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Moral Injury: An Integrative Review

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Individuals who are exposed to traumatic events that violate their moral values may experience severe distress and functional impairments known as "moral injuries." Over the last decade, moral injury has captured the attention of mental health care providers, spiritual and faith communities, media outlets, and the general public. Research about moral injury, especially among military personnel and veterans, has also proliferated. For this article, we reviewed scientific research about moral injury. We identified 116 relevant epidemiological and clinical studies. Epidemiological studies described a wide range of biological, psychological/behavioral, social, and religious/spiritual sequelae associated with exposure to potentially morally injurious events. Although a dearth of empirical clinical literature exists, some authors debated how moral injury might and might not respond to evidence-based treatments for posttraumatic stress disorder (PTSD) whereas others identified new treatment models to directly address moral repair. Limitations of the literature included variable definitions of potentially morally injurious events, the absence of a consensus definition and gold-standard measure of moral injury as an outcome, scant study of moral injury outside of military-related contexts, and clinical investigations limited by small sample sizes and unclear mechanisms of therapeutic effect. We conclude our review by summarizing lessons from the literature and offering recommendations for future research.

Studies of moral injury, once few in number, proliferated over the last decade. Scholars from disciplines including psychology (Farnsworth, Drescher, Nieuwsma, Walser, & Currier, 2014; Frankfurt & Frazier, 2016), psychiatry (Shay, 2009; 2011; 2014), social work (Dombo, Gray, & Early, 2013; Haight, Sugrue, Calhoun, & Black, 2016), philosophy (Gilligan, 2014; Sherman, 2014), and religious/spiritual (R/S) studies (Doehring, 2015; Hodgson & Carey, 2017) have examined the topic, demonstrating its multidisciplinary appeal. In this article, we conduct a narrative review of the scientific literature on moral injury.

Despite widespread interest, there is no consensus definition of moral injury. Shay (1994) introduced the idea heuristically, using Homeric philosophy (see also Basham, 2009; Garran, 2009) and later conceptualized moral injury as a character wound that stems from a betrayal of justice by a person of authority in a high-stakes situation (Shay, 2014). The scientific study of moral injury arguably began with a 2009 publication by Litz and colleagues (2009) that defined potentially morally injurious events as those that entail "perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations" (p. 697). Litz et al. (2009) also posited that moral injury might include symptoms of posttraumatic stress disorder (PTSD), self-harming (e.g., non-suicidal self-injury and suicidal behaviors), self-handicapping behaviors, and demoralization (e.g., hopelessness). Still others have argued that moral injury could entail ruptured social bonds (Nash & Litz, 2013), negative shifts in psychospiritual development (Harris, Park, Currier, Usset, & Voecks, 2015), and other functional impairments (Farnsworth, Drescher, Evans, & Walser, 2017).

Although construct validation efforts are ongoing, moral injury is generally assumed to result from exposure to events

that involve either perpetrating or witnessing actions that violate one's core beliefs (Litz et al., 2009), or betrayal by a leader or trusted authority (Shay, 2014). In the existing literature, which has primarily focused on military-related issues, these events might include injuring or killing enemy combatants, failing to prevent the suffering of fellow service members or civilians, or being betrayed by a leader or fellow service member in a position of power. These events are best construed as *potentially morally injurious events* (PMIEs), in that exposure does not ensure enduring adverse outcomes. For individuals who do experience clinical levels of distress associated with exposure to a PMIE that transgresses their core values, morally injurious outcomes are posited to entail an array of problems.

In this review, we first summarize basic science studies that examine psychological/behavioral, social, religious/spiritual, and biological sequalae of moral injury. Next, we review the applied literature, with a focus on studies that have evaluated various approaches to treat moral injury. Because the nascent literature is composed of many studies with internal and external validity problems and investigators used varied and incomparable definitions and measures of exposure to PMIEs and morally injurious outcomes, a cohesive synthesis was not possible. Instead, we critically review existing studies, summarize methodological and conceptual lessons learned, and offer recommendations for future research.

Method

We searched multiple databases using the key terms "mora*" and "injur*" (i.e., moral injury, morally injurious, morally injured). Figure 1 displays a PRISMA flow diagram for article selection (Moher, Liberati, Tetzlaff, & Altman, 2009). Because there was scant mention of the term moral injury and no scientific studies prior to Litz et al. (2009), we retained peer-reviewed articles published since 2009 that were written in English and contained a key term (e.g., moral injury) in the title, abstract, key words, or main text. PsycINFO returned 418 total results, 79 of which met the inclusion criteria. PubMed returned 52 results, 16 of which met the inclusion criteria and had not been previously retrieved. Following a reference review, we collected an additional 23 articles that met the inclusion criteria. Two articles were neither available online nor by request of the author. In sum, we reviewed 116 articles on moral injury.

Results

The literature consisted of conceptual and empirical articles. Empirical studies employed quantitative, qualitative, and mixed methods, utilizing primarily cross-sectional designs and military-related samples. For the purpose of review, we categorized empirical articles as basic science if the focus was

description or prediction of moral injury and as applied science if the focus was to impact outcomes.

