



The Role of Social Determinants of Health in Moral Injury: Implications and Future Directions

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Abstract

Purpose of Review Exposure to potentially morally injurious events (PMIEs) and the development of moral injury have yet to be conceptualized as they relate to social determinants of health (SDoH).

Recent Findings.

In this paper, the extant literature on moral injury and SDoH is reviewed. Specific individual-level SDoH, including gender, sex, sexual orientation, race, and ethnicity, are explored relative to PMIEs and moral injury. The relationship among environmental SDoH, including childhood environment, justice involvement, and homelessness, is described.

Summary Assessment and treatment implications are discussed, and future research directions highlighting the need for additional work addressing health inequities in moral injury are presented.

Introduction

When individuals' moral codes are violated in the context of high-stakes situations, these "potentially morally injurious events" (PMIEs) are associated with significantly greater risk for suicidal ideation and behavior, posttraumatic stress disorder (PTSD), substance use, and depression [1–6]. Given the potential consequences of exposure to PMIEs, it is imperative to better understand the factors that give rise to these events, as well as related moral distress and the responses to this distress that can cause moral injury. Exposure to PMIEs and moral injury have been most frequently investigated among warzone Veterans, service members, and health care providers, given the clear environmental factors contributing to violations of one's moral code among these groups (e.g., killing a child in war, rationing medical care during a pandemic) [7, 8, 9••, 10]. Although one's occupation is an important means of understanding the types of PMIEs to which a person might be exposed, social determinants of health (SDoH) beyond occupation

may also influence exposure to PMIEs and the subsequent development of moral injury.

In this paper, extant literature on the relationship between moral injury and SDoH is explored, and the need for additional work in this area is highlighted. Conceptual intersections between moral injury and SDoH are explored by first defining these constructs. Next, preliminary research is described, highlighting critical domains in which facets of moral injury and SDoH have been found to intersect. Individual-level factors, such as gender, sex, sexual orientation, race, and ethnicity, are discussed as SDoH often lead to discrimination and exposure to PMIEs. Environmental factors, including childhood environment, justice involvement, and homelessness, are also described as SDoH associated with the possibility of exposure to unique PMIEs. The paper concludes with a discussion of assessment, clinical implications, and future directions for research.

Moral injury

Although definitions of moral injury differ based on theoretical perspective, exposure to PMIEs is a requisite factor for the development of moral injury across models [10–12]. PMIEs can be understood as violations to an individual's moral code in high-stakes environments as a result of one's own actions (e.g., taking someone's life), their inactions (e.g., witnessing and failing to prevent violence against another person), or other peoples' actions or inactions (e.g., betrayal by leadership). When an individual experiences a violation to their moral code, moral distress in the form of painful moral emotions (e.g., guilt, shame, contempt, anger, disgust), cognitions (e.g., thoughts related to blaming oneself or others for the PMIE), urges (e.g., action urges to disconnect, to attack), and physiological responses (e.g., nausea, tightness in chest) tends to result. Moral distress can serve important social functions [13] indicating a departure from one's social values and discouraging behaviors harmful to the group. For instance, emotions like guilt and shame can motivate prosocial behavior [14–16], facilitating responding that can preserve peoples' lives and social communities (e.g., feeling shame as a consequence for taking a person's life may help to protect life in the future and protect the survival of a group of individuals). Although moral distress is an adaptive response to violating one's moral code, sometimes it is responded to in ways that are ultimately harmful to the functioning of the individual (e.g., drug use to avoid the experience of shame). If a person's pattern of relating to their moral distress causes

significant impairment in functioning, moral injury results. Thus, moral injury can be defined as social, psychological, or spiritual suffering resulting from an individual's attempts to avoid or control moral distress that leads to impairment in functioning [10, 11, 17]. These difficulties in functioning often include problems engaging meaningfully at work, in relationships, in spiritual practice, and in activities of daily living [17–20]. Instead, individuals struggling with patterns of moral injury tend to rely on strategies to manage their moral distress in the short-term that can have negative long-term consequences (e.g., attempting suicide, using substances, isolating) [1, 4, 17].

