

Moral injury: State of the Science

Brett T. Litz^{1,2,3} 

¹VA Boston Healthcare System, Boston, Massachusetts, USA

²Department of Psychological and Brain Sciences, Boston University, Boston, Massachusetts, USA

³Department of Psychiatry, Boston University Chobanian & Avedisian School of Medicine, Boston, Massachusetts, USA

Correspondence

Brett T. Litz, VA Boston Healthcare System, MAVERIC, Lafayette City Center 2, Avenue de Lafayette, Boston, MA, 02111, USA.

Email: litzb@bu.edu

ABSTRACT

In this paper, I provide a concise overview of the state of the scientific study of moral injury (MI). I argue that the state of science is immature, characterized by the lack of a paradigmatic theory and a lack of rigor in terms of construct definition and measurement. Because researchers, clinicians, and the media reify the results of empirical and clinical outcome studies that are chiefly exploratory and fraught with internal validity problems, enthusiasm about MI continues to far outweigh scientific and actionable, practice-based knowledge. I posit that the field needs to have epistemic humility about MI, focus on building a paradigmatic model to generate and test hypotheses that will ultimately create knowledge about the causes and consequences of MI, and employ evidence-based assessment and intervention approaches to mitigate and treat the problem. To facilitate research in this area, I summarize the social–functional theory of moral behavior and a new theory of MI based on it. I also make recommendations for future research to advance the field into a normal science, which requires hypothesis-driven research and valid measurement.

Litz et al. (2009) sought to formalize the construct of moral injury (MI), a term originally introduced by Shay (1994) to explain the entrenched distrust, demoralization, and isolation experienced by some Vietnam combat veterans with chronic and severe mental and behavioral health problems. The aim was to advance clinical science and challenge researchers and clinicians to conceptualize and address the unique phenomenology of exposure to potentially morally injurious events (PMIEs). As of October 2024, there have been 2,569 nonduplicated PubMed and Google Scholar citations with “moral injury” in the title since 2009 compared to two PubMed citations and 40 Google Scholar citations prior to 2009. However, the discourse on MI remains predominantly rhetorical rather than evidence-based: Only 331 (12.9%) of these publications were peer reviewed empirical studies when restricting the search to peer reviewed, data-based citations entailing

quantitative or qualitative analyses. Moreover, after reading these studies, several research assistants and postdocs in my lab found that only 4% of the PubMed and Google Scholar citations (i.e., 98 of 331) assessed PMIE exposure or MI, or putative proxies for MI (e.g., posttraumatic stress disorder [PTSD], depression), as an outcome.

In this paper, I provide a global critique of empirical psychosocial research (there are too few biological studies), focusing on threats to internal validity, which greatly limit the probative value of the existing science. I also critique the state of science with respect to the absence of firm, sound, consensus- and evidence-based foundational assumptions, operational definition, and—most critically—theory. I then outline a path forward to generate actionable knowledge and advance clinical science on MI and offer specific recommendations for future research.

OVERVIEW OF THE RESEARCH

Descriptive psychopathology

Most empirical research about the MI construct has been non-population-based, typically relying on small, convenience-based samples and cross-sectional, questionnaire- or survey-based methods. Most often, these studies have been exploratory, lacking theory-based hypotheses and predictions. Their primary aim has been to explore whether a putatively high-risk occupational cohort's culture, context, and experiences (most commonly military personnel and/or health care workers) are associated with reports of PMIE exposure or symptoms related to disorders or constructs assumed to be proxies for MI, such as PTSD, depression, or shame, rather than focusing on the specific syndrome of MI itself.

Epidemiology

There have been two nationally representative cohort studies of reports of exposure to some military-related PMIEs among veterans, many of whom were deployed to war zones (Maguen et al., 2020; Wisco et al., 2017). Both studies used the Moral Injury Events Scale (MIES; Nash et al., 2013). The frequency of reports of personal transgressions ranged from 10.8% to 18.8%, transgressions by others ranged from 25.5% to 27.9%, and betrayal events ranged from 25.5% to 41.1%. The varying frequencies of PMIE endorsement were due to differing operational definitions of endorsement using the MIES (Maguen et al. [2020] used a more liberal criterion). There have also been two high-quality population studies of the prevalence of reports of PMIE exposure and MI symptoms indexed to PMIEs—one published (Maguen et al., 2024), which used the Moral Injury Distress Scale (MIDS; Norman et al., 2024), and the other underway (Litz, 2024), which used the Moral Injury Outcome Scale (MIOS; Litz et al., 2022).

Intervention research

Treatments for MI are in a formative stage of development and scientific examination. There have been a series of case studies and pilot studies of diverse interventions that include psychological and spirituality-focused approaches primarily for individuals with PTSD (see Walker et al., 2024). There have also been two randomized controlled parallel comparison trials. One tested the efficacy of an enhanced 12-session adaptive disclosure intervention, which included compassion training, letter-writing, and structured tactical focus on promoting corrective proso-

cial experiences to enhance functioning, versus present-centered therapy (PCT), targeting PTSD among veterans who primarily endorsed exposure to morally injurious traumatic events (Litz et al., 2024). The other tested a primarily cognitive therapy that also entailed discussing values and generating a plan to live in accordance with these values versus trauma-informed guilt reduction therapy (Norman et al., 2022), a pared-down, solely supportive version of PCT for veterans who endorsed a Criterion A traumatic event, per the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; American Psychiatric Association, 2013), and significant guilt. Because no trial to date has tested the efficacy of an approach using MI as the outcome, which means there is no scientific evidence to suggest any therapy is efficacious for MI, specifically, I will not be critiquing intervention studies (see Litz & Walker, *in press*).

Prior reviews and critiques of MI research

For detailed critiques of prior research, I refer the reader to a recent qualitative review of the highest-quality descriptive psychopathology studies (Litz & Walker, *in press*), as well as numerous other qualitative narrative reviews (Anastasi et al., 2024; Čartolovni et al., 2021; Chew et al., 2023; Frankfurt & Frazier, 2016; Gaitens et al., 2021; Griffin et al., 2019, 2023; Hall et al., 2022; Jamieson et al., 2023; Khan et al., 2023; Lentz et al., 2021; Richardson et al., 2020; Riedel et al., 2022; Thibodeau et al., 2023; Webb et al., 2024; Wilson et al., 2023; Xue et al., 2022). Several meta-analyses have also been conducted (Aita et al., 2023; Brennan et al., 2024; Coimbra et al., 2024; McEwen et al., 2021; Williamson et al., 2018).

A consensus in many of these reviews is that the methodological rigor of empirical studies is generally low, with a primary criticism focusing on measurement—a central animating critique in this paper. Until recently, the primary measure of MI has been the MIES (Nash et al., 2013), which suffers from significant content validity issues, as discussed later. The MIES is principally a measure of reported exposure to military-related PMIEs, yet many studies have erroneously used it to index MI as an outcome. This conflation of exposure with outcomes renders the findings from these studies difficult to interpret, a problem that is compounded by many studies and qualitative reviews and meta-analyses mistaking MIES scores for outcomes. For example, although some studies that have used the MIES suggest small-to-moderate associations between reports of PMIE exposure and symptoms of PTSD, depression, or suicidal thoughts (primarily in veterans and health care workers), inferences from these findings need to be tempered because the MIES total

score includes outcome-related items, which confounds exposure and responses to the experience, measured by the MIES by a question about “being bothered by” the experience.

