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Defining and Measuring Moral Injury: Rationale, Design, and Preliminary Findings From the Moral Injury Outcome Scale Consortium

Julie D. Yeterian,[1,2] Danielle S. Berke,[1,2] Jessica R. Carney,[1] Alexandra McIntyre-Smith,[3] Katherine St. Cyr,[3] Lisa King,[3] Nora K. Kline,[1] Andrea Phelps,[4] Brett T. Litz,[1,2] and Members of the Moral Injury Outcomes Project Consortium[1]

[1]Massachusetts Veterans Epidemiology Research and Information Center (MAVERIC), VA Boston Healthcare System, Boston, Massachusetts, USA
[2]Department of Psychiatry, Boston University School of Medicine, Boston, Massachusetts, USA
[3]Operational Stress Injury Clinic, St. Joseph's Healthcare, London, Ontario, Canada
[4]Phoenix Australia Centre for Posttraumatic Mental Health, Department of Psychiatry University of Melbourne, Melbourne, Australia

In the current paper, we first describe the rationale for and methodology employed by an international research consortium, the Moral Injury Outcome Scale (MIOS) Consortium, the aim of which is to develop and validate a content-valid measure of moral injury as a multidimensional outcome. The MIOS Consortium comprises researchers and clinicians who work with active duty military service members and veterans in the United States, the United Kingdom, the Netherlands, Australia, and Canada. We describe the multiphase psychometric development process being conducted by the Consortium, which will gather phenomenological data from service members, veterans, and clinicians to operationalize subdomains of impact and to generate content for a new measure of moral injury. Second, to illustrate the methodology being employed by the Consortium in the first phase of measure development, we present a small subset of preliminary results from semistructured interviews and questionnaires conducted with care providers ($N = 26$) at three of the 10 study sites. The themes derived from these initial preliminary clinician interviews suggest that exposure to potentially morally injurious events is associated with broad psychological/behavioral, social, and spiritual/existential impacts. The early findings also suggest that the outcomes associated with acts of commission or omission and events involving others' transgressions may overlap. These results will be combined with data derived from other clinicians, service members, and veterans to generate the MIOS.

Research about moral injury (MI) and efforts to address the aftermath of exposure to potentially morally injurious events (PMIEs) are hindered by a lack of consensus about the problems uniquely and reliably associated with exposure to PMIEs and the lack of a gold standard measure of MI as an outcome. In this paper, we described an ongoing international effort to develop and validate a measure of MI as a multidimensional outcome, including some early preliminary findings from the initial phase of measure development. The Moral Injury Outcome Scale (MIOS) Consortium is composed of researchers and clinicians who work with active duty military service members and veterans in the United States, the United Kingdom, the Netherlands, Australia, and Canada. We aimed to use theory and qualitative data to operationalize the domains of impact from PMIE exposure and develop a psychometrically sound measure of MI as an outcome that can be used in epidemiological and clinical studies as well as in clinical care.

Over the course of military service, service members are at risk for exposure to events that violate their core moral and ethical beliefs, most notably personal acts of commission or omission or betrayal by others in high-stakes situations (Jordan, Eisen, Bolton, Nash, & Litz, 2017; Litz et al., 2018; Wisco et al., 2017). As is the case with the distinction between exposure to potentially traumatizing events and posttraumatic stress (e.g., Kilpatrick et al., 2013), these experiences are best construed as potentially morally injurious, rather than inherently and enduringly harmful. Potentially morally injurious events encompass acts of commission or omission by oneself (e.g., perpetration of harm, failure to prevent harm) or others

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Correspondence concerning this article should be addressed to Julie D. Yeterian, MAVERIC, VA Boston Healthcare System, 150 South Huntington Ave., Boston, MA 02130. E-mail: Julie.Yeterian@va.gov

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(e.g., betrayal by another individual or institution, witnessing the perpetration of unnecessary harm by others; Litz et al., 2018; Shay, 2014; Stein et al., 2012). Experiencing or witnessing such events can undermine foundational beliefs about the goodness and trustworthiness of oneself, others, or the world, causing lasting psycho–social–spiritual harm (i.e., MI; Litz et al., 2009). It appears that a sizeable minority (24–40%) of deployed service members and combat veterans report exposure to PMIEs during their military service (Jordan et al., 2017; Litz et al., 2018; Wisco et al., 2017). However, the population prevalence of MI is unknown, in part because measures of MI have only recently been published.

