Morally injurious events and psychological distress among Veterans: Examining the mediating role of religious and spiritual struggles

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Abstract

OBJECTIVE: Potentially morally injurious events (PMIEs) – violations (perpetrated or witnessed) of one’s deeply held beliefs or values – have been associated with several forms of psychological distress. The values violated by PMIEs are often influenced by one’s religion/spirituality (r/s). Struggles with one’s r/s beliefs and/or practices may also contribute to elevated psychological distress. To further develop a framework for understanding and treating the sequelae of PMIE exposure, we examined the role of r/s struggles in the relation between PMIE exposure and psychological distress. METHOD: A diverse sample of 155 Veterans at a large VA medical center completed questionnaires assessing PMIE exposure, r/s struggles, and psychological distress. RESULTS: Findings revealed greater PMIE exposure predicted elevated r/s struggles as well as elevated symptoms of anxiety and PTSD. Likewise, greater r/s struggles predicted elevated anxiety, PTSD, and depression symptoms. Regression analyses revealed r/s struggles fully mediated the relation between PMIE exposure and anxiety as well as PTSD, and a significant indirect effect of PMIE exposure on depression symptoms through r/s struggles was observed. Follow up analyses revealed that no specific domain of r/s struggles accounted for the relation between PMIE exposure and psychological distress; rather the overarching construct of r/s struggles accounted for this relation. DISCUSSION: These findings advance the evolving theoretical framework of moral injury, elucidating the salience of r/s struggle in the development of distress. Implications for treating moral injury call for attention to potential dissonance between actions (witnessed or perpetrated) and the r/s underpinnings of the individual’s moral framework.

*Key words: morally injurious events; religious/spiritual struggles; psychological distress; Veterans*

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Moral injury has only recently been recognized and researched as a painful consequence of war (Litz et al., 2009); however, moral injury has been a deep, invisible wound of war for as long as war has existed (Shay, 1994). It is essential to develop an understanding of moral injury within a theoretical framework to evaluate the construct clearly and target treatment in meaningful ways. As part of such a framework, spiritual/existential issues have been identified by both health and religious professionals as salient experiences for those experiencing moral injury (Drescher et al., 2011). Exposure to potentially morally injurious events (PMIEs) is linked to challenging forms of psychological distress and may strain one’s relationships with personal values (Farnsworth, Drescher, Evans, & Walser, in press; Frankfurt & Frazier, 2016). Religious/spiritual (r/s) struggles also engender and exacerbate psychological distress (Exline, 2013). To further develop a meaningful framework for understanding and treatment of moral injury this study examined the relationships among PMIE exposure, r/s struggles, and psychological distress.

**Exposure to Potentially Morally Injurious Events**

Moral injury reflects the psychological and lived suffering consequent of exposure to one or more PMIE and includes but is not limited to experiences of shame/guilt, disgust/contempt, self-condemnation, and existential crises (e.g., Drescher et al., 2011; Litz et al., 2009). Recent definitions of moral injury emphasize this process as an ongoing constellation of symptoms (Litz et al., 2009) and functional impairment (Farnsworth et al., in press) and distinguish these enduring consequences from their cause(s). PMIEs then represent these causes and are actions or inactions that violate one’s deeply held values, beliefs, and expectations (Frankfurt & Frazier, 2016; Litz et al., 2009). Examples of PMIEs among military service members and Veterans include injuring/killing of civilians in war, perceived failure to protect fellow warriors, and large- scale atrocities.

In the absence of a measure of the sequelae of moral injury, PMIE exposure has been assessed as it relates to several other types of psychological distress (i.e., posttraumatic stress disorder [PTSD], depression, substance use, suicidality). Higher exposure to PMIEs is associated with elevated psychological distress and impairment (Bryan et al., 2016; Jordan, Eisen, Bolton, Nash, & Litz, 2017, Wisco et al., 2017). For example, specific PMIEs (e.g., killing in combat) predict posttraumatic stress symptoms and substance use (Maguen, Lucenko, Reger, & Marmar, 2010; Maguen, Vogt, King, & Marmar, 2011). Likewise, cumulative exposure to PMIEs is associated with elevated depression, anxiety, and PTSD symptoms (Nash & Litz, 2013).

PMIEs may directly impact mental health but this relationship may also be mediated by other factors. Nash and Litz (2013) describe a more complex model wherein social, psychological, spiritual, and environmental factors are each impacted by PMIE exposure and interactively contribute to subsequent distress. One previously demonstrated mediating factor is guilt, which has also been associated with distress (Marx et al., 2010). Meaning making – the functional interaction between one’s values, sense of purpose, and situational appraisal of events – is associated with lower levels of psychological distress and higher levels of well-being (Park, 2010) and partially accounts for the relation between PMIE exposure and psychological distress (Currier, Holland, & Malott, 2014). Such findings suggest that, while PMIE exposure directly impacts mental health, other mechanisms are also salient in the development of psychological distress. Another potential mediating factor is religion/spirituality.

**Religious and Spiritual Struggle**

Religion and spirituality inform the beliefs and behaviors of people worldwide. Spirituality has been broadly described as an ongoing “search for the sacred” (Pargament, Mahoney, Exline, Jones, & Shafranske, 2013). Sacred, in this definition, may refer to God or higher powers, or it may represent any aspect of life that an individual sanctifies or reveres. Spirituality may inform one’s values and expectations, and it has been functionally linked to values-based constructs (e.g., comfort, security; Exline, Yali, & Sanderson, 2000). Religion refers to the context of institutions aiming to facilitate and guide spirituality (Pargament et al., 2013). Religious institutions often prescribe moral values that may augment or add to those developed according to individual spiritual beliefs and practices. While not all moral injury occurs in relation to r/s beliefs or practices, the moral imperatives prescribed by r/s (e.g., “Thou shalt not kill”) may be especially susceptible to violation in war and, thus, examination of this connection appears warranted.