Social determinants of health

Social determinants of health (SDoH) can be broadly defined as “the conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of-life-risks and outcomes” [21]. These contextual factors influence a person's health based on health care access and quality, education access and quality, social and community context, economic stability, and neighborhood and built environment [22]. Beyond these environmental SDoH, individual-level SDoH can interact with a person's environment to further influence their health. For example, an individual's gender, sex, sexual orientation, race, and ethnicity may interact with how the individual is perceived and responded to by their environment, which in turn could lead to poorer health outcomes [23]. The impact of individual-level and environmental SDoH on moral injury are beginning to be explored.

Social determinants of health that may impact the likelihood of moral injury

SDoH are contextual factors that are a product of an individual's relationship with their environment. SDoH may impact the way a person's environment interacts with them, potentially increasing the likelihood of experiencing moral code violations and of developing poor health outcomes related to moral injury. Therefore, it is critical to understand this relationship to effectively inform assessment, intervention, and prevention of moral injury. Although non-exhaustive, this review focuses on those SDoH that have been highlighted as particularly impactful on health broadly and have increasingly been centered in practice and political discourse in recent years.

Individual-level factors

Among the SDoH that are beginning to be investigated in moral injury research are individual-level factors, such as gender, sex, sexual orientation,

race, and ethnicity. Marginalized group membership could result in poorer health outcomes not because of gender, race, or sexual orientation in isolation, but because of the way an individual's environment discriminates against them due to these SDoH [23, 24].

Gender, sex, and sexual orientation

Gender, sex, and sexual orientation are SDoH that may influence the types of PMIEs to which an individual is exposed and potentially result in moral injury. In an epidemiologic study of 7,200 Veterans, women were found to be more likely than men to report other-directed (e.g., witnessing PMIEs) and betrayal-based (e.g., betrayal by leaders and other service members) PMIEs as captured by the Morally Injurious Events Scale [25] (e.g., other-directed: "I saw things that were morally wrong"; betrayal-based: "I feel betrayed by leaders who I once trusted") [26••]. In this study, betrayal-based PMIEs were identified as the strongest driver of functional impairment among women Veterans [26••].

The social determinant of gender may give rise to vulnerability for betrayal by other service members as women are an underrepresented group in the military that faces greater marginalization. For instance, women are significantly more likely than men to experience military sexual trauma (MST), a PMIE that is consistent with the experience of betrayal [27]; specifically, of the 15.7% of military personnel and Veterans who report MST, 3.9% are men and 38.4% are women [28]. Elements of moral distress have been shown to mediate the relationship between MST associated with sexual harassment and mental health symptoms among female military Veterans [29]. These studies suggest that marginalized sex and gender increase the likelihood of experiencing specific types of PMIEs (e.g., betrayal-based PMIEs such as MST), which may lead to poor mental health outcomes.

In another study, trauma-exposed lesbian, gay, bisexual, and transgender (LGBT) Veterans' treatment histories and reasons for not seeking treatment were investigated. Group qualitative interviews and thematic content analysis were used to identify themes associated with treatment seeking, Veterans' Criterion A trauma, discrimination, microaggression, and stressors related to marginalization. Related to stressors associated with marginalization, Veterans identified engaging in behavior that violated their moral code to protect themselves, including not preventing violence against other LGBT service members [30]. PMIEs like these can be linked to poor health outcomes and likely increase risk for moral injury; however, more research is needed to understand sexual orientation and intersectionality as SDoH impacting exposure to PMIEs and the development of moral injury.

Gender-, sex-, and sexual orientation-based social determinants may increase the likelihood of not only being exposed to specific PMIEs but also developing moral injury following exposure to such a PMIE as a result of the same predisposing factors. Take, for example, a female service member who discloses to her supervisors that she was sexually assaulted by a male service member. Her fellow service members and supervisors do not believe her and instead urge her to stay silent about this event, which in turn leads to

heightened moral distress. She then experiences institutional betrayal related to the military's response to her MST [31]. The service member may feel pressured to recant her disclosure to leadership, to not engage in treatment, and to keep her experience to herself. These experiences may teach her a pattern of responding to moral distress that is consistent with attempting to suppress her experiences, resulting in outcomes indicative of moral injury (e.g., isolation, substance use, suicidal ideation) as strategies used to control her moral pain.

