterans Crisis Line, and the National Alliance on Mental Illness).

INSTRUMENTS

Perceived Burdensomeness and Thwarted Belongingness

The Interpersonal Needs Questionnaire-10 (INQ-10; Joiner, 2007) was used to measure the PB and TB constructs of IPTS. Permission to use this scale was obtained from the scale author. Participants responded to each of the 10 items using a 7-point Likert scale; three statements on the

INQ-10 require reverse-coding (Ribeiro et al., 2014, p. 118). Importantly, in this study, the INQ-10 was distributed using a 3-point Likert scale. Higher scores indicate higher levels of TB and PB. In this study, the INQ-10 PB subscale had good reliability ($M = 2.66$, $SD = 2.56$; $\alpha = .87$) while the TB subscale had marginal reliability ($M = 5.16$, $SD = 2.32$; $\alpha = .62$). The concerns regarding the TB subscale reliability may be due to the fact that the INQ-10 was mistakenly circulated with a 3-point Likert scale (0 to 2) instead of the standard 0 to 7 Likert scale.

Acquired Capability

The Acquired Capability for Suicide Scale (ACSS; Ribeiro et al., 2014) was used to measure fearlessness toward lethal self-injury, as the data can reflect what leads individuals to become more comfortable with the process of dying, and to later attempt suicide. The authors of this scale indicated no permission was needed to use the ACSS. The ACSS consists of seven statements on a 5-point Likert scale (0 to 4); total scores range from 0 to 28, with the high scores signifying elevated levels of fearlessness toward death and dying. The ACSS scale was acceptably reliable within this sample ($M = 21.52$, $SD = 5.76$; $\alpha = .70$).

Suicidal Ideation

The Beck Suicide Scale (BSS; Beck et al., 1979) was used to assess the suicidal risk experienced by an individual within the prior 2 weeks. The scale was licensed for use in this study from the publisher. The questionnaire is a 21-item self-report in which individuals score their feelings from 0 to 2 for 19 of the 21 statements. Two of the 21 items are non-scored informational items are used to ascertain prior suicide attempts and the intensity of their desire to die in the moment (Beck et al., 1979). Thus, the overall total can range from 0 to 38 to represent the severity of SI distress within the individual. The BSS had good reliability within this sample ($M = 15.05$, $SD = 6.13$; $\alpha = .80$).

Help-Seeking

The General Help-Seeking Questionnaire (GHSQ; Currier et al., 2017) was used to assess the veterans' intentions of seeking help through various resources, such as friends or mental health professionals. The GHSQ is available for public use (Wilson et al., 2005). The GHSQ has two primary questions: "If you were experiencing a problem, how likely is it that you would seek help from the following people?" or "If you were experiencing suicidal thoughts, how likely is it that you would seek help from the following people?" and lists 10 resources for individuals to rank in both questions (Currier et al., 2017, p. 19). Individuals rank their likeliness to seek help from a source on a 5-point Likert scale, with scores ranging from 10 to 70 total per primary question,

with higher scores indicating a greater likelihood of seeking help (Wilson et al., 2005). The GHSQ was observed to be highly reliable within this sample ($M = 67.70, SD = 26.10; \alpha = .94$).

PLAN OF ANALYSIS

A hierarchical linear regression was used to test whether PB, TB, and AC could independently predict SI. To test Hypothesis 1, TB, PB, and AC were entered first to identify if PB and TB significantly predicted SI, and to identify if AC would predict SI after controlling for the effects of PB and TB on SI. Next, additional variables of help-seeking behaviors and time since discharge were entered respectively.

The output data from the hierarchical regression were used to determine if the Army veterans’ help-seeking behaviors negatively predicted their suicidality in Hypothesis 2. Hypothesis 3 was tested using hierarchical regression. The discharge time was dummy coded into dichotomous variables, with 12 months or less coded as 1, and more than 13 months coded as 2. A MANOVA followed by Tukey’s test was used to explore whether differences on other predictor variables were observed based on time since discharge. Regarding normality of data, the variables PB, TB, AC, SI, help-seeking, and time since discharge were within a normal distribution for skewness and kurtosis. The skewed values for the variables ranged from -.46 to 1.11, and the kurtotic values extended from -1.80 to .38. A visual observation of the scatterplots also showed an absence of outliers.

