

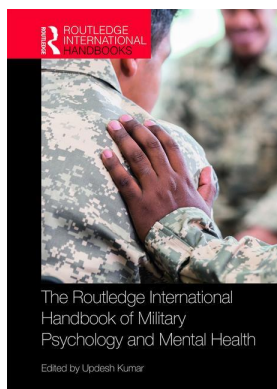
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33

MORAL INJURY IN SERVICE MEMBERS AND VETERANS

*Sheila Frankfurt, Alanna Coady, Breanna Grunthal,
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Litz et al. (2009) defined moral injury as the lasting psychological, emotional, spiritual, behavioral and social impact of exposure to acts that transgress deeply held moral beliefs and expectations. The idea that service members (SMs) and veterans can suffer in a lasting way psychically by events that transgress deeply held moral beliefs has captured the attention of veterans and SMs and the larger public (e.g., Press, 2018), as well as clinicians and researchers who work with these populations. However, there are major unanswered questions about the construct validity of moral injury. For example, there is no paradigmatic way of defining moral injury as an outcome and the parameters of what should be considered potentially morally injurious events are not clear. It is also not clear whether moral injury has incremental explanatory or clinical validity beyond posttraumatic stress disorder (PTSD; APA, 2013). This chapter will review empirical evidence about potentially morally injurious events, the moral injury syndrome, and causal models of moral injury; examine the potential similarities and differences between moral injury and PTSD; and conclude by considering issues in the field and avenues for research and construct development.

Potentially morally injurious events

There are putatively two broad ways of categorizing potentially morally injurious events (PMIEs). The first entails personal transgressions such as perpetrating or failing to prevent morally compromising acts (PMIE-Self). The second involves being the victim of or subject to another's behavior or bearing witness to or learning about events that transgress deeply held beliefs (PMIE-Other). In the military context, Shay (1994) emphasized moral injury events that are a "betrayal of what's right, by someone who holds legitimate authority, in a high-stakes situation" (PMIE-Betrayal).

There are also two broad methods of operationalizing PMIEs for research and clinical purposes. The first method entails asking SMs and veterans to report exposure to high-magnitude military and warzone events that might be construed as PMIEs and assessing their relative contribution to various mental and behavioral health outcomes, after accounting for potentially traumatic events (PTEs). These events typically involve engaging in violence, such as killing, engaging in, or failing to prevent excessive violence or atrocities (i.e., PMIEs-Self), or witnessing harm to civilians or

prisoners (i.e., PMIEs-Other). This method is analogous to the testing the conditional probability of developing PTSD following different types of PTEs (e.g., Anders, Frazier, & Frankfurt, 2011).

The second method entails using an existing moral injury events measure to assess reports of experiences that putatively violated deeply held moral beliefs or expectations. The two measures of moral injury events are the *Morally Injurious Experiences Scale* (MIES; Nash et al., 2013) and the *Moral Injury Questionnaire-Military Version* (Currier, Holland, Drescher, & Foy, 2015a). The MIES is a 9-item measure that assesses PMIEs-Self (e.g., “I acted in ways that violate my own moral code or values.”), PMIEs-Other (e.g., “I saw things that were morally wrong.”), and PMIEs-Betrayal (e.g., “I feel betrayed by leaders I once trusted.”). The MIQM is a 20-item measure that includes both appraisals (e.g., “I did things that betrayed my personal values.”) and events (e.g., “I saw/was involved in the death(s) of an innocent in the war.”) and is summed to create a total exposure score. These measures unfortunately conflate reports of exposure to morally injurious events and the outcomes of these events (e.g., MIES item 4; *I am troubled by having ... violated my own moral code*; Frankfurt & Frazier, 2016).

The prevalence of PMIEs likely varies by branch, theater, era, and military status (e.g., active duty vs. veteran), as well as by method of assessing PMIEs. In general, it appears that approximately 40%–60% of U.S. Army and Marine veterans of post-9/11 wars reported killing combatants and approximately 10%–30% reported killing noncombatants as part of their military service; a minority of veterans report engaging in or witnessing excessive violence or atrocities (see Frankfurt & Frazier, 2016, for review). In a nationally representative sample of post-9/11 U.S. veterans surveyed using the MIES, about 25% reported PMIE-Others and PMIE-Betrayals and about 10% reported PMIE-Selfs; further, approximately 15% reported exposure to two or more types of PMIEs (Wisco et al., 2017). Although combat exposure appears to be associated with a higher likelihood of exposure to PMIEs (Frankfurt & Frazier, 2016), it should not be presumed that all combat veterans have experienced PMIEs. Similarly, PMIEs do not necessarily entail moral injury or lasting harms, but there is evidence that PMIEs may have uniquely deleterious effects over and above that of life-threatening PTEs and general combat exposure.

Moral injury

Litz and colleagues (2009) proposed that moral injury is a complex trauma syndrome, characterized by chronic reexperiencing, avoidance, and emotional numbing symptoms, accompanied with self-condemnation and dysphoria, as well as self-harming and self-handicapping behaviors. Although there are no firm boundaries around the putative moral injury syndrome, a few broad domains of impact have been consistently examined. We next review research on the association between exposure to PMIEs and PTSD and other psychiatric disorders, suicidal ideation and behaviors, substance abuse, and social and functional impairment.

Posttraumatic stress disorder and other psychiatric disorders

Event-defined potentially morally injurious events

A number of studies have examined whether reporting killing or participating in excessive violence is associated with PTSD and depression. Killing had a small albeit significant positive association with PTSD, but not depression, in samples of U.S. First Gulf War veterans and Iraq War soldiers and Canadian service members (Maguen et al., 2010; Maguen et al., 2011; Richardson, King, Shnaider, & Elhai, 2017). Exposure to (including participation in) excessive violence or atrocities was positively correlated with PTSD or depression, even after accounting for the

relative contribution of combat exposure, in samples of U.S. Vietnam War veterans and Canadian Afghanistan War veterans (Beckham, Feldman, & Kirby, 1998; Dennis et al., 2017; Nazarov, Fikretoglu, Liu, Thompson, & Zamorski, 2018).