Race and ethnicity

Race and ethnicity may serve as SDoH that increase the likelihood of exposure to specific PMIEs. White race was negatively associated with exposure to PMIEs in one large epidemiologic study of warzone Veterans [32]. In addition to potentially greater risk as a result of discrimination within these systems, the intersection of other SDoH (e.g., sex, military service) with race may also increase the likelihood of being exposed to particular PMIEs and of developing moral injury. In a study comparing patterns of exposure to PMIEs between post-9/11 combat Veterans and health care workers surveyed during the COVID-19 pandemic, higher rates of PMIE exposure were associated with non-White race and female sex [33••]. Among combat Veterans in this study, female, non-White Veterans were more likely to report other-directed PMIEs (i.e., "I am troubled by having witnessed others' immoral acts") [33••], a finding similar to Maguen and colleagues (2020) that highlights the importance of considering the unique impact of intersecting SDoH. Non-White race was also associated with higher rates of self-induced PMIEs [33••]. In a longitudinal study of US Marine Corps recruits, race-based discrimination was associated with physical and mental health outcomes over a decade later [34]. Although race-based discrimination was not explicitly assessed as a PMIE, this study suggests that future research is needed to better understand the extent to which race-based discrimination constitutes an other-directed or betrayal-based PMIE for the individual being discriminated against.

For health care workers, non-White race was associated with higher rates of self-directed PMIE exposure (i.e., "I am troubled by having acted in ways that violated my own morals and values") [33••]. The authors hypothesized that moral injury might be more common among those who have less opportunity for social empowerment in their systems. It could be that Black, Indigenous, and people of color (BIPOC) health care providers experience powerlessness and are more likely to follow hospital policy or administrative orders even when this policy represents a violation of their moral code due to fear of retribution.

Environmental factors

Environmental factors, including childhood environment, justice involvement, and homelessness, also may interact with exposure to PMIEs to result in poorer health outcomes.

Childhood environmental factors

The conditions in which people live may serve as SDoH that impact the likelihood of developing moral injury. This includes a person's childhood environment. Childhood maltreatment has been directly associated with PMIE exposure and related distress in a civilian sample [35]. Additionally, parents have identified PMIE exposure associated with involvement in child protective services (CPS). In one study, parents engaged in CPS reported that PMIE exposure resulted in difficulty fully participating in CPS services, potentially leading to negative outcomes for their children [36].

Although a measure of PMIE exposure or facets of moral injury was not included, in a study of gang-affiliated adolescents, perpetration-related trauma mediated the relationship between gang involvement and post-traumatic stress disorder (PTSD) symptoms [37]. As perpetration is widely accepted as a type of self-directed PMIE, the results of this study have implications for the relationship between childhood trauma exposure associated with perpetration and the development of poor mental health outcomes (e.g., PTSD symptoms). More research is needed to understand the extent to which childhood PMIE exposure may contribute to the development of moral injury throughout the lifespan.

Justice involvement

PMIE exposure may be heightened among justice-involved individuals. Perpetration was found to predict symptoms of PTSD in youth in the juvenile justice system above and beyond other forms of trauma exposure [37]. Juveniles involved in the justice system may experience exposure to PMIEs outside of incarceration (e.g., from childhood environmental factors) and may experience exposure to PMIEs while incarcerated. Recidivism is common for juveniles who have previously committed violent offenses, indicating the potential to be exposed to PMIEs while incarcerated on multiple occasions. In one study, 48% of juveniles who committed a violent offense were found to recidivate [38].

As identified for juveniles who engage in perpetration, incarcerated adults who report engaging in acts of perpetration may experience offense-related guilt and develop PTSD [39, 40]. A group of 21 forensic inpatients was interviewed, and thematic analysis was used to identify themes. These individuals were found to endorse experiences consistent with moral injury (e.g., feelings of guilt towards victims, loss of trust in one's own morality, shame for behavior) [41].