Basic Science Studies

Psychological and behavioral health domains. A considerable body of research has shown that exposure to PMIEs is associated with varied psychiatric symptoms among U.S. military personnel and veterans (Bryan, Bryan, Morrow, Etienne, & Ray-Sannerud, 2014; Currier, Holland, Drescher et al., 2015; Currier, Holland, & Mallot, 2015; Currier, Smith et al., 2017; Dennis et al., 2017; Jordan, Eisen, Bolton, Nash, & Litz, 2017; Maguen et al., 2009, 2010; Maguen, Vogt et al., 2011; Nash et al., 2013); Vietnamese veterans and civilians involved with the Vietnam War (Korinek, Loebach, & Teerawichitchainan, 2017); the Israeli Defense Force (Ritov & Barnetz, 2014); Portuguese Colonial War veterans (Ferrajão & Oliveira 2014, 2015, 2016); deployed healthcare providers (Gibbons, Shafer, Hickling, & Ramsey, 2013); professionals and parents involved with child protection services (Haight, Sugrue, & Calhoun, 2017; Haight, Sugrue, Calhoun, & Black, 2017); police officers (Komarovskaya et al., 2011); educators (Currier, Holland, Rojas-Flores, Herrera, & Foy, 2015); and refugees (Nickerson et al., 2015). Furthermore, Wisco et al. (2017) found that exposure to PMIEs was associated with increased risk of mental disorders and suicidal ideation and attempts, after controlling for sociodemographic characteristics, trauma history, and prior psychiatric diagnosis, in a large national sample of U.S. veterans of the Iraq and Afghanistan wars ($N = 564$). In sum, individuals exposed to PMIEs appear to be at greater risk of developing psychiatric symptoms than those not exposed.

Evidence has suggested that outcomes associated with exposure to PMIEs are distinct from but associated with PTSD. As is the case with the body of literature as a whole, it is important to consider measurement-related issues with these studies. Whereas associations between PTSD and exposure to PMIEs range from small to moderate (Currier, Holland, Drescher et al., 2015; Currier, Holland, & Malott, 2015; Nash et al., 2013), associations between PTSD and measures of morally injurious outcomes are stronger still (e.g., guilt/shame, hopelessness, loss of meaning; Currier et al., 2017; Koenig et al., 2018). Evidence has been mixed as to the degree to which exposure to PMIEs and morally injurious outcomes are associated with specific PTSD symptom clusters (Bryan et al., 2016; Currier, Holland, Rojas-Flores et al., 2015). One challenge to interpreting associations between PTSD and moral injury is the possibility of overlapping trauma types; for instance, if an index event to which an individual was exposed is both potentially life-threatening and morally injurious (Stein et al., 2012).

Nevertheless, several researchers have attempted to identify unique symptom profiles and mediators that may distinguish moral injury from other trauma types. For example, Bryan, Bryan, Roberge, Leifker, and Rozek (2017) found evidence of two profiles that may differentiate PTSD from moral
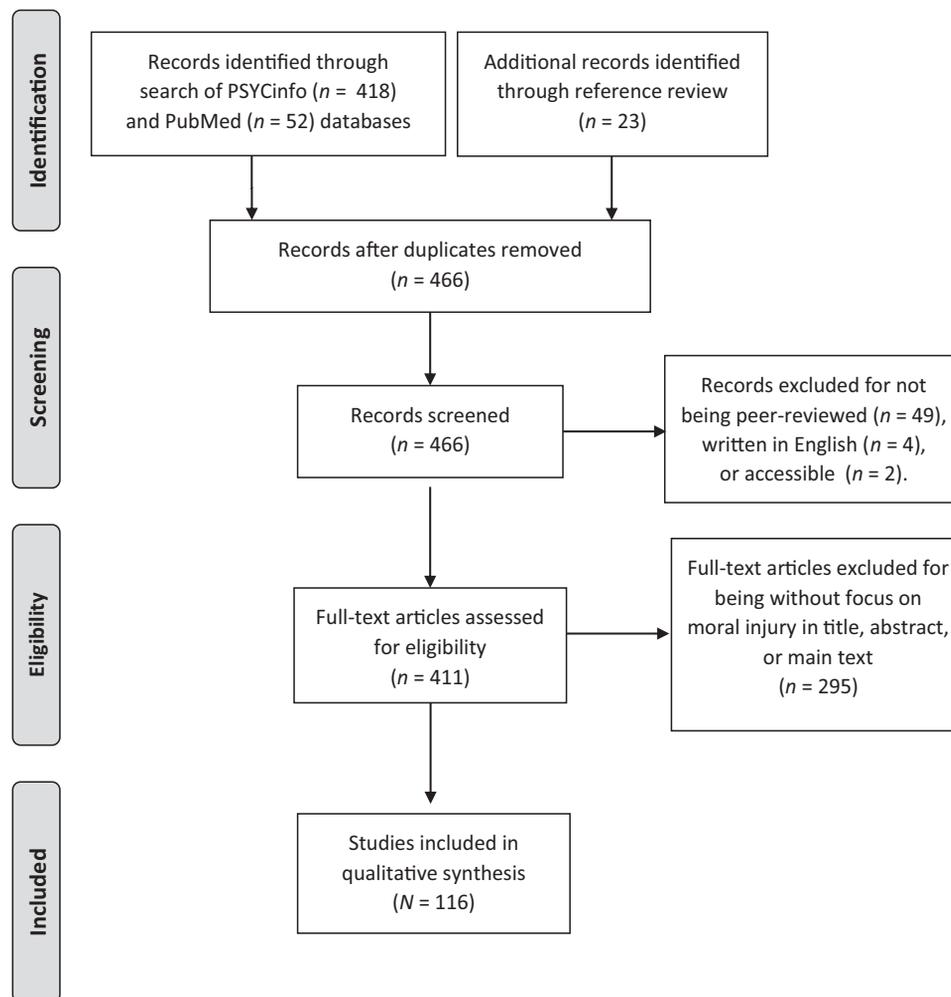
Figure 1. PRISMA flow diagram mapping out the search strategy and number of records identified and included or excluded at each step.