PRELIMINARY ANALYSES

Pearson’s bivariate correlations one-tailed test was conducted as a preliminary analysis of the hierarchical regression to examine linearity between the variables (Grace-Martin, 2019). SI was correlated with several of the predictor variables. Review of Table 1 (below) indicated a significant moderate relationship between PB and SI ($r = .58, p < .001$), and significant small relationships between TB and SI ($r = .31, p < .001$), AC and SI ($r = .12, p < .01$), and discharge and SI ($r = .19, p < .001$); the relationship between help-seeking and SI was non-significant. Other non-significant factors included TB and help-seeking, AC and help-seeking, and help-seeking and discharge. Significant small to moderate correlations were also found among the predictor variables. Specifically, relationships were found between PB and TB ($r = .27, p < .001$), PB and AC ($r = .14, p < .01$), TB and AC ($r = .13, p < .01$), TB and discharge ($r = .17, p < .01$), and PB and discharge ($r = .13, p < .01$). and A strong relationship existed between AC and PB ($r = .13, p < .01$).

MAIN ANALYSES

Hypothesis 1 was that PB and TB would significantly predict SI, and AC would predict SI after controlling for the effects of PB and TB on SI. Hierarchical regression analysis was conducted to find if TB, PB, AC, help-seeking, and time since discharge could independently and collectively predict SI. Additionally, Army veterans’ help-seeking intentions were expected to negatively predict SI after controlling for PB,

VARIABLE	1	2	3	4	5	6
1 SI	-					
2 PB	.58**	-				
3 TB	.31**	.27**	-			
4 AC	.12*	.14*	.13*	-		
5 Help-Seeking	-.05	.05	-.39	-.11	-	
6 Discharge	.19*	.05	.17*	.13*	-.08	-
Mean (SD) overall	6.05 (8.27)	2.66 (2.56)	5.16 (2.32)	21.51 (5.75)	35.01 (13.72)	1.61 (.49)
Mean (SD), ≤ 12 mos	4.12 (7.79)	2.49 (2.48)	4.65 (2.39)	19.68 (6.07)	36.43 (15.26)	-
Mean (SD), ≥ 13 mos	7.27 (8.36)	2.76 (2.60)	4.98 (2.20)	19.70 (5.42)	34.11 (12.60)	-

Table 1 Correlations Among Variables.

Note: $N = 270$; SI = Suicidal Ideation, PB = Perceived Burdensomeness, TB = Thwarted belongingness, AC = Acquired Capability-Fearlessness about death, Help-Seeking = Help-seeking tendencies, Discharge = Amount of time since discharge (1 = 1–3 months, 2 = 4–6 months, 3 = 7–9 months, 4 = 10–12 months, 5 = 13–18 months, 6 = 19–23 months, 7 = 2–3 years, 8 = 4–5 years, 9 = 6–7 years, 10 = 8–9 years, 11 = 10 years); ≤ 12 mos = less than 12 months since discharge, ≥ 13 mos = more than 13 months since discharge. Discharge year was dummy coded as 1 = 12 months or less since discharge, 2 = 13 months or more since discharge.

* $p < .01$, ** $p < .001$.

TB, and AC. Army veterans who have been discharged 1 or more years were expected to have higher SI than those who have been discharged for less than 1 year, as reflected in Hypothesis 3. Hierarchical regression was used to assess all three hypotheses. A MANOVA was used to more fully describe the impact of time since discharge on SI and predictor variables.

Table 2 (below) summarized the results of the hierarchical regression with four steps. PB and TB were assessed in Step 1 to determine their impact on SI. The correlations between PB, TB, and SI were significant, as $F(2, 267) = 74.66, p = .000, R = .60$. Specifically, the collective contribution of the two predictors accounted for 36% of the variance on the criterion variable SI, and the change

in R^2 indicated a goodness of fit, or the predictive ability of the model, within Step 1 ($R^2 = .36, \text{adjusted } R^2 = .36, p = .000$). Examination of beta weight coefficients highlighted a larger significant effect with PB ($p = .000$) than TB ($p = .001$) when predicting SI. Fearlessness toward dying (i.e., AC; the third variable associated with IPTS) was added as a third variable in Step 2 to examine its additive predictive ability on SI. AC accounted for less than 1% of the variance ($R^2 = .36, \Delta R^2 = .001, p = .55, F(1, 266) = 49.78, p = .000, R = .60$). Further review of beta weight coefficients in Step 2 indicated greater significance from PB ($p = .000$) than TB ($p = .001$), and AC was non-significant ($p = .55$) when predicting SI. Given these results, Hypothesis 1 was partially supported, as PB and TB were significant predictors of SI,