Moreover, earlier measures of MI as an outcome also suffer from poor content validity. Some scale development studies have relied on investigator-selected items from existing psychopathology scales (Koenig et al., 2018) or generated additional content based on investigator judgment (Currier et al., 2018). Critically, until recently, no scale has asked respondents to report MI symptoms linked to a PMIE or endorse symptoms experienced within a specific timeframe (see Litz et al., 2022; Norman et al., 2024). As a result, although some studies have demonstrated associations between MI scores and occupational stressors or mental health symptoms, their limited content and structural validity give these findings little probative value.

Unfortunately, many narrative reviews and meta-analyses have overlooked these critical issues, tacitly reifying the evidence by failing to assess and consider poor operationalization of terms and internal validity problems. However, several notable reviews, namely, Griffin et al. (2019), Hall et al. (2022), Litz and Walker (in press), and Williamson et al. (2018) stand out for their focus on content validity and attention to construct validity and internal validity concerns.

CRITIQUE THAT INFORMS AN ASSESSMENT OF THE STATE OF SCIENCE

An overarching reason that empirical research to date has not been probative or actionable (e.g., helping clinicians conceptualize cases, opening funding opportunities, generating ideas about novel change agents to prevent and mitigate MI as a separable clinical problem) is that studies were conducted before the essential task of construct definition and validation. Most descriptive psychopathology, psychometric, and intervention studies have not been theory-driven nor were they designed to operationally define, generate boundary conditions, and refine the MI construct. Rather, nearly all these studies were exploratory—and very rarely replicated—and fraught with internal validity problems, yet research results often have been at least tacitly treated as confirmatory by an audience eager to believe that MI has incremental clinical validity (namely, researchers, the media, leaders, clinicians, and patients and their family members). MI clearly has incremental explanatory and clinical validity, but without epistemic humility, the field will not up its science game, and researchers will fail to establish an evidence base to prove this.

Even based upon the assumption that the existing research is valid, the MI construct, and attempts to define MI cases (see Maguen et al., 2024), would be defined as general distress, indexed by PTSD, depression, and other behavioral health problems associated with exposure to a type of life stressor (i.e., moral harms). In other words, in the best case, the current body of literature does not offer a clear understanding of MI as a distinct construct. Without a theory-driven, operationalized, empirically validated, and separable construct, the boundaries of MI as a clinical problem, and the conditions under which it arises, remain fluid. This situation has led to divergent views on what MI encompasses and how best to address it.

Specific threats to internal validity

Imprecise and misleading language about questionnaire data. In mental and behavioral health, scores on self-report questionnaires are subjective, retrospective summaries or gist reports of prior experiences. Questionnaires do not assess actual ways of thinking, behavior, or emotion. Instead, they ask respondents to make best guesses and current judgments about prior events, symptoms, and behaviors, sometimes over the lifespan. Valid naming conventions are “reports of X,” “mean scores on Y,” and “endorsement of Z.” Yet, many investigators and reviewers of the evidence use language that suggests that an individual score or mean scores on questionnaires *are* PMIEs or *are* MI (or other constructs). When scores are reified as “exposure to PMIEs” or “MI,” this treats the variables as fixed, unbiased, accurate, and valid (i.e., sufficient), which unduly intimates that the variables have inherent validity and potential causal significance. This contributes to an uncritical assessment of results, and it arguably eliminates hypothesis generation about third variables that may contribute to the endorsement of questionnaire items and patterns of endorsement.

Third variable and directionality problems. In cross-sectional studies, any number of third variables cannot be ruled out, nor can the direction of an association be assured. Shared variance between reports of exposure to PMIEs and reports of MI symptoms and other outcomes may be due to unaccounted third variables, such as shared method variance, mood, or response biases. For example, as with reports of exposure to life stressors, reports of PMIEs may be influenced by current stressors, functional problems, MI, and other symptoms. Substantive current distress related to an outcome may distort and contribute to variation in reports of exposure. This is the case with reports of potentially traumatic events (PTEs) and PTSD symptoms. For example, Roemer et al. (1998) and Southwick et al. (1997) found that when individuals were asked

to report PTE exposure on two occasions, reports often changed, covarying with shifts in PTSD symptom severity. Memory for PTEs is not static and can be affected by current state and psychological factors. Scales that assess exposure to PMIEs may similarly reflect symptom-driven reconstructions of experiences. If changes in MI symptom severity can influence the recall of exposure to PMIEs, the assumption that event reports are stable (i.e., reliable) over time may be flawed. This can be a third variable problem (reporting bias) and a directionality problem (Outcome Y may in part cause independent Variable X).

The problem with directionality is especially concerning with the MIES (Nash et al., 2013), the most commonly used scale in MI research to date. Respondents are asked to indicate their level of agreement on a Likert-type scale, with items referencing military experiences; the scale has also been adapted to reference other occupational contexts, such as health care. The MIES includes items that ask about personal acts of commission and omission, as well as bearing witness to transgressive behavior, each paired with an additional question about whether the respondent was “troubled by” the experience. There are also three items pertaining to experiences of being betrayed by leaders, peers, and others outside the military, respectively, that oddly do not have corresponding “troubled by” response options. Given that the MIES conflates exposure to PMIE items and global distress linked to those experiences, it is uniquely subject to directionality problems (e.g., Frankfurt et al., 2017; Litz et al., 2022; Litz & Walker, *in press*).

Content validity problems. The biggest threat to internal validity in empirical studies entails threats to what Cook and Cambell (1979) labeled “construct validity of cause and effect” (see King & King, 1991; Weathers et al., 1997). This refers to the extent to which the constructs used as variables in observational, quasi-experimental, and clinical trials can posit cause and effect accurately or can sufficiently represent the phenomena they are intended to measure. Arguably, the most important dimension of construct validity of cause and effect is content validity (Haynes et al., 1995). Content validity ensures that the constructs of both the cause and the effect are fully represented, enhancing the accuracy of causal inferences drawn from a given study. If content validity is lacking, even if a study finds an association, the interpretation of the cause-and-effect relationship will be incomplete, misleading, or irrelevant to the actual theoretical constructs the study aimed to test. Strong content validity also reduces the risk of confounded or ambiguous results. When content validity cannot be assured, tests are imprecise and unclear measures of constructs, which greatly attenuates causal inference, and study findings fail to link up with the theoretical models that supposedly are being tested.

To date, the only construct development process that has specifically focused on content validity, following the guidelines found in Haynes et al. (1995), was undertaken by an international consortium of investigators who developed and validated the MIOS (Litz et al., 2022). In a mature science field, where there is a wealth of high-quality evidence with a consensus on well-founded theoretical models, investigators can extract and operationally define subdomains of a construct from an exhaustive literature review and use the knowledge gained to generate a large pool of test items from these definitions. Then, outside experts with relevant knowledge and experience can be relied upon to make judgments about items in terms of content representativeness, readability, redundancy, and similar constructs. In contrast, MIOS Consortium members recognized that the state of the field of MI is the opposite. There is no commonly accepted shared knowledge, set of foundational assumptions, or paradigmatic theory of the causes of moral behavior and the functionally impairing syndromal consequences of transgressive acts. For example, the initial conceptual framework by Litz et al. (2009) was preliminary and limited; the authors did not thoroughly review the evidence about or posit the unique emotional, psychological, and social impacts of nonagentic PMIEs, such as being the direct recipient of others’ cruelty and neglect, bearing witness to grave inhumanity, and experiencing specific instances of another person’s severe transgressions (Litz et al. [2009] focused exclusively on the aftermath of agentic transgression-related MI).