Studies using the national Vietnam Veterans Readjustment Survey

The National Vietnam Veterans Readjustment Survey [NVVRS], a high-quality, population-based epidemiological study of Vietnam veterans (Kulka et al., 1990), has been reanalyzed to examine the psychological consequences of reports of killing or participating in excessive violence relative to general combat exposure. Veterans who endorsed killing or participating in atrocities reported significantly higher PTSD symptoms, with a large effect, than those who reported neither; these large effects remained after accounting for general combat exposure and potential PTSD symptom over reporting (MacNair, 2002). Killing non-enemies (e.g., the elderly, women, and children) and the enemy predicted PTSD after accounting for combat (although the pattern of significance was mixed across two PTSD scales [i.e., the MMPI and Mississippi PTSD scale]); however, killing did not predict depression (Maugen et al., 2009). Harming civilians or prisoners was associated with a higher likelihood of developing PTSD (63% of harmers vs. 15% of non-harmers), and veterans who had harmed others in the context of a high combat exposure deployment and had preexisting psychological vulnerabilities (e.g., childhood physical abuse) had a nearly 100% rate of developing PTSD (Dohrenwend, Yager, Wall, & Adams, 2013). The likelihood of harming others was more strongly correlated with combat exposure than psychological vulnerabilities (e.g., childhood abuse). A complicated model that tested killing and committing excessive violence alongside other warzone stressors found mixed results: killing predicted PTSD, but neither committing atrocities, life-threat-based stressors, nor environmental stressors did after accounting for killing (Fontana & Rosenheck, 1999).

Measure-defined potentially morally injurious events

Total MIES scores predicted a small increased incidence of a current mental disorder in a nationally representative sample of U.S. post-9/11 veterans (Wisco et al., 2017). Total MIES scores also were correlated with PTSD, depression, anxiety, and negative affectivity among war-zone deployed Marines, with small to moderate effects (Nash et al., 2013).

PMIE-Self scores had weak to moderate positive correlations with PTSD in samples of combat-exposed post-9/11 veterans (Frankfurt et al., 2018) and war-zone deployed Marines (Jordan, Eisen, Bolton, Nash, & Litz, 2017). Contrary to theory, PMIE-Self scores did not correlate with either PTSD or depression in samples of Air Force psychiatric outpatients or Army National Guard members (Bryan et al., 2015). Yet PMIE-Self scores, but not PMIE-Other or PMIE-Betrayal scores, predicted a small increased risk of current mental disorder in U.S. post-9/11 veterans (Wisco et al., 2017).

PMIE-Other scores were positively correlated with PTSD in Air Force psychiatric outpatients (Bryan et al., 2015) and Army National Guard members (Bryan et al., 2015). Contrary to theory, PMIE-Other scores were moderately *negatively* associated with depression in Air Force psychiatric outpatients and were not associated with depression in Army National Guard members (Bryan et al., 2015).

PMIE-Betrayal scores, a special potentially stressful class of PMIE-Other, were very weakly to moderately correlated with PTSD in combat-exposed post-9/11 veterans (Frankfurt et al., 2018), war-zone deployed Marines (Jordan et al., 2017), Air Force psychiatric outpatients, and

Army National Guard members (Bryan et al., 2015). PMIE-Betrayal was moderately correlated with depression in combat-exposed post-9/11 veterans (Frankfurt et al., 2018).

Total MIQM scores predicted PTSD and depressive symptoms with moderate effect, after accounting for combat exposure or demographic variables, in a sample of U.S. Iraq and Afghanistan war veteran college students (Currier et al., 2015a). Although subsequent studies have used the MIQM to study the relation between PMIEs and PTSD and depression, correlation tables or point estimates were not published (e.g., Currier, et al., 2017).

Suicidal ideation and behavior

Event-defined potentially morally injurious events

Reporting killing appeared to increase the liability of psychiatric problems to suicidal ideation among U.S. Vietnam and post-9/11 Army and National Guard veterans (Maguen, Luxton et al., 2011; Maguen et al., 2012; Kline, Weiner, Interian, Scherbakov, & St. Hill, 2016). For example, endorsing killing increased the likelihood of reporting morbid thoughts and suicidal ideation by 50%–200% for veterans with comorbid depression, PTSD, and alcohol problems compared to veterans with these psychiatric complaints and no history of killing (Kline, et al., 2016). In a sample of heavily combat-exposed U.S. Vietnam War veterans, participation in wartime atrocities contributed to suicidal ideation via associations with PTSD, depression, and guilt, but these psychological factors made a larger contribution to suicidal ideation than reports of participation in atrocities (Dennis et al., 2017). Reports of feeling responsible for someone's death did not predict suicidal ideation after accounting for combat, PTSD, and depression in a sample of Canadian veterans (Richardson et al., 2017). In a qualitative study, U.S. combat veterans described how their suicidal ideation was a sign of their self-condemnation and a recompense for wartime killing (Purcell, Koenig, Bosch, & Maguen, 2016).

Measure-defined potentially morally injurious events

Total MIES scores predicted a small increased risk of current suicidal ideation but not suicide attempts in post-9/11 U.S. veterans (Wisco et al., 2017). Among U.S. Air Force psychiatric outpatients, suicide attempters reported higher PMIE-Self and PMIE-Other scores than either the suicide ideation-only group or no-suicidality group, but the suicide ideation-only group and the no-suicidality group reported statistically equivalent PMIE scores (Bryan, Bryan, Morrow, Etienne, & Ray-Sannerud, 2014). However, the full picture of Bryan et al.'s (2014) results was mixed and contrary to established knowledge about suicide risk. PMIE-Self scores *positively* predicted suicidal ideation, but PMIE-Betrayal scores *negatively* predicted suicidal ideation; most strikingly, depression was not associated with suicidal ideation.

MIQM scores predicted suicide risk after accounting for demographic variables in community samples of Iraq and Afghanistan War veterans; however, the bivariate correlation was nonsignificant (Currier, Holland & Malott, 2015b).

Substance abuse

Event-defined potentially morally injurious events

Reporting killing was associated with increased alcohol consumption or problematic alcohol use, after accounting for combat exposure, in samples of U.S. Gulf War and Iraq War veterans (Killgore et al., 2008; Maguen et al., 2010; Maguen et al., 2011). U.S. Vietnam War veterans who

reported atrocities reported more heroin and marijuana use than veterans who did not report participating in atrocities (Yager, Laufer, & Gallops, 1984). In a qualitative study on the impact of killing, combat veterans said that they use alcohol to suppress and numb their feelings related to memories of killing in war (Purcell et al., 2016).