Currier et al. (2017), Farnsworth, et al. (2017), Jinkerson, (2016), and Litz et al. (2009) have suggested that there are areas of overlap and distinction between MI and other mental and behavioral health outcomes, particularly PTSD, following exposure to trauma. Moral injury is hypothesized to include reexperiencing; impairing moral emotions (e.g., anger, guilt, shame); strong negative beliefs about the self, others, and the world; feelings of estrangement from others; emotional and behavioral avoidance; and risky or self-destructive behaviors (Litz et al., 2009). Litz and colleagues (2018) showed that a sizeable percentage of Criterion A events endorsed by service members with posttraumatic stress disorder (PTSD) entail morally injurious events; yet, MI is uniquely associated with additional symptoms and problems. Also, although many PMIEs can be classified as traumatic events (e.g., sexual assaults in the military), some PMIEs arguably do not involve life-threat and/or sexual assault (e.g., drone strikes, humiliation of a prisoner of war) and many Criterion A events do not substantively entail violation of personal morality (e.g., rocket attacks). Finally, although MI and PTSD overlap, some common symptoms may be motivated by different factors (e.g., avoiding situations that elicit fear versus avoiding situations that elicit shame; Farnsworth et al., 2017).

For a measure of MI to be viable, it needs to include a full complement of unique symptoms and factors implicated by exposure to PMIEs. However, at present, there is no consensus about the boundary conditions of MI as a clinical problem, and more research is needed to discover the invariant features of MI. Consequently, the MIOS project plans to conduct bottom-up qualitative assessments of the experiences of individuals who report exposure to PMIEs and the motivating factors that underlie reactions to PMIE exposure, some of which may overlap with PTSD.

There are two measures of MI as an outcome, the Moral Injury Symptom Scale—Military Version (MISS-M; Koenig et al., 2017) and the Expressions of Moral Injury Scale—Military Version (EMIS-M; Currier et al., 2017). The MISS-M was created by compiling items from existing outcome scales that the authors judged to be relevant (e.g., loss of trust, guilt, shame). Scale items were selected from existing measures based on face validity. Additional items that putatively assessed domains that were not assessed in existing scales (e.g., loss of faith) were derived by the authors or from other studies. The initial scale was subjected to exploratory and confirmatory factor analyses in a sample of veterans and active duty service members. Unfortunately, the authors did not follow all the necessary steps in test construction and construct validation (e.g., Clark & Watson, 1995), and, in particular, they failed to ensure content validity (Haynes, Richard, & Kubany, 1995) by consulting the target population to ensure the meaningfulness of scale content.

The items for the EMIS-M (Currier et al., 2017) were developed in a four-stage process that included: (a) literature review and consultation with three subject-matter experts to identify MI; (b) an unspecified review of existing measures of relevant constructs (e.g., shame, anger); (c) creating an initial pool of 84 items and soliciting feedback from 33 clinicians and researchers about items and the format and scaling of the measure; and (d) further refining the item pool in consultation with subject-matter experts, which resulted in a 45-item scale. The initial scale was subjected to exploratory factor analysis in a sample of college student veterans. The authors judged that a two-factor model that represented self- and other-directed expressions of MI best fit the data. Items with high factor loadings on their respective factors and low cross loadings were retained, which resulted in a final scale of 17 items representing these two factors. A confirmatory factor analysis in a separate veteran sample found that a bifactor model (i.e., a model with one general factor and two group factors) best fit the data. The EMIS-M correlated positively with PTSD and depression symptoms in both samples and was inversely associated with social support, hope, and gratitude in the student sample. Because of the rigor of the approach to scale development and validation, the EMIS-M is the best available MI scale. Although these authors attended to content validity by appealing to expert observations of the impact of exposure to PMIEs, they did not directly inquire about the experience of individuals who have been exposed to PMIEs, which is a necessary step to ensure content validity.

The MIOS Consortium is composed of 10 research teams in the United States, the United Kingdom, Canada, the Netherlands, and Australia. The VA Boston Healthcare System team is responsible for planning, administration, and coordination, and it provides a central data repository. Each collaborating team is collecting data from service members and/or veterans, and/or care providers who serve these populations.

The measure development process is divided into three stages, following the methods described by Haynes et al. (1995); Vogt, King, and King (2004); and Stein et al. (2013). Phase I includes content generation and creation of the initial measure. Phase II will entail scale refinement and reliability testing. Phase III will consist of testing the construct validity of the final scale and epidemiological examinations of the scope of PMIEs and magnitude of MI in various populations. Phase I, which is underway, entails bottom-up qualitative evaluations of service members, veterans, and care providers. We are asking respondents if they have been exposed to a broad set of PMIEs, including betrayal and moral transgression events that occur outside of combat and/or deployment contexts, to test the

Table 1
Questions for Clinicians About Types of Potentially Morally Injurious Events (PMIEs) Experienced by Their Patients