injury among military personnel. The PTSD symptom profile included exaggerated startle reflex, memory loss, flashbacks, nightmares, and insomnia whereas the moral injury profile included guilt, shame, anger, anhedonia, and social alienation. Litz et al. (2018) disaggregated trauma types in service members with PTSD and found that although perpetration-based moral injury was the least prevalent trauma type, it was associated with higher levels of reexperiencing, guilt, and self-blame relative to life-threat traumas. This is consistent with evidence that the association between exposure to betrayal-based events and distress is mediated by anger whereas the association between exposure to perpetration-based events and distress is mediated by guilt and/or shame (Frankfurt, Frazier, & Engdahl, 2017; Jordan et al., 2017; Marx et al., 2010). Taken together, these results suggest that the sequelae of exposure to PMIEs are likely not reducible to PTSD or attributable to fear-based trauma alone.

Evidence also supports an association between exposure to PMIEs (Currier, Holland, Drescher et al., 2015; Currier, Holland, & Malott, 2015; Nash et al., 2013) or appraisal of one's actions as wrong (Lancaster & Erbes, 2017) and depressive symptoms. Again, measures of morally injurious outcomes (Currier et al., 2017; Koenig et al., 2018) appear more strongly associated with depression than measures of exposure to PMIEs (Currier, Holland, Drescher et al., 2015; Nash et al., 2013). Authors of qualitative evaluations have also suggested that morally injurious outcomes and depressive psychopathology co-occur (McCormack & Ell, 2017; Purcell, Koenig, Bosch, & Maguen, 2016); for example, Vargas, Hanson, Kraus, Drescher, and Foy (2013) observed that veterans involved in civilian deaths reported self-deprecation and social isolation, which are putative signs of internalizing problems.

Researchers have also examined the potential association between exposure to PMIEs and externalizing problems, such as destructive behaviors (including suicidal thoughts and behaviors), aggression toward others, and substance use. Relative to military personnel who have PTSD and deny exposure to PMIEs, those who present with symptoms attributed to both PTSD and moral injury were more likely to report suicidal thoughts and behaviors and to have attempted

suicide (Bryan et al., 2017). Specifically, personnel who reported violating their own values (Maguen et al., 2012), rejected previously held religious beliefs (Currier, Smith et al., 2017), reported spiritual distress (Kopacz, Hoffmire, Morley, & Vance, 2015), or felt unforgivable (Bryan, Theriault, & Bryan, 2015) appeared more likely to attempt suicide in some cases. Evidence is mixed as to whether exposure to PMIEs is associated with aggressive behavior (Dennis et al., 2017; Maguen et al., 2009; Worthen & Ahern, 2014) or problematic substance use (Currier, Farnsworth et al., 2017; Maguen et al., 2010; Maguen, Luxton et al., 2011; Tripp, McDevitt-Murphy, & Henschel, 2016).

In addition to exploring mental and behavioral health problems that follow exposure to PMIEs, some authors considered the conditions under which PMIEs might occur. For example, Currier, McCormick, and Drescher (2015) examined the parameters of PMIEs that reportedly led to problems endorsed by war veterans who were receiving residential PTSD treatment. Antecedents of PMIEs included organizational contributors (e.g., leadership perceived as out of touch with "boots on the ground"), environmental contributors (e.g., difficulty identifying threats concealed in an urban setting), cultural or relational contributors (e.g., dehumanization of enemy combatants), and psychological contributors (e.g., persistent fear, desire for retribution, grief over losses). Brenner and colleagues (2015) also suggested that military veterans may feel ill-prepared for ethically ambiguous situations in which decisions are made with limited information and time, often under the influence of emotional duress. Still, little is known about risk and protective factors (e.g., the precipitating conditions and situational constraints) that moderate the association between exposure to PMIEs and enduring mental and behavioral health outcomes.

