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Perceptions of purpose, cohesion, and military leadership: A path analysis of potential primary prevention targets to mitigate suicidal ideation

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ABSTRACT

Rates of suicide in the US Army continue to rise, and by some accounts exceed the general population. This increase has renewed efforts to identify protective factors that may inform novel suicide prevention strategies. Previous research has demonstrated that a sense of purpose in life and perceived cohesion with military peers are related to a reduction in the severity of suicidal ideation (SI). Additionally, research in military samples supports decreased SI in Soldiers who endorse that their leaders convey a sense of purpose and meaning in their shared mission. However, no work has investigated whether these leadership styles relate to a sense of felt purpose and perceived cohesion in Soldiers and thus the indirect effect of these leadership styles on SI. Active duty Army Soldiers (n = 1,160) completed self-report measures of purpose in life (PiL), perceived cohesion, ethical leadership, loneliness, and SI. Indirect effect analyses were conducted to determine how leadership behaviors indirectly relate to SI through PiL and perceived cohesion. Indirect effect analyses revealed that ethical leadership had an indirect effect on reduced SI through increased PiL. In the same parallel indirect effect analysis, ethical leadership was related to less SI through increased perceived cohesion and decreased loneliness sequentially. Enhanced leadership training that effectively increases Soldier purpose may be an important primary prevention tool to mitigate the effect of suicide risk factors. This primary prevention strategy may help augment existing suicide surveillance and clinical prevention efforts to reduce Soldier risk for suicide.

What is the public significance of this article?- Consistent with a tiered public health approach to suicide prevention, the current study provides evidence that the relationship between Soldier perceptions of leadership style and purpose of military service may mitigate the risk of Soldier suicide. Future research would benefit by analyzing these relationships longitudinally and examining leadership strategies generally as a prevention effort.

Introduction

The United States Army and Department of Defense (DoD) have dedicated significant resources toward the goal of preventing suicide in their ranks (U.S. Department of Defense Task Force on the Prevention of Suicide by Members of the Armed Forces, 2010, pp. ES-18). Despite these efforts, the suicide rate within active duty Soldiers has increased from 18.5 per 100,000 in 2013 to 24.8 per 100,000 in 2019

(Department of Defense Suicide Event Report, 2019). The consistent increase in active duty deaths by suicide, despite the implementation of conventional interventions has led some researchers to examine alternative avenues for prevention efforts (Bryan, Jennings, & Jobes, 2012).

Based on a Centers for Disease Control and Prevention framework, Cramer and Kapusta (2017) propose a social-ecological model for implementing suicide prevention efforts that calls for a stratified public health approach. This approach suggests that risk factors, protective factors, and prevention efforts should be examined across individual, interpersonal, community, and societal domains. Although similar multi-level approaches have been proposed (Dahlberg & Krug, 2002; Van der Feltz-Cornelis et al., 2011), conventional approaches to suicide prevention most commonly entail the identification of those at-risk for suicide, increasing help-seeking or the facilitation of clinical intervention, and improving the effectiveness of established

interventions. The vast majority of these strategies target the individual or interpersonal level at a community or societal level (i.e., systems level) interventions require wider administrative and organizational support, and potentially a larger funding commitment (Bryan, Jennings, Jobes, & Bradley, 2012).

Due to its large and interdependent organizational framework, the military presents a unique opportunity for larger scale structural prevention efforts. Despite this, primary and secondary prevention and intervention efforts echo the limitations of civilian efforts, and attempt to improve military screening (Curley et al., 2019) and clinic-based care (Rudd et al., 2015), as well as implement peer-to-peer intervention training (Knox, Litts, Talcott, Feig, & Caine, 2003). However, these interventions are currently limited in reach, demonstrate mixed results (Pistone, Beckman, Eriksson, Lagerlöf, & Sager, 2019) and require further evaluation (Isaac et al., 2009).