R/s beliefs and practices have been linked to positive mental and physical health outcomes (e.g., Koenig, Carson, & Smith, 2012); however, struggles with r/s beliefs, expectations, or practices have also been associated with increased distress, particularly subsequent to traumatic events (for a review, see Exline, 2013). R/s struggles involve tensions, strains, or conflicts about sacred matters within oneself, with others, or with the supernatural (Exline, 2013). More specifically, people may experience several specific types of struggles: divine, demonic, interpersonal, moral, doubt, and ultimate meaning (Exline & Rose, 2013; Pargament et al., 2005).

Among Veterans, weakening of r/s faith has been linked to more use of mental health services, suggesting r/s struggles may contribute to increased psychological distress and/or treatment seeking (Fontana & Rosenheck, 2004). Research into combat trauma broadly has demonstrated associations between high r/s struggles and higher psychological distress (Currier, Drescher, & Harris, 2014; Tran, Kuhn, Walser, & Drescher, 2012). Additionally, a growing body of research has revealed trauma survivors experiencing r/s struggles indicate greater PTSD symptom severity than those without r/s struggles (Harris et al., 2008; Harris et al., 2012).

Research in this field has clearly elucidated the association between r/s struggles and psychological distress. More recently, researchers have demonstrated r/s struggles mediate ties between various stressors and distress (Krumrei, Mahoney, & Pargament, 2011; Wortmann, Park, & Edmondson, 2011). Service Members who have killed during combat (a specific form of PMIE) report more substantial psychological distress if they experience co-occurring spiritual distress (Harris, Erbes, & Polusny, 2014) suggestions PMIEs may produce their deleterious outcomes at least partially as a result of the r/s struggles that they trigger. The role of r/s struggles in psychological distress subsequent to PMIE exposure more broadly has yet to be evaluated. Moreover, these relations have not been evaluated in a Veteran sample.

**Current Study**

The goal of this study was to first replicate research that has separately examined PMIE exposure and r/s struggles as they relate to psychological distress (i.e., symptoms of anxiety, PTSD, and depression) and then to extend research by examining a Veteran sample and by assessing the mediating role of r/s struggles. First, the unique associations between PMIE exposure and psychological distress as well as r/s struggles and psychological distress were examined. Consistent with extant literature, we hypothesized that (a) greater PMIE exposure would be associated with higher psychological distress and (b) greater r/s struggles would also be associated with higher psychological distress.Subsequently, the role of r/s struggles in the relation between PMIE exposure and psychological distress was ascertained. We hypothesized that r/s struggles would account for the relation between PMIE exposure and psychological distress. Finally, follow up analyses assessed whether one or more specific domains of r/s struggles were most salient in this relation.

**Method**

**Participants**

A total of 200 Veterans were recruited from a large Veterans Affairs medical center in the southern region of the United States as part of a larger study investigating r/s struggles among Veterans. Of these, 22 were ineligible or withdrew from the study (12 did not meet inclusion criteria, 8 withdrew due to time constraints, 2 lost to follow-up) and 23 omitted responses to a study-specific measure of PMIE exposure, resulting in a total sample of 155 Veterans. Veterans included in the study endorsed r/s struggles based on a brief, clinician-administered screener adapted by study investigators from the Religious and Spiritual Struggles Scale (RSS; Exline, Pargament, Grubbs, & Yali, 2014). The screener was an 11-item measure of r/s experiences, with particular attention to struggles related to military experience and took 5-10 minutes to administer. Veterans were invited to participate in the study if they endorsed a score of 3 or higher on any item or more than one item at a score of 2 or higher. Exclusion criteria included symptoms of psychosis or mania, suicidal intent or plan, and scores below 20 on the Saint Louis University Mental Status (SLUMS) exam, a brief screener of cognitive functioning.

The sample was predominantly male (85.9%) with a mean age of 51 years (*SD* = 11.50). Participants identified as African American (59.9%), Caucasian (25.7%), Hispanic/Latino (11.8%), or ‘other’ (2.6%). Seventy percent of the sample identified as Christian (Protestant), 13% as Catholic, 6% spiritual, 2% Muslim, 1% Buddhist, 1% Jewish, 1% Pagan, and 4% other. Over 71% participants completed some college and, at the time of evaluation, 71% were unemployed and 29% were employed at least part-time. The majority of the sample was comprised of Army Veterans (57%) followed by Navy (17%), Marines (11%), Air Force (8%), multiple branches (5%), and Coast Guard (1%). Most participants (55%) served on at least one combat tour (*m* = .85, *SD* = .99). Over 23% were engaged in support of OEF/OIF/OND, 13% served in Vietnam, 11% in the Gulf War, 3% in more than one conflict, and 49% indicated ‘other’. Most participants (65%) were service connected (i.e., receiving monetary compensation from the VA for a service-related injury). The most common behavioral health diagnoses (based on DSM-5 criteria) were PTSD (43.3%), tobacco use disorder (10.9%), alcohol use disorder (9.4%), and persistent depressive disorder (9%). This sample includes more racial/ethnic diversity and more individuals with lower current SES than other recent Veteran samples in which PMIE exposure was measured (Wisco et al., 2017) and also included Veterans without combat experience.