Question	Examples Provided
Self-Based PMIEs	
"In your work with war veterans (active duty service members or veterans), has any service member or veteran with whom you worked ever experienced any of the following *and* felt that their moral code or values were violated? They may have concluded immediately that this was a moral violation or made this judgment at a later time."	• Harmed an enemy combatant or civilian outside the Rules of Engagement (for example, applying unnecessary or excessive violence). • Made a mistake or failed in a task (including decisions made in a leadership role) in which someone was harmed as a result. • Saw an immoral act (or acts) and did nothing to stop it. • Killed within the Rules of Engagement. • Treated the helpless with disrespect (e.g., children, elderly, animals). • Harmed a fellow service member (for example, physically or emotionally abusive behavior). • Did or failed to do something else (please describe briefly).
Other-Based PMIEs	
"In your work with war veterans (active duty service members or veterans), has any service member or veteran with whom you worked ever experienced any of the following and felt that their moral code or values were violated? They may have concluded immediately that this was a moral violation or made this judgment at a later time."	• Another person caused harm to them and/or others or put them and/or others in harm's way. • Another person made a decision or acted in some way (or failed to act) and they and/or others were harmed as a result. • They witnessed another person cause harm to a fellow service member (e.g., physically or emotionally abusive behavior). • They witnessed another person cause harm to an enemy combatant or civilian outside the Rules of Engagement (e.g., through unnecessary or excessive force). • They witnessed another person treat the helpless with disrespect (e.g., children, elderly, animals). • They witnessed (or was affected by) another person making a mistake or failing in some way and others were harmed as a result. • Another person did or failed to do something else (please describe briefly).

parameters of what constitutes a moral injury (see Table 1). We will use qualitative data reduction methods to extract themes and exemplars from transcripts. These themes, along with theory, will be used to operationally define the domains of impact from PMIE exposure and a large set of items that putatively tap the various domains. We will then ask clinicians to card sort each item into the domain definition it best fits. Items with the highest interrater agreement will be retained as the initial item set. These initial items will be used to generate a working version of the MIOS.

We will also generate a working instructional set and response framework for the first iteration of the MIOS. One of the issues we will need to resolve is whether or not the instructions should ask respondents to link their symptoms and problems to a specific worst and most currently distressing PMIE, multiple PMIEs, a traumatic event, or a potentially traumatizing context (e.g., combat). We will also need to determine whether the scale should assess the degree of frequency or intensity, or both, for each item. We will consult with psychometric experts in the field to generate a working framework for these two scale parameters. In Phase II, we will solicit veteran and expert feedback about the working draft of the MIOS to finalize item content, format, and instructions. We will also administer the working draft to groups of service members and veterans to identify and trim items with insufficient reliability. For example, items with a varied range of responses will be prioritized

over skewed items as well as items with higher item-scale total correlations, which indicate how well individual items fit with other items in the scale.

The final scale, along with additional scales that assess the severity of exposure to military stressors, will be administered in Phase III to large groups of service members and veterans to test the construct validity of the MIOS. In order to examine convergent and divergent validity, participants will be administered scales that are expected to be associated with MIOS scores (e.g., PTSD, guilt, anger) and scales that are not expected to be associated with MIOS scores (e.g., psychopathy). We will conduct a confirmatory factor analysis to test the factor structure predicted from the domain definitions created in Phase I. We assume that MI affects multiple systems and domains of functioning. We expect that the scale will measure an overall construct (the magnitude of MI) and domain-specific impacts (subconstructs). The prediction is that subscale scores will ultimately have descriptive and clinical value. The final stage will entail an epidemiological evaluation of the prevalence and correlates of MI outcomes among active duty military personnel and veterans in each participating country.

In terms of scale construction, we plan to design a scale that can be used dimensionally, yielding a total severity score, and categorically. We realize that categorical constructions of MI present thorny conceptual problems (Farnsworth et al., 2017; Litz et al., 2009), as it is unclear whether MI can (or should) be construed as a distinct clinical disorder. We assume that in order for our scale to be maximally useful, it will need to help clinicians and researchers identify clinically significant problems in individuals and populations. We will address the issue empirically by attempting to derive a range of scores or a threshold score that is optimally associated with other indicators of clinically significant problems.

We created a semistructured qualitative measure, guided by theoretical models of the consequences of exposure to PMIEs (Farnsworth et al., 2017; Litz et al., 2009; Steinmetz & Gray, 2015; Wortmann et al., 2017). There is sufficient conceptual and empirical justification to assume that there are two broad types of PMIEs: (a) transgressions by individuals and (b) situations in which individuals are the victim of, or witness to, others' transgressions (e.g., Jordan et al., 2017; Litz et al., 2018; Shay, 2014). Betrayal-based PMIEs by the self or others may be uniquely impactful. The aims of this work are to investigate the unique and overlapping outcomes associated with these putatively distinct forms of exposure and will allow for other types of PMIEs and outcomes to emerge (see Table 1).