Although current prevention and intervention efforts have yet to result in a reduction in suicides, large-scale research efforts have significantly increased the field's understanding of military specific risk and protective factors (Kessler et al., 2013). These risks and protective factors provide a knowledge base to implement systems-level prevention strategies that are ecologically valid, cost-effective, and can be widely disseminated. For example, unit cohesion has been shown to decrease risk for posttraumatic stress disorder (Brailey, Vasterling, Proctor, Constans, & Friedman, 2007) and increase a Soldier's confidence and ability to cope with military-related distress (Williams et al., 2016). In a sample of National Guard service members, higher levels of perceived unit cohesion were related to lower levels of depression and suicidal ideation (SI, Rugo et al., 2020). Unit cohesion also seems to be particularly relevant during deployment. Research has shown that the higher perceived unit cohesion is negatively associated with depression during deployment (Bryan & Heron, 2015) and linked to lower levels of diagnosable mental health conditions and suicidal ideation following deployment (Anderson et al., 2019; Trachik et al., 2020b). Unit cohesion may, in part, be related to reductions in depression symptoms and suicidal ideation through reduced global feelings of loneliness and isolation (Bollen & Hoyle, 1990; Carron, 1988; Capcioppo et al., 2015; 2016; Garcia-Guiu, Moya, Molero, & Moriano, 2016; Griffith, 2002; Oliver, Harman, Hoover, Hayes, & Pandhi, 1999; Vasterling et al., 2015).

Despite the growing body of the literature supporting unit cohesion as a potentially malleable military protective factor, there is limited information on predictors of unit cohesion. A related construct that likely influences

unit cohesion and may be a target for future suicide prevention efforts is leadership behavior (Trachik et al., 2020b, 2020a). It may be intuitive that leadership behavior is associated with unit performance (Bass, Avolio, Jung, & Berson, 2003) and job satisfaction (Dupre & Day, 2007), but leadership styles have also been shown to be related to mental and physical health outcomes (Dupre & Day, 2007; Jones et al., 2012), as well as help-seeking (Jones, Campion, Keeling, & Greenberg, 2018) and SI (Trachik et al., 2020b, 2020a).

One leadership style that has received some attention in the organizational psychology literature is ethical leadership. Ethical leadership is defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships and the promotion of such conduct to followers" (Brown et al., 205:120). The examination of ethical leadership is particularly apt for the military population as this construct mirrors both the United States Army Warrior Ethos and Army Values. Identifying empirical constructs with a high degree of relevance and familiarity to a military audience is important as this may increase the eventual acceptability of an intervention based on these constructs. Furthermore, leadership styles that promote synchrony between an individual and the organization may be particularly impactful as research has demonstrated that the organizational commitment aspect of cohesion is more strongly related to military performance than peer bonding (Salo & Siebold, 2005). Ethical leadership has also been shown to predict to perceptions of honesty, trustworthiness, and integrity, as well as prosocial behavior, satisfaction motivation, and commitment (Brown & Trevino, 2006). In one study conducted with Chinese employees and supervisors, ethical leadership behavior was shown to increase employee psychological well-being. This effect that was moderated by the employee's level of group collectivism (Li, Xu, Tu, & Lu, 2014); a construct similar to cohesion.

The research cited above suggests that ethical leadership can reinforce organizational commitment and perceptions of cohesion in subordinates, and that these factors can be protective against stress and subsequent mental health difficulties. In addition to this work, another intersection of the leadership, cohesion, and mental health literature is research regarding meaning and purpose in life. Research has shown that ethical leadership positively increases subordinate's perceptions of meaning in their work (Demirtas, Hannah, Gok, Arslan, & Capar, 2017) and subjective well-being (Kalshoven & Boon, 2012). Meaning and purpose in life have also been identified as protective factors against SI (Heisel & Flett, 2004; Kleiman & Beaver, 2013; Sinclair, Bryan, & Bryan, 2016) and a positive predictor

of well-being (McMahan & Renken, 2011) and positive affect (Hicks & King, 2009).

These findings may be particularly relevant for Soldiers as their occupation is often strongly linked with their lives and personal identities. Extant research indicates that purpose and meaning in life can be reinforced by leadership styles and predictive of SI (Bryan, Bryan, Rozek, & Leifker, 2019; Trachik et al., 2020b, 2020a). Previous research demonstrates that active duty US Army subordinates report lower SI severity if they also report that their leaders consistently remind them of the purpose and value of their military service (Trachik et al., 2020a). This study also identifies potential mechanisms by demonstrating an indirect relationship between leader provided purpose and SI through unit cohesion and belonging. Furthermore, the leader provided purpose during deployment predicts post-deployment SI (Trachik et al., 2020b).