**Measures**

Demographic information was collected via self-report and included general information discussed above as well as r/s identities and engagement with r/s practices.

**Potentially morally injurious events.** The Moral Injury Event Scale (MIES; Nash et al., 2013) was used to measure exposure to potentially morally injurious events. The MIES is comprised of nine self-report items to which participants gave a rating of 1 (“strongly disagree”) to 6 (“strongly agree”). A summed score was calculated ranging from 9 to 54 with higher scores indicating greater PMIE exposure (Note: Scale was reversed coded from original MIES). The MIES has three subscales: violation by self (4 items), violation by other (2 items), and perceived betrayal (3 items). This three-factor model of the MIES has been shown to be valid and reliable in military populations (Bryan et al., 2016). Internal consistency in the present study was excellent for the total score (α = .91), and ranged from good to excellent for each of the subscales (α = .86, .83, and .91 for self, other, and betrayal subscales, respectively).

**Religious/spiritual struggles**. The Religious and Spiritual Struggles Scale (RSS; Exline et al., 2014) was used to measure struggles with r/s beliefs across six domains: divine, demonic, interpersonal, moral doubt, and ultimate meaning. The RSS is comprised of 26 self-report items to which participants gave a rating of 1 (“not at all”) to 5 (“a great deal”) with higher scores indicating higher r/s struggles. Subscale mean scores in each of the above domains were calculated in addition to an overall mean. The RSS has demonstrated adequate psychometric properties in a general sample (Exline et al., 2014). Internal consistency for the full scale in the current sample was excellent (α = .92).

**Posttraumatic stress disorder (PTSD) symptoms.** The Posttraumatic Stress Disorder Checklist – Civilian Version(PCL-C; Weathers, Litz, Herman, Huska, & Keane, 1993) was used to measure severity of PTSD symptoms. The PCL-C is comprised of 17 self-report items to which participants gave a rating of 1 (“not at all”) to 5 (“extremely”). A summed score was calculated ranging from 17 to 85 with higher scores indicating greater PTSD symptom severity. The PCL-C has demonstrated adequate psychometric properties in a Veteran sample (Wilkins, Lang, & Norman, 2011). Internal consistency in the current sample was excellent (α =.96).

**Depressive symptoms.** The Center for Epidemiologic Studies Depression Scale-10 (CESD-10; Andresen, Malmgren, Carter, & Patrick, 1994) was used to measure severity of depressive symptoms. The CESD-10 is comprised of ten self-report items assessing “how often you have felt this way during the past week” to which participants gave a rating of 0 (“rarely or none of the time”) to 3 (“all of the time”). A summed score was calculated ranging from 0 to 30 with higher scores indicating greater depressive symptom severity. The CESD-10 has demonstrated adequate psychometric properties in a Veteran sample (Quiñones et al., 2016) Internal consistency in the current sample was good (α = .73).

**Anxiety symptoms.** The Generalized Anxiety Disorder 7 (GAD-7; Kroenke, Spitzer, Williams, Monahan, & Lowe, 2007) was used to measure severity of a range of anxiety symptoms. The GAD-7 is comprised of seven self-report items to which participants gave a rating of 0 (“Not at all”) to 4 (“Nearly every day”). A summed score was calculated ranging from 0 to 21 with higher scores indicating greater anxiety symptom severity. The GAD-7 has demonstrated adequate psychometric properties in a general sample (Lowe et al, 2008). Internal consistency in the current sample was excellent (α = .93).

**Procedure**

Participants were recruited via self-referral based on advertisements made available throughout the VA hospital, affiliated community-based outpatient clinics, and Veteran organizations within the medical center’s catchment area. Each participant completed an initial assessment including an r/s struggles screener and the SLUMS with cutoff scores to determine inclusion and exclusion, respectively. Full assessments were conducted by a doctoral-level trainee under the supervision of a licensed psychologist. Assessments included a structured diagnostic clinical interview, a mental status examination, and a packet of self-report questionnaires assessing military experiences, psychological distress, and forms of r/s struggles. All study procedures were reviewed and approved by the local Institutional Review Board and medical center’s Research and Development Committee.

**Analytic plan.** First, sample demographics and descriptive data were examined. We also calculated endorsement frequency and means of each item on the MIES. All variables were normally distributed and participants included in the study had no missing data on scale or item levels. Regression analyses were conducted to examine the relations between PMIE exposure and psychological distress (symptoms of anxiety, PTSD, and depression), PMIE exposure and r/s struggles, as well as r/s struggles and psychological distress. Separate models were run for each of the criterion variables. Additionally, given differential relations observed among the three subscales and various indices of psychological distress (e.g., Bryan et al., 2016), we conducted regression analyses to examine the relations between each of the three forms of PMIE exposure (subscales of the MIES) and each measure of symptomology.

Subsequently, following bootstrapping procedures outlined by Preacher and Hayes (2004), analyses were conducted to assess whether r/s struggles mediated the relations between total PMIE exposure (aggregate MIES score) and psychological distress. The mediated effect is significant if the 95% confidence interval does not contain zero (Preacher & Hayes, 2004). Results are based on 5000 bootstrapped samples. Separate analyses were conducted for each of the three criterion variables (anxiety, PTSD, and depression symptoms).