Social domain. Other researchers have examined social, cultural, and/or interpersonal dimensions of moral injury. The findings of qualitative studies have suggested a range of potential interpersonal conflicts and social problems associated with exposure to PMIEs. For example, some active-duty military personnel have described perceived or actual rejection by family or friends (Vargas et al., 2013); resentment due to feeling misunderstood by civilians (Ferrajão & Oliveira, 2014, 2015, 2016; Worthen & Ahren, 2014); and loss of trust in military command, romantic partners, government, or society in general (McCormack & Ell, 2017). Healthcare providers have also cited alienation from fellow providers and occupational guilds after exposure to work-related PMIEs (Gibbons et al., 2013; Haight et al, 2017).

The findings from quantitative studies have evinced impaired social functioning in active-duty service members (Currier, Holland, Drescher et al., 2015; Nash et al., 2013) and members of paramilitary organizations (Komarovskaya et al., 2011) following exposure to PMIEs. For example, at 6 months post-deployment, Nash and colleagues (2013) found a moderately strong negative correlation between exposure to PMIEs and social support in a cohort of U.S. Marines. Koenig and colleagues (2018) observed strong inverse associations between morally

injurious outcomes and community involvement as well as relationship quality. Likewise, Currier, Farnsworth, and colleagues (2017) found a moderate inverse association between perceived social support and morally injurious outcomes. The risk of suicide among veterans who had been exposed to PMIEs was also inversely associated with the strength of social bonds with family, friends, and others (Houtsma, Khazem, Green, & Anestis, 2017; Martin, Houtsma, Bryan, Bryan, Green, & Anestis, 2017).

A subset of studies examined the association between killing in war—a prototypical perpetration-based PMIE—and social problems. In their qualitative analysis of interviews with combat veterans, Purcell and colleagues (2016) found that veterans who killed or believed they killed during combat questioned others' positive evaluations of themselves, felt separate from civilians who were unfamiliar with the burden of taking a life, and believed that they must remain silent about their experiences to maintain healthy relationships. When controlling for demographic variables and combat exposure, U.S. military veterans of the Iraq and Afghanistan wars who killed enemy combatants or noncombatants were more likely to report marital or relationship problems than those who did not kill (Maguen et al., 2010), and U.S. military veterans of the Vietnam era who reported killing enemy combatants or noncombatants were more likely to aggress toward others after separating from service (Maguen et al., 2009).

Religious/spiritual domain. A number of studies examined associations between exposure to PMIEs or morally injurious outcomes and religious/spiritual (R/S) constructs. Veterans who had been exposed to PMIEs sometimes reported experiencing R/S distress (Drescher et al., 2011; Vargas et al., 2013), such as cynicism about R/S beliefs and criticism of R/S authorities who justify war (Purcell et al., 2016). Among veterans receiving psychological services, reports of exposure to PMIEs were associated with R/S struggles, including feeling abandoned by God, doubting one's beliefs, questioning one's purpose, and perceiving one's actions to be a violation of an R/S ethic (Evans et al., 2017). However, it is unlikely that every veteran experiences moral injury as an R/S problem, and, amongst those who do, religious coping appears to vary from adaptive to maladaptive (i.e., receiving divine forgiveness vs. feeling abandoned by God; Currier, Smith et al., 2017; Currier, Holland, & Malott, 2015; Yan, 2016).

Biological domain. Few studies have examined the biological dimensions of moral injury. A primary area of inquiry is the intersection of moral injury and stress-related illness. Koenig and colleagues (2018) observed that morally injurious outcomes were associated with difficulty with physical activity and sensitivity to pain among community-dwelling military personnel and veterans. Similarly, Korinek and colleagues (2017) found that exposure to killing predicted increased arthritis and PTSD symptoms in a sample of geriatric Vietnamese military and civilian survivors of the Vietnam War. Although moral

injury might initiate or exacerbate stress-related illness, some evidence has suggested that risk of physical distress may be reduced by processing and sharing one's experience (Ferrajão, 2017; Yan, 2016). Finally, preliminary evidence has suggested a biological basis for differentiating reactions to PMIEs from danger-based traumatic events; however, additional studies are needed to further explore the neurobiological underpinnings of moral injury (Ramage et al., 2016; Ritov & Barnetz, 2014).

Applied Studies

Application of evidence-based psychotherapies for PTSD to treat moral injury. Given the co-occurrence of moral injury and PTSD, and widespread dissemination of evidence-based psychotherapies (EBPs) for PTSD, some individuals in the field have hypothesized that EBPs for PTSD are well-positioned to treat moral injury. Among these treatments, prolonged exposure therapy (PE) and cognitive processing therapy (CPT) are the most established.