While these studies (Trachik et al., 2020a, 2020b) provide initial insights into possible leadership behaviors that influence known protective factors and SI, significant limitations need to be addressed in this line of work. First, these studies did not include specific leadership styles studied in the extant literature. Instead, single items about whether a leader reminds subordinates of the meaning and purpose of their service were used. This limitation makes it impossible to connect this line of work to the broader leadership literature. Additionally, this work has yet to determine if leadership behaviors relate to subordinate's own sense of meaning and purpose. It appears that this leadership style relates to less subordinate SI through increased unit cohesion and decreased loneliness, but certainly work needs to understand if subordinate broad sense of purpose is influenced by specific leadership styles and thus reduces risk for SI.

There appears to be an emerging literature demonstrating that certain leadership behaviors may have a "downstream" protective influence on risk for SI through individual level protective factors (i.e., perceived unit cohesion, belonging, purpose in life). It is important that prior to designing a systems-level approach based on these findings that there is a clear understanding of the specific leadership styles responsible for change in SI. It is also essential that the potential mechanisms underlying the relationship between leadership and SI are clearly understood to inform potential changes in leadership training as a potential upstream prevention effort.

The current study examines the relationship between Soldier perceptions of ethical leadership practices in their leaders and their own felt sense of purpose in life, loneliness, and unit cohesion. Although prior studies

(Trachik et al., 2020b, 2020a) demonstrated the role of leader provided purpose in predicting SI, the Soldier's actual felt sense of purpose was not examined. Thus, the potential mechanism of leadership behaviors reducing SI through increasing subordinate sense of purpose has yet to be investigated using cross-sectional or prospective methodologies. Furthermore, prior studies examined leadership behavior with a single-item measure with limited psychometric validation. Utilizing a cross-sectional design, the current study attempts to address these shortcomings and hypothesizes that ethical leadership will demonstrate unique indirect relationships with SI through an increased felt sense of purpose and unit cohesion. We also hypothesize that cohesion will influence SI through decreased loneliness.

Method

Procedures

Data from this study were from the Culture, Performance, and Health study conducted from 2017 to 2019 with US Army Soldiers during deployment to the Middle East. As the current study investigated the effects of leadership behavior perceived by their subordinates, only enlisted Soldiers ranging from ranks of E1–E6 were included. Paper and pencil surveys were administered in large unit facilities such as outdoor hangars, conference rooms, or classrooms in groups of approximately 80–120 Soldiers. Prior to beginning the surveys, soldiers were briefed on a description of the study, as well as their options for participation, anonymity, and confidentiality. Soldiers were then provided an opportunity to consent or decline participation. All study procedures were reviewed and approved by the WRAIR Institutional Review Board.

Participants

Participants were 1,160 active duty Army soldiers on deployment in Kuwait. The sample was primarily junior enlisted (75.5% E1 – E4), and male (90.7%) aged 18–24 (62%). The majority of participants had completed their high school education or equivalency (58.9%).

Measures

Purpose in Life (PiL)

PiL was measured using the Purpose in Life Subscale from the Psychological Well-Being Scale (PWB; Ryff et al., 2007). The PWB measures six components of wellbeing and happiness and contains a nine-item measure of PiL. Participants rate items on a 7-point Likert

scale ranging from zero (*strongly Agree*) to six (*strongly disagree*). In the current study, the PiL subscale total score of the PWB demonstrated good internal consistency reliability (α = .74).

Cohesion

Cohesion was measured using a self-organization overlap single-item measure. The item is composed of graphical depictions of five symmetrical degrees of overlapping circles (0%, 25%, 50%, 75%, and 100%). Participants were asked to indicate which of the degrees of overlap best represented their relationship with their brigade. Similar items have been shown to represent the degree an individual perceives their identity to be closely "fused" with the organization they work for (Swann, Gómez, Seyle, Morales, & Huici, 2009). Previous research has demonstrated the validity of this type of assessment for in-group connection (Schubert & Otten, 2002).