Next, follow up analyses were run to determine if specific domain(s) of r/s struggles (subscales of the RSS) accounted for the relation between PMIE exposure and psychological distress. Again, three separate regressions were run for symptoms of anxiety, PTSD, and depression. In each, PMIE exposure was entered in step one and, in step two, the RSS subscales that were significantly correlated with PMIE exposure were added and entered simultaneously.

**Results**

 Descriptive statistics and correlations between study variables are presented in Table 1. Correlations were also run between demographic (age, sex, race, education) and study variables. Correlations between age and study variables were significant but ranged from very low to low/weak. No other significant correlations emerged between study and demographic variables. Additional item-level information regarding PMIE exposure (MIES scores) is provided in Table 2. The majority of participants endorsed mild to strong agreement with at least one item on the MIES.

 Results of regression analyses with MIES total and subscale scores are summarized in Table 3. Greater PMIE exposure significantly predicted greater symptoms of anxiety (*p* < .001) and PTSD (*p* < .01) but did not predict depression symptoms (*p* =.12). When the three subscales were entered into regression models predicting symptomology, only the betrayal factor emerged as a significant predictor of anxiety and PTSD. Moreover, greater betrayal also predicted greater symptoms of depression (*p* < .01).

Figures 1-3 present the results of the mediation analyses for anxiety, PTSD, and depression, respectively. As noted, greater PMIE exposure significantly predicted greater symptoms of anxiety and PTSD but did not predict depression symptoms (c path). Greater PMIE exposure also significantly predicted greater r/s struggles (a path; see Table 3). Last, greater r/s struggles significantly predicted higher symptoms of anxiety (b path; b = 3.58; *SE* = .61; *t* = 5.85, *p* < .001), PTSD (b = 7.55; *SE* = 2.06; *t* = 3.67, *p* < .001), and depression (b = 3.86; *SE* = .69; *t* = 5.59, *p* < .001).

In the full models, PMIE exposure and r/s struggles accounted for 22% of the variance in anxiety (F(2, 152) = 6.08, *p* = .01, *R2* =.22) and 12% of the variance in PTSD symptoms (F(2, 152) = 10.40, *p* < .001, *R2* =.12). R/s struggles account for some, but not all, of the variance in symptoms of anxiety and PTSD. Notably, PMIE exposure was no longer a significant predictor of symptoms of anxiety (c’ path; b = .06; *SE* = .03, *t* = 1.89, *p* > .05) or PTSD (b = .21; *SE* = .11, *t* = 1.93, *p* > .05) after controlling for the mediator, r/s struggles, with a 95% confidence interval of [.02, .17] for anxiety symptoms and [.01, .12] for PTSD symptoms. Zero is not included in the confidence interval, consistent with a full mediation for these two models. Regarding depression symptoms, the total indirect effect of PMIE exposure through r/s struggles was significant with a 95% confidence interval of .02 to .16.

 In follow up analyses, the three RSS subscales that were significantly correlated with PMIE exposure (interpersonal, moral, doubt; see Table 1) were entered into a multiple regression model. In each of the three analyses, the relation between PMIE exposure and symptoms of 1) anxiety, 2) PTSD, and 3) depression was fully attenuated (*p*s > .05). However, none of these r/s domains (RSS subscales) emerged as significant independent predictors (*p*s > .05) of symptomology. This further supports the primary analyses, demonstrating it is the constellation of r/s struggles rather than any one form of struggle or subset of struggles that accounts for the relation between PMIE exposure and psychological distress.

**Discussion**

Understanding the sequelae of PMIE exposure in relation to spirituality brings into view the qualities of moral injury that make this experience a unique challenge – both for those living with it as well as those attempting to ameliorate it. The current study adds to the small but growing body of literature elucidating the presence of mechanisms impacting the relation between PMIE exposure and psychological distress. To date, factors such as meaning making (Currier, Holland, & Malott, 2014) and guilt/shame (Marx et al., 2010) have been implicated. The current study highlights the salience of r/s struggles among these factors as well. Indeed, r/s struggles fully accounted for the relation between PMIE exposure and multiple forms of psychological distress. This finding advances the conceptual understanding of the sequelae of PMIE exposure and may help to inform treatment of the same.

This sample was comprised of a diverse group of Veterans, over half of whom had experienced at least one PMIE during their military service. Most common were witnessed moral violations by others, followed by feelings of betrayal, and violations by self. In support of our first hypothesis and in line with current literature, these findings demonstrate PMIE exposure predicts elevation in multiple forms of psychological distress (symptoms of anxiety and PTSD) and this study extends extant literature by examining this relation in a diverse group of Veterans. Additionally, expanding on literature demonstrating differential relations between distinct forms of PMIE exposure (Bryan et al., 2016), in this Veteran sample, perceived betrayal was related to elevated symptoms of anxiety, PTSD, and depression while violations by self and violations by other were unrelated to any of these symptoms. Though we were unable to further assess this differential relation within our data, other authors (Haidt, 2013; Keltner & Gross, 1999) have proposed that moral emotions related to betrayal (e.g., contempt, disgust) may lead to detachment or isolation, over-identification with negative evaluations of others and the world, and disengagement from meaningful action – experiences captured by symptom measures.

In line with our second hypothesis and with existing research, these findings also reveal that greater r/s struggles predict higher psychological distress and, again, extends research into this relation among Veterans. Moreover, in this sample, r/s struggles represented a stronger predictor of psychological distress than did PMIE exposure. While we cannot distinguish the temporal relation between these variables, and it is certainly possible that individuals experiencing psychological distress subsequently experience greater struggles with aspects of r/s, these findings clearly demonstrate the need for attention to r/s struggles in the healing of Veterans experiencing psychological distress and especially those living with moral injury.

