



Mariëlle de Goede

The Moral Burden of Military Deployment

Experiences, Expressions, and Assessment
of Moral Injury in Dutch Veterans



Nationaal
Psychotrauma
Centrum

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Experiences, Expressions, and Assessment of Moral Injury
in Dutch Veterans

De Morele Last van Militaire Missies

Ervaringen, Uitingen en Meting van Morele Verwonding bij
Nederlandse Veteranen

(met een samenvatting in het Nederlands)

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“Not every story has a happy ending, ... but the discoveries of science, the teachings of the heart and the revelations of the soul all assure us that no human being is ever beyond redemption. The possibility of renewal exists so long as life exists. How to support that possibility in others and in ourselves is the ultimate question.”

– Gabor Maté, *In the Realm of Hungry Ghosts*

PREFACE

In the past decade, awareness of the psychological impact of moral injury has grown steadily in clinical and research communities. Yet until recently, particularly in the Netherlands, the translation of this awareness into concrete clinical tools—such as instruments to identify moral injury and interventions to address it—lagged behind. This dissertation by Mariëlle de Goede makes an important contribution toward closing that gap, specifically for Dutch military veterans seeking mental healthcare.

Moral injury is not a new phenomenon. Throughout history, soldiers have always been confronted with situations in which they witnessed, committed, or failed to prevent events that violated their moral convictions. What is relatively new is our recognition that these experiences may lead to a clinically significant psychological and existential burden distinct from (though sometimes overlapping with) posttraumatic stress disorder. Among the veterans studied in this dissertation, including Dutchbat III veterans who were present during the fall of Srebrenica, the prevalence of potentially morally injurious events was striking: the vast majority of those seeking mental healthcare reported exposure to at least one such event and many struggled with an enduring moral burden, sometimes for decades after their deployment.

This research was carried out at ARQ National Psychotrauma Centre, an organisation with over fifty years of experience in the treatment of trauma across diverse populations. ARQ was originally founded to care for survivors of World War II. Today, it serves those affected by modern conflicts and military deployments, among others. In this sense, the questions addressed in this dissertation are deeply consistent with ARQ's founding mission: how do we recognise and treat the full range of psychological injury that results from traumatic events that defy moral comprehension?

What distinguishes this work is both its ambition and its groundedness. Rather than addressing the concept of moral injury at a theoretical distance, the author engaged directly with veterans, clinicians, and other experts throughout each phase of the research. The result is a body of work with immediate practical relevance: validated Dutch translations of moral injury questionnaires, the first clinical interview for moral injury, and an online treatment module for moral injury that is now in active use at ARQ Centre'45 and other psychotrauma centres across the Netherlands. The studies presented here are woven together with a clear common purpose: to ensure

that veterans who struggle with the impact of morally injurious experiences are recognised and offered appropriate support.

The importance of this cannot be overstated. Feelings of shame, guilt, and betrayal often keep veterans from disclosing these experiences during intake or therapy. As this dissertation emphasises, asking about potentially morally injurious events and their impact explicitly and systematically is essential. The Clinical Interview for Moral Injury—Military Version (CIMI-M), developed as part of this research, provides clinicians with the structure to do so in a way that is both thorough and sensitive to the individual.

It is with great pride and genuine appreciation that we present this dissertation. It represents a meaningful scientific contribution and a direct investment in the well-being of the men and women who have served the Netherlands and who deserve care that meets the full complexity of their experience.

Melina Kappeyne van de Coppello-Rakic
Chair of the Board of Directors

TABLE OF CONTENTS

Chapter 1	General introduction	11
Chapter 2	Potentially morally injurious experiences and associated factors among Dutch UN peacekeepers: a latent class analysis	29
Chapter 3	Exposure to potentially morally injurious experiences among Dutch military veterans	57
Chapter 4	Moral injury in Dutch treatment-seeking veterans: a latent profile analysis	85
Chapter 5	Mapping moral injury: development and feasibility of the Clinical Interview for Moral Injury—Military Version (CIMI-M)	115
Chapter 6	Development of an online supportive treatment module for moral injury in military veterans and police officers	171
Chapter 7	General discussion and conclusion	191
Addendum	Nederlandse samenvatting (Dutch summary)	224
	Dankwoord (acknowledgements)	229
	About the author	235
	Publications	236



CHAPTER 1

General introduction

INTRODUCTION

David was 21 when he was deployed to Afghanistan with the Dutch Air Force. He was excited to undertake work he could be proud of but once in Afghanistan, he found himself bullied, criticized, and belittled by members of his unit. When he was seriously injured in a car accident, his unit laughed at him and dismissed his emotional response. These experiences made him feel unsafe, question himself, and work even harder to earn their acceptance.