VARIABLE	B	95% CI FOR B		SE B	B	P	R ²	ΔR ²
		LL	UL					
Step 1							.36	0.36
(Constant)	-1.63	-3.61	.35	1.00		0.10		
PB	1.72	1.40	2.20	.17	.53	.000		
TB	0.61	0.29	0.96	.18	.17	.001		
Step 2							.36	.001
(Constant)	-2.49	-4.81	2.32	1.73		0.15		
PB	1.70	1.39	2.05	.17	.52	.000		
TB	0.60	0.19	0.98	.18	.17	.001		
AC	0.04	-0.07	0.06	.07	.03	0.55		
Step 3							.36	.000
(Constant)	-2.15	-6.84	2.54	2.38		0.37		
PB	1.71	1.38	2.04	.17	.53	.000		
TB	0.58	0.18	0.97	.20	.16	.004		
AC	0.04	-0.10	0.18	.07	.03	0.56		
Help-Seeking	-0.01	-0.07	0.06	.03	-.01	0.84		
Step 4							.38	0.02
(Constant)	-4.94	-10.02	.14	2.57		0.57		
PB	1.71	1.38	2.04	.17	.53	.000		
TB	.506	0.11	0.90	.20	.14	0.01		
AC	0.02	-0.12	0.37	.07	.02	0.77		
Help-Seeking	-.006	-0.07	0.06	.03	-.01	0.86		
Discharge	2.22	0.57	3.88	.84	.13	0.01		

Table 2 H1 Hierarchical Regression.

Note: CI = confidence interval; LL = lower limit, UL = upper limit; PB = Perceived Burdensomeness, TB = Thwarted Belongingness, AC = Acquired Capability – Fearlessness about death, Help-Seeking = Help-seeking tendencies, Discharge = Discharge year was dummy coded as 1 = 12 months or less since discharge, 2 = 13 months or more since discharge.

though AC was not a significant predictor of SI when added to Step 2. AC was also non-significant when help-seeking was added in Step 3, and when time since discharge was added in Step 4.

Hypothesis 2 was that Army veterans' help-seeking intentions would negatively predict SI after controlling for PB, TB, and AC, which was tested in the hierarchical regression. Help-seeking intentions were added to Step 3 to determine whether inclusion of help-seeking would increase the explanatory ability of the model. Step 3 was significant, $F(4, 265) = 37.21, p = .000, R = .60$, as PB and TB were significant predictors of SI, though AC was not. Notably, the addition of help-seeking intentions did not meaningfully increase the explained variance in SI, as the relationships accounted for less than 1% of variance and did not add to the predictive ability of the model ($R^2 = .36, \Delta R^2 = .000, p = .84$). Review of beta weight coefficients in Step 3 showed greater significance from PB ($p = .000$) than TB ($p = .004$), as well as the non-significant impact from AC ($p = .56$) and help-seeking ($p = .84$) when predicting SI. Help-seeking intentions did not predict SI within this sample of Army veterans, as the bivariate correlations, the changes in R^2 , and the beta weight were not statistically significant within Step 3.

Hypothesis 3 was that Army veterans who have been discharged for more than 1 year would have higher SI than those who have been discharged for less than 1 year. Time since discharge was added in Step 4 and was significant in predicting SI, $F(1, 264) = 31.84, p = .000, R = .61$, and increased the predictive ability of the model by explaining an additional 2% of the variance in SI ($R^2 = .38, \Delta R^2 = .02, p = .009$). Further examination of beta weight coefficients in Step 4 indicated PB ($p = .000$), TB ($p = .01$) and time since discharge ($p = .01$) had the most impact on SI, while AC ($p = .77$) and help-seeking ($p = .86$) were non-significant. PB and TB were significant predictors of SI within all four steps, though the addition of AC and help-seeking were not significant predictors of SI. Results supported Hypotheses 3, which indicated Army veterans' time since discharge positively predicted SI.

Regression analysis indicated that time since discharge was a significant predictor of SI. To better understand the impact of time since discharge on related variables, a MANOVA was conducted. Time since discharge was treated as the IV and dummy coded such that the 105 veterans who were discharged for less than 13 months were coded as 1, and the 165 veterans who were discharged for 13 or more months were coded as 2. Dependent variables included PB, TB, AC, and help-seeking behaviors.