The prototypical step in content development is to generate operational definitions of the construct’s constituent elements from the target population to ensure that a measurement instrument reflects experiences and constructs relevant to the group being assessed (Haynes et al., 1995). The challenge is to define what MI as an outcome is and is not given the absence of a paradigmatic theory and the little probative evidence available. Consequently, Litz et al. (2022) conducted a comprehensive, bottom-up multicultural study aimed at generating a set of operational definitions of the unique categories of outcomes pertaining to MI. They conducted approximately 150 semistructured interviews to assess the lasting phenomenological impact of exposure to a “worst” and “most currently distressing” PMIE among service members and veterans in the United States, Israel, England, Canada, and Australia. Psychotherapists with extensive experience helping service members and veterans with behavioral health problems in each country were also interviewed and asked to describe their observations of the impact of PMIEs among patients in their care.

Litz et al. (2022) used qualitative data reduction and analysis techniques to extract invariant subcategories of outcomes, operationalizing these subcategories as

domains of impact (i.e., subconstructs) of PMIEs, including specific components within these domains. To generate unique putative MI-specific outcomes, content that overlapped with PTSD and depressive symptoms was excluded.

The operational definitions of the distinct domains of impact of MI, from which MIOS items were generated, were as follows: (a) *alterations in self- and other-perception*, defined as disruptions in how individuals define themselves or the world with respect to what they or others are capable of in terms of transgression; (b) *alterations in moral thinking*, which entails judging oneself or others harshly, moralistically, and with condemnation (e.g., self-censure, grievance, embitterment); (c) *social impacts*, defined as alterations in one's degree of comfort with others, connectedness, and social acceptance or belonging, as well as changes in the frequency and quality of engagement with others; (d) *moral emotions and moods*, defined as predominant, pressing, and easily triggered moral emotions; (e) *self-harming/sabotaging behaviors*, defined as deliberate and nondeliberate behaviors that negatively impact functioning and impair health, personal safety, and quality of life or well-being; and (f) *changes in beliefs about life meaning and purpose*, defined as emptiness, purposelessness, and alterations in religious or spiritual beliefs or behaviors.

The interview data also confirmed that personal transgressions entail doing something or failing to do something. The data also revealed that nonagentic transgressions entail bearing witness to a person or people doing something or failing to do something—as well as bearing witness to the aftermath of transgressive actions (e.g., mass killing)—and being directly affected or victimized by someone doing something or failing to do something. In addition, although reported worst events that were personal transgressions and nonagentic experiences (e.g., bearing witness to inhumanity) generally entailed some overlapping phenomenology, and some events were inherently blends of self- and other transgressions, there were also distinctly different types of outcomes that stemmed from each broad event category.

A large pool of potential scale items was generated from the operational definitions of the domains of impact, and a card-sorting task was used to pare down the list to items that raters unanimously agreed fit the operational definitions of the respective domains of impact. After a series of scale-refining statistical analyses, including factor analytic methods, cross-national invariance testing, and internal consistency reliability analyses, the initial 34-item MIOS was pared down to the final 14-item MIOS, which included at least two items per domain and had seven items each that were labeled as shame-related and trust violation-related outcomes. The MIOS demonstrated strong internal

and temporal consistency and convergent validity (Litz et al., 2022).

The chief criticism of the MIOS is that although Litz et al. (2022) ensured strong content validity and, by doing so, arguably defined the elements of the syndrome of MI (Litz & Walker, *in press*), the content may not apply to contexts outside of the military personnel and veterans' experiences (Norman et al., 2024). The operationalized definitions of the domains of impact did not reference the military experience, and the MIOS does not reference any specific culture or professional context. Yet, it is an empirical question whether the domains of impact capture the unique outcomes associated with exposure to any PMIE in any context. However, it appears that the domains of impact fit the cross-cultural, social-functional model of MI described by Litz and Walker (*in press*), and the MIOS appears to have explanatory validity among health care professionals who endorse PMIE exposure (e.g., health care professionals predictably endorse substantially more trust violation-related MI symptoms relative to shame-based symptoms; D'Alessandro-Lowe et al., 2024; Nazarov et al., 2024; Tao et al., 2023). The other criticism is that the authors failed to test the discriminant, incremental, and treatment validity of MIOS scores. Discriminant validity ensures the uniqueness of a construct relative to other constructs, like PTSD and depression; incremental validity ensures that the construct has additional predictive power in association with an outcome; and treatment validity determines whether scale scores contribute meaningfully to treatment plans that improve the outcome. Clinicians and researchers should be circumspect about the meaning of MIOS scores, and the MI construct, until there are sufficient positive research findings about these additional dimensions of construct validity.

As stated, the MIDS is also a new measure of MI as an outcome. It has several strengths. It is well-structured; requires PMIE exposure and symptom ratings over the past month; and, impressively, has been validated among veterans, health care workers, and first responders. The scale demonstrated high internal consistency, suggesting unidimensionality (this is the way the scale was designed), and it appears to show strong content validity concerning the aftermath of personal transgressions.

The MIDS and MIOS have both shared and distinct structural elements that impact content validity. In both scales, respondents are asked to endorse exposure to a PMIE. Both scales anchor MI symptom ratings to the respondent's self-identified "worst and most currently distressing experience" (MIOS) or the one that is "most troubling to you or that you think about the most" (MIDS). The MIOS simply assesses event endorsement, whereas the MIDS asks respondents to rate "how true" a PMIE is

and “how true” they are bothered by it, both on a scale ranging from *not at all* to *extremely*. It is unclear how respondents, clinicians, or researchers are to use these dimensional ratings on the MIDS. For both scales, if no exposure is endorsed, the scale is not completed, and respondents rate the impact of their worst event over the last month. The MIDS asks respondents if they are willing to write out the index PMIE, and this is the sole means of collecting data on the specific type of index PMIE respondents use to rate their symptoms, which limits clinicians’ and researchers’ ability to categorize and evaluate outcomes based on distinct or blended PMIE types. Each scale assesses personal acts of commission, omission, and witnessing transgressions; however, the MIOS additionally assesses whether respondents were directly affected by the transgressive acts of others.

The initial pool of MIDS items was generated by the authors based on Litz et al. (2009), their clinical experience with veterans, and feedback from relevant stakeholders, including health care and first responder colleagues. However, as stated, Litz et al.’s (2009) article was preliminary and focused largely on the aftermath of personal transgressions. Also, given the lack of shared assumptions and a core conceptual framework in the field of MI, the tacit or explicit theory stakeholders use to judge content is unknown and likely highly variable. Moreover, the authors did not clearly operationalize the MI outcome construct (thus, the community cannot judge the criteria used to generate content) and instead selected items based on personal understanding and experience.

It indeed appears that the MIDS underrepresents the MI construct with respect to outcomes related to nonagentic PMIEs. Sixteen of the 18 items appear to be indicators of outcomes associated with agentic acts of omission or commission. Of the remaining two, “I feel disgusted” may capture a moral emotion related to the aftermath of nonagentic PMIEs, whereas “I feel betrayed by leaders and institutions” indexes betrayal experiences, failing to assess *outcomes from* trust violations by leaders or institutions (peers, intimates, and strangers are also missing as referents).

Additionally, the authors of the MIDS conceptualized and tested their scale as a unidimensional outcome related to any type of PMIE, implying that a total score on the MIDS could describe the lasting psychological, biological, and social phenomenology of both agentic and nonagentic morally injurious experiences. However, given the content focus of the MIDS, it remains unclear whether it could validly assess the range of unique problems among veterans, first responders, and health care workers who report a worst and most distressing PMIE that is exclusively nonagentic.