One night, during a patrol around the camp, the unit came across a large pit filled with human remains. David held a thigh bone and a skull, and thought it was funny to take a photo. His supervisor took the photo as members of his unit laughed. They didn't know to whom the bones belonged, and David did not question whose remains he was holding.

Looking back, David feels deep shame and horror over having taken the photo and now sees his actions as inhumane. He feels profound guilt, not only for desecrating a grave but also towards the human being whose remains he held. "Who was that person? That person also had parents, and I took a disturbing photo with their body parts. At the time, I thought it suited the situation. No one told me not to do it; in a way, it was even encouraged."

For years, David felt unable to speak about the event. The memory evoked intense shame, guilt, horror, disgust, and anger. He became extremely strict with himself, forcing himself to exercise a lot and ignoring physical pain, including from a hernia that he sustained during his deployment. He resisted feeling sorry for himself and found it incredibly important to always show up for work, even when he felt ill. He became preoccupied with seeking validation from others—the validation he had been denied by his military unit.

After Afghanistan, David left the military, initially feeling ashamed for "walking away from the army base and never returning." He struggled with his mental health for twenty years before, encouraged by his wife, he sought therapy.

The idea that human beings can be severely affected by morally transgressive behavior—whether their own or that of others—is as old as human history. Accounts of such actions, and of the struggle for redemption that may follow, have been expressed through art, literature, music, and religion for centuries. Yet it is only recently that the psychotrauma field has begun to systematically address the psychological impact of these experiences. A key turning point came with the publication of psychiatrist Jonathan Shay's *Achilles in Vietnam: Combat trauma and the undoing of character* (1994), in which Shay drew on Homer's *Iliad* to understand the suffering of Vietnam veterans he encountered in clinical practice. Seeking to capture their suffering, Shay

coined the term *moral injury* to describe the harm that results from witnessing or committing morally transgressive acts in war. He argued that moral injury involves “a betrayal of what’s right” by someone who holds legitimate authority (e.g., a military leader) “in a high-stakes situation” (2014, p. 182), and that such severe violations of trust—for example, through careless decision-making, with a disregard for soldiers’ lives—can result in an “undoing of character” (Shay, 1994), a personal unraveling marked by shame, rage, and alienation.

Shay’s work laid the foundation for the field of moral injury, alongside the writings of Lifton (1973) and Bica (1999), but the concept gained further traction after Litz and colleagues (2009) proposed a comprehensive working model. Their framework outlined potential pathways in the development of moral injury and provided starting points for empirical research. What Shay first articulated, and Litz and colleagues expanded on, was the idea that posttraumatic stress disorder (PTSD) insufficiently addressed the suffering after traumatic events not characterized by fear or life-threat. Whereas the first iteration of PTSD in the DSM-III included mention of “guilt about surviving while others have not or about behavior required for survival” (American Psychiatric Association [APA], 1980), with the DSM-IV, the diagnostic focus shifted almost exclusively toward fear-based reactions, intrusions, and hyperarousal.¹ As a result, for a long time the field largely overlooked the impact of events with profound moral implications, which evoke moral emotions such as shame and guilt rather than fear.

Where Shay’s initial conceptualization of moral injury focused primarily on experiences of betrayal, Litz and colleagues built upon his ideas by including a broader range of morally transgressive experiences. They defined such *potentially morally injurious experiences* (PMIEs) as, “perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations” (Litz et al., 2009, p. 695). They defined the distress that may follow exposure to these events—referred to as *moral injury*—as “the lasting psychological, biological, spiritual, behavioral, and social impact” of such experiences (p. 697). In addition to distressing moral emotions, they described potential chronic manifestations of moral injury including demoralization, self-condemnation, social withdrawal, self-harming behaviors, and enduring alterations in beliefs about the self and others, particularly with respect to goodness, humanity, and justice. Their article led to an exponential rise in scholarly interest: before 2009, searches for “moral injury” yielded only two

1 Earlier work within the trauma literature had drawn attention to guilt as a prominent feature of (combat-related) PTSD, most notably in Kubany’s cognitive framework, which conceptualized trauma-related guilt as arising from perceived responsibility, wrongdoing, and lack of justification (Kubany, 1994; Kubany & Watson, 2003). However, this work did not explicitly address the moral dimensions of traumatic experience.

results in PubMed and 40 in Google Scholar. By 2025, those numbers had grown to 473 PubMed entries and 1,970 Google Scholar results (Litz & Walker, 2025). While research initially focused predominantly on the war-time experiences of service members and veterans, the scope of the field has since broadened to include other professions, including first responders and medical professionals, as well as civilians and refugees (Mooren et al., 2024; ter Heide & Olff, 2023). Despite this expansion, empirical work has continued to focus primarily on U.S. military contexts. Research on moral injury among Dutch military veterans remains scarce, and clinical studies of treatment-seeking veterans in the Netherlands were largely absent until recently. This dissertation addresses this gap by examining the relevance, prevalence, and clinical expressions of moral injury among Dutch veterans, with specific attention to those receiving mental health care. In addition, it seeks to contribute to clinical assessment and treatment by addressing the lack of validated Dutch-language instruments or a clinical interview for moral injury, and the limited availability of evidence-informed interventions for targeting moral injury in Dutch veteran care.