Repeated imaginal and in vivo exposures are employed in a safe environment to promote recovery from PTSD over the course of treatment with PE (Foa, Hembree, & Rothbaum, 2007). Exposure, the primary mechanism of therapeutic change, is hypothesized to elicit habituation to and extinction of fear-based traumatic responses by confronting avoidance behaviors and enhancing discrimination between potentially threatening and nonthreatening traumatic cues. Proponents of PE have cited reductions in trauma-related guilt over the course of treatment as support of its application to moral injury (Held, Klassen, Brennan, & Zalta, 2017; Paul et al., 2014; Rauch, Smith, Duax, & Tuerk, 2013). Smith, Duax, and Rauch (2013) provided recommendations for applying PE to moral injury, such as contextualizing perceived moral violations and attending to problematic emotions that might not emerge until after return to a safe environment. Yet, critics of PE for moral injury have asserted that morally injurious outcomes may persist even with reappraisal and may be resistant to the habituation processes, and that mechanisms of change, such as self-forgiveness and self-compassion, are not key to traditional applications of PE (Maguen & Burkman, 2013; Steenkamp, Nash, Lebowitz, & Litz, 2013).

Cognitive processing therapy aims to alleviate PTSD symptoms by challenging dysfunctional cognitions (i.e., "stuck points") to produce more balanced and realistic beliefs (Resick, Monson, & Chard, 2017). Using trauma-specific cognitive challenging techniques, CPT shapes individuals to examine how their appraisals of traumatic experiences affect beliefs, emotions, and behaviors. Although CPT was not specifically designed to treat moral injury, Wachen and colleagues (2016) discussed how goals that include accepting naturally occurring emotions and challenging unrealistic cognitions might promote moral repair. For instance, Socratic questioning might contextualize perceived violations to promote perspective-taking and emotional growth (Wachen, Dondanville, & Resick, 2017). Spiritually oriented CPT that targets existential and R/S

problems secondary to moral injury has also been developed (Koenig et al., 2017; Wade, 2016). In these programs, R/S beliefs and rituals are mobilized to facilitate meaningful interpretation of moral distress, as feelings of guilt and shame are validated insofar as they result from actions that violate R/S and cultural ethics.

Overall, clinicians who administer EBPs for PTSD are likely to encounter patients who present with morally injurious experience. Also, PE and CPT are both associated with statistically significant reductions in trauma-related guilt, a putative sign of moral injury (Steinmetz & Gray, 2015; cf. Finlay, 2015) although the mechanism of treatment effect is not clear. Reductions in guilt and shame might be due to the strategic attempt in these therapies to help patients contextualize their culpability (in the case of perpetration-based moral injury) and appreciate the potentially mitigating external constraints (e.g., inadequate time or knowledge to avoid transgressing one's deeply held beliefs) and internal influences (e.g., using excessive violence to harm enemy combatants in retribution for fallen battle buddies) that contributed to the occurrence of PMIEs. In addition, it may be that avoidance behavior motivated by fear (PTSD) or guilt/shame/betrayal (moral injury) are each amenable to intervention that is focused on noticing and challenging avoidance, which is common to PE and CPT. Cognitive behavioral skills may also generalize and assist with some aspects of moral injury, such as challenging overgeneralizations about perceived wrongdoing or failure that contribute to a global sense of personal inferiority as opposed to identifying specific aspects of the self or behaviors that could be amenable to change and promote personal growth. Nevertheless, moral injury may present without PTSD, and some authors have asserted that fear- and victimization-based models of trauma on which EBPs for PTSD typically rely do not sufficiently address processes hypothesized to be central to moral repair (Drescher et al., 2011; Gray, Nash, & Litz, 2017; cf., Wachen, Dondanville, & Resick, 2017).

Alternative and/or adjunctive treatments for moral injury. Alternative and adjunctive treatments for moral injury focus on targets of intervention that are distinct from the fear-based aspects of PTSD. Acceptance and commitment therapy (ACT), a third-wave behavioral intervention, has proven effective in the treatment of shame (Nieuwsma et al., 2015). The aim of ACT is to develop psychological and behavioral flexibility among patients to promote nonjudgmental acceptance of internal experiences and committed action toward value-congruent behavior. An initial test of ACT for moral injury delivered six group therapy sessions of 75-min duration each and collected qualitative data that supported the acceptability and feasibility of the intervention (Farnsworth et al., 2017). To date, there are no published empirical studies of ACT that have shown psychotherapy outcomes for patients with moral injury.

Adaptive disclosure (AD; Litz, Lebowitz, Gray, & Nash, 2016) promotes therapeutic change by targeting recognized mechanisms of moral repair, including a secular confession

process designed to open up the possibility for compassion, forgiveness, and reparative action. In AD, clinicians are trained to accept rather than question the responsibility-taking that is endemic in military culture and the warrior ethos (Gray et al., 2017; Steenkamp et al., 2011, 2013). In a preliminary test of AD, 44 active-duty military personnel participated in six 90-min weekly individual psychotherapy sessions that used a single-group, pre–post design (Gray et al., 2012). Participants reported decreased PTSD symptoms, depression, and posttraumatic cognitions as well as increased posttraumatic growth; however, interpretation of these results is qualified by lack of a comparison condition and examination of PTSD-centric outcomes that could be extended to include problems more closely associated with moral injury (e.g., shame, social isolation, spiritual distress). Two clinical trials of AD, and an expanded version of the approach that incorporates compassion training and letter-writing, are under way (see Litz & Carney, 2018; Yeterian, Berke, & Litz, 2017).