Following the assessment of PMIE exposure, we crafted questions to assess the feelings that service members and veterans experience in relation to their identified PMIE(s) as well as how PMIE exposure changed how they see themselves (see Table 2). We inquired about these areas because theorists have highlighted the mediating role of shattered beliefs and moral emotions in explaining the link between PMIE exposure and MI. In their original model, Litz and colleagues (2009) proposed that MI occurs when an individual cannot assimilate events that violate their moral beliefs with preexisting schemas, resulting in dissonance and distress. Interpretation of the event in stable, internal, and global terms results in condemnation of the self and/or others and feelings of anger, shame, guilt, and anxiety. Similarly, Farnsworth and colleagues (2017) described expected and natural moral pain that results from PMIE exposure and consists of dysphoric moral emotions (e.g., shame, guilt, anger) and cognitions about the culpability of self and/or others. Steinmetz and Gray (2015) noted that individuals who engage in characterological self-blame following the perpetration of a moral transgression will experience shame.

The remainder of the qualitative interview prompted respondents to describe the impact of a PMIE on intrapersonal, interpersonal, and spiritual/existential domains (see Table 2), each substantiated in theoretical and empirical research on MI. We used language that was general enough to avoid leading participants to particular conclusions. Our intent was to generate operational definitions of the three initial domains and to generate, if indicated, new domains based on the qualitative findings. The three initial domains are supported by theory and empirical evidence. Theorists have posited that the cognitive and emotional changes that follow PMIE exposure can result in a range of intrapersonal, social, and spiritual consequences, particularly if the individual avoids directly confronting these cognitions and emotions and/or redressing them through reparative actions (Farnsworth et al., 2017; Steinmetz & Gray, 2015). These consequences can include social withdrawal, alienation, self-sabotaging behaviors (e.g., substance use, criminal behavior), intrusions, avoidance, numbing, demoralization, and spiritual distress (Litz et al., 2009; Wortmann et al., 2017). Empirical research has also highlighted the adverse effects of PMIE exposure among service members and veterans across these domains. Exposure to PMIEs has been linked to increased suicidal ideation and behavior, PTSD symptoms, anger and/or aggression, depression and/or hopelessness, guilt and/or self-blame, alcohol misuse (Bryan, Bryan, Morrow, Etienne, & Ray-Sannerud, 2014; Bryan et al., 2016; Currier, Holland, Drescher, & Foy, 2015; Dennis et al., 2017; Dohrenwend, Yager, Wall, & Adams, 2013; Kline, Weiner, Interian, Shcherbakov, & St. Hill, 2016; Litz et al., 2018; Maguen et al., 2010; Nash et al., 2013; Tripp, McDevitt-Murphy, & Henschel, 2016; Wilk et al., 2010; Wisco et al., 2017), impairments in occupational and social or relationship functioning (Currier et al., 2015; Maguen et al., 2010; Nash et al., 2013), and spiritual or existential conflicts or deficits (de Rond & Lok, 2016; Purcell, Koenig, Bosch, & Maguen, 2016; Vargas, Hanson, Kraus, Drescher, & Foy, 2013).

Method

Participants and Procedure

The preliminary findings for this paper were derived from qualitative data collected from clinicians at VA Boston in Boston, Massachusetts ($n = 6$), Fargo VA Health Care System in Fargo, North Dakota ($n = 7$), and the Operational Stress

Table 2
Questions for Clinicians About the Impact of Potentially Morally Injurious Events (PMIEs) on Their Patients

Domain and Question	Examples Provided
Intrapersonal	
What feelings do service members/veterans describe having when they think about the event(s)?	• The way they see themselves • The way they care for themselves • Their plans for the future • If things seem unreal at times or they feel out of touch (i.e., flashbacks/dissociation)
How have the event(s) changed the service members/veterans with whom you have worked?	• How they are physically • How they react when reminded of the experience (their thoughts and feelings)
Interpersonal	
How have the event(s) changed their relationships with family, friends, romantic partners and/or coworkers?	• Trust in other people • Dealing with authority figures • How close or distant they feel towards others • How they care for others
Spiritual/Existential	
How have the event(s) affected the way they make sense of life and its meaning?	• Their spirituality or religious beliefs (faith) • Their understanding of right and wrong • The principles that guide their lives

Injury (OSI) Clinic in London, Ontario ($n = 13$), which represents three of the 10 study sites. All clinical staff members within PTSD and/or trauma specialty clinics at each site were invited, via email and/or through presentations at clinical team meetings, to participate. A total of 55 clinicians were invited to participate, with a response rate of 47.3%. Participants were not required to be experts on MI; however, they needed to self-identify as having experience working with veterans who had been exposed to PMIEs. Data collection was limited to staff members as opposed to clinical trainees, as staff are likely to have a greater degree of experience with this population. VA Boston study staff conducted interviews and the two other sites gathered data via a fillable PDF version of the form. Because of the potentially coercive nature of asking clinicians to participate in research conducted by their colleagues, researchers at each site emphasized that participation was completely voluntary. There were no consequences for nonparticipation and clinicians were not paid for their participation. Study procedures were conducted in compliance with the requirements of the institutional review board and/or ethics committee for each respective site. Clinicians were instructed to respond to questions in aggregate form and refrain from providing specific details of events to ensure patient confidentiality. Clinicians were asked to consider all patients with whom they had worked when formulating responses, and questions were not limited to veterans with particular diagnoses (e.g., PTSD or major depressive disorder).