Ethical leadership

Leadership was measured using the Ethical Leadership Scale (Brown, Treviño, & Harrison, 2005). Based on social learning theory, the Ethical Leadership Scale is a 10-item scale measuring ethical leadership in an organization with higher total scores indicating participant perceptions of a more ethical leader. Participants rated items assessing their unit leader's fairness, honesty, care, trust, and other attributes on a 7-point Likert scale from one (*completely false*) to seven (*completely true*). In the current study, the Ethical Leadership Scale demonstrated a good internal consistency reliability (α = .95).

Loneliness

Loneliness was measured using the three-item Loneliness Scale (Hughes, Waite, Hawkley, & Cacioppo, 2004). Participants rated items on a scale from one (*never*) to five (*always*) with higher scores indicating greater loneliness. In the current study, the three-item loneliness scale demonstrated good internal consistency reliability (α = .89).

Suicidal Ideation (SI)

Item nine of the Patient Health Questionnaire (PHQ-9) (Kroenke, Spitzer, & Williams, 2001) was used to measure the frequency of SI as previous research has indicated that this single-item measure predicts suicidal behavior in Veterans (Louzon, Bossarte, McCarthy, & Katz, 2016). Participants were asked to rate how often they have been bothered by thoughts that they would be better off dead or hurting themselves in some way over the past month on a 4-point Likert-type scale from zero (*not at all*) to three (*nearly every day*).

Analytical strategy

Weighted least square mean and variance estimation and 5,000 bootstrapped samples were used to test a parallel mediational model of the relationship between ethical leadership and SI. One path of the model specified life purpose as mediator, whereas the other path specified the serial mediation of cohesion to loneliness. Although previous research has identified leader-provided purpose as a longitudinal predictor of subordinate sense of belonging (Trachik et al., 2020b), those studies did not measure the actual soldier felt sense of purpose. Thus, subordinate felt sense of life purpose was entered as a parallel mediator instead of part of the serial mediation between cohesion and loneliness. This was done to determine the relative strength of its effect compared to the more established pathway in which military leadership relates to subordinate SI. Specifically, this tested if ethical leadership predicted SI through PiL as well as cohesion and loneliness (see Figure 1). The analysis was performed using Mplus Version 8 (Muthén & Muthén, 1998–2017). Standardized coefficients are reported for all effects. Analyses resulting in *p*< .05 were considered to be significant.

Results

Descriptive statistics and bivariate correlations between the studied variables are presented in Tables 1 and 2. Age (χ^2 = 8.96, *p* = .03) and rank (χ^2 = 5.46, *p* = .02) were found to be significantly related to SI. As age and rank are confounded, but rank is also potentially related to adaptive functioning, the models below were run both with and without controlling for rank. As rank did not significantly change any of the observed paths in the model, rank was not included in the final model. An indirect effect path analysis was conducted to identify if perceptions of ethical leadership predicted one's own SI through both felt PiL and cohesion (see Table 3). Loneliness was also incorporated into the model as this construct has been shown to both be a component of cohesion and related to SI (Bollen & Hoyle, 1990; Carron, 1988; Joiner, 2005). The total effect (β_{Total} = −.115, *SE* = .051, *p* < .05) was significant, while the direct effect (β_{Direct} = .053, *SE* = .053, *p* = .311) of the model was not (see Figure 1). Overall, the two paths of the model fully mediated the relationship between ethical leadership and SI (IE_{Overall} = −.168, 95% CI [-.232, -.108]). This indicates that soldiers who perceive their leaders as engaging in more ethical leadership behavior are more likely to report lower SI through a greater felt sense of purpose and greater perceived unit cohesion.
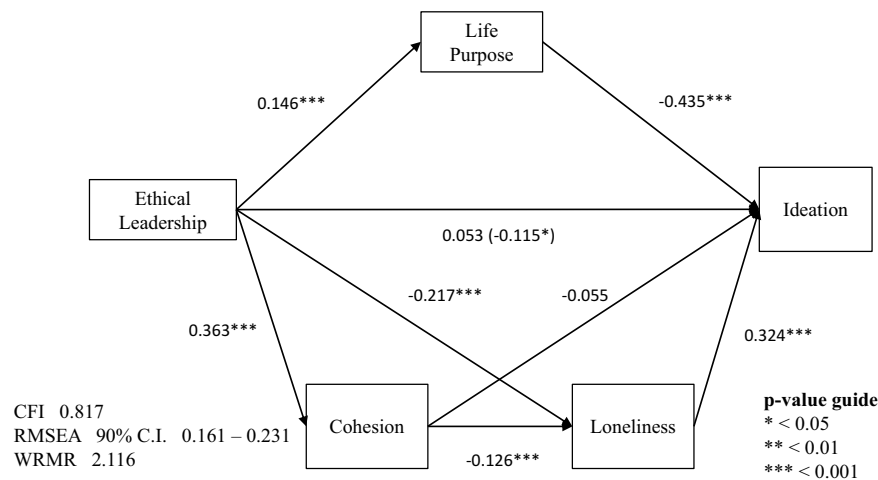
Figure 1. Parallel mediation model. Model contains standardized regression coefficients. The effects on the direct path from leadership to Ideation depict the direct effect and the (total effect).