Maguen and Burkman (2013) developed the Impact of Killing (IOK) intervention for combat veterans, which may supplement EBPs for PTSD or function as a standalone treatment after some trauma treatment for individuals who report persistent distress associated with killing in war. The treatment uses a cognitive behavioral framework to facilitate the processing of killing-related thoughts and feelings and introduces targets for intervention, including self-forgiveness (e.g., via letter writing) and amends-making (Maguen et al., 2017). In an initial randomized trial, 33 veterans participated in 6–8 weekly sessions, each lasting 60–90 min. Relative to a waitlist control condition, individuals who were randomly assigned to IOK reported ameliorated PTSD symptoms, reduced psychiatric symptoms, and improved functional outcomes, such as more participation in community events and higher rates of confiding personal thoughts and feelings to others. Veterans also described benefits they experienced from participation in IOK, reporting that they found the intervention acceptable and feasible.

To address religious and spiritual distress and to promote meaning making, Harris and colleagues (2011) developed the eight-session Building Spiritual Strength (BSS) group intervention for military trauma victims. In an initial test ($N = 54$), 46% of veterans who participated in BSS met criteria for clinically significant PTSD after treatment as compared to 69% of a waitlist control group. Like many trials to date, findings were limited by inadequate statistical power and require future investigation, especially with respect to the impact of treatment on outcomes more proximally related to moral injury than solely associated with symptoms of PTSD. Continued evaluation of the BSS intervention, especially in collaboration with R/S leaders and chaplains, is under way.

Several additional topics have received some attention in the literature. Clinical researchers have highlighted the importance of interdisciplinary treatment teams (Meador & Nieuwsma, 2017; Nieuwsma, 2015), pastoral/chaplain care (Carey et al., 2016; Freeman & Shaler, 2016; Kopacz et al., 2016), and addressing the stigma of help-seeking for moral injury (Currier,

Drescher, & Harris, 2014; Morgan, Hourani, Lane, & Tueller, 2016). Some researchers have examined the impact of moral injury treatment on providers (Fiester, 2014; McCormick et al., 2017) and have considered the professional ethics of addressing R/S issues when providing psychotherapy for moral injury (Foley, Albright, & Fletcher, 2016; Johnson, 2014; Spence, Rose, & Tucker, 2014; Worthington & Langberg, 2012). Guidelines for chaplains (Carey et al., 2016) and social workers (Blinka & Harris, 2016; Kopacz, Simons, & Chitaphong, 2015) are also available, and some authors have theorized the role of complementary and integrative modalities, such as logotherapy (Sreenivasan, Smee, & Weinberger, 2014), music (Gimpel, 2016), art (Artra, 2014), letter writing (Keenan, Lumley, & Schneider, 2014), mindfulness (Kick & McNitt, 2016; Kopacz et al., 2016), and web-based intervention (Kahn, Collinge, & Soltysik, 2016).

Discussion

In this review, we highlighted the range of psychological/behavioral, social, religious/spiritual, and biological sequelae that have been associated with exposure to PMIEs. Several efforts to extend EBPs for PTSD or to develop novel approaches to treat moral injury were also examined. Yet, the literature is replete with threats to internal and external validity. Limitations include the absence of a consensus definition of moral injury, disagreement about what does and does not constitute a potentially morally injurious event, lack of a theoretically comprehensive and psychometrically sound measure of morally injurious outcomes, minimal study of moral injury outside of military-related contexts, and clinical investigations weakened by small sample sizes and unclear mechanisms of therapeutic effect. To support future research on moral injury, we have drawn 10 conclusions from the current literature and identified lessons learned, gaps and weaknesses, and pathways for continuing empirical and theoretical work.

Basic and Epidemiological Research

Definitions of moral injury vary, despite ongoing construct validation efforts. The diversity, creativity, and empirical specificity of the literature on moral injury—facilitated by flexible definitions and uses of the term—are among the field's unique strengths. Yet, the field needs a paradigmatic framework and definition of moral injury, and, in particular, there is a need to distinguish the boundary conditions for perpetration- and betrayal-based morally injurious outcomes (Blackie, Roepke, Hitchcott, & Joseph, 2016; Bryan et al., 2016; Hagai & Crosby, 2015; Jordan et al., 2017; Litz et al., 2018). Here, moral injury might be conceptualized on two continua: (a) the extent to which individuals appraise themselves as having committed moral violations, leading to perpetration-based symptoms and (b) the extent to which individuals appraise themselves as victims of another's transgressive behavior, leading to betrayal-based problems. Although some events may be primarily either

perpetration- or betrayal-based, it is possible that the modal presentation is defined by a combination of both perpetration-based and betrayal-based pathologies; for example, an individual could experience moral injury after witnessing a war zone atrocity committed by his or her superiors (betrayal-based) but may also feel as though he or she failed to intervene on behalf of the victim (perpetration-based).