Measure-defined potentially morally injurious events

A modified MIQM was used to assess the relationship between PMIEs and substance use among veterans enrolled in college (Battles, Kelley, Jinkerson, Hamrick, & Hollis, 2019; Davies, Prince, Bravo, Kelley, & Crain, 2019). In one analysis, MIQM scores were weakly correlated with alcohol use and misuse among male, but not female, combat veterans (Battles et al., 2019). In another analysis, MIQM scores were very strongly correlated with alcohol misuse and moderately correlated with drug use in both males and females (Davies et al., 2019). The interpretation of these studies is constrained by the use of relatively idiosyncratic and psychometrically unvalidated revisions to the MIQM. It is also not clear what accounts for the major difference in correlations in different subsets of apparently the same parent study. To date, the MIES has not been used to assess the relationship between PMIEs and substance use.

Social and functional impairment

Event-defined potentially morally injurious events

Reports of killing non-combatants, but not combatants, were associated with functional impairment, after accounting for reports of combat exposure, in the NVVRS (Maguen et al., 2009). Two qualitative studies examined the impact of PMIEs on social functioning (McCormack & Ell, 2017; Purcell et al., 2016). U.S. combat veterans reported that they numb and suppress their emotions to cope with their memories of killing, and recognize that this numbing comes at the expense of being close to their loved ones and being part of important familial events, such as funerals (Purcell et al., 2016). Australian combat veterans reported being reluctant to share intimate details of their combat experiences, in part because they feel dehumanized by committing PMIEs and in part because they feel misunderstood or judged for their actions after returning to civilian life and consequently feel isolated and disconnected from others (McCormack & Ell, 2017).

Measure-defined potentially morally injurious events

MIQM scores were moderately positively correlated with work and social impairment in Iraq and Afghanistan War veteran college students (Currier et al., 2015a,b). The MIES has not been used to predict social or functional impairment.

Other collateral effects

Other plausible consequences of PMIEs have been proposed, but not directly examined in a moral injury framework. These additional collateral effects include severe recklessness, demoralization, and self-handicapping (proposed by Litz et al., 2009); loss of trust in oneself, others, or transcendental/spiritual beings (proposed by Jinkerson, 2016); embitterment; and enduring personality changes after catastrophic experiences (Shay, 1994). Research is needed to explore to what extent or how these proposed outcomes are related to PMIE exposure.

Moral injury causal framework

Litz et al. (2009) proposed a working causal framework to describe how moral injury develops. When veterans cannot square their wartime actions with their deeply held beliefs about right and wrong conduct, they may experience severe psychological conflict. Some veterans may develop global, stable, negative attributions about themselves and the world to account for their PMIEs. If these attributions involve significant and dispositional self-blame, incapacitating shame, guilt, or anxiety may result. These painful emotions and a fear of being judged by others may then cause veterans to withdraw from interpersonal relationships and social support, depriving them of positive, caring experiences that might disconfirm their negative expectations of themselves and others. Shay (1994) highlighted the role of anger, particularly the ways in which anger in response to leadership betrayals and the loss of close comrades drives social withdrawal. In this way, social withdrawal contributes to a global sense of self-condemnation and lack of forgiveness, which further intensifies and entrenches shame, guilt, and anxiety and leads to moral injury syndrome (e.g., traumatic symptoms, self-harm).

A small body of literature has tested one of the main assertions of this framework: that PMIEs are associated with guilt, shame, and anger and these emotions drive the complicated clinical picture that is called moral injury. Other assertions, such as the role of intrapsychic psychological conflict or negative attributions, have been subject to relatively little empirical testing. We will review literature on the association between event- and measure-defined PMIE and guilt, shame, and anger and on the proposed causal pathway from PMIE through guilt/shame/anger to mental and behavioral health problems.

Guilt, shame, and anger

Event-defined potentially morally injurious events

Event-defined PMIEs (e.g., killing) moderately correlated with guilt among U.S. veterans (Frankfurt, Frazier, & Engdahl, 2017). Reporting exposure to (including participation in) atrocities was moderately correlated with trauma-related guilt and was weakly correlated with hostility, among U.S. Vietnam War veterans (Dennis et al., 2017). U.S. Vietnam veterans who reported participating in or observing abusive violence reported significantly higher combat-related guilt scores, with a large effect (Marx et al., 2010). Reporting killing, either enemy combatants or noncombatants, predicted anger, relationship problems, and interpersonal violence in U.S. Vietnam and Iraq War veterans, even after accounting for combat exposure (Maguen et al., 2009; Maguen et al., 2010). In a qualitative study on post-deployment anger, three (13%) veterans described PMIEs, such as being betrayed by their chain of command, as the source of their anger (Worthen & Ahern, 2014). However, it is difficult to parse the relative contribution of PMIEs to anger and aggressiveness from that of general combat exposure. For example, in Worthen and Ahern (2014)'s small qualitative study on anger, 46% of participants ($n = 6$) named the loss of structure following separation from the military as their major source of post-deployment anger. In a clinical sample of heavily combat-exposed U.S. Vietnam War male veterans seeking PTSD specialty care ($N = 603$), reports of combat exposure and reports of exposure to atrocities had nearly equivalent correlations with hostility and aggression (Dennis et al., 2017); in this study, combat exposure and reports of exposure to (including participation in) atrocities were very highly correlated, and 91% of the sample reported exposure to atrocities.

Measure-defined potentially morally injurious events

PMIEs, measured using the MIES, demonstrated a mixed pattern of correlations with guilt, shame, and anger. PMIE–Self and PMIE–Betrayal scores were weakly correlated with guilt/shame (measured using one item) and anger, but also dissociation, among combat-exposed Marines (Jordan et al., 2017). Among Army National Guard members, PMIE–Self and PMIE–Betrayal but not PMIE–Other scores were associated with anger (Bryan et al., 2015). Contrary to the moral injury model, PMIEs (-Self, -Other, -Betrayal) were not correlated with guilt or shame among Air Force psychiatric patients (Bryan et al., 2015).