The final model accounted for approximately 30% of the variance (R^2 = .303) in SI.

In one path of the parallel mediation model, there was a significant indirect effect of ethical leadership to SI through perceived PiL (IE = −0.063, 95% CI [-0.095, -0.035]) such that Soldiers who perceived higher levels of ethical leadership behaviors from

their leaders indicated a greater sense of PiL and through a greater sense of purpose endorse lower levels of SI.

In the alternative path of the model, two of the three specific indirect effects were significant. There was a significant indirect effect of perceptions of ethical leadership on loneliness through cohesion (IE = −0.015, 95% CI [−0.025, −0.007]) such that soldiers who perceived a higher number of ethical leadership behaviors from their leaders were less likely to endorse feelings of loneliness through a greater degree of perceived unit cohesion. There was also a significant indirect effect of ethical leadership to SI through loneliness (IE = −0.070, 95% CI [−0.104, −0.046]) such that soldiers who perceived more ethical leadership behaviors from their leaders reported less SI through reduced feelings of loneliness. The indirect effect of ethical leadership on SI through cohesion was not significant (IE = − 0.020, 95% CI [-0.063, - 0.021]).

Discussion

A growing body of evidence suggests that subordinate perception of a leader's behavior may be a viable target for upstream Soldier suicide prevention efforts (Trachik et al., 2020b, 2020a). The current study extended this body of work by rectifying important limitations in

Table 1. Participant demographics.

	(Deployment) N = 1, 160	Past two week SI (n = 153)
Age		
18–24	719 (62.8%)	104 (70.3%)
25– 29	253 (22.0%)	32 (21.6%)
30– 39	153 (13.4%)	11 (7.4%)
40 or older	21 (1.8%)	1 (0.7%)
Gender		
Male	1,046 (90.7%)	139 (90.9%)
Female	107 (9.3%)	14 (9.2%)
Rank		
E1–E4	876 (75.5%)	126 (82.4%)
E5–E6	284 (24.5%)	27 (17.7%)
Educate		
High school diploma/GED	676 (58.9%)	92 (60.9%)
Some college/Associates degree	406 (35.4%)	54 (35.8%)
Bachelor's degree	59 (5.1%)	5 (3.3%)
Graduate degree	7 (0.6%)	0 (0.0%)
Total (N)	2,181	185
Restricted to Enlisted (N$_R$)	1,160	153

Demographics were restricted to enlisted ranks (E1 – E6) to control for leadership structure during analysis. All numbers represent percentages.

Table 2. Variable correlations.

	Ethical Leadership	Purpose in Life	Cohesion	Loneliness	Suicidal Ideation
Ethical Leadership	1				
Purpose in Life	0.167 (0.000)	1			
Cohesion	0.376 (0.000)	0.125 (0.000)	1		
Loneliness	−0.240 (0.000)	−0.316 (0.000)	−0.202 (0.000)	1	
Suicidal Ideation	−0.093 (0.000)	−0.265 (0.000)	−0.074 (0.006)	0.269 (0.000)	1

Table 3. Total and specific indirect effects.