KEY CONCEPTS

To understand how the moral injury field has developed, and the contribution this dissertation seeks to make, several concepts related to moral injury need further elaboration. This section therefore provides an overview of key concepts in the moral injury literature and the ongoing lack of consensus regarding several core issues, including the definition of PMIEs and the conceptualization of morality in the study and treatment of moral injury. These concepts and ideas informed the studies presented in the following chapters and will be revisited in the general discussion in Chapter 7.

Potentially morally injurious experiences

The above definition of PMIEs proposed by Litz et al. (2009) has arguably been the most influential in the moral injury literature up to now. Nonetheless, other definitions have been proposed to describe the essential features of such experiences. Farnsworth and colleagues (2017), for instance, argue that PMIEs must occur in “a high-stakes environment” (p. 392), echoing Shay’s earlier conceptualization, though without specifying what such an environment entails. More recently, Bonson and colleagues (2023) have added that PMIEs must threaten previously held moral beliefs, regardless of the event’s outcome. There is also an ongoing debate about whether a PMIE must meet the A-criterion of the DSM-5 classification of PTSD (APA, 2013) in order to be severe enough to lead to clinically significant distress or impairment (a point that will

be discussed in Chapters 5 and 7 of this dissertation; see also, for example, Bonson et al., 2023; Litz et al., 2022).

Despite these differences in definition, a general consensus exists that PMIEs can be grouped into two categories: moral transgressions arising from one's own actions and those arising from the actions of others (i.e., being the victim of these actions or being exposed to these actions as a witness; Litz & Kerig, 2019). These categories can be subdivided into *acts of commission* and *acts of omission*—that is, acts that involve *doing* something versus *failing to do* something (Evans et al., 2020). Such acts may be deliberate or unintentional. An example of an act of commission by oneself is friendly fire, where a service member accidentally directs fire at allies rather than enemies during combat. An example of an act of omission by oneself is failing to save a unit member in need. Acts of commission by others could be witnessing atrocities or their aftermath in a war zone. Acts of omission by others may take the form of political or military leaders deciding not to intervene during the killing of civilians, something that service members may experience as a deep betrayal. Several notable instances of this kind have been discussed in the moral injury literature, including the Srebrenica genocide—the impact of which on Dutch veterans is discussed in Chapter 2.²

As the latter example illustrates, the distinction between PMIEs caused by oneself or others is not always clear-cut. Veterans may simultaneously blame leaders for wrongful or immoral decision-making while feeling remorseful about complying with orders or failing to act otherwise. Nonetheless, emerging evidence suggests that the type of PMIE may shape psychological outcomes. Broadly speaking, PMIEs linked to one's own actions are more often associated with internalizing outcomes such as shame, self-condemnation, withdrawal, and social isolation, whereas PMIEs caused by others appear more strongly related to externalizing outcomes such as anger, condemnation of others, disinhibition, and risk-taking (Kotov et al., 2017; Litz, 2025).

Morality and moral emotions

Morality can be understood as a set of fundamental beliefs and evaluative judgments about right and wrong, justice, and fairness—a code of conduct for navigating social life and the world around us. Moral values may be implicit or explicit, personal or shared, and are acquired through various socializing influences, including family, education, community, culture, religion, and professional or legal contexts. According to the moral foundations theory, there are five key foundations of morality that most people share

2 Another well-known example is the story of Roméo Dallaire, force commander of UNAMIR, the United Nations peacekeeping mission in Rwanda between 1993 and 1994, during the Rwandan genocide. He is the highest-ranking military leader internationally to have come forward as suffering from moral injury.

to some degree—innate moral intuitions that developed in response to evolutionary challenges that humans faced (Graham et al., 2013). These include *care* (protecting and not harming others, particularly the vulnerable), *fairness* (acting honestly and justly), *loyalty* (maintaining commitment to one's social group), *authority* (respecting legitimate hierarchy and social order), and *sanctity* (valuing what is considered pure or sacred, such as life, the body, or religious symbols). The relative importance placed on each of these moral foundations may vary across individuals, social contexts, and cultures.