Significant differences in SI were observed based on time since discharge $F(5, 264) = 3.18, p = .003$; Pillai's Trace = .066. Follow-up tests of between-subject effects indicated

that only SI differed significantly based on veteran time since discharge, $F(1, 268) = 9.61, p = .002$. Veterans who had been discharged for less than 13 months ($M = 4.12, SD = 7.79$) reported significantly less SI than veterans who had been discharged for more than 13 months ($M = 7.27, SD = 8.36$). As noted, use of MANOVA allowed for exploration of differences based on time since discharge with other variables; no significant differences were observed between the two groups in PB, TB, AC, or help-seeking.

DISCUSSION

In summary, results showed that PB and TB consistently predicted SI, while AC did not significantly predict SI. PB and TB continued to significantly predict SI when help-seeking was added to the model, though neither AC nor help-seeking were significant predictors of SI. When time since discharge was added to the model, PB, TB, and time since discharge were each significantly predictive of SI; neither AC nor help-seeking behaviors predicted SI within this sample. Significant differences in SI based on time since discharge were also observed, as PB, TB, and time since discharge were significant within the final step of the model.

Findings from this study align with previous IPTS research and indicated that PB and TB correlated with SI, and the relationship between PB and SI was stronger than the relationship between TB and SI (Mitchell et al., 2020; Silva et al., 2017; Stanley et al., 2020). Similar to Bryan (2011), PB and TB were significantly correlated with SI, though AC was not significantly correlated with SI. Current findings also align with Silva et al.'s (2017) finding that a combination of elevated PB and TB can lead to increased feelings of SI. In the current study, TB was smaller in effect size ($\beta = .17, p = .001$) than PB ($\beta = .53, p = .000$) in predicting SI. Further understanding of how TB interacts with other variables in predicting SI is needed to better understand the role of TB in SI. Findings support targeting feelings of PB and TB in psychotherapy settings. Given the relative difference in contributions to explaining SI, decreasing PB seems to be an especially relevant concern for treatment of SI among veterans. Findings from this study also revealed AC was consistently not significant as a predictor of SI. AC was tested after controlling for PB and TB together, rather than as a group of three variables or individually, which could explain why the results differed from past research (Chu et al., 2017; Silva et al., 2017). Other research has observed a significant relationship between AC and SI using nonveteran samples; however, the current study relied on a sample of veterans, all of whom may have increased AC due to their training and experiences (Kramer et al., 2020). In other

words, unlike the general US population, all members of the military population are trained in the use of weapons. AC may be more predictive in nonmilitary samples where more heterogeneity in AC exists. This position is supported by the observation that AC was not significantly correlated with SI for veterans in this study.

Additionally, help-seeking intentions did not meaningfully contribute to SI, as the relationship accounted for less than 1% of variance ($R^2 = .36$, $\Delta R^2 = .000$, $p = .84$). Help-seeking was not significant and was negatively correlated with SI, TB, and AC; however, help-seeking was significantly positively related to PB. One way to make sense of this finding is to consider that social support may buffer against feelings of PB. Individuals with sufficient social support could potentially receive formal treatment before feelings of PB increase to clinical distress. Results from this study support previous research noting a deficit in veterans' help-seeking behaviors for mental health concerns and SI (Chen et al., 2019; Karras et al., 2017; Kulesza et al., 2015; Teo et al., 2018). It is unclear why the veterans in this study might choose to opt out of future help-seeking, though the reasons could be attributed to perceived stigma and negative beliefs toward treatment efficacy (Blais & Renshaw, 2013; Currier et al., 2017; Kulesza et al., 2015; Porcari et al., 2017).

This study identified a three-way relationship between TB, PB, and AC that accounted for 35% of the variance in SI and aligns with earlier research assessing veterans' levels of SI (Griffith & Bryan, 2018; Mitchell et al., 2020; Silva et al., 2017). Results from this study support the application of the IPTS to veteran populations and add to the existing evidence calling for further investigation into the connection between veteran SI and risk of a potential suicide attempt when feelings of PB, TB, and AC are elevated. Findings from this study indicate that PB, TB, and AC contribute to SI even in the absence of a plan or intent to make a future suicide attempt, which align with findings by Chu et al. (2017). The researchers noted the relationship between PB and TB was stronger than the three-way relationship, and the relationship between PB, TB, and AC was also a better indicator of historical suicide attempts than current SI. This notion enhances the understanding that veterans with high levels of PB, TB, and AC are at risk for SI or have already made a suicide attempt. While AC was not significant in this study, it is still a primary piece of IPTS, and one sample does not provide enough data to dismiss or alter the original framework of the theory. Furthermore, AC continues to warrant clinician attention because AC is generally high among veterans due to their past training. Future research should include a civilian control group to determine possible differences in predictive utility of AC.