	Estimate	P-Value	Confidence Intervals	
Indirect effect				
Ethical ldrshp to purpose to ideation	−0.063	.000	−0.095	−0.035
Ethical ldrshp to cohesion to ideation	−0.020	.351	−0.063	0.021
Ethical ldrshp to loneliness to ideation	−0.070	.000	−0.104	−0.046
Ethical ldrshp to cohesion to loneliness to ideation	−0.015	.001	−0.025	−0.007
Total	−0.115	.024	−0.214	−0.014
Total indirect	−0.168	.000	−0.232	−0.108

previous research to determine if perceptions of ethical leadership relate to lower SI through increased personal sense of purpose (PiL), perceived cohesion with one's unit, and decreased loneliness.

Bivariate correlations demonstrated small but significant positive relationships between subordinate perceptions of ethical leadership and subordinate felt PiL and sense of cohesion. These relationships provide initial support for the notion that specific leadership behaviors may promote, or at least be related to, subordinates' broad sense of purpose, not specifically related to military service. Additionally, these results are in accord with those cited in the literature (Trachik et al., 2020b), which supports the importance of perceptions of leadership behaviors in potentially prompting perceptions of cohesion. In the current study, small but significant negative correlations were found between perceptions of ethical leadership and both subordinate loneliness and frequency of the past two-week SI. Trachik et al. (2020a) and Trachik et al. (2020b)) showed small, negative correlations between perceptions of leadership and interpersonal risk factors of suicide and SI, which generally match the small effects found in this study. The current study extends earlier findings beyond leader provided purpose to a broader empirically supported leadership style based on the business and ethics literatures (Brown & Trevino, 2006).

To this end, a parallel indirect effect model provides evidence that the perception of ethical leadership is indirectly related to SI severity through increased PiL as well as increased perceptions of cohesion with one's unit and decreased loneliness sequentially. These findings suggest that leaders who convey fairness, honesty, care, trust, and other positive ethical attributes can reduce the risk for subordinate SI by increasing their subordinates' sense of PiL and perceptions of social connectedness while deployed. Previous research has supported a similar model in non-deployed active duty Soldiers, but used a less than ideal single-item leadership perception measure (Trachik et al., 2020a).

One explanation for the significance of our model resides in Martela and Steger (2016) three components of life meaning: coherence, purpose, and significance. Purpose refers to having value-laden direction and life goals, while significance refers to the perceived value of one's life (Martela & Steger, 2016). While these terms sound similar in definition, they differ in terms of the domain in which they operate as the purpose is a *motivation* regarding the pursuit of worthwhile, ethical goals, and significance is an *evaluation* of the worthwhileness of one's pursuits (Martela & Steger, 2016). Having a leader who exemplifies important personal and ethical values (e.g., honesty, fairness) may theoretically cause an uptick in a Soldier's evaluation of the worthwhileness of their military service (i.e., significance) as well as increased motivation to engage in such work (i.e., purpose). Combined, this could lead Soldiers who perceive their leaders to be ethical to experience their lives as being more meaningful than Soldier's who perceive their leaders to lack important ethical characteristics. As several studies indicate that the perception that one's life is meaningful protects against the intensity of SI (e.g., Heisel et al., 2016), this could help explain why in the current study ethical leadership style was related to increased PiL, and subsequently, contributed to decreased SI.

The current finding that increased ethical leadership was related to decreased SI severity through increased perceptions of cohesion and decreased loneliness is certainly in line with theories, which posit that feelings of belonging are protective to the risk of experiencing SI (Joiner, 2005). Interestingly, research also indicates that a greater sense of belonging increases one's feelings of life meaning or purpose (Lambert et al., 2013), potentially representing an additional downstream effect of ethical leadership. Taken as a whole, perceptions of ethical leadership appears to show a small, but potentially meaningful relationship with Soldier connectedness, PiL, and SI.

As such, our results have important implications for suicide prevention efforts. Specifically, prior studies have assessed leader provided purpose (LPP) (Trachik et al., 2020b, 2020a), which points to the importance of leaders' roles in debriefing stressful events in a way that reiterates the purpose of subordinate military activities. This singular leadership behavior clearly has relevance for Army leadership training; however, only one avenue of leadership behavior has been explored and thus limited literature could be connected to previous findings.