Causal framework tests

Guilt partially accounted for the relationship between event-defined PMIEs (e.g., killing, exposure to or participation in atrocities) and PTSD, depression, and general psychological disturbance among U.S. combat veterans (Dennis et al., 2017; Fontana, Rosenheck, & Brett, 1992; Frankfurt et al., 2017; Marx et al., 2010). PMIE–Self MIES scores were associated with PTSD and depression via guilt/shame (Frankfurt et al., 2018; Jordan et al., 2017; Lancaster, 2018) and PMIE–Betrayal MIES scores were associated with PTSD and depression via anger (Jordan et al., 2017; Lancaster, 2018). However, the cross-relationships (i.e., PMIE–self with PTSD/depression via anger, PMIE–Betrayal with PTSD/depression via guilt/shame) have not been consistently tested. The perceived wrongness of one’s actions predicted anger, guilt, and shame over and above general combat exposure in an online sample of combat veterans (Lancaster & Erbes, 2017). A measure of military-related guilt, shame, and anger (i.e., the Expressions of Moral Injury Scale [EMIS]) was moderately correlated with the MIQM and was highly correlated with PTSD and depression, but these relationships were not tested simultaneously (Currier, et al., 2017).

Other causal processes

Following the publication of Litz et al., (2009), researchers and clinicians proposed novel working causal models of moral injury. These include a meaning-making model (Kopacz et al., 2019), a functional model (Farnsworth, Drescher, Evans, & Walser, 2017), and spiritual and religious difficulties models. The meaning-making model proposes that moral injury results from an inability to reconcile one’s cognitive and emotional causal appraisals and attributions about PMIEs with one’s global meaning system (Kopacz et al., 2019). The functional model proposes that moral injury is the suffering that results from dysfunctional strategies for coping with moral pain, but that moral pain, such as intense PMIE-related guilt and shame, is itself normal and nonpathological (Farnsworth et al., 2017). The role of spiritual and religious difficulties in the moral injury constellation is ambiguous. Spiritual and religious difficulties have been situated as a mediator between PMIEs and PTSD and depression (Evans et al., 2018), as a correlate of moral injury (Currier, Foster, & Isaak, 2019), or even as constituting moral injury (Harris et al., 2018). Various definitions of spirituality and religiousness, which alternately emphasize how spiritual life bears on meaning-making (Currier et al., 2015a,b), religious affiliation (Koenig et al., 2018), or one’s relationship with God (Harris et al., 2018), complicate the picture further. Thus far, these alternative causal models have not been synthesized with either the original Litz et al., (2009) model or with each other.

In sum, the development of clear working causal processes of moral injury is constrained by definitional ambiguity and lack of integration across different perspectives, as well as the complex interrelationships between multiple psychological domains.

Posttraumatic stress disorder and moral injury

Among U.S. veterans, 11%–20% of post-9/11 veterans have PTSD in any given year, and around 30% of U.S. Vietnam War veterans will have had PTSD in their lifetimes (Veterans Affairs, 2018). Although moral injury is often contrasted with PTSD (e.g., Jinkerson, 2016), it is unclear whether moral injury has incremental validity over PTSD or is even a separable construct from PTSD. We will briefly review the PTSD diagnosis and then consider the purported differences between PTSD and moral injury.

Posttraumatic stress disorder

To meet *DSM-5* criteria for PTSD, someone must first report a potentially traumatic event (i.e., meet Criterion A; APA, 2013). Criterion A is defined in terms of relatively objective event characteristics: exposure to actual or threatened death, serious injury, or sexual violence via either direct experience, witnessing the event in person, or learning about such an event occurring to a close family member or close friend, or experiencing repeated or extreme exposure to aversive details of the traumatic event as part of one's job. PTSD syndrome is defined in terms of reexperiencing symptoms (e.g., unwanted memories or flashbacks; Criterion B), avoidance symptoms (e.g., of trauma-related thoughts or feelings; Criterion C), negative changes in cognitions and mood (e.g., negative affect; Criterion D), and alterations in arousal and reactivity symptoms (e.g., irritability or aggression; Criterion E). To receive a PTSD diagnosis, at least six symptoms (one from Criteria B and C, two from Criteria D and E) must be experienced for at least one month, cause social, occupational, and functional impairment, and not be better accounted for by substance use or other medical diagnoses.

A few issues with the PTSD diagnosis need to be kept in mind when comparing moral injury with PTSD. First, there is no field-wide agreement on one working causal model for PTSD development. PTSD was previously believed to be a fear-conditioning disorder, as reflected by its inclusion in *DSM-IV-TR*'s Fear and Anxiety Disorders chapter (APA, 2000). Currently, the field is agnostic as to how PTSD develops, as reflected by its inclusion in *DSM-5*'s Trauma and Other Stressor-Related Disorders chapter (APA, 2013). Relatedly, there is no field-wide agreement on why potentially traumatic events are traumatizing, or even which events should be considered potentially traumatic. Second, the *DSM-5* PTSD diagnosis includes many non-trauma-specific symptoms that reflect dysphoria or depression such as Criterion D.4, *Persistent negative emotional state* (Rasmussen, Verkuilen, Jayawickreme, Wu, & McCluskey, 2019). In fact, Criterion D includes six symptoms of major depressive disorder (e.g., negative mood, loss of interest in activities). Thus, which mental and behavioral health problems should be considered post-traumatic is both diagnostically and conceptually unclear. Thirdly, PTSD symptoms are fungible and there are 636,120 possible symptom combinations that can result in a PTSD diagnosis (Galatzer-Levy & Bryant, 2013). Using *DSM-5* criteria, people can actually meet PTSD diagnostic criteria without classic traumatic symptoms like flashbacks, nightmares, or intrusive memories but instead with primarily dysphoric or negative affect symptoms (e.g., guilt, shame, or anger). Thus, the uncertainty, complexity, and heterogeneity of the PTSD field must be considered as part of the ground against which moral injury is contrasted.

Posttraumatic stress disorder and moral injury

The relationship between PTSD and moral injury is challenging to understand for reasons ancillary to those already considered. First, moral injury's etiology closely resembles that of PTSD. Second, moral injury and PTSD share defining symptomatic features. Third, efforts to distinguish PTSD from moral injury often rely on weak accounts of both conditions. Fourth, PTSD and moral injury are different kinds of things, such that comparisons sit on uneven ground.