THE STATE OF SCIENCE ON MI

Unfortunately, the state of the science of MI is immature and what Kuhn (1962) labeled “preparadigmatic.” The knowledge needle has moved very little since the Litz et al. (2009) paper. This state of affairs is due to the lack of consensus on foundational assumptions; the absence of a broadly accepted, testable overarching theory on the causes and consequences of moral behavior and moral violations; and insufficient attention to construct validation. Many empirical studies have not been theory-driven (i.e., they lack hypotheses and predictions) and have had significant internal validity problems, most notably the poor content validity of measures. The published epidemiological studies have also used measures with problematic content validity. In terms of treatment, change agents have been accommodated from existing treatments, particularly for PTSD, before a consensus was reached about what the construct of MI is and before a valid measure of MI as an outcome could be used to test their efficacy.

A ROADMAP TO IMPROVE THE SCIENTIFIC STUDY OF MI

The field needs to build a paradigmatic framework to define and refine the boundary conditions for the MI construct, generate new testable hypotheses and research about the etiology and maintenance of MI, and develop prevention and treatment strategies informed by theory and evidence. Here, I summarize ideas that are fully articulated in Litz and Walker ([in press](#)), who define MI as a potential clinical problem; distinguish it from moral frustration and moral distress; describe the prevailing social–functional model of morality, moral emotions, virtuous behaviors, and innate action tendencies triggered by transgressive behaviors that threaten kinship; frame the causes of MI as an outcome within this social–functional framework; and suggest model-consistent, cross-cutting intervention strategies to heal and repair MI.

The social–functional theory of morality and MI

The social–functional model of morality proposes that beliefs about right and wrong personal behavior and expectations about how others should behave in the social world—influenced by family, community, faith leaders, teachers, culture, and legal proscriptions—stem from biologically selected, cross-cultural, developmentally early, and unconditioned repertoires that support reciprocal

altruism (RA; e.g., Barrett, 2006; Haidt, 2001; Keltner & Haidt, 1999). Virtuous (i.e., moral) repertoires such as empathy, compassion, kindness, cooperation, conformity, responsibility-taking, and selflessness are ethologically selected because the social contract of treating others as one wishes to be treated (RA) enhances the viability of life-supporting kinship (“Us Group”) relationships (Sapolsky, 2017). Taking responsibility for the safety and well-being of others, being kind and compassionate, being treated virtuously, and observing virtuous behaviors in others within an Us Group all elicit positive feelings, activated by the brain’s reward circuitry (e.g., Harbaugh et al., 2007).

Equally biological repertoires (automatic, unconditioned) include anger or aggression, retaliation, and shunning or excluding members within an Us Group who violate expectations of RA (see Haidt, 2003; Keltner & Buswell, 1997). Violators or transgressors are also biologically prepared to submit, withdraw, and experience shame and embarrassment (see Tangney et al., 2007). When an Us Group member loses standing, faces rejection, or is excluded, thus becoming an “Other,” it activates brain regions associated with social pain (e.g., Ellemers & van Nunspeet, 2020), which can be as distressing as physical pain (Eisenberger, 2012; Eisenberger et al., 2003; Kross et al., 2011; Rotge et al., 2015).

Both individuals who experience RA violations and transgressors experience stress and fear, as such events disrupt kinship bonds that otherwise promote safety and comfort. It is distressing when trusted others engage in dehumanizing acts, resulting in a loss of comfort and cohesion. Transgressors of the RA contract experience a diminished sense of social safety. If people feel unvalued and cannot rely on others to value them, they lose pride, meaning, purpose, and a sense of belonging. A loss of prosocial relationships and communities can lead to loneliness, negatively impacting health and quality of life (e.g., Hawkey & Cacioppo, 2010).

The biological imperative underpinning RA (i.e., hedonically reinforcing cycles of positive social interactions and well-being; Ellemers & van Nunspeet, 2020) fosters a shared human identity (humanity), which drives shared responsibility-taking and kinship bonds, creating a shared need to mitigate social vulnerability and fallibility. This supports cohesive prosocial relationships and communities that are essential for mental and physical health.

However, prosociality and shared humanity are moderated by membership within Us versus Other groups. People tend to shun, dehumanize, and fail to empathize or cooperate with non-Us Group members (e.g., Cikara et al., 2011; Hein et al., 2010), which can strengthen kinship identity and bonds, bolster self-esteem, and foster safety and comfort. Becoming and being an Other produces social

pain and threatens well-being. When Us Group members are harmed, including by strangers or enemies who share a common humanity, it undermines the rewarding nature of social connections, affecting one’s capacity for trust and valuing others. This social pain induces anxiety, vigilance, and reduced dopamine and reward signaling, leading to dysphoria and anhedonia (e.g., Haber & Knutson, 2010). Noncontingent betrayal by Us Group members eventually fosters anger and externalizing behaviors (e.g., Coccaro et al., 2007).

Virtuous repertoires and the responses to transgressions are inherently social phenomena (see Fehr & Gächter, 2002) that promote survival and social cohesion, signaling motivations to either repair (shame-based) or assert (trust-violation-based) breaches of RA. Biological mechanisms supporting RA provide the foundation for moral beliefs and prosocial behavior. Bonds within Us Groups create a basis for both personal and collective identity, defining one’s place in the social landscape and nurturing a sense of shared value. This mutual belonging—being valued by and connected to others—strengthens positive self-concepts and self-worth (Tajfel & Turner, 1986). The experience of belonging, alongside feelings of acceptance and appreciation, fosters well-being and life satisfaction (see Baumeister & Leary, 1995).

In this social–functional framework, MI involves lasting, unrepaired social pain and a loss of kinship (i.e., belonging and being part of something meaningful); pride in oneself or others; and caring, trusting relationships in one’s personal, work, and community life. Perpetrators experience explicit or implicit social rejection and dehumanization and engage in self-stigmatizing and self-dehumanizing thoughts, feelings, and behaviors (e.g., Kouchaki et al., 2018). Shame conveys culpability, unworthiness, and a loss of humanity. For individuals who experience others’ transgressions or bear witness to grave inhumanity, MI involves social pain and distrust, as well as a loss of faith in humanity, righteous blaming, and the moral emotion of anger that arises from the violation of the social contract. Within the social–functional model of MI, the injury is social pain; the loss of rewarding and safe relationships; and the neurobiological, emotional, psychological, and social consequences of losing Us Group standing (i.e., being treated as an Other) or trust in and the viability of former Us Groups.

Although the social–functional model of morality and MI posits that virtuous behaviors and the consequences of transgressive behavior are a universal feature of humanity (i.e., they are biological, unlearned, cross-cultural, and appear early in development), a host of context and cultural factors are likely to affect the parameters of virtuous repertoires, how Us and Other groups are formed, and responses to transgressive behavior. Candidate domains include (a) cultural norms and values (e.g., religious

beliefs, ideas about collectivism vs. individualism, taboos, and justice orientation; e.g., Haidt, 2012); (b) cultural practices (e.g., reconciliation and conflict resolution rituals, degree of expressivity and disclosure; e.g., Shweder & Sullivan, 1993), (c) social roles and structures (e.g., professional roles, expectations and rules, the role of elders and leaders, family systems, and gender roles; e.g., Fiske, 1992), (d) historical and political context (e.g., colonialism, current and past wars, displacement, laws, ideologies, activism; e.g., Alexander, 2004), (e) community dynamics (e.g., collective trauma, solidarity, trust; e.g., Putnam, 2000); (f) language (e.g., idioms used to describe guilt, shame, and betrayal; e.g., Lakoff & Johnson, 1980); and (g) economic context (e.g., poverty, resource scarcity; e.g., Diamond, 2005).