The mean age of clinicians was 43.7 years ($SD = 10.1$; range: 29–62 years), and the average time clinicians had spent working with military members or veterans was 10.3 years ($SD = 8.1$; range: 1–27 years). Participants spent an average of 76.5% of their work time involved in activities related to providing clinical care ($SD = 15.1\%$; range: 40–100%), and they worked in a variety of settings, including PTSD clinics ($n = 16$; 61.5%), mental health clinics ($n = 9$; 34.6%), returning veterans' clinics ($n = 3$; 11.5%), and substance use clinics ($n = 2$; 7.7%. Participants were permitted to endorse all applicable types of workplaces. Half of the clinicians were female ($n = 13$; 50.0%) and most were White ($n = 23$; 88.5%). Over half of the participants were clinical psychologists with doctoral-level training ($n = 17$; 65.3%), and the remaining participants were chaplains or clergypersons ($n = 3$; 11.5%), social workers ($n = 3$; 11.5%), or psychiatrists ($n = 2$; 7.7%); one was a nurse practitioner ($n = 1$; 3.8%).

Measures

Qualitative measures were generated iteratively by consortium members, based on existing theory and evidence. We generated one measure for active duty military service members and veterans and another measure for clinicians. Each measure was formatted for self-report or semistructured interview administration (the choice of which to use depended on the resources and preferences of each study site). For this paper, we focused on the clinician forms and initial findings from three consortium sites. Each interview/questionnaire contained closed- and open-ended questions about the intrapersonal, interpersonal, and spiritual/existential domains of the impact of exposure to PMIEs in the respondent's own words (see Tables 1 and 2).

Clinicians provided responses to the following questions: (a) the types of PMIEs experienced by their patients (from a list of

examples with a write-in option); (b) the percentage of their patients who experienced PMIEs; (c) which PMIE type, if any, was the most distressing to their patients; (d) the types of feelings that arise when their patients think about PMIEs they have experienced; (e) how exposure to PMIEs has changed the way their patients see themselves; (f) how their patients' relationships have been affected as a result of PMIE exposure; (g) how their patients make sense of life and its meaning following exposure to PMIEs; (h) how distressing (on a scale of 0 to 100) PMIEs are for their patients; (i) how much these experiences changed their patients' identities (on a scale of 0 to 100); and (j) how the clinician identifies the threshold between moral injury and moral challenges/frustrations. As this final question was added after the start of data collection, only 16 of the 26 clinicians provided responses. Types of PMIEs were grouped as "self" (i.e., acts of commission or omission by the self) and "other" (i.e., acts of commission or omission by another person/people), and clinicians responded to the items mentioned earlier separately for each PMIE type. The order of questions about self- versus other-based PMIEs was counterbalanced across participants.

During interviews, when appropriate, interviewers asked clinicians for clarification and/or to expand their responses. Interviews were administered by two doctoral-level psychologists and lasted 50–75 min. Interviews were audiotaped with the permission of participants and transcribed by trained research assistants, with identifying information omitted.

Data Analysis

For this preliminary report, we used a rapid content analysis strategy (Beebe, 2001) to derive key findings from the interview transcripts and questionnaire responses. Rapid content analysis is an intensive, team-based approach that efficiently generates preliminary findings to inform treatment or measure development. First, each interview topic is reduced to a simple domain name. Prior to coding, we created 10 domain names across the two broad categories of PMIEs (i.e., self vs. other): (a) the feelings that arise when the individual recalls the event(s) ("Self–Event Feelings" and "Other–Event Feelings"); (b) impact of the event(s) on intrapersonal functioning ("Self–Changes in Self" and "Other–Changes in Self"); (c) impact of the event(s) on interpersonal/social/relational functioning ("Self–Relationship Changes" and "Other–Relationship Changes"); (d) impact of the event(s) on existential/spiritual/values domains ("Self–Life Perspective Changes" and "Other–Life Perspective Changes"); and (e) the clinician's understanding of the difference between MI and moral challenges in their patients (i.e., "Self–MI vs. Moral Challenge" and "Other–MI vs. Moral Challenge).