Most importantly, this study augments the nascent literature on the sequelae of PMIE exposure. Distress and impairment subsequent to traumatic stressors including PMIEs have been understood as developing from difficulty reconciling these experiences with one’s global meaning (Currier et al., 2014; Park, 2010) and/or deriving situational meaning by contextualizing stressors (Litz et al., 2009; Park, 2010). Through these processes, individuals reflect on and understand life experiences, particularly stressful ones (Harris, Park, Currier, Usset, & Voecks, 2015). While meaning making has been found to partially mediate the relation between PMIE exposure and psychological distress (Currier et al., 2014), the current findings demonstrate that PMIEs can also affect distress through other forms of spiritual disruptions/tension, such as fundamental doubts that may arise when one’s religious worldview has been shaken, basic questions about one’s ultimate goodness and morality, and feelings of tension and alienation that may arise in relation to one’s spiritual community. Therefore, applying the larger frame of r/s struggles is essential to further elucidate how morally injurious events may impact distress.

 Spiritual/existential conflict has been recently proposed as a hallmark “symptom” of moral injury (Jinkerson, 2016). The current findings suggest, however, that rather than conceptualizing r/s struggles as a symptom, these experiences may be better understood as a factor in the development and proliferation of psychological distress following PMIE exposure. A functional model for understanding the sequela of moral injury (Farnsworth et al., in press) aligns more closely with these findings and, in line with this model, moral healing would require reconciliation of values and realignment to moral imperatives prescribed by r/s beliefs/practices.

 Recently, Harris and colleagues (2015) described psycho-spiritual development in the context of combat, highlighting the ways in which military members may grapple with r/s beliefs in the face of random, horrific, and morally injurious events. This model helps to conceptualize moral injury in a context that accounts for the psychological and spiritual functioning of the individual. The current findings help to describe the associations between psycho-spiritual factors and psychological distress. As asserted by Harris and colleagues, it is also our expectation that expansion of this model has the potential to yield greater comprehension of the mechanisms of moral injury and to improve understanding, identification, and treatment.

**Limitations**

There were some limitations to this study. First, in the absence of data regarding participants’ experience of psychological distress prior to PMIE exposure, a causal relation between these factors cannot be inferred. Second, for some participants, many years passed between military service and the current assessment, creating potential for other relevant factors that could not be assessed. Regarding sample representativeness, Veterans in the sample each screened positive for r/s struggles, which limits generalizability. Moreover, not all moral injury occurs within the context of r/s struggles, so findings should not be generalized to Veterans denying r/s beliefs, practices, or struggles.

**Future Directions**

Future studies of this nature should measure psychological distress prior to PMIE exposure (i.e., pre-deployment) to facilitate conclusions about time-order causal relationships. Doing so will yield a stronger understanding of the development process of moral injury. In the same way, measuring r/s orientation and struggles at multiple time point from pre- to post-military service will provide a more nuanced understanding of how changes in r/s experiences occur over time and relate to other psychosocial factors at different time points. To this end, data regarding other potentially salient psychosocial factors as well as military factors (e.g., combat exposure) should be collected and evaluated as possible covariates where indicated. Last, future studies should include Veterans who have r/s beliefs but deny r/s struggles to expand the population to which findings can be generalized.

Given the evolving transdiagnostic conceptualization of moral injury, future studies should examine how PMIE exposure may impact overall well-being apart from specific symptomology. This may be accomplished, at least in part, by including measures of functioning in important life domains as well as by evaluating satisfaction with life. Additionally, examining how growth- related mechanisms (e.g., posttraumatic growth, meaning making) influence relations between PMIE exposure as well as r/s struggles and well-being will facilitate a stronger treatment model for moral healing (e.g., Desai & Pargament, 2015; Exline, Pargament, Hall, & Harriott, 2016).

**Conclusions**

Broadly, these findings inform the evolving theoretical framework of moral injury, elucidating the salience of r/s struggles in the relation between PMIE exposure and psychological distress. If replicated in longitudinal studies with even more diverse samples of Veterans and Service Members, these findings would support the need for individualized approaches to treatment of moral injury that account for individuals’ unique experience of moral injury and moral healing. Also, regarding moral healing, the current findings call for attention to individuals’ potential experience of dissonance between their actions or perceived violations by others and the r/s underpinnings of their values and moral framework. That is, attending to the r/s struggles after PMIE exposure may yield greater reductions in suffering for those with moral injury. One treatment of moral injury currently under development is Acceptance and Commitment Therapy for Moral Injury (ACT-MI) among Veterans (Farnsworth et al., in press), which explicitly includes in its conceptualization process the impact of PMIE exposure on Veterans’ relationship with their values, including those prescribed by r/s beliefs and practices. Going forward, it is hoped these findings will inform clinicians promoting moral healing in the growing population of Veterans with moral injury.

**References**

Andresen, E. M., Malmgren, J. A., Carter, W. B., & Patrick, D. L. (1994). Screening for depression in well older adults: Evaluation of a short form of the CES-D. *American Journal of Preventive Medicine*, *10*(2), 77-84.

Bryan, C. J., Bryan, A. O., Anestis, M. D., Anestis, J. C., Green, B. A., Etienne, N., & ... Ray-Sannerud, B. (2016). Measuring moral injury: Psychometric properties of the moral injury events scale in two military samples. *Assessment, 23*(5), 557-570. doi:10.1177/1073191115590855.