Assumptions, definitions, and hypotheses

- 1. Moral harms and outcomes are continuous (see Litz & Kerig, 2019).** Moral challenges are nonfocal and nonepisodic distally self-referential violations of RA that are ubiquitous and may lead to moral frustration, which entails high-frequency mild, fleeting, and nonpressing moral emotions and very little distress and impairment. Then, there are two dimensions in which a person is an agent or casualty of a substantial higher-magnitude moral harm, namely (a) less frequent moral stressors, which are alarming, focal, or episodic self-referential transgressive experiences that may lead to subclinical moral distress, entail more frequent and less severe MI symptoms than moral frustration, and may affect well-being and functioning, and (b) morally injurious transgressions and MI which is a low base rate potential clinical problem with significantly impairing and severe MI symptoms.
- 2. MI is a measurable potential clinical syndrome** defined as significantly functionally impairing alterations in (paraphrased from Litz et al., 2022, p. 4) (a) self- and other-perception (i.e., shifts in ideas about personal or collective humanity), (b) moral thinking (i.e., moralistic judgments of oneself and others [e.g., self-censure, condemnation]), (c) social behavior (i.e., social exclusion, social rejection; loss of valued, valuing, and kindred attachments), (d) moral emotions and moods (i.e., the self-conscious emotions of guilt and shame and the other-condemning emotions of anger and disgust), (e) self-harming or self-sabotaging, and (f) changes in beliefs about life meaning and purpose (e.g., emptiness, purposelessness, questioning faith and the meaning of life) indexed to a worst and most currently distressing experience that entails doing or failing to do (agentic) or directly experiencing or bearing witness to (nonagentic) acts that violate the social contract and
- transgress deeply held moral beliefs and expectations. To be considered a clinical problem (or a case), reports of MI symptoms need to be significantly functionally impairing. The MIOS indexes functional impact by assessing the effects of a worst and most currently distressing PMIE, along with reports of MI symptoms, across various domains of functioning (Litz et al., 2022).

3. MI from focal agentic and nonagentic transgressions entail unique phenomenology and symptoms (Litz et al., 2022), although there is overlapping phenomenology and there are overlapping symptoms, especially when the worst and most currently distressing PMIE comprises a blend of agentic and nonagentic transgressions. Within the dimensional Hierarchical Taxonomy of Psychopathology (HiTOP; Kotov et al., 2017), MI from agentic harms (what Litz et al., 2022, labeled “shame-related MI”) lies on the internalizing spectra, and MI from nonagentic harms (labeled “trust-violation-related MI”) chiefly lies on the externalizing spectra but potentially has internalizing features (e.g., withdrawal, self-esteem deficits) as well. The MIOS measure has an equal number of shame-related symptoms (“I blame myself,” “People would hate me if they really knew me,” “I feel like I don’t deserve a good life,” “I keep myself from having success,” “I am not the good person I thought I was,” “I have lost pride in myself,” and “I cannot be honest with other people”) and trust-violation items (“I have lost faith in humanity,” “I have trouble seeing goodness in others,” “People don’t deserve second chances,” “I am disgusted by what happened,” “There is no higher power,” “I lost trust in others,” and “I am angry all the time”). Nonagentic PMIEs entail witnessing or observing a person or people doing something or failing to do something (e.g., bearing witness to the aftermath of grave inhumanity, witnessing cruelty) and being directly affected or victimized by this failure. Examples include being betrayed by a leader in a high-stakes situation that affects the safety of the group, being compelled by leaders to cover up grave mistakes, and being treated in a cruel and inhumane manner by intimates. Each nonagentic experience is potentially harmful because of the violation of the social contract and betrayal of trust. Trust-violation (i.e., victimization) MI shares features with interpersonal trauma (e.g., a loss of faith in humanity, alterations in beliefs or expectancies about agency and mattering, justice, the potential for good in others). However, MI may be the most pressing clinical problem, rather than PTSD, or, when the case is treated within a PTSD framework, providers should consider the existential and social pain-related impact of trust violations and treatment targets that are not directly

assessed and considered in PTSD treatments, namely social comfort and cohesion, hedonic prosocial relational experiences, belongingness, allowing others to be good, and compassion for others (see Litz et al., 2024).

4. Although a categorical caseness determination is arguably necessary in epidemiological, legal, and reimbursement contexts, **MI does not need to be a mental disease to be a treatment-valid, clinically measurable, and empirically studied problem.** There are numerous treatment-valid examples of syndromes that are not mental diseases (e.g., irritable bowel, chronic fatigue, fibromyalgia, metabolic, and premenstrual syndromes). The dimensional model of MI avoids the arbitrary and fuzzy nature of caseness thresholds, tremendous variability in symptom presentations, and extensive content overlap between seemingly distinct disorders.
5. **MI cannot be fully explained or treated as PTSD (or depression); these problems are distinct and overlapping.** For example, MI cases do not require a life-threat/*DSM-5* Criterion A traumatic event, and when Criterion A events are morally injurious, the PTSD construct lacks treatment validity if the goal is to conceptualize and plan treatment for and track change in MI. First, a binary PTSD diagnosis has no treatment validity with respect to MI. Second, when a Criterion A event is a morally injurious experience, the PTSD syndrome is well prepared to identify and track many problems that are relevant or identical to MI symptoms (i.e., the degree to which a PMIE is intrusively experienced, avoided, and associated with loss of interest, detachment, anhedonia, angry behavior, and self-injurious behaviors), but a clinician would have to generate an ad hoc strategy to assess and track these problems. Third, the symptom domains of strong negative beliefs, self-blame, and strong negative feelings lack specificity (i.e., there is no way to determine if moral emotions are central and pressing and no way to track moral emotions), and the blame item is conceptualized as an appraisal-based and malleable problem. This means that the PTSD syndrome fails to consider or assess the consequences of veridical and existentially impactful blame for agentic and nonagentic moral traumas.
6. **The most parsimonious, direct, and readily measurable targets to promote clinically significant change in MI are corrective humanizing and virtuous experiences and connections.** Any change agent that motivates, facilitates, supports, and reinforces corrective prosocial action in the social world should be considered. This includes valued and valuing connections with intimates, friends, and groups (i.e., Us Groups) and ad hoc experiences in the social

world that foster personal and collective humanity and belonging—the things that were lost in shame-related and trust violation-related MI. In theory, these experiences enhance mood; reduce anxiety and stress; and reduce the centrality, intensity, and impact of MI symptoms.