In addition to moral injury stemming from offending, involvement in the justice system itself (e.g., incarceration) may create vulnerability for exposure to new types of PMIEs (e.g., engaging in behavior to maintain safety in prison) [42]. Discrimination and stigma related to justice involvement [43, 44] could also result in heightened exposure to PMIEs and potential moral injury development due to repeatedly experiencing betrayal by others. Better understanding the PMIEs individuals are potentially exposed to while

incarcerated and the way in which moral injury may develop is critical for intervening on negative mental and physical health outcomes for this group, which may in turn reduce recidivism.

Homelessness

Homelessness is another SDoH that could increase the likelihood of exposure to PMIEs and moral distress. Although there have been no studies explicitly linking homelessness to PMIE exposure or moral injury, correlates of moral injury (e.g., rates of trauma exposure, PTSD symptoms, shame, experiences of social isolation) are commonly reported among those experiencing homelessness [45–47]. In particular, rates of MST among homeless Veterans in the Veterans Health Administration (VHA) are elevated, and these Veterans have increased odds of mental health diagnosis [48]. As MST can be conceptualized as a PMIE, the relationship between moral injury, homelessness, and MST warrants future investigation. More research is critical to understand the unique PMIEs homeless individuals may face (e.g., engaging in prostitution to provide food for their child) and intersectionality among homelessness, other SDoH, and moral injury.

Intersectionality

Individuals who are negatively impacted by multiple SDoH could be at unique increased risk for PMIEs, the development of moral injury, and poor outcomes related to moral injury (e.g., suicidal behavior). Take, for example, a homeless transgender woman with a history of justice involvement. She joined the military to escape her abusive father, experienced MST while in the military, and during that time learned to use substances to regulate her emotions because she was forced to continue to work with the perpetrators. She was medically discharged from the military and did not receive support to address her MST due to mistrust of the VHA system, which she considered an extension of the institution that had betrayed her. She continued to use substances to cope with her moral distress and, due to financial strain, became homeless. She acquired HIV from intravenous substance use, for which she experienced amplified shame, and began to steal to support continued use. She eventually was arrested for robbery and spent a year in a men's prison [49]. In prison, she was denied continued hormone therapy and was beaten regularly, sexually harassed, and assaulted by fellow inmates.

In order to understand and intervene on this individual's moral injury, the PMIEs she experienced across multiple contexts, including childhood, military service, incarceration, and contracting HIV, would need to be evaluated. Additionally, the moral distress evoked in the presence of each of these PMIEs, and the way in which she relates to this moral distress, would need to be assessed. These SDoH are complexly interwoven with her PMIEs as some of these SDoH (e.g., being transgender) directly contribute to her risk for additional PMIE exposure, moral distress, and moral injury. Assessment

for this individual requires evaluating the impact of specific PMIEs related to SDoH, and intervention would likely involve psychotherapy (e.g., learning coping skills to relate differently to shame rather than relying on substances). Additionally, system-level changes (e.g., providing hormone therapy to all inmates in need) are necessary to prevent negative health outcomes for other justice-involved transgender individuals. Issues related to care for incarcerated transgender individuals are receiving increased attention (c.f., *Monroe v. Jeffreys*) and should result in decreased exposure to PMIEs.

Assessment considerations

Because PMIE exposure may be specifically related to individual-level (e.g., race/ethnicity) and environmental (e.g., justice involvement) SDoH, measures explicitly developed to assess moral injury in groups beyond service members, warzone Veterans, and health care providers are critical to address health inequities. Even within Veteran and provider groups, better understanding the unique PMIEs that different groups of these individuals face (e.g., women Veterans, Black Veterans) is important to comprehensively assess and intervene on the factors maintaining moral injury. In order to develop assessments designed to evaluate PMIE exposure, moral distress, and moral injury in specific groups, much more research on the intersection between moral injury and SDoH is needed. Qualitative studies characterizing the kinds of PMIEs and consequences of these events to which certain groups of individuals are exposed will be crucial to determine the content of tailored measures of PMIEs and moral injury. The results of these studies will be important to measure development and to effectively identify individuals in need of treatment to prevent poor health outcomes. Validation of measures characterizing different PMIEs, features of moral distress, and outcomes related to moral injury will be critical in application to those groups for whom these measures were designed. Epidemiologic studies on prevalence rates of PMIEs in different groups will also be important for detecting those at risk for moral injury. These efforts will allow for understanding with more granularity the specific groups who may be at elevated risk for moral injury due to SDoH.