Etiology

Both PTSD and moral injury are predicated on the occurrence of a sufficiently disturbing event that catalyzes mental and behavioral health problems. The PTSD diagnosis requires that an event surpasses a threshold of dangerousness (i.e., Criterion A), which demarcates between painful but merely stressful events and traumatic events. Moral injury requires an event be sufficiently transgressive or morally troubling to be a PMIE. Litz & Kerig (2019) proposed a continuum that broadly distinguishes relatively common and expected *moral challenges* from higher-magnitude *moral stressors* from the exceedingly rare and debilitating *morally injurious events*. However, neither established threshold nor criteria demarcates PMIEs from events which, albeit troubling, are better thought of as mundane cruelty or unkindness.

The event characteristics that define PTEs and PMIEs (e.g., dangerousness vs. transgressiveness) are neither orthogonal nor mutually exclusive. Schemes to classify distinct military trauma types found that many veterans' worst traumas involved both danger and transgression, for example, "Service member gave an order to fire on attacking insurgents that resulted in a civilian being shot" (p. 802, Litz et al., 2018; Stein et al., 2012). Additionally, some life-threatening traumas, such as interpersonal traumas that involve sexual assault committed by close loved ones, likely involve transgression of deeply held norms of right and wrong, and so could be considered PMIE-Others. Trying to partial out or disentangle the differential contribution of these event characteristics may miss the forest for the trees, particularly in a combat context where some level of life threat can be assumed. Thus, at this point, it may be premature to rely on differences in types of causal events to distinguish between PTSD and moral injury.

Symptoms

Complicating matters further, PTSD and moral injury resemble each other at the symptom level. For example, Litz et al.'s (2009) conceptual working model of moral injury includes trauma-related reexperiencing, avoidance, and emotional numbing, that is, PTSD's Criterion B and C. Guilt, shame, and anger are proposed to be catalysts of moral injury development, but these are also symptoms of PTSD's Criterion D (and depression). Thus, moral injury and PTSD are likely to have similar clinical presentations.

Strawman accounts of posttraumatic stress disorder and moral injury

Some efforts to distinguish PTSD from moral injury have compared outdated fear-based conditioning models of PTSD to facile but simplistic guilt- and shame-based models of moral injury (e.g., Frankfurt, et al., 2017). One frequently cited study purported to empirically distinguish PTSD (which was characterized by reexperiencing, memory loss, and flashbacks) from moral injury (which was characterized by shame, regret, sorrow, and alienation; Bryan, Bryan, Roberge, Leifker, & Rozek, 2017). However, it is equally plausible that the foregoing

study identified a PTSD Criterion B factor (which was labeled “PTSD”), a Criterion D factor (which was labeled “moral injury”), and a third factor of items from assorted measures (anger, depression, insomnia, substance abuse, and nightmares, which was labeled “PTSD & MI”). Shared measurement variance may have accounted for some portion of these findings because “PTSD” and “moral injury” were measured using items from different scales. Importantly, other research has found that PMIEs were more strongly associated with reexperiencing symptoms than life-threat traumas (e.g., Stein et al., 2012), which, speculatively, may reflect the profound inner conflict these types of events produce. Thus, a simple delineation of PTSD from moral injury vis-à-vis reexperiencing symptoms would seem to be lacking construct validity. Because of the significant conceptual and symptomatic overlap between moral injury and PTSD, rational consideration, not solely empirical research, is needed to settle this matter.

Further distinguishing posttraumatic stress disorder and moral injury

Complicating all this further is that PTSD and moral injury are, in ontological terms, different types of things. PTSD is a psychiatric diagnosis that provides a rich description of purportedly unique event-related phenomena. The *DSM-5* is designed to describe specific syndromes but not, beyond Criterion A, to provide reasons for syndromes. Moral injury was not originally proposed as a novel diagnosis and instead resembles something like an inferential clinical heuristic. “Moral injury” provides a compelling explanation for why some veterans and service members seem to be haunted by particularly violent or gruesome combat experiences, to have more complex, intractable mental and behavioral health problems, and to be a poorer fit for single-incident, life-threat-based trauma treatments. Efforts to clarify moral injury in terms of PTSD will flounder unless this ontological difference is properly conceptualized and handled.

Discussion

Whether moral injury should be an independent mental health diagnoses, or whether moral injury should be a clinical heuristic for treatment planning and intervention, remains to be decided. Our literature review identified a few key findings, limitations of the extant body of research and methods of studying moral injury, and ideas for future research.

Key findings

The reviewed literature presented a few broad findings. Reporting killing and exposure to or, participation in, atrocities, were most consistently associated with increased PTSD and depression. The MIES and MIQM had, in general, an inconsistent pattern of associations with PTSD and depression. PMIEs do not by themselves increase the risk of suicidality, but these experiences increase the liability of known risk factors such as PTSD and depression. PMIEs appear to be associated with guilt and are speculatively associated with shame and anger; however, these latter emotions are examined less frequently. In general, most moral injury propositions are untested.

There were also a few surprising patterns of results. First, in studies when killing combatants and noncombatants were disaggregated and tested simultaneously, some indicated killing the enemy but *not* noncombatants was associated with psychiatric distress (Killgore et al., 2008), whereas in other studies it was vice versa (Maguen et al., 2009). Second, in a number of studies, PMIEs were associated with PTSD but either were *not* associated with depression or were *negatively* associated with depression, even though PTSD and depression were highly correlated (Bryan et al., 2014; Maguen et al., 2009, 2010; Richardson et al., 2017). It is unknown whether these

results reflect genuine multifinality or if these are sample-specific findings due to measurement or research design characteristics (e.g., small sample sizes or multicollinearity between PTSD and depression). Traditional statistical analytic methods may have difficulty modeling the dynamic or mutually informative relationships between co-occurring PMIEs or highly related psychological phenomena (e.g., PTSD and depression).

Issues in the moral injury field and future directions

Overall, it is difficult to draw generalizable conclusions from the existing body of literature due to issues related to defining PMIEs, to identifying the moral injury syndrome, and to developing causal models of moral injury.

Potentially morally injurious events

We organized our literature review around the two complementary, but parallel, methods of operationalizing PMIEs: either by a specific event or by a measure assessing perceived transgression. These bodies of moral injury research reflect two fundamentally different notions of PMIEs: whether moral injury develops because veterans themselves or others *violated* deeply held morals, or because they *feel* that they themselves or others violated deeply held morals. Neither extant PMIE measurement approach is wholly adequate, in large part because the field has not agreed on how PMIEs should be conceptualized.