The current study connects this previous work with the robust literature regarding ethical leadership (e.g., Eisenbeiss, 2012) and its effects on employee outcomes including overall well-being (e.g., Bedi,

Alpaslan, & Green, 2016; Ng & Feldman, 2015). The ethical leadership literature points to trust and employee sense of being able to voice concerns to leadership as important mediators of leadership style and emotional well-being (Avey, Wernsing, & Palanski, 2012; Chughtai, Byrne, & Flood, 2015). Future research should investigate how these constructs, as well as PiL and thwarted belongingness, may mediate the ethical leadership to SI relationship (Trachik et al., 2020a). This research could be informed both by the current study as well as by theories examining the connection between purpose and well-being (Martela & Steger, 2016). Additionally, qualitative investigations of leaders rated as highly ethical identify specific strategies used to promote subordinate success. For example, Mayer et al. (2012) showed that ethical leaders utilize a stakeholder approach to working with their subordinates in a way that intentionally promotes not only the success of the subordinate, but stakeholders the organization can positively impact. Lessons learned from the ethical leadership literature may provide not only important components of leadership training programs, but new research methodologies to continue the line of inquiry about the effect of leadership behaviors on subordinate suicide risk.

The current study has important limitations that should be considered when interpreting results and considering implications. First, the study utilized a cross-sectional design and thus temporal and causal associations cannot be inferred. Previous work has shown that ethical leadership styles relate to subordinate well-being (Avey et al., 2012; Chughtai et al., 2015), but no work to our knowledge demonstrates a causal effect of ethical leadership behavior on subordinate purpose and social connection. It could be that, contrary to the model proposed in the current study, those who have personal meaning in their lives simply perceive their leaders as more ethical as a function of their purpose and potentially positive psychological state. Future research needs to extend the current study by utilizing prospective designs and potentially experimental designs to determine causal relationships. Additionally, only perceptions of leadership behaviors were assessed, and thus, there was no ability to assess the extent to which leaders truly exhibited ethical leadership qualities. Other research methods such as surveys completed by dyads (e.g., military leaders and subordinates) (Jaramillo, Bande, & Varela, 2015) as well as qualitative investigations (Chughtai et al., 2015) of Soldier perceptions of ethical leadership would provide more nuanced understanding of ethical leadership's effect on life purpose, connectedness, and SI. Future research could also more clearly define the leader being assessed. The leadership measure in this study

asked participants to rate their "unit leader." Although commonly understood to mean company level, in the military, the unit is a somewhat generic term that could refer to multiple levels. Future research would also benefit from including a more nuanced assessment factors such as life purpose and meaning as meaning and purpose that have differential impacts on mental health (Costanza, Prelati, & Pompili, 2019). Finally, although our model accounted for 30% of the variance in SI and the PHQ-9 item nine is prospectively related to suicide attempts in Veterans (Louzon et al., 2016), this measure does not encapsulate important aspects of suicidal thinking (e.g., differentiation of active versus passive SI, planning for SI versus suicidal desire, etc). A semi-structured interview such as the revised self-injurious thoughts and behaviors interview (Fox et al., 2020) would be a more ideal measure to assess recent suicidal thinking. Although previous research has supported our assessment of unit cohesion (Schubert & Otten, 2002), a single-item measure for this construct is inherently limiting. Future research should compare different methods of assessing unit cohesion to balance measurement efficiency while capturing the complexity of the construct.

Conclusion

A growing body of research has indicated that military leadership styles that reinforce PiL and perceived cohesion may reduce risk for SI in Soldiers (Trachik et al., 2020a, 2020b). The current study indicates that ethical leadership may contribute to Soldiers perceived PiL and connectedness, and thus reduced SI severity. This addition to the literature indicates a promising synergy between extant research in suicide risk and the antecedents and consequences of ethical leadership (Bedi et al., 2016). Consistent with a recommended tiered public health approach to suicide prevention (Cramer & Kapusta, 2017), military leadership training with a specific orientation toward fostering an ethical leadership style and the promotion of Soldiers purpose of military work may serve as a novel upstream prevention strategy for Soldier suicide. Future research would benefit by analyzing these relationships longitudinally as well as within a more demographically heterogeneous sample.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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The material has been reviewed by the Walter Reed Army Institute of Research. There is no objection to its presentation

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