These domain names were then listed in a summary template to facilitate the process of data reduction, in which key points from each transcript were summarized under the relevant domain name. Data reduction was carried out separately by the VA Boston and OSI Clinic teams, with the VA Boston team integrating final data summaries across the entire dataset. Each of the three coders on the OSI Clinic team independently reduced all 13 questionnaires and then met to compare their completed summary coding sheets. On the VA Boston team, the first author provided training to the data analysis team on the use of the summary template and randomly selected a subset of three transcripts (i.e., two questionnaires and one interview) to be summarized concurrently by the three raters. The goals were to ensure comfort and familiarity with the template and consistency in data reduction strategies. These training strategies have been found to enhance reliability among different raters with limited training in qualitative research (Sobo, Simmes, Landsverk, & Kurtin, 2003). Each rater completed his or her initial summaries independently, and then the raters met to compare their completed summary sheets. These meetings ensured that raters extracted similar data from each interview, uniformly categorized extracted data (i.e., under which domain name), and summarized the data in the same manner. All disagreements were resolved through consensus.

Once VA Boston coders established that the three raters were coding in a consistent manner, each coder was assigned additional transcripts to summarize using the summary template. Each coder then reduced his or her transcripts according to the domain categories specified earlier and entered the summarized data into a matrix (i.e., each rater by the domains described earlier). Once all of the transcripts were analyzed and summarized across the two teams, the VA Boston raters met again to examine all data summaries in matrix form. We used the summary matrix to identify themes across the transcripts that had been analyzed by each of the six raters, in each of the 10 domains outlined earlier. Matrix analysis was the ideal analytic strategy for this phase of the project, as it has been shown to facilitate the discovery of associations and patterns and expedite synthesis and summary (Averill, 2002).

Results

Types of Morally Injurious Events Observed by the Initial Subset of Clinicians

In this preliminary sample, clinicians reported that their veteran and service-member patients were exposed to a range of PMIEs. The most common self-based PMIEs were: (a) seeing immoral acts and doing nothing to stop them (96.2% of clinicians had worked with veterans who reported this); (b) killing within the rules of engagement (84.6%); and (c) making a mistake or failing in a task that resulted in harm to others (73.6%). The most common other-based PMIEs were: (a) seeing others harmed as a result of decisions made or not made by someone else (92.3%); (b) seeing others treat the helpless with disrespect (88.5%); and (c) harm done to the patient or others or placing the patient or others in harm's way (88.5%). Clinicians estimated that 46.6% ($SD = 24.3\%$) of their patients had been exposed to self-based PMIEs and 58.2% ($SD = 28.8\%$) had been exposed to other-based PMIEs. Two-thirds of clinicians denied that any single type of PMIE was more traumatic and/or haunting than others; however, among individuals who endorsed "causing

harm to an enemy combatant or civilian outside the rules of engagement," this item was most commonly reported as most traumatic. The mean rating of how haunting/distressing PMIEs were for patients was 84 (out of 100) for self-based PMIEs and 77 (out of 100) for other-based PMIEs. The mean rating of how much these experiences changed patients' sense of self/identity was 77 (out of 100) for self-based PMIEs and 72 (out of 100) for other-based PMIEs.

Impact of Exposure to Morally Injurious Events: Primary Themes

Herein, we provide a narrative summary of the preliminary themes derived in each domain, along with exemplary quotations. Although each theme was coded and categorized into the domains queried in the interview, many of the consequences of exposure to PMIEs described by clinicians cut across the intrapersonal/self-perception, interpersonal functioning, and spiritual/existential domains, simultaneously impacting two or more of these areas.

Feelings that arise when the individual recalls the event. Clinicians reported that service members and veterans had difficulty describing their feelings when recalling PMIEs. However, when the patients were able to describe what they felt, they described a range of feelings. The most commonly cited feelings were guilt, shame, and anger. Patients reported that these feelings arose upon recall of both broad categories of PMIEs (i.e., self and other), as did sadness, anxiety, and disgust. Clinicians also reported that when patients were the agent of a moral transgression, this experience uniquely triggered feelings of sorrow, grief, and bitterness whereas events in which another person was the source of potential injury uniquely triggered feelings of helplessness, betrayal, and confusion. One clinician described attributions and feelings evoked in the context of other-based PMIEs as follows:

> Typically actions by others generate anger, condemnation and a sense of helplessness. [Service members]/veterans often wish they could have prevented the harm or see it as a result of systemic factors that they see as corrupt and personally motivated, which is what engenders the anger/condemnation.