7. **Clinicians who are interested in treating MI should be emotionally and psychologically prepared and proficient in helping anyone who reports any type of transgressive experience.** This includes bearing witness to grave, large-scale human degradation and cruelty, which can leave an individual so brokenhearted, disgusted, and haunted that the scale and existential impact are too overwhelming to even ponder, let alone repair. This also encompasses deliberate acts of cruelty and aggression in which it would be awkward and ill-fitting to try to find mitigating contextual features to help the person reappraise their culpability in terms of the horrific and life-altering harm they caused, which may be particularly challenging for clinicians accustomed to treating PTSD. In these cases, clinicians would be tasked with helping someone who had horrifically traumatized patients' clinicians have devoted their careers to helping. Here, the challenge is to remain compassionate and hold onto the belief that healing and repair are both possible and worthwhile. However, restoring faith in humanity or one's own humanity is an enormously difficult task, and cases like these—and arguably MI in general—present several process challenges, especially for clinicians who practice within the confines of the evidence-based disease model (i.e., a de facto ethos of curing the disease with a prescriptive course of treatment). Specifically, clinicians should (a) collaboratively develop flexible, sober, achievable treatment plans to initiate (and begin the process of accommodating) prosocial and compassionate behaviors that foster humanizing, valued, and valuing connections and, (b) because the original meanings, associations, and behaviors tied to the MI are highly accessible, consider treatment as an episode of care within a broader recovery approach (e.g., Litz et al., 2024). This recovery approach is strengths-based; focuses on restoration, building, and sustaining social resources; and views psychotherapy as the beginning of a lifelong reparative plan, which may require planned follow-ups and regular check-ins.
8. **MI symptoms may be a focal or additional treatment target and may mediate or moderate change in a given problem area.** MI is a unique cross-cutting construct that may contribute to or shape the treatment of any presenting problem in any case in any clinical setting. For example, MI symptoms may affect motivation and the therapeutic relationship. When treatment

is focused on targets that positively impact social value and belongingness, MI symptoms may collaterally change.

SUMMARY AND CONCLUSION

In this State of the Science article, I described a social-functional theory of MI that is an offshoot of a well-established, empirically supported theory of moral behavior; moral emotions; and the biological, social, and psychological consequences of violations of the social contract that otherwise support safety, comfort, identity, self-esteem, social success, and the viability of kinship relationships. I also provided a set of foundational assumptions, definitions, and hypotheses about MI. My hope is that this model can serve as a paradigm for MI to guide refinement and hypothesis-driven empirical research to verify predictions that stem from the model and generate new knowledge to shape the discourse and identify and test strategies to prevent, mitigate, and treat MI.

ORCID

Brett T. Litz  <https://orcid.org/0000-0002-0479-8887>

REFERENCES

- Aita, S. L., Kondrath, S. R., Owen, T., Borgogna, N. C., & Usset, T. J. (2023). The status of evidence-based treatments for moral injury syndrome: Review and meta-analysis of randomized controlled trials. *Current Treatment Options in Psychiatry*, 10(3), 217–233. <https://doi.org/10.1007/s40501-023-00292-8>
- Alexander, J. C. (2004). Toward a theory of cultural trauma. In J. C. Alexander, R. Eyerman, B. Giesen, N. J. Smelser, & P. Sztopka (Eds.), *Cultural trauma and collective identity* (pp. 1–30). University of California Press.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- Anastasi, G., Gravante, F., Barbato, P., Bambi, S., Stievano, A., & Latina, R. (2024). Moral injury and mental health outcomes in nurses: A systematic review. *Nursing Ethics*. Advance online publication. <https://doi.org/10.1177/09697330241281376>
- Barrett, L. F. (2006). Are emotions natural kinds? *Perspectives on Psychological Science*, 1(1), 28–58. <https://doi.org/10.1111/j.1745-6916.2006.00003.x>
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497–529. <https://doi.org/10.1037/0033-2909.117.3.497>
- Brennan, C. J., Roberts, C., & Cole, J. C. (2024). Prevalence of occupational moral injury and post-traumatic embitterment disorder: A systematic review and meta-analysis. *BMJ Open*, 14(2), Article e071776. <https://doi.org/10.1136/bmjopen-2023-071776>
- Čartolovni, A., Stolt, M., Scott, P. A., & Suhonen, R. (2021). Moral injury in healthcare professionals: A scoping review and discussion. *Nursing Ethics*, 28(5), 590–602. <https://doi.org/10.1177/0969733020966776>
- Chew, Q. H., Lee, T. S., & Sim, K. (2023). Moral injury and associated context, contributors and consequences within mental healthcare professionals: A scoping review. *Postgraduate Medicine*, 135(7), 646–668. <https://doi.org/10.1080/00325481.2023.2266007>
- Cikara, M., Bruneau, E. G., & Saxe, R. R. (2011). Us and them: Intergroup failures of empathy. *Current Directions in Psychological Science*, 20(3), 149–153. <https://doi.org/10.1177/0963721411408713>
- Coccaro, E. F., McCloskey, M. S., Fitzgerald, D. A., & Phan, K. L. (2007). Amygdala and orbitofrontal reactivity to social threat in individuals with impulsive aggression. *Biological Psychiatry*, 62(2), 168–178. <https://doi.org/10.1016/j.biopsych.2006.08.024>
- Coimbra, B. M., Zylberstajn, C., van Zuiden, M., Hoeboer, C. M., Mello, A. F., Mello, M. F., & Olf, M. (2024). Moral injury and mental health among health-care workers during the COVID-19 pandemic: Meta-analysis. *European Journal of Psychotraumatology*, 15(1), Article 2299659. <https://doi.org/10.1080/20008066.2023.2299659>
- Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation: Design & analysis issues for field settings*. Houghton Mifflin.
- Currier, J. M., Farnsworth, J. K., Drescher, K. D., McDermott, R. C., Sims, B. M., & Albright, D. L. (2018). Development and evaluation of the Expressions of Moral Injury Scale—Military Version. *Clinical Psychology & Psychotherapy*, 25(3), 474–488. <https://doi.org/10.1002/cpp.2170>
- D’Alessandro-Lowe, A. M., Brown, A., Sullo, E., Pichtikova, M., Karram, M., Mirabelli, J., McCabe, R. E., McKinnon, M. C., & Ritchie, K. (2024). Why are healthcare providers leaving their jobs? A convergent mixed-methods investigation of turnover intention among Canadian healthcare providers during the COVID-19 pandemic. *Nursing Reports*, 14(3), 2030–2060. <https://doi.org/10.3390/nursrep14030152>
- Diamond, J. (2005). *Collapse: How societies choose to fail or succeed* (pp. 157–175). Viking Press.
- Eisenberger, N. I. (2012). The pain of social disconnection: Examining the shared neural underpinnings of physical and social pain. *Nature Reviews Neuroscience*, 13(6), 421–434. <https://doi.org/10.1038/nrn3231>
- Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science*, 302(5643), 290–292. <https://doi.org/10.1126/science.1089134>
- Ellemers, N., & van Nunspeet, F. (2020). Neuroscience and the social origins of moral behavior: How neural underpinnings of social categorization and conformity affect everyday moral and immoral behavior. *Current Directions in Psychological Science*, 29(5), 513–520. <https://doi.org/10.1177/0963721420951584>
- Fehr, E., & Gächter, S. (2002). Altruistic punishment in humans. *Nature*, 415(6868), 137–140. <https://doi.org/10.1038/415137a>
- Fiske, A. P. (1992). The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review*, 99(4), 689–723. <https://doi.org/10.1037/0033-295X.99.4.689>
- Frankfurt, S., & Frazier, P. (2016). A review of research on moral injury in combat veterans. *Military Psychology*, 28(5), 318–330. <https://doi.org/10.1037/mil0000132>
- Frankfurt, S. B., Frazier, P., & Engdahl, B. (2017). Indirect relations between transgressive acts and general combat exposure and moral injury. *Military Medicine*, 182(11–12), e1950–e1956. <https://doi.org/10.7205/MILMED-D-17-00062>