Results from this study highlight the advantage of conceptualizing veteran SI using IPTS with consideration

of help-seeking behaviors. Many of the social and clinical applications for this study could be addressed by the President's Roadmap to Empower Veterans and End a National Tragedy of Suicide ([PREVENTS]; Veterans Affairs Office of Public and Intergovernmental Affairs, 2020), an executive order designed to facilitate help-seeking among individuals, specifically veterans, in hopes of increasing communal support. Help-seeking behaviors should also be considered with time since discharge, as veterans who were discharged for more than 13 months reported significantly higher SI than veterans who had been discharged for less than 13 months. However, no significant differences were found in PB, TB, AC, or help-seeking, based on time of discharge. Other unexplored factors may explain why time since discharge was significantly higher for veterans who were discharged for more than 13 months. However, further research is needed to determine the causality between veterans discharged for more than 13 months and their levels of SI.

No previous research exists using IPTS to explore the differences in suicidal risk among Army veterans who have been discharged for more or less than 13 months, or in combination with their help-seeking behaviors. Results from this study demonstrated the effects of time since discharge on SI after controlling for PB, TB, AC, and help-seeking behaviors. This study also adds to the IPTS research on veteran culture and highlights the difference in SI between Army veterans who have discharged less than 1 year and veterans who have been discharged for up to 10 years. Veterans who had been discharged for longer than 13 months may have experienced the newness of discharge wearing off and may have felt feelings of PB if they were experiencing economic stress, as veterans may have had difficulty finding a civilian career with pay equivalent to their military wage (Castro & Kintzle, 2014). Many of the veterans in this study who were discharged for more than 13 months served during wartime with potential exposure to combat, which could have increased their levels of SI (Bryan, 2011). Veterans from this sample who were discharged for more than 13 months may have also experienced higher levels of TB than veterans discharged for a year or less, as some veterans have a perceived inability to make or sustain interpersonal connections with civilian counterparts due to their differing life experiences (Castro & Kintzle, 2014). Additionally, veterans who were discharged for more than 13 months could also have had high levels of AC from partaking in risky behaviors or coping skills to cope with traumatic memories or from having longer periods of time to reflect on unprocessed traumatic events (Villatte et al., 2015).

When considering that veterans who have been discharged for more than 13 months have higher levels of SI, the Joint Action Plan should be amended to extend past the current 12-month timeframe to accommodate veterans

who have yet to report mental health concerns to the VA. The extended timeframe could allow veterans time to adjust to their new surroundings and routines, and to report mental health concerns that can arise after discharge from service. There is also an increased need for preventative screening following the 1-year anniversary of veterans' separation from duty, as anniversary of discharge can increase feelings of PB, TB, and AC (Barr et al., 2019). The transition into civilian life can increase Veterans' feelings of SI following the first year of discharge as the excitement about rejoining civilian life dissipates and challenges in adjustment may surface (Interian et al., 2014; Ravindran et al., 2020). Indeed, the difficulty transitioning into civilian life may explain the importance of time since discharge in this sample of veterans, as it accounted for an additional 2% of the variance in SI.

Findings in this study support IPTS when analyzing SI in an Army veteran sample. Results align with earlier research reporting the IPTS framework as useful when conceptualizing individuals' risks and contributing factors for SI, and support the notion that TB and PB fluctuate simultaneously, depending on the individual's current levels of self-esteem and emotional awareness (Bryan, 2011; Jobs, 2013; Joiner et al., 2015). Veterans' feelings of PB and TB consistently predicted their SI, while AC consistently did not predict their SI. Similar to previous research, however, SI levels can escalate to a suicide attempt when feelings of increased levels of TB and PB combine with AC (Bryan, 2011; Joiner, 2007; Van Orden et al., 2012).