Intrapersonal outcomes. Clinicians reported that patients who experienced self- and other-based PMIEs evidenced marked event-related changes in attitudes and behaviors. Clinicians reported that they observed patients with lowered self-esteem, a high degree of self-criticism, and beliefs about being bad, damaged, unworthy, and weak. The clinicians shared that patients who had been exposed to both self- and other-based PMIEs also engaged in self-destructive and/or high-risk behaviors (e.g., substance abuse, neglect of self-care). However, clinicians reported that patients who had bene exposed to self-based PMIEs saw themselves as unlovable and unforgiveable whereas those exposed to other-based moral violations saw themselves as incompetent, particularly when it came to responding effectively to subsequent moral challenges (e.g., low self-efficacy with respect to sticking up for what they believe is right, or doing the right thing in a critical moment). Patients who had been exposed to other-based PMIEs were also described as displaying passivity and difficulty persisting in goal-directed behavior (e.g., they may try new things but stop when it gets uncomfortable) and lacking hope in the future (e.g., they believe that nothing will be good again). Regardless of the type of PMIE, clinicians commonly described the intrapersonal consequences as a loss of identity or sense of self. One clinician summarized the overall intrapersonal impact of any PMIE as follows: "It changes them at their core. They no longer have basic trust in themselves, let alone the capacity to place trust in the world . . . They don't know how to get back to themselves."

Interpersonal outcomes. The three prominent themes that characterized clinician reports of changes in relationships across exposure to self- and other-based PMIEs were: (a) loss of faith in people (ranging from "close others" to society as a whole); (b) lack of trust/willingness to risk closeness/intimacy; and (c) lack of trust in authority figures or institutions. Clinicians described patients as experiencing social isolation and withdrawal; difficulty relating to, connecting with, or caring about others (particularly civilians); and having the sense that others take things for granted and don't understand their experiences and the world (e.g., they have no interest in socializing with people who don't know how dangerous and/or corrupt the world really is.). Moreover, clinicians reported that when their patients engaged in relationships, they had a tendency to do so in ways that increased the likelihood of exposure to further traumatic harm (e.g., remaining in unhealthy relationships, joining groups such as gangs or police forces, using aggression in relationships), which further impacted their capacity and willingness to trust. One clinician spoke to the pervasiveness of the deterioration in trust as an outcome of any type of PMIE in the following way: "Every single one of the service members/veterans I have assessed and treated to date has expressed mistrust of others in general. They question the motivations of authority figures."

However, there was also evidence for variation in interpersonal consequences by PMIE category (i.e., self-based vs. other-based). Specifically, clinicians often described the interpersonal conflicts of their patients who reported self-based PMIEs as functioning to avoid intrapersonal symptoms (e.g., "if I'm screaming at somebody at the top of my lungs . . . I'm not having to deal with shame or guilt") whereas for patients exposed to other-based PMIEs, interpersonal problems and isolation were associated with efforts to protect themselves from future betrayal or harm (e.g., they are always planning for inevitable betrayal/watching for abuses of power and perceived injustices).

Existential and spiritual outcomes. Regardless of the type of PMIE, clinicians frequently described that patients

suffered from existential and spiritual conflicts as well as changes in beliefs about morality and humanity. They described patients losing faith in previously held religious beliefs and no longer believing in a just world or expecting people to be good. For example, one clinician reported observing many patients exposed to any type of PMIE feeling as though they are cut off from the spiritual realm. Clinicians reported that their patients had more absolute and entrenched views about right and wrong following any type of PMIE and that their thinking had become exaggerated or more black and white. Patients were also described as prone to being overly rigid and intolerant about their moral expectations of themselves or others to their own detriment or to the detriment of others close to them. Clinicians reported that many patients were no longer able to find meaning in life and they struggled to come up with a worldview that made sense to them. This is described by one clinician as follows: "I don't even have the judgement to be able to tell. I thought this was wrong, but this is the way that it is. I don't even know if I have these morals."

Distinguishing moral injuries from moral challenges. Clinicians described qualitative differences between moral injury and moral challenges. They reported that moral injury can be distinguished from putatively subclinical moral challenges by the magnitude and breadth of symptoms and problems. They described moral injury primarily as an absolute, generalized, and fixed negative shift in worldview and self-image. For example, one clinician described the magnitude of this shift in perception in the following terms: "A sense that their view of themselves and others, humanity, has changed fundamentally in a way that is devastating, leaves them adrift, and seems to them to be irreversible."

Discussion

We described the structure and methods of an international effort to develop a psychometrically sound, content-valid measure of MI. Data collection for Phase I, a phenomenological examination of the multidimensional outcomes associated with exposure to PMIEs in military service members and veterans and an assessment of the observations of care providers in the active duty and veteran communities, is underway. We believe our bottom-up approach to ensuring content validity is critical because of the lack of consensus about what MI is and insufficient high-quality evidence about its boundary conditions.

We provided a summary of limited preliminary Phase I evidence about MI from a select cohort of clinicians. It is important to note that because we only reported findings from a subset of clinicians rather than PMIE-exposed veterans and service members, these preliminary results do not fully address concerns about content validity. A wide variety of types of PMIEs were endorsed across clinician participants, each fitting into the self-based (e.g., harming enemy combatants or civilians outside the rules of engagement, seeing immoral acts and failing to intervene) or other-based categories (e.g., being harmed by another service member, witnessing moral transgressions by others). Clinicians estimated that nearly half of their patients had been exposed to self-based PMIEs and over half had been exposed to other-based PMIEs. These estimates are somewhat higher than rates of PMIE exposure reported in non-treatment-seeking samples of veterans and service members (24–40%; Jordan et al., 2017; Litz et al., 2018; Wisco et al., 2017). Possible explanations for this discrepancy include the treatment-seeking nature of the patients with whom clinicians came into contact, the self-selecting nature of the clinician sample (e.g., clinicians in the sample may have greater interest in MI due to having more experience with PMIE-exposed patients), and variable reporting across different data sources (i.e., veterans and service members vs. clinicians).