- Gaitens, J., Condon, M., Fernandes, E., & McDiarmid, M. (2021). COVID-19 and essential workers: A narrative review of health outcomes and moral injury. *International Journal of Environmental Research and Public Health*, *18*(4), Article 1446. <https://doi.org/10.3390/ijerph18041446>
- Griffin, B. J., Purcell, N., Burkman, K., Litz, B. T., Bryan, C. J., Schmitz, M., Villierme, C., Walsh, J., & Maguen, S. (2019). Moral injury: An integrative review. *Journal of Traumatic Stress*, *32*(3), 350–362. <https://doi.org/10.1002/jts.22362>
- Griffin, B. J., Weber, M. C., Hinkson, K. D., Jendro, A. M., Pyne, J. M., Smith, A. J., Usset, T., Cucciare, M., Norman, S. B., Khan, A., Purcell, N., & Maguen, S. (2023). Toward a dimensional contextual model of moral injury: A scoping review on healthcare workers. *Current Treatment Options in Psychiatry*, *10*(3), 199–216. <https://doi.org/10.1007/s40501-023-00296-4>
- Haber, S. N., & Knutson, B. (2010). The reward circuit: Linking primate anatomy and human imaging. *Neuropsychopharmacology*, *35*(1), 4–26. <https://doi.org/10.1038/npp.2009.129>
- Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, *108*(4), 814–834. <https://doi.org/10.1037/0033-295x.108.4.814>
- Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 852–870). Oxford University Press.
- Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion* (pp. 125–130). Pantheon Books.
- Hall, N. A., Everson, A. T., Billingsley, M. R., & Miller, M. B. (2022). Moral injury, mental health and behavioural health outcomes: A systematic review of the literature. *Clinical Psychology & Psychotherapy*, *29*(1), 92–110. <https://doi.org/10.1002/cpp.2607>
- Harbaugh, W. T., Mayr, U., & Burghart, D. R. (2007). Neural responses to taxation and voluntary giving reveal motives for charitable donations. *Science*, *316*(5831), 1622–1625. <https://doi.org/10.1126/science.1140738>
- Hawkey, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of Behavioral Medicine*, *40*(2), 218–227. <https://doi.org/10.1007/s12160-010-9210-8>
- Haynes, S. N., Richard, D. C. S., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological Assessment*, *7*(3), 238–247. <https://doi.org/10.1037/1040-3590.7.3.238>
- Hein, G., Silani, G., Preuschhoff, K., Batson, C. D., & Singer, T. (2010). Neural responses to ingroup and outgroup members' suffering predict individual differences in costly helping. *Neuron*, *68*(1), 149–160. <https://doi.org/10.1016/j.neuron.2010.09.003>
- Jamieson, N., Carey, L. B., Jamieson, A., & Maple, M. (2023). Examining the association between moral injury and suicidal behavior in military populations: A systematic review. *Journal of Religion and Health*, *62*(6), 3904–3925. <https://doi.org/10.1007/s10943-023-01885-6>
- Keltner, D., & Buswell, B. N. (1997). Embarrassment: Its distinct form and appeasement functions. *Psychological Bulletin*, *122*(3), 250–270. <https://doi.org/10.1037/0033-2909.122.3.250>
- Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition and Emotion*, *13*(5), 505–521. <https://doi.org/10.1080/026999399379168>
- Khan, A. J., Griffin, B. J., & Maguen, S. (2023). A review of research on moral injury and suicide risk. *Current Treatment Options in Psychiatry*, *10*(3), 259–287. <https://doi.org/10.1007/s40601-023-00293-7>
- King, D. W., & King, L. A. (1991). Validity issues in research on Vietnam veteran adjustment. *Psychological Bulletin*, *109*(1), 107–124. <https://doi.org/10.1037/0033-2909.109.1.107>
- Koenig, H. G., Ames, D., Youssef, N. A., Oliver, J. P., Volk, F., Teng, E. J., Haynes, K., Erickson, Z. D., Arnold, I., O'Garro, K., & Pearce, M. (2018). The Moral Injury Symptom Scale–Military Version. *Journal of Religion and Health*, *57*(1), 249–265. <https://doi.org/10.1007/s10943-017-0531-9>
- Kotov, R., Krueger, R. F., Watson, D., Achenbach, T. M., Althoff, R. R., Bagby, M. R., Brown, T. A., Carpenter, W. T., Caspi, A., Clark, A. L., Eaton, N. R., Forbes, M. K., Forbush, K. T., Goldberg, D., Hasin, D., Hyman, S. E., Ivanova, M. Y., Lynam, D. R., Markon, K., ... Zimmerman, M. (2017). The Hierarchical Taxonomy of Psychopathology (HiTOP): A dimensional alternative to traditional nosologies. *Journal of Abnormal Psychology*, *126*(4), 454–477. <https://doi.org/10.1037/abn0000258>
- Kouchaki, M., Dobson, K. S. H., Waytz, A., & Kteily, N. S. (2018). The link between self-dehumanization and immoral behavior. *Psychological Science*, *29*(8), 1234–1246. <https://doi.org/10.1177/0956797618760784>
- Kross, E., Berman, M. G., Mischel, W., Smith, E. E., & Wager, T. D. (2011). Social rejection shares somatosensory representations with physical pain. *Proceedings of the National Academy of Sciences of the United States of America*, *108*(15), 6270–6275. <https://doi.org/10.1073/pnas.1102693108>
- Kuhn, T. S. (1962). *The structure of scientific revolutions*. University of Chicago Press.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by* (pp. 1–24). University of Chicago Press.
- Lentz, L. M., Smith-MacDonald, L., Malloy, D., Carleton, R. N., & Brémault-Phillips, S. (2021). Compromised conscience: A scoping review of moral injury among firefighters, paramedics, and police officers. *Frontiers in Psychology*, *12*, Article 639781. <https://doi.org/10.3389/fpsyg.2021.639781>
- Litz, B. T. (2024, September). The prevalence and functional impact of moral injury in U.S. veterans. In S. Maguen (Chair), *Advancements in understanding moral injury: The prevalence, measurement, and correlates of moral injury across multiple at-risk populations in diverse contexts*. Symposium conducted at the annual convention of the International Society for Traumatic Stress Studies, Boston, MA, United States.
- Litz, B. T., & Kerig, P. K. (2019). Introduction to the special issue on moral injury: Conceptual challenges, methodological issues, and clinical applications. *Journal of Traumatic Stress*, *32*(3), 341–349. <https://doi.org/10.1002/jts.22405>
- Litz, B. T., Plouffe, R. A., Nazarov, A., Murphy, D., Phelps, A., Coady, A., Houle, S. A., Dell, L., Frankfurt, S., Zerach, G., Levi-Belz, Y., & the Moral Injury Outcome Scale Consortium. (2022). Defining and assessing the syndrome of moral injury: Initial findings of the Moral Injury Outcome Scale Consortium. *Frontiers in Psychiatry*, *13*, Article 923928. <https://doi.org/10.3389/fpsyg.2022.923928>
- 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. <https://doi.org/10.1016/j.cpr.2009.07.003>