Currier, J. M., Drescher, K. D., & Harris, J. I. (2014). Spiritual functioning among veterans seeking residential treatment for PTSD: A matched control group study. *Spirituality in Clinical Practice*, *1*(1), 3-15. doi:10.1037/scp0000004.

Currier, J. M., Holland, J. M., & Malott, J. (2015). Moral injury, meaning making, and mental health in returning veterans. *Journal of Clinical Psychology*, *71*(3), 229-240. doi:10.1002/jclp.22134.

Desai, K. M., & Pargament, K. I. (2015). Predictors of growth and decline following spiritual struggles. *International Journal for the Psychology of Religion, 25*, 42-56.

Drescher, K. D., Foy, D. W., Kelly, C., Leshner, A., Schutz, K., & Litz, B. (2011). An exploration of the viability and usefulness of the construct of moral injury in war veterans. *Traumatology*, *17*(1), 8-13. doi:10.1177/1534765610395615.

Exline, J. J., Pargament, K. I., Hall, T. W., & Harriott, V. A. (2016). Predictors of growth from struggle among Christian undergraduates: Religious coping and perceptions of helpful action by God are both important. *Journal of Positive Psychology.*

Exline, J. J., & Rose, E. D. (2013). Religious and spiritual struggles. In R. F. Paloutzian, C. L. Park, R. F. Paloutzian, C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality, 2nd ed.* (pp. 380-398). New York, NY, US: Guilford Press.

Exline, J. J. (2013). Religious and spiritual struggles. In J. J. Exline, K. I. Pargament, J. W. Jones, K. I. Pargament, J. J. Exline, J. W. Jones (Eds.), *APA handbook of psychology, religion, and spirituality (Vol 1): Context, theory, and research* (pp. 459-475). Washington, DC, US: American Psychological Association. doi:10.1037/14045-025.

Exline, J. J., Pargament, K. I., Grubbs, J. B., & Yali, A. M. (2014). The Religious and Spiritual Struggles Scale: Development and initial validation. *Psychology of Religion and Spirituality*, *6*(3), 208-222. doi:10.1037/a0036465.

Exline, J. J., Yali, A. M., & Sanderson, W. C. (2000). Guilt, discord, and alienation: The role of religious strain in depression and suicidality. *Journal of Clinical Psychology*, *56*(12), 1481-1496. doi:10.1002/1097-4679(200012)56:12<1481: AID-1>3.0.CO;2-A.

Farnsworth, J. K., Drescher, K. D., Evans, W. R., & Walser, R. B. (in press). A functional approach to conceptualization and treatment of military-related moral injury. *Journal of Contextual Behavioral Science.*

Farnsworth, J. K., Drescher, K. D., Nieuwsma, J. A., Walser, R. D., & Currier, J. M. (2014). The role of moral emotions in military trauma: Implications for the study and treatment of moral injury. *Review of General Psychology*, *18*(4), 249-262. doi:10.1037/gpr0000018.

Fontana, A., & Rosenheck, R. (2004). Trauma, change in strength of religious faith, and mental health service use among veterans treated for PTSD. *Journal of Nervous and Mental Disease*, *192*(9), 579-584. doi: 10.1097/01.nmd.0000138224.17375.55.

Frankfurt, S., & Frazier, P. (2016). A review of research on moral injury in combat veterans. *Military Psychology*, *28*(5), 318-330. doi:10.1037/mil0000132.

Haidt, J. (2013). Moral psychology for the twenty-first century. *Journal Of Moral Education, 42*(3), 281-297. doi:10.1080/03057240.2013.817327.

Harris, J. I., Erbes, C. R., Engdahl, B. E., Ogden, H., Olson, R. A., Winskowski, A. M., & ... Mataas, S. (2012). Religious distress and coping with stressful life events: A longitudinal study. *Journal of Clinical Psychology*, *68*(12), 1276-1286. doi:10.1002/jclp.21900.

Harris, J. I., Erbes, C. R., Engdahl, B. E., Olson, R. A., Winskowski, A. M., & McMahill, J. (2008). Christian religious functioning and trauma outcomes. *Journal of Clinical Psychology*, *64*(1), 17-29. doi:10.1002/jclp.20427.

Harris, J. I., Erbes, C. R., Winskowski, A. M., Engdahl, B. E., & Nguyen, X. V. (2014). Social support as a mediator in the relationship between religious comforts and strains and trauma symptoms. *Psychology of Religion and Spirituality*, *6*(3), 223-229. doi:10.1037/a0036421.

Harris, J. I., Park, C. L., Currier, J. M., Usset, T. J., & Voecks, C. D. (2015). Moral injury and psycho-spiritual development: Considering the developmental context. *Spirituality in Clinical Practice*, *2*(4), 256-266. doi:10.1037/scp0000045.

Jinkerson, J. D. (2016). Defining and assessing moral injury: A syndrome perspective. *Traumatology*, *22*(2), 122-130. doi:10.1037/trm0000069.

Jordan, A. H., Eisen, E., Bolton, E., Nash, W. P., & Litz, B. T. (2017). Distinguishing war-related PTSD resulting from perpetration- and betrayal-based morally injurious events. *Psychological Trauma: Theory, Research, Practice, And Policy*, doi:10.1037/tra0000249.

Keltner, D., & Gross, J. J. (1999). Functional accounts of emotions. *Cognition And Emotion, 13*(5), 467-480. doi:10.1080/026999399379140.