Results in this study are unique due to the addition of help-seeking intentions and behaviors, which could support the need for further development and protocols to assess individuals experiencing increased SI. However, a larger sample of Army veterans may be needed to detect specific effects due to the potential underreporting that is inherent with military veteran samples (Silva et al., 2017). Considering that PB was the most significant predictor in this study, utilizing IPTS as a predictive tool to focus on feelings of PB and TB could be most beneficial, as the factors are flexible and can be incorporated into a variety of treatments (Silva et al., 2017). As veterans process feelings of PB and TB through trauma-focused therapy and use of social support, their sense of self-worth and belonging could increase and levels of AC could level out to decrease or prevent feelings of SI.

LIMITATIONS

When measuring feelings of PB and TB, there was a methodological flaw in the survey when the INQ-10 was circulated with a 3-point Likert scale, rather than a 7-point scale. Having fewer options to choose from limited the variability and range of the instrument and could have decreased the validity of the INQ-10 in this study. The flaw may have also altered the psychometrics of the measures

and potentially contributed to the lower internal consistency of TB throughout the hierarchical regression. The lower consistency of TB and AC are considered limitations and are likely explanations for the attenuated correlations with SI in this sample, as low instrument reliability can lead to Type II error, or a false negative. Considering these limitations, results should be interpreted cautiously.

DIRECTIONS FOR FUTURE RESEARCH

Results from this study indicated time since discharge did not change any variables except for SI, suggesting that unknown factor(s) significantly influenced veterans' SI and accounted for the remaining 62% of variance in this sample. Previous research examined relations between IPTS, non-suicidal self-injury, and previous suicide attempts within veteran samples and found non-suicidal self-injury was significant in predicting SI and potential risk for future suicide attempts (Lee et al., 2018; Mastin et al., 2020). However, help-seeking behaviors and time since discharge were not considered within these samples and could have been significant variables for predicting SI in these veteran samples. Future research should continue examining IPTS along with help-seeking behaviors, time since discharge, and the inclusion of non-suicidal self-injury, as this specific combination of variables has not been examined within a sample of veterans.

Future research should encompass all branches of service, as the sample in this study focused on one specific branch, which limited the ability to gain insight and to compare SI among veterans of other branches of the military. Comparing help-seeking behaviors of veterans from all the branches would create opportunities to examine which resources are being used and how often, and to continue refining resources and their accessibility by veterans. Additionally, 60% of veterans qualify to receive benefits from the VA, though less than 30% of qualifying veterans use their VA benefits for primary care or to address SI (Farmer et al., 2016). Incorporating feedback from veterans using local community services or managing distress without services could inform potential initiatives focused on motivating veterans to seek help from the VA.

Future research should also focus on IPTS and help-seeking behaviors between combat and non-combat veterans; as their combat experience can range from no experience to a high level of combat exposure (Britt et al., 2019). While their experiences differ, they could experience similar levels of SI. There is limited research focusing on non-combat veterans' experiences with SI, though their deaths account for a substantial number of veteran suicides (Bryan, 2011; Interian et al., 2014; Kang, 2015). It would also be beneficial to examine the impact of IPTS and SI between commissioned officers and enlisted

soldiers. Officers could potentially experience less difficulty transitioning back into civilian life, as they can secure gainful employment due to their formal education prior to commissioning into the military.

A cross-sectional survey was used in this study to accurately assess for AC, though a longitudinal design is recommended to set a baseline and to measure future progress (Joiner, 2007; Kramer et al., 2020). Additionally, collecting the data online prevented verification of the authenticity of the veterans' military service and demographic information. Conducting the survey in person could have authenticated veteran participants' identity and would have allowed a space to provide local referrals and resources if requested.

CONCLUSION

This study was used to examine the interpersonal experiences and help-seeking intentions of recently discharged Army veterans in relation to suicidal ideation. The cross-sectional results support the relationship between PB, TB, and SI, confirmation that help-seeking tendencies negatively affect SI, and validate time since discharge as a predictor for SI even after controlling for the other important predictors. Results from this study also contribute to the literature about discharged Army veterans and suicidality and highlight the need for continued research using the IPTS, with a focus on veterans' help-seeking intentions to decrease barriers to treatment. Despite some study limitations, the data obtained from this study could be used to advocate for the Joint Action Plan to extend past the 1-year post-discharge mark and to encompass more veterans in need of mental health care. Continued support during the transition process, as well as access to high-quality local mental health care after discharge from military service, can serve as first steps to help veterans experiencing interpersonal conflict and suicidality.

COMPETING INTERESTS

The authors have no competing interests to declare.

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