Morally injurious outcomes have a unique pathology and trajectory relative to other trauma types. Moral injury, which results from perpetrating or witnessing events that transgress deeply held personal values (Litz et al., 2009) or betrayal by a trusted authority (Shay, 2014), appears to differ from life threat–based PTSD, with a distinct symptom profile (Bryan et al., 2017) and mechanisms of distress (Jordan et al., 2017). Future studies need to establish the incremental validity of morally injurious outcomes, relative to symptoms of PTSD. For example, how are feelings of guilt/shame secondary to perpetration-based moral injury distinct from trauma-related guilt based on fear-based traumas and losses (Maguen & Burkman, 2013; Jordan et al., 2017)? Such empirical efforts ought to account for co-occurring trauma types, such as a case in which an event is both potentially life threatening and morally injurious. Also, might moral injury explain additional variance in functional impairment beyond that which is explained by PTSD—for example, if shame contributes to avoidance or self-destructive behavior beyond what is observed among individuals who present with only fear-based trauma?

Exposure to potentially morally injurious events should not be equated with morally injurious outcomes, per se. Until recently, most studies assessed exposure to PMIEs (Currier, Holland, Drescher, & Foy, 2015; Nash et al., 2013) as a proxy of morally injurious outcomes. Although precise exposure-oriented assessments are important, they cannot be considered a proxy for assessment of morally injurious outcomes. Preliminary evidence has suggested that measures of exposure to PMIEs are less strongly associated with mental and behavioral health problems than instruments designed to assess morally injurious outcomes (Currier, Farnsworth et al., 2017; Koenig et al., 2018). Furthermore, the lack of a gold-standard, theoretically grounded, content-valid measure of morally injurious outcomes is a major limitation of the current literature. Future research is needed to develop measures that clearly identify morally injurious events and anchor them to associated subjective distress, interfering symptoms and behaviors, and resulting functional impairment.

Moral injury appears not to be an exclusively military-related construct. Although first conceptualized in reference to war zone trauma, moral injury can be applied beyond military contexts. To date, studies have examined moral injury in civilian populations, including healthcare providers (Campbell, Ulrich, & Grady, 2016; McAninch, 2016), educators (Currier, Holland, Rojas-Flores, Herrera, & Foy, 2015; Levinson, 2015),

law enforcement (Komarovskaya et al., 2011; Papazoglou & Chopko, 2017), parents and professionals involved with child protection services (Haight, Sugrue, & Calhoun, 2017; Haight et al., 2017), and refugees (Nickerson, 2015). Researchers may consider the potential relevance of other populations, including first responders, incarcerated adults and juveniles, birth parents following adoption of a child, women who are conflicted about terminating pregnancies, individuals in substance use recovery reconciling past behaviors, and perpetrators of interpersonal violence (e.g., domestic and sexual abuse) seeking rehabilitation.

A biopsychosociospiritual model reflects existing models of morally injurious outcomes and provides opportunities for further research. At present, biological aspects of moral injury are relatively unexplored. Productive areas for future exploration might include the neurobiological underpinnings of moral injury (Ramage et al., 2016), perhaps integrating the more developed literature on moral decision making (Molenberghs et al., 2015) as well as investigation of the association between moral injury and stress-related illness. With respect to research on mental and behavioral health problems, future research might examine adaptive and maladaptive variants of guilt and/or shame. Whereas shame has historically been conceptualized as intense criticism of one's global self that contributes to an array of avoidant or aggressive problems, negative emotion directed at specific aspects of oneself that might be amenable to change could evoke personal growth. Another possible direction for future research is how morally salient betrayals by individuals or institutions in power might exacerbate traumatic symptoms among victims (e.g., military sexual trauma, clerical child abuse).

The social consequences of moral injury appear to be especially pernicious. Future work should examine the range of social, cultural, and political factors that may contribute to the occurrence of PMIEs (e.g., placing men and women in positions where they must compromise shared moral values or violate their own sense of justice to accomplish a conflicting social imperative). The contributions of the social and cultural environment to risk or resilience for individuals exposed to PMIEs (e.g., by moderating appraisals of personal responsibility or perceived belonging) could be explored. Finally, further research is needed on the R/S dimensions of moral injury, especially with attention to the experiences of diverse individuals, given that the current literature is largely couched in Christian traditions.

Clinical Research and Practice

Continued psychometric development of moral injury measures is needed. Extant research has relied upon exposure-oriented measures (Currier, Holland, Drescher, & Foy, 2015; Nash et al., 2013), with outcome-oriented measures of morally injurious experience only recently coming available (Currier, Farnsworth et al., 2017; Koenig et al., 2018). However, there are problems with these newly developed measures.

For example, the Expressions of Moral Injury Scale–Military Version contains double-barreled questions (e.g., "I am ashamed of myself because of things that I did/saw during my military service"; Currier, Farnsworth et al., 2017), which potentially conflates perpetration-based and betrayal-based symptom phenomenology and severity. Future efforts to assess morally injurious outcomes might consider the psychological, social, and R/S sequelae of contributing exposures, perceived injustice that links exposure to distress, and how each unique combination of perpetration- and betrayal-based experiences may influence reported symptoms, clinical course, and response to treatment.