The first approach examined the effect of violent combat events that seem to be more disturbing than other combat experiences, because these events are speculatively PMIEs (e.g., killing). This literature makes up the empirical and conceptual background of the moral injury field. However, most of these studies were not framed in terms of the moral injury model and so may have limited applicability. On the one hand, it might be overreaching or overly pacifist to assume that killing and committing atrocities' wrongness is the reason why these events are so psychologically destructive. On the other hand, it might be disingenuous malpractice to ignore veterans' accounts of how they are haunted or tormented by these actions (e.g., Thomas, 2004).

The second approach examined the relationship between appraisals of moral transgression and mental and behavioral health outcomes. On the one hand, these studies are explicitly testing hypotheses derived from the moral injury model using measures of PMIEs (i.e., MIES, MIQM). However, these measures do not have established clinical norms, and the average reported scores of both measures are quite low, which suggests a relatively rare incidence of PMIEs. Thus, findings using the MIES and MIQM might not be generalizable to heavily PMIE-exposed, or severely morally injured samples.

Different approaches to modifying or refining the PMIE category could be considered. One way could be defining PMIEs in terms of potentially verifiable events, similarly to how PTEs are defined in terms of life-threat. It may be worth considering whether PMIEs could be defined in terms of interpersonal harm (real or imagined) to another person, along the lines of the interpersonal PTEs, but from the opposite angle examining effects of the trauma on the actor(s). Alternatively, the PMIE-Other category could be excluded, because this ground may be covered by the PTSD diagnosis. As it is, it will be difficult to test whether PMIEs and PTEs have differential impacts on mental health when these categories are not mutually exclusive or exhaustive. There is room to test other approaches to refining the PMIE category that we have not considered here. In any event, how the field decides to define PMIEs will direct moral injury construct development, as well as shape the psychology field's (and greater society's) idea of transgression, moral behavior, and moral health.

Moral injury syndrome

A major barrier to drawing strong conclusions about moral injury is the lack of firm boundaries around exactly what moral injury is or agreement in the field about where to draw these boundaries. Litz and colleagues (2009) proposed the first conceptual model of moral injury. Although this remains highly cited, many variations of this definition have been circulated (see Hodgson & Carey, 2017, for review), and there is little guidance around how to synthesize these varied definitions. Currently, a large, international effort to comprehensively map the moral injury domain from the ground up using qualitative data from interviews with veterans, active duty service members, and mental health providers is underway (Yeterian et al., 2019); hopefully, this project will produce a phenomenologically and ecologically valid model of moral injury.

Relevant individual differences, such as developmental history and early life experiences, personality characteristics, and values and beliefs, need to be included in moral injury theorizing and research. Little clinical guidance on how to conceptualize moral injury or formulate models of individual variability in responses to PMIEs is currently available. The moral injury field will benefit from empirical and conceptual research that robustly examines how the impact of PMIEs differs according to an individual's background and personality.

The life course and changes over time and social context of the complex, difficult emotions that follow PMIEs need to be better understood. For example, in a qualitative study on the psychological impact of killing, a majority of veterans acknowledged feeling some satisfaction, exhilaration, or gratifying omnipotence in the immediate aftermath of killing; the sense of intense conflict and being haunted intensified after deployment or separating from the military (Purcell et al., 2016). Accordingly, the time point of assessment must be considered when interpreting results of studies because the affective valence and behavioral manifestations of moral injury likely changes. As Purcell suggests, "The consequences of killing [and likely all PMIEs] are neither static nor singular, they resonate differently in the lives of individual veterans and often evolve over time" (Purcell et al., 2016, p. 1088).

Moral injury causal frameworks

What it means to be a "mechanism" of moral injury is unclear, as is how to distinguish between a moral injury causal process vs. a moral injury symptom. For example, the role of guilt and shame in moral injury poses a conundrum: guilt and shame are elements of PTSD and depression (APA, 2013), which are themselves symptoms of the moral injury outcome. Yet, guilt and shame are also putative mechanisms of moral injury, confounding the relationships between PTSD, depression, moral injury, and these particular moral emotions. Thus, definitional instability complicates whether aspects of moral injury should be regarded as mechanisms or outcomes.

We caution researchers against precipitous confirmatory model testing, because the moral injury domain remains roughly mapped. For example, dissociation was not tested as a potential mediator of PMIEs and PTSD/depression because it was assumed that dissociation only mediates PTEs and PTSD/depression (Jordan et al., 2017; Lancaster, 2018). In previous research, however, reporting killing was independently predictive of dissociation even after accounting for combat (i.e., a presumed PTE) (Maguen et al., 2009). Along these lines, it seems unlikely that anger is only a response to PMIE-Betrayal and not PMIE-Self, yet exclusivity of causal pathways is often presumed. These overly stringent models are likely due to the need for non-overlapping, mechanistic causal pathways in statistical modeling, but these statistical tests may reify simplistic or unrepresentative accounts of moral injury.

Instead, tests of the moral injury should remain exploratory, draw on clinical literature as well as empirical research, and be based on SMs and veterans' first-hand accounts of the impact of PMIEs. The field would benefit enormously from more qualitative investigations of the phenomenology and lived experience of moral injury from the perspective of veterans and SMs (c.f., Purcell et al., 2016). Research methodology that captures the dynamic, multidirectional, and mutually constitutive relationships between PMIE-related emotions, thoughts, and behaviors may create more representative and clinically useful models of psychological suffering. Such research may help elucidate these complex psychological relationships in ways that deepen not only understanding of trauma but also complexity of interacting intrapsychic, environmental, and social factors in psychological disorder and health.

Summary

In sum, moral injury presents the notion that war, and military service in general, is rife with moral complexity, and that some military traumas are disturbing because they involve moral violations, rather than, or in addition to, life-threat. The moral injury construct is expansive and covers conceptual ground shared by other existing mental health constructs, such as PTSD and depression. It will take major collaborative efforts from clinicians and researchers across diverse fields to move the moral injury field forward and deepen our understanding of war-related psychological suffering.