- Litz, B. T., & Walker, H. E. (in press). Moral injury: An overview of conceptual, definitional, assessment, and treatment issues. *Annual Review of Clinical Psychology*.
- Litz, B. T., Yeterian, J., Berke, D., Lang, A. J., Gray, M. J., Nienow, T., Frankfurt, S., Harris, J. I., Maguen, S., & Rusowicz-Orazem, L. (2024). A controlled trial of *adaptive disclosure-enhanced* to improve functioning and treat posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology*, 92(3), 150–164. <https://doi.org/10.1037/ccp0000873>
- Maguen, S., Griffin, B. J., Copeland, L. A., Perkins, D. F., Finley, E. P., & Vogt, D. (2020). Gender differences in prevalence and outcomes of exposure to potentially morally injurious events among post-9/11 veterans. *Journal of Psychiatric Research*, 130, 97–103. <https://doi.org/10.1016/j.jpsychires.2020.06.020>
- Maguen, S., Griffin, B. J., Pietrzak, R. H., McLean, C. P., Hamblen, J. L., & Norman, S. B. (2024). Using the Moral Injury and Distress Scale to identify clinically meaningful moral injury. *Journal of Traumatic Stress*, 37(4), 685–696. <https://doi.org/10.1002/jts.23050>
- McEwen, C., Alisic, E., & Jobson, L. (2021). Moral injury and mental health: A systematic review and meta-analysis. *Traumatology*, 27(3), 303–315. <https://doi.org/10.1037/trm0000287>
- Nash, W. P., Marino Carper, T. L., 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. <https://doi.org/10.7205/MILMED-D-13-00017>
- Nazarov, A., Forchuk, C. A., Houle, S. A., Hansen, K. T., Plouffe, R. A., Liu, J. J. W., Dempster, K. S., Le, T., Kocha, I., Hosseiny, F., Heesters, A., & Richardson, J. D. (2024). Exposure to moral stressors and associated outcomes in healthcare workers: Prevalence, correlates, and impact on job attrition. *European Journal of Psychotraumatology*, 15, Article 2306102. <https://doi.org/10.1080/20008066.2024.2306102>
- Norman, S. B., Capone, C., Panza, K. E., Haller, M., Davis, B. C., Schnurr, P. P., Shea, M. T., Browne, K., Norman, G. J., Lang, A. J., Kline, A. C., Golshan, S., Allard, C. B., & Angkaw, A. (2022). A clinical trial comparing trauma-informed guilt reduction therapy (TriGR), a brief intervention for trauma-related guilt, to supportive care therapy. *Depression and Anxiety*, 39(4), 262–273. <https://doi.org/10.1002/da.23244>
- Norman, S. B., Griffin, B. J., Pietrzak, R. H., McLean, C., Hamblen, J. L., & Maguen, S. (2024). The Moral Injury and Distress Scale: Psychometric evaluation and initial validation in three high-risk populations. *Psychological Trauma: Theory, Research, Practice, and Policy*, 16(2), 280–291. <https://doi.org/10.1037/tra0001533>
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community* (pp. 22–55). Simon & Schuster.
- Richardson, N. M., Lamson, A. L., Smith, M., Eagan, S. M., Zvonkovic, A. M., & Jensen, J. (2020). Defining moral injury among military populations: A systematic review. *Journal of Traumatic Stress*, 33(4), 575–586. <https://doi.org/10.1002/jts.22553>
- Riedel, P. L., Kreh, A., Kulcar, V., Lieber, A., & Juen, B. (2022). A scoping review of moral stressors, moral distress and moral injury in healthcare workers during COVID-19. *International Journal of Environmental Research and Public Health*, 19(3), Article 1666. <https://doi.org/10.3390/ijerph19031666>
- Roemer, L., Litz, B. T., Orsillo, S. M., Erlich, P. J., & Friedman, M. J. (1998). Increases in retrospective accounts of war-zone exposure over time: The role of PTSD symptom severity. *Journal of Traumatic Stress*, 11(3), 597–605. <https://doi.org/10.1023/A:1024469116047>
- Rotge, J. Y., Lemogne, C., Hinfray, S., Huguet, P., Grynszpan, O., Tartour, E., George, N., & Fossati, P. (2015). A meta-analysis of the anterior cingulate contribution to social pain. *Social Cognitive and Affective Neuroscience*, 10(1), 19–27. <https://doi.org/10.1093/scan/nsu110>
- Sapolsky, R. M. (2017). *Behave: The biology of humans at our best and worst*. Penguin Books.
- Shay, J. (1994). *Achilles in Vietnam: Combat trauma and the undoing of character*. Scribner.
- Shweder, R. A., & Sullivan, M. A. (1993). Cultural psychology: Who needs it? *Annual Review of Psychology*, 44(1), 497–523. <https://doi.org/10.1146/annurev.ps.44.020193.002433>
- Southwick, S. M., Morgan, C. A., Nicolaou, A. L., & Charney, D. S. (1997). Consistency of memory for combat-related traumatic events in veterans of Operation Desert Storm. *American Journal of Psychiatry*, 154(2), 173–177. <https://doi.org/10.1176/ajp.154.2.173>
- Tajfel, H., & Turner, J. C., (1986). The social identity theory of intergroup behavior. In S. Worchel & W.G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Nelson-Hall.
- Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual Review of Psychology*, 58(1), 345–372. <https://doi.org/10.1146/annurev.psych.56.091103.070145>
- Tao, H., Nieuwsma, J. A., Meador, K. G., Harris, S. L., & Robinson, P. S. (2023). Validation of the Moral Injury Outcome Scale in acute care nurses. *Frontiers in Psychiatry*, 14, Article 1279255. <https://doi.org/10.3389/fpsy.2023.1279255>
- Thibodeau, P. S., Nash, A., Greenfield, J. C., & Bellamy, J. L. (2023). The association of moral injury and healthcare clinicians' well-being: A systematic review. *International Journal of Environmental Research and Public Health*, 20(13), Article 6300. <https://doi.org/10.3390/ijerph20136300>
- Walker, H. E., O'Donnell, K. P., & Litz, B. T. (2024). Past, present, and future of cognitive behavioral-based psychotherapies for moral injury. *Current Treatment Options in Psychiatry*. Advance online publication. <https://doi.org/10.1007/s40501-024-00330-z>
- Weathers, F. W., Keane, T. M., King, L. A., & King, D. W. (1997). Psychometric theory in the development of posttraumatic stress disorder assessment tools. In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 98–135). Guilford Press.
- Webb, E. L., Ireland, J. L., Lewis, M., & Morris, D. (2024). Potential sources of moral injury for healthcare workers in forensic and psychiatric settings: A systematic review and meta-ethnography. *Trauma, Violence, & Abuse*, 25(2), 918–934. <https://doi.org/10.1177/15248380231167390>
- Williamson, V., Stevelink, S. A., & Greenberg, N. (2018). Occupational moral injury and mental health: Systematic review and meta-analysis. *The British Journal of Psychiatry*, 212(6), 339–346. <https://doi.org/10.1192/bjp.2018.55>
- Wilson, M. A., Shay, A., Harris, J. I., Faller, N., Usset, T. J., & Simmons, A. (2023). Moral distress and moral injury in military healthcare clinicians: A scoping review. *AJPM Focus*, 3(2), Article 100173. <https://doi.org/10.1016/j.focus.2023.100173>
- 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. <https://doi.org/10.1002/da.22614>

Xue, Y., Lopes, J., Ritchie, K., D'Alessandro, A. M., Banfield, L., McCabe, R. E., Heber, A., Lanius, R. A., & McKinnon, M. C. (2022). Potential circumstances associated with moral injury and moral distress in healthcare workers and public safety personnel across the globe during COVID-19: A scoping review. *Frontiers*

in Psychiatry, 13, Article 863232. <https://doi.org/10.3389/fpsyt.2022.863232>

How to cite this article: Litz, B. T. (2025). Moral injury: State of the Science. *Journal of Traumatic Stress*, 1–13. <https://doi.org/10.1002/jts.23125>