It is important to acknowledge that the preliminary findings reported here may change as data from other consortium sites are added to the analysis. Nevertheless, our findings to date confirm and build upon findings from another qualitative study of clinician and expert observations of MI (Drescher et al., 2011). Clinicians in both studies reported that they observed shame, guilt, and anger as well as harm to the self-concept (e.g., seeing the self as bad, damaged, or unworthy) among patients who had been exposed to PMIEs. In each study, clinicians posited that exposure to PMIEs can lead to broad problems in social relationships, particularly in terms of social isolation and/or alienation and loss of trust in others. Clinicians described broad spiritual, existential, and moral impacts (e.g., questioning or loss of faith, searching for meaning). Our initial findings extend on those reported by Drescher et al. (2011) by exploring distinctions between self-based versus other-based PMIEs. Clinicians in our study highlighted salient differences between PMIE types, particularly with regard to changes in intrapersonal experiences, including views of the self as unlovable and unforgiveable among patients who had been exposed to self-based PMIEs and increased passivity and hopelessness among patients who had been exposed to other-based PMIEs. In our study, clinicians described social isolation as a problem associated with both self- and other-based PMIEs, but the motivation behind these behaviors differed across PMIE types. Our preliminary findings suggest that social isolation may be a form of self-punishment for self-based PMIEs whereas isolation may be a form of self-protection for other-based PMIEs. In a recent qualitative study of war veterans, Schorr and colleagues (2018) also found similar fine-grained distinctions between the impact of self- and other-based PMIEs, which may be validated upon completion of Phase I data collection.

There are similarities and differences between our approach and the scale development methods and results of the EMIS-M (Currier et al., 2017). Observations offered by clinicians in our sample were similar, in some respects, to the content domains identified by Currier and colleagues' initial phase of scale development: sense of self as unlovable, shame/guilt, self-handicapping behaviors, mistrust of others and institutions,

anger/disgust, and hostility/aggression. Additional themes that emerged from our preliminary findings were grief and loss, including the prominent emotions of sadness and sorrow when recalling morally injurious events; loss of one's identity or sense of self; and loss of spiritual or religious beliefs and/or faith. It is important to note that the different precipitants of different types of grief (e.g., loss of another person vs. loss of a preexisting belief system) distinguish grief following PMIE exposure from grief following the death of another person. This finding adds depth to theoretical models of MI (e.g., Litz et al., 2009) by describing a potential emotional impact of undergoing drastic changes to one's way of viewing and being in the world, which has been described as a driving mediator in the development of MI. These themes may have been present in initial phases of EMIS-M development and eliminated during item-trimming process, but the authors did not describe evaluating them as domains of functioning. Additionally, the most commonly reported morally injurious event in our sample was "personal acts of omission" (i.e., seeing immoral acts and doing nothing to stop them). The EMIS-M instructions that ask a respondent to think about "things I did/saw" may not fully capture scenarios in which members not only saw harm but thought they should have acted and did not, resulting in feelings of failure or incompetence.

Our initial findings have noteworthy limitations. We summarized the clinician results of three of the 10 study settings (data from the other sites were not yet available). Consequently, these observations are unlikely to represent the findings of the consortium as a whole. Our clinician sample was also fairly homogeneous (i.e., highly educated and largely White) and was drawn from specialty care. We did not capture the perspectives of community mental health workers or those of clinicians with more diverse educational, racial, or ethnic backgrounds. Although the MIOS Consortium is international, participating countries are highly industrialized, wealthy, English-speaking nations that are carrying out military engagements overseas. It is possible that the validity of the MIOS will be limited to populations from similar nations. Additionally, although qualitative data can provide a rich description of the phenomenon of MI, our quantitative indices (e.g., 0–100 scales) are limited in their generalizability and interpretation. Finally, it is possible that clinicians participated in the study because they felt strongly about MI and they may have been biased by ideographic a priori assumptions and opinions about MI.

In this paper, we provided a description of the rationale for and methods employed by an international research consortium working to develop a measure of MI. In particular, we focused on our Phase I ground-up data collection methods, providing a preliminary glimpse into our findings to date. We are particularly eager to collect data from veterans and active duty service members. These additional data sources are essential to ensure full exploration and saturation of the MI construct and will extend the findings from clinicians reported here.

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