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References

- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders*, (4th ed.). American Psychiatric Association: Chicago.
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders*, (5th ed.). American Psychiatric Association: Chicago.
- Anders, S., Frazier, P., & Frankfurt, S. (2011). Variations in Criterion A and PTSD rates in a community sample of women. *Journal of Anxiety Disorders*, 25(2), 176–184.
- Battles, A., Kelley, M., Jinkerson, J., Hamrick, H., & Hollis, B. (2019). Associations among exposure to potentially morally injurious experiences, spiritual injury, and alcohol use among combat veterans. *Journal of Traumatic Stress*, 32(3), 405–413.
- Beckham, J., Feldman, M., & Kirby, A. (1998). Atrocities exposure in Vietnam combat veterans with chronic posttraumatic stress disorder: Relationship to combat exposure, symptom severity, guilt, and interpersonal violence. *Journal of Traumatic Stress*, 11(4), 777–785.
- Bryan, C., Bryan, A. O., Anestis, M., Anestis, J. C., Green, B., Etienne, N., ... Ray-Sannerud, B. (2015). Measuring moral injury: Psychometric properties of the Moral Injury Events Scale in two military samples. *Assessment*, 23(5), 557–570.
- Bryan, A., Bryan, C., Morrow, C., Etienne, N., & Ray-Sannerud, B. (2014). Moral injury, suicidal ideation, and suicide attempts in a military sample. *Traumatology*, 20(3), 154–160.
- Bryan, C., Bryan A., Roberge, E., Leifker, F., & Rozek, D. (2017). Moral injury, posttraumatic stress disorder, and suicidal behavior among National Guard personnel. *Psychological Trauma: Theory, Research, Practice, & Policy*, 10(1), 36–45.

- Currier, J., Farnsworth, J., Drescher, K., McDermott, R., Sims, B., & Albright, D. (2017). Development and evaluation of the Expressions of Moral Injury Scale—Military Version. *Clinical Psychology & Psychotherapy*, 25(3), 474–488.
- Currier, J., Foster, J., & Isaak, S. (2019). Moral injury and spiritual struggles in military veterans: A latent profile analysis. *Journal of Traumatic Stress*, 32(3), 393–404.
- Currier, J., Holland, J. M., Drescher, K., & Foy, D. (2015a). Initial psychometric evaluation of the Moral Injury Questionnaire—Military version. *Clinical psychology & psychotherapy*, 22(1), 54–63.
- Currier, J., Holland, J., & Malott, J. (2015b). Moral injury, meaning making, and mental health in returning veterans. *Journal of Clinical Psychology*, 71(3), 229–240.
- Davies, R., Prince, M., Bravo, A., Kelley, M., & Crain, T. (2019). Moral injury, substance use, and posttraumatic stress disorder symptoms among military personnel: An examination of trait mindfulness as a moderator. *Journal of Traumatic Stress*, 32(3), 414–423.
- Dennis, P., Dennis, N., Van Voorhees, E., Calhoun, P., Dennis, M., & Beckham, J. (2017). Moral transgression during the Vietnam War: A path analysis of the psychological impact of veterans' involvement in wartime atrocities. *Anxiety, Stress, and Coping*, 30(2), 188–201.
- Dohrenwend, B., Yager, T., Wall, M., & Adams, B. (2013). The roles of combat exposure, personal vulnerability, and involvement in harm to civilians or prisoners in Vietnam-war-related posttraumatic stress disorder. *Clinical Psychological Science*, 1(3), 223–238.
- Evans, W., Stanley, M., Barrera, T., Exline, J., Pargament, K., & Teng, E. (2018). Morally injurious events and psychological distress among veterans: Examining the mediating role of religious and spiritual struggles. *Psychological Trauma: Theory, Research, Practice, and Policy*, 10(3), 360–367.
- Farnsworth, J., Drescher, K., Evans, W., & Walsler, R. (2017). A functional approach to understanding and treating military-related moral injury. *Journal of Contextual Behavioral Science*, 6(4), 391–397.
- Fontana, A., & Rosenheck, R. (1999). A model of war zone stressors and posttraumatic stress disorder. *Journal of Traumatic Stress*, 12(1), 111–126.
- Fontana, A., Rosenheck, R., & Brett, E. (1992). War zone traumas and posttraumatic stress disorder symptomatology. *The Journal of Nervous and Mental Disease*, 180(12), 748–755.
- Frankfurt, S., DeBeer, B., Morissette, S., Kimbrel, N., La Bash, H., & Meyer, E. (2018). Mechanisms of moral injury following military sexual trauma and combat in post-9/11 U.S. war veterans. *Frontiers in Psychiatry*. doi:10.3389/fpsy.00520.
- Frankfurt, S., & Frazier, P. (2016). A review of research on moral injury in combat veterans. *Military Psychology*, 28(5), 318–330.
- Frankfurt, S., Frazier, P., & Engdahl, B. (2017). Indirect relations between transgressive acts and general combat exposure and moral injury. *Military Medicine*, 182(11–12), e1950–1956.
- Galatzer-Levy, I., & Bryant, R. (2013). 636,120 ways to have posttraumatic stress disorder. *Perspectives on Psychological Science*, 8(6), 651–662.
- Harris, J., Usset, T., Voecks, C., Thuras, P., Currier, J., & Erbes, C. (2018). Spiritually integrated care for PTSD: A randomized controlled trial of “Building Spiritual Strength”. *Psychiatry Research*, 267, 420–428.
- Hodgson, T., & Carey, L. (2017). Moral injury and definitional clarity: Betrayal, spirituality and the role of chaplains. *Journal of Religion and Health*, 56(4), 1212–1228.
- Jinkerson, J. (2016). Defining and assessing moral injury: A syndrome perspective. *Traumatology*, 22(2), 122–130.
- Jordan, A., Eisen, E., Bolton, E., Nash, W., & Litz, B. (2017). Distinguishing war-related PTSD resulting from perpetration- and betrayal based morally injurious events. *Psychological Trauma: Theory, Research, Practice, and Policy*, 9(6), 627–634.
- Killgore, W., Cotting, D., Thomas, J., Cox, A., McGurk, D., Vo, A., ... Hoge, C. (2008). Post-combat invincibility: Violent combat experiences are associated with increased risk-taking propensity following deployment. *Journal of Psychiatric Research*, 42(13), 1112–1121.
- Kline, A., Weiner, M., Interian, A., Scherbakov, A., & St. Hill, L. (2016). Morbid thoughts and suicidal ideation in Iraq War veterans: The role of direct and indirect killing in combat. *Depression and Anxiety*, 33(6), 473–482.
- Koenig, H. G., Youssef, N. A., Ames, D., Oliver, J. P., Teng, E. J., Haynes, K., ... Pearce, M. (2018). Moral injury and religiosity in US veterans with posttraumatic stress disorder symptoms. *The Journal of Nervous and Mental Disease*, 206(5), 325–331.
- Kopacz, M., Lockman, J., Lusk, J., Bryan, C., Park, C., Sheu, S., & Gibson, W. (2019). How meaningful is meaning making? *New Ideas in Psychology*, 54, 76–81.