Koenig, H., King, D., & Carson, V. B. (2012). *Handbook of religion and health*. New York, NY: Oxford University Press.

Kroenke, K., Spitzer, R. L., Williams, J. W., Monahan, P. O., & Löwe, B. (2007). Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Annals of Internal Medicine*, *146*(5), 317-325.

Krumrei, E. J., Mahoney, A., & Pargament, K. I. (2011). Spiritual stress and coping model of divorce: A longitudinal study. *Journal of Family Psychology, 25*, 973-985.

Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., & Maguen, S. (2009). Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. *Clinical Psychology Review*, *29*(8), 695-706. doi: 10.1016/j.cpr.2009.07.003.

Löwe, B., Decker, O., Müller, S., Brähler, E., Schellberg, D., Herzog, W., & Herzberg, P. Y. (2008). Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. *Medical Care, 46*(3), 266-274. doi:10.1097/MLR.0b013e318160d093.

Maguen, S., Lucenko, B. A., Reger, M. A., Gahm, G. A., Litz, B. T., Seal, K. H., & ... Marmar, C. R. (2010). The impact of reported direct and indirect killing on mental health symptoms in Iraq War veterans. *Journal of Traumatic Stress*, *23*(1), 86-90.

Maguen, S., Vogt, D. S., King, L. A., King, D. W., Litz, B. T., Knight, S. J., & Marmar, C. R. (2011). The impact of killing on mental health symptoms in Gulf War veterans. *Psychological Trauma: Theory, Research, Practice, and Policy*, *3*(1), 21-26. doi:10.1037/a0019897.

Marx, B. P., Foley, K. M., Feinstein, B. A., Wolf, E. J., Kaloupek, D. G., & Keane, T. M. (2010). Combat-related guilt mediates the relations between exposure to combat-related abusive violence and psychiatric diagnoses. *Depression and Anxiety*, *27*(3), 287-293. doi:10.1002/da.20659.

Nash, W. P., Carper, T. M., Mills, M. A., Au, T., Goldsmith, A., & Litz, B. T. (2013). Psychometric evaluation of the Moral Injury Events Scale. *Military Medicine*, *178*(6), 646-652. doi:10.7205/MILMED-D-13-00017.

Nash, W. P., & Litz, B. T. (2013). Moral injury: A mechanism for war-related psychological trauma in military family members. *Clinical Child and Family Psychology Review*, *16*(4), 365-375. doi:10.1007/s10567-013-0146-y.

Pargament, K. I., Magyar-Russell, G. M., & Murray-Swank, N. A. (2005). The Sacred and the Search for Significance: Religion as a Unique Process. *Journal of Social Issues*, *61*(4), 665-687. doi:10.1111/j.1540-4560.2005. 00426.x

Pargament, K. I., Mahoney, A., Exline, J. J., Jones, J. W., & Shafranske, E. P. (2013). Envisioning an integrative paradigm for the psychology of religion and spirituality. In K. I. Pargament, J. J. Exline, J. W. Jones (Eds.), *APA handbook of psychology, religion, and spirituality (Vol 1): Context, theory, and research* (pp. 3-19). Washington, DC, US: American Psychological Association. doi:10.1037/14045-001.

Park, C. L. (2010). Making sense of the meaning literature: An integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin*, *136*(2), 257-301. doi:10.1037/a0018301.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments & Computers*, *36*(4), 717-731. doi:10.3758/BF03206553.

Quiñones, A. R., Thielke, S. M., Clark, M. E., Phillips, K. M., Elnitsky, C., & Andresen, E. M. (2016). Validity of Center for Epidemiologic Studies Depression (CES-D) scale in a sample of Iraq and Afghanistan Veterans. *SAGE Open Medicine*. doi:10.1177/2050312116643906.

Shay, J. (1994). Achi*lles in Vietnam: Combat Trauma and the Undoing of Character*. New York, NY, US: Atheneum Publishers/Macmillan Publishing Co.

Tran, C. T., Kuhn, E., Walser, R. D., & Drescher, K. D. (2012). The relationship between religiosity, PTSD, and depressive symptoms in veterans in PTSD residential treatment. *Journal of Psychology and Theology*, *40*(4), 313-322.

Weathers, F. W., Litz, B., Herman, D., Juska, J., & Keane, T. (1993). PTSD Checklist—Civilian Version. *Psyctests*, doi:10.1037/t02622-000.

Wilkins, K. C., Lang, A. J., & Norman, S. B. (2011). Synthesis of the psychometric properties of the PTSD checklist (PCL) military, civilian, and specific versions. *Depression And Anxiety, 28*(7), 596-606. doi:10.1002/da.2083.

Wisco, B. E., Marx, B. P., May, C. L., Martini, B., Krystal, J. H., Southwick, S. M., & Pietrzak, R. H. (2017). Moral injury in U.S. Combat veterans: Results from the national health and resilience in veterans study. *Depression And Anxiety, 34*(4), 340-347. doi:10.1002/da.22614,

Wortmann, J. H., Park, C. L., & Edmondson, D. (2011). Trauma and PTSD symptoms: Does spiritual struggle mediate the link? *Psychological Trauma: Theory, Research, Practice, and Policy, 3*, 442-452.