It is unclear how (and whether) moral injury fits into current models for classifying psychiatric disorders. Some scholars have argued against classifying moral injury as a formal psychiatric diagnosis, hesitating to pathologize adaptive moral emotion (Farnsworth et al., 2017). Others have proposed a moral injury "syndrome," identifying core symptom domains akin to diagnostic criteria (Jinkerson, 2016). Yet another possibility is to consider "subtypes" of trauma characterized by different predominating emotional states (e.g., fear and anxiety, guilt and shame, anger and cynicism) and to evaluate how trauma subtypes might respond differently to existing treatments. In any event, research needs to establish thresholds of moral distress that evoke psychiatric and functional problems that merit clinical intervention, especially given the absence of criteria on which to base diagnosis or seek reimbursement for services administered.

Development and evaluation of psychotherapies for moral injury should focus on clinical significance. Although there are no first line treatments for moral injury, there are several approaches to treatment with some evidence of therapeutic effect. Proponents of nearly every psychotherapeutic intervention have demonstrated statistically significant reductions in guilt/shame over the course of treatment to justify application of their approach to moral injury; however, adequately powered randomized controlled trials and stronger justifications are needed to establish clinical significance. For example, with respect to perpetration-based events, treatment strategies including contextualization, nonjudgmental acceptance of emotions, receiving forgiveness from others and forgiving oneself, and conciliatory behavior (e.g., apology), which are all theorized to facilitate changes in guilt and shame (e.g., Gaudet, Sowers, Nugent, & Boriskin, 2016; Nazarov et al., 2015), could be considered. It may be that all proposed strategies reduce "the injustice gap" (i.e., the discrepancy between an individual's experience and what is required to set things right; Davis et al., 2016), although the magnitude of therapeutic effects and contextual limitations of these strategies remains unexplored. Further research is therefore needed to better understand the unique mechanisms and magnitude of change for interventions proposed to address moral injury. Specific recommendations for utilizing such approaches are beyond the scope of this

review but may be found in studies of adapted EBPs for PTSD, including PE (Smith et al., 2013) and CPT (Wachen et al., 2016, 2017) as well as novel treatments focused on moral and/or spiritual repair (Farnsworth et al., 2017; Gray et al., 2012; Harris et al., 2011; Maguen et al., 2017; Yeterian et al., 2017).

Clinical competencies and professional ethics are important considerations. Frankfurt and Frazier (2016) encouraged clinicians to prepare for uncomfortable therapeutic experiences, including bearing witness to discussions of violence and atrocities. This is almost certainly part of working with patients with morally injurious experience. Clinicians must be able to tolerate patients' intense feelings of guilt, remorse, disillusionment, and despair that do not stem from a distortion of reality but rather an understanding of our capacity as human beings for destruction and cruelty. This work can be professionally and personally challenging, evoking in clinicians feelings of helplessness, powerlessness, anger, disgust, and even dislike of their patients, potentially contributing to vicarious traumatization and professional burnout (Haight, Surgue, Calhoun, & Black, 2017). Perhaps adding to the discomfort for some mental health providers is the need to address moral and, often related, R/S concerns. Over the last 30 years, the mental health field has made significant strides in recognizing the importance of R/S and its association with positive health outcomes (Aist, 2012), yet many providers avoid discussions of spirituality or religion for fear of stepping outside their scope. Looking forward, researchers and clinicians must consider the professional ethics, competencies, trainings, and supportive resources that can help them work effectively with morally traumatized patients from diverse cultural, religious, and spiritual backgrounds.

Psychological treatment of the morally injured is not a substitute for social mobilization to understand and address moral injury. Moral distress is a product of culturally imbued, shared values that are internalized by individuals—some of which (e.g., loyalty to country) may conflict with others (e.g., thou shalt not kill). Research has confirmed the significance of communal bonds and social relationships in the occurrence of morally injurious events (Currier, McCormick et al., 2015) and in mitigating (or, if absent, amplifying) the most devastating consequences of moral injury, including suicidal thoughts and behaviors (for a meta-analytic review, see C. J. Bryan et al., 2015). Mental health professionals should therefore keep in mind that moral injury is not solely a product of intrapsychic conflict, and recovery may involve more than psychotherapy. It likely involves an affirmative community effort to understand and reintegrate the morally injured, as well as to accept shared responsibility for that injury.

General Conclusion

We reviewed the psychological/behavioral, social, R/S, and biological consequences of moral injury. Rooted in the self-perceived transgression of core personal convictions and

values, which are often imbued with social or sacred importance, perpetration- and betrayal-based moral injuries can have a devastating impact on the emotions, relationships, health, and functioning of affected individuals. The literature underscores recent efforts to develop interventions that help the morally traumatized begin to repair feelings of guilt/shame, betrayal, and isolation. Also, preliminary evidence has indicated that the family, community, and culture to which the individual returns is a key part of the healing process. It is our hope that this review will contribute to ongoing clinical and scholarly efforts that reveal promising new areas of inquiry and opportunities for continued work addressing moral injury in the years to follow.

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