- Kulka, R., Schlenger, W., Fairbank, J., Hough, R., Jordan, B., Marmar, C., & Weiss, D. (1990). *Brunner/Mazel Psychosocial Stress Series, No. 18. Trauma and the Vietnam War Generation: Report of Findings from the National Vietnam Veterans Readjustment Study*. Brunner/Mazel: Philadelphia, PA, US.
- Lancaster, S. (2018) Negative outcomes after morally injurious experiences: A replication and extension. *Psychological Trauma: Theory, Research, Practice, and Policy*, 10(4), 456–462.
- Lancaster, S., & Erbes, C. (2017). Importance of moral appraisals in military veterans. *Traumatology*, 23(4), 317–322.
- Litz, B., Contractor, A., Rhodes, C., Dondanville, K., Jordan, A., Resick, P., ... Peterson, A. (2018). Distinct trauma types in military service members seeking treatment for posttraumatic stress disorder. *Journal of Traumatic Stress*, 31(2), 286–295.
- Litz, B., & Kerig, P. (2019). Introduction to the special issue on moral injury: Conceptual challenges, methodological issues, and clinical applications. *Journal of Traumatic Stress*, 32(3), 341–349.
- Litz, B., Stein, N., Delaney, E., Lebowitz, L., Nash, W., 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.
- MacNair, R. (2002). Perpetration-induced traumatic stress in combat veterans. *Peace and Conflict: Journal of Peace Psychology*, 8(1), 63–72.
- Maguen, S., Lucenko, B., Reger, M., Gahm, G., Litz, B., Seal, K., ... Marmar, C. (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., Luxton, D., Skopp, N., Gahm, G., Reger, M., Metzler, T., & Marmar, C. (2011a). Killing in combat, mental health symptoms, and suicidal ideation in Iraq war veterans. *Journal of Anxiety Disorders*, 25(4), 563–567.
- Maguen, S., Metzler, T., Bosch, J., Marmar, C., Knight, S., & Neylan, T. (2012). Killing in combat may be independently associated with suicidal ideation. *Depression and Anxiety*, 29(11), 918–923.
- Maguen, S., Metzler, T., Litz, B., Seal, K., Knight, S., & Marmar, C. (2009). The impact of killing in war on mental health symptoms and related functioning. *Journal of Traumatic Stress*, 22(5), 435–443.
- Maguen, S., Vogt, D., King, L., King, D., Litz, B., Knight, S., & Marmar, C. (2011b). The impact of killing on mental health symptoms in Gulf War veterans. *Psychological Trauma: Theory, Research, Practice, and Policy*, 3(1), 21–26.
- Marx, B., Foley, K., Feinstein, B., Wolf, E., Kaloupek, D., & Keane, T. (2010). Combat-related guilt mediates the relations between exposure to combat-related abusive violence and psychiatric diagnoses. *Depression and Anxiety*, 27(3), 287–293.
- McCormack, L., & Ell, L. (2017). Complex psychosocial distress postdeployment in veterans: Reintegration identity disruption and challenged moral integrity. *Traumatology*, 23(3), 240–249.
- Nash, W., Mariner Carper, T., Mills, M., Au, T., Goldsmith, A., & Litz, B. (2013). Psychometric evaluation of the Moral Injury Events Scale. *Military medicine*, 178(6), 646–652.
- Nazarov, A., Fikretoglu, D., Liu, A., Thompson, M., & Zamorski, M. (2018). Greater prevalence of post-traumatic stress disorder and depression in deployed Canadian armed forces personnel at risk for moral injury. *Acta Psychiatrica Scandinavica*, 137(4), 342–354.
- Press, E. (2018) The wounds of the drone warrior. *New York Times Magazine*.
- Purcell, N., Koenig, C., Bosch, J., & Maguen, S. (2016). Veterans' perspectives on the psychosocial impact of killing in war. *The Counseling Psychologist*, 44(7), 1062–1099.
- Rasmussen, A., Verkuilen, J., Jayawickreme, N., Wu, Z., & McCluskey, S. (2019). When did posttraumatic stress disorder get so many factors? Confirmatory factor models since DSM-5. *Clinical Psychological Science*, 7(2), 234–248.
- Richardson, D., King, L., Shnaider, P., & Elhai, J. (2017). Adverse combat experiences, feeling responsible for death, and suicidal ideation in treatment-seeking veterans and actively serving Canadian armed forces members. *Journal of Military, Veteran, and Family Health*, 3(1), 34–40.
- Shay, J. (1994). *Achilles in Vietnam: Combat and the Undoing of Character*. Scribner: New York.
- Stein, N., Mills, M., Hall, K., Mendoza, C., Borah, A., Resick, P., & Litz, B. (2012). A scheme for categorizing traumatic military events. *Behavior modification*, 36(6), 787–807.
- Thomas, C. (2004). *At Hell's Gate: A Soldier's Journey*. Shambhala Publications: Boulder, CO, USA.
- U.S. Department of Veterans Affairs. (2018). *How common is PTSD in veterans?* Retrieved from https://www.ptsd.va.gov/understand/common/common_veterans.asp
- Wisco, B., Marx, B., May, C., Martini, B., Krystal, J., Southwick, S., & Pietrzak, R. (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.

- Worthen, M., & Ahern, J. (2014). The causes, course, and consequences of anger problems in veterans returning to civilian life. *Journal of Loss and Trauma, 19*(4), 355–363.
- Yager, T., Laufer, R., & Gallops, M. (1984). Some problems associated with war experience in men of the Vietnam generation. *Archives of General Psychiatry, 41*(4), 327–333.
- Yeterian, J., Berke, D., Carney, J., McIntyre-Smith, A., St. Cyr, K., King, L.,... Litz, B., & Members of the Moral Injury Outcomes Project Consortium. (2019). Defining and measuring moral injury: Rationale, design, and preliminary findings from the moral injury outcome scale consortium. *Journal of Traumatic Stress, 32*(3), 363–372.