Table 1

*Descriptive Summary and Correlations among Study Varia*b*les*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 1. MIES
 | -- | .212\*\* | .113 | .069 | .177\* | .252\*\* | .123 | .198\* | .206\* | .221\*\* | .125 |
| 1. RSS
 |  | -- | .558\*\* | .729\*\* | .806\*\* | .745\*\* | .778\*\* | .728\*\* | .360\*\* | .482\*\* | .477\*\* |
| 1. Demonic
 |  |  | -- | .145 | .207\*\* | .375\*\* | .247\*\* | .356\*\* | .184\* | .296\*\* | .216\*\* |
| 1. Divine
 |  |  |  | -- | .655\*\* | .418\*\* | .582\*\* | .381\*\* | .211\*\* | .285\*\* | .330\*\* |
| 1. Doubt
 |  |  |  |  | -- | .522\*\* | .666\*\* | .525\*\* | .234\*\* | .347\*\* | .415\*\* |
| 1. Interpersonal
 |  |  |  |  |  | -- | .452\*\* | .436\*\* | .289\*\* | .392\*\* | .323\*\* |
| 1. Ult. Meaning
 |  |  |  |  |  |  | -- | .493\*\* | .380\*\* | .414\*\* | .458\*\* |
| 1. Moral
 |  |  |  |  |  |  |  | -- | .263\*\* | .353\*\* | .350\*\* |
| 1. PCL
 |  |  |  |  |  |  |  |  | -- | .763\*\* | .664\*\* |
| 1. GAD
 |  |  |  |  |  |  |  |  |  | -- | .759\*\* |
| 1. CESD
 |  |  |  |  |  |  |  |  |  |  | -- |
| Mean | 33.60 | 2.21 | 2.45 | 1.81 | 2.08 | 2.11 | 2.27 | 2.68 | 47.35 | 8.47 | 13.31 |
| SD | 13.36 | .71 | 1.19 | .90 | .93 | .91 | 1.02 | 1.01 | 18.36 | 5.86 | 6.57 |
| Range | 8-54 | 1-4.19 | 1-5 | 1-5 | 1-4.75 | 1-4.40 | 1-5 | 1-5 | 7-85 | 0-21 | 0-30 |

\*p<.05; \*\*p<.01

Table 2

*Moral Injury Events Scale Item Endorsement*

|  |  |  |
| --- | --- | --- |
|  | # endorsing any level of agreement a | Scale mean b |
| Violation by self |  |  |
| I acted in ways that violated my own moral code or values | 87 (56%) | 3.60 |
| I am troubled by having acted in ways that violated my own moral code or values | 86 (55%) | 3.61 |
| I violated my own morals by failing to do something that I felt should have been done | 86 (55%) | 3.61 |
| I am troubled because I violated my own morals by failing to do something that I felt should have been done | 85 (55%) | 3.59 |
| Violation by other(s) |  |  |
| I saw things that were morally wrong | 126 (81%) | 4.55 |
| I am troubled by having witnessed others’ immoral acts | 110 (71%) | 4.10 |
| Betrayal |  |  |
| I feel betrayed by others outside the U.S. military who I once trusted | 86 (55%) | 3.52 |
| I feel brayed by leaders who I once trusted | 95 (61%) | 3.85 |
| I feel betrayed by fellow service members who I once trusted | 82 (53%) | 3.50 |

a # endorsing includes participants who reported scores of 4-6 on scale item representing mild to strong agreement

b Scale ranges for 1 (“strongly agree”) to 6 (“strongly disagree”).

Table 3

*PMIE Exposure Predicting Psychological Distress and R/S Struggles*

|  |  |  |  |
| --- | --- | --- | --- |
|  | b | SE | β |
| Posttraumatic Stress |  |  |  |
|  Total | .310 | .112 | .221\*\* |
|  Self | .250 | .285 | .096 |
|  Other | -.149 | .566 | -.027 |
|  Betrayal | .697 | .342 | .194\* |
|  |  |  |  |
| Anxiety |  |  |  |
|  Total | .102 | .035 | .231\*\* |
|  Self | .012 | .088 | .014 |
|  Other | -.079 | .174 | .651 |
|  Betrayal | .358 | .105 | .318\*\* |
|  |  |  |  |
| Depression |  |  |  |
|  Total | .063 | .040 | .129 |
|  Self | -.062 | .099 | -.068 |
|  Other | -.106 | .197 | -.054 |
|  Betrayal | .362 | .119 | .289\*\* |
|  |  |  |  |
| R/S Struggles |  |  |  |
|  Total | .012 | .004 | .218\*\* |
|  Self | .033 | .011 | .335 |
|  Other | -.043 | .021 | -.202 |
|  Betrayal | .010 | .013 | .075 |

*Note.* \* *p* < .05, \*\* *p* < .01

Figure 1

*Mediation Model with Anxiety Symptoms as Dependent Varia*b*le*

b = .01, p =.01

**R/S Struggles**

**Anxiety Symptoms**

**PMIE Exposure**

b = 3.58, p < .001

Direct Effect: b = .06, p > .05

*Total Effect: (*b*= .10, p<.001)*

Figure 2

**R/S Struggles**

**PTSD Symptoms**

**PMIE Exposure**

b = 7.55, p < .001

Direct Effect: b = .21, p > .05

*Total Effect: (*b*= .31, p=.01)*

*Mediation Model with PTSD Symptoms as Dependent Varia*b*le*

b = .01, p =.01

Figure 3

*Mediation Model with Depression Symptoms as Dependent Varia*b*le*

**R/S Struggles**

**Depression Symptoms**

**PMIE Exposure**

b = 3.86, p < .001

b*= .06, p > .05*

b = .01, p =.01