Treatment considerations

Individual interventions

Several cognitive, behavioral, and social interventions have been developed to target moral injury. Among them are Acceptance and Commitment Therapy for Moral Injury (ACT-MI) [11, 13], Adaptive Disclosure [50], Impact of Killing [51], and Trauma Informed Guilt Reduction [52]. Across these interventions, different approaches are used to facilitate flexibility in responding to moral distress and to help individuals build a meaningful life even after exposure to PMIEs. Group therapy approaches like the kind involved in

applications of ACT-MI may be particularly useful for individuals experiencing similar types of PMIEs relative to specific SDoH. Because emotions like guilt and shame are social experiences (i.e., occur with respect to one's behavior in a social context), opportunities to interact with moral distress in the presence of others with shared experiences could enhance learning. Existing interventions for moral injury might be adapted and bolstered to target the unique PMIEs faced by distinct SDoH domains (e.g., justice involvement). In particular, guidelines to support providers and group members in responding to discrimination- or betrayal-related PMIEs could be useful. Additionally, conducting clinical trials to determine the efficacy of moral injury interventions with these populations and determining how these interventions ultimately affect health outcomes is critical.

System-level changes

To address health inequities, structural determinants of health (e.g., policy level determinants) must be shifted. This means directly targeting socioeconomic and political contexts that can give rise to SDoH to prevent these SDoH from resulting in health inequities and moral injury. For instance, within the current political context, working with lawmakers to ensure comprehensive reproductive rights is an example of a public health policy-level intervention that could minimize exposure to PMIEs and the development of moral injury specific to women (e.g., pregnancy resulting from sexual assault and physical and emotional harm from illegal abortion).

Beyond health care policy, targeting cultural change and societal values [23] is critical to preventing groups who are commonly discriminated against from experiencing health inequities, related PMIEs, and moral injury. Interventions created to target cultural change at the level of systems in which SDoH contributing to moral injury are prominent (e.g., military, correctional facilities, health care systems) will be crucial. Applications of interventions like prosocial [53], which are designed to cultivate shared values within groups embedded in larger systems and empower these groups to engage with their values, may help to shift the culture within these systems. These interventions could be helpful in preventing PMIE exposure and in preventing the development of moral injury [10, 53]. In fact, prosocial has been applied to promote values-consistent behavior and reduce negative health outcomes related to the Ebola virus epidemic in Africa [54], indicating that villages of people can shift their behavior in the service of preventing negative health outcomes (e.g., death) and PMIE exposure.

Conclusion and future directions

In summary, preliminary research highlights the relationship between SDoH and moral injury. However, these investigations are few, and greater examination is needed on the intersection between PMIEs, moral injury, and SDoH at the individual level and environmental level to facilitate intervention and

prevention. Research should not only characterize the relationship between moral injury and SDoH in different populations (e.g., Veterans, health care providers, children exposed to violence) but also clarify how moral injury uniquely presents in the context of SDoH. For instance, Black women health care providers may encounter PMIEs that are unique to their experiences navigating systems of power as Black women. Incarcerated individuals might experience distinct PMIEs that are critical to assess to understand moral injury and clarify treatment targets. Beyond differences in PMIE exposure, more research is needed to examine how SDoH could impact who develops moral injury in response to PMIEs and to identify opportunities for programming and interventions to prevent moral injury development following PMIE exposure. Without a better understanding of how moral injury manifests in vulnerable groups that are often discriminated against, it will be unlikely that moral injury is accurately detected in these subsets; little will be known about how to support unique, at-risk groups in treatment, and health inequities will remain widespread.

Declarations

Conflict of interest

Lauren M. Borges declares that she has no conflict of interest. Alisha Desai declares that she has no conflict of interest. Sean M. Barnes declares that he has no conflict of interest. Jacob P. S. Johnson declares that he has no conflict of interest.

Disclaimer

The views expressed are those of the authors and do not necessarily represent the views or policy of the VA or the United States Government.

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