The social-function theory of morality proposes that these moral intuitions, as well as moral emotions, evolved because they helped us navigate social relationships and therefore increased our chances of survival (see, e.g., Haidt, 2007). Virtuous and prosocial behaviors such as cooperation, empathy, responsibility, and generosity strengthened social cohesion and the viability of the kinship group (Sapolsky, 2017). From an evolutionary psychology perspective, moral emotions thus serve adaptive functions by motivating moral behavior and curbing certain drives—such as aggression or selfishness—that could be harmful to one's social group.

Moral emotions can be self-directed or other-directed, and positive (pride, awe, gratitude) or negative (guilt, shame, anger). Extensive research has examined how negative self-oriented moral emotions, such as shame and guilt—commonly experienced by those with moral injury—influence moral behavior (Tangney et al., 2007). Guilt, for example, is a self-conscious moral emotion that arises when individuals judge their actions as violating moral standards and feel responsible for causing harm. It typically motivates reparative actions such as confession or making amends (Tangney et al., 2007). Shame, by contrast, involves a negative evaluation of the self rather than a specific act. It arises in response to perceived moral failure and is often accompanied by feelings of worthlessness and a desire to withdraw (Tangney et al., 2007). Anger, in turn, is often other-directed and signals that someone else has violated an important moral norm. When it arises in response to a perceived wrongdoing or injustice, it may prompt confrontation or moral protest (Tangney et al., 2007). In other words, when moral norms and beliefs are violated—whether by oneself or by others—moral emotions function as internal regulators that help preserve our humanity and social fabric. In the context of moral injury, these ordinarily adaptive moral emotions may become intensified or prolonged to such an extent that they become sources of sustained suffering.

Morality in moral injury

Litz and colleagues (2009) argued that a transgressive act needs to profoundly and abruptly contradict one's fundamental moral beliefs and expectations, including how the world operates and how people should be treated, in order to be potentially

morally injurious. However, the idea that PMIEs necessarily involve a *violation* of one's moral values has been criticized for wrongly approaching morality as a coherent and harmonious belief system. This perspective overlooks the reality that individuals often (unknowingly) hold varied, sometimes conflicting, moral commitments (Molendijk, 2018). Because people may have different moral roles across various contexts, we all have multiple and potentially competing moral beliefs and assumptions. As Molendijk (2018, p. 1) explains, “[a] soldier internalizes both civilian and military values and, as a soldier, is not merely an instrument of the state who must adhere to political norms but always remains a moral agent with personal values.” Consequently, in her study on the moral dimensions of deployment-related distress among Dutch veterans, Molendijk found that participants rarely described morally challenging experiences in unambiguous terms. Rather than viewing their actions solely as right or wrong, many expressed both great guilt and great pride regarding their deployments. Molendijk therefore argues that PMIEs may include situations of “unavoidable moral failure” (p. 6)—moments marked by an irresolvable moral conflict or dilemma in which service members must choose between two evils, rather than a clear-cut transgression.

STATE OF THE MORAL INJURY FIELD PRIOR TO THE WORK IN THIS DISSERTATION

As these differences in the conceptualization of potentially morally injurious experiences show, at the start of this PhD research in 2022, moral injury was still in an early stage of concept development and required further empirical and theoretical refinement. The term moral injury was used in varying ways, without consensus about the boundary conditions of the concept or the operationalization of used terminology (Griffin et al., 2019; Litz & Kerig, 2019). It was also still questioned whether moral injury has incremental explanatory validity and clinical utility beyond the concept of PTSD (Litz & Kerig, 2019). Additionally, several theoretical frameworks for understanding moral injury were proposed to inform the emerging research, and the first treatments for moral injury followed (Evans et al., 2020; Farnsworth et al., 2017; Litz et al., 2009; Litz & Kerig, 2019; Norman et al., 2019). These developments, and the state of the moral injury field at the start of the current research, will be briefly outlined below, as this impacted the studies described in this dissertation.

Moral injury and PTSD

When the concept of moral injury first began to gain scholarly and clinical attention, one of the central questions concerned its explanatory validity beyond PTSD. On the one hand, there is clear conceptual overlap between the two constructs. For example,

whereas PTSD is typically framed as a fear-based disorder rooted in threat-based traumatic events, moral injury centers on moral transgressions and emotions such as guilt, shame, and anger. Yet these same emotions are also recognized as possible posttraumatic reactions within the PTSD criteria of the DSM-5. Other overlapping manifestations include self-destructive behaviors and negative beliefs about oneself, others, or the world. Additionally, both PTSD and moral injury presuppose exposure to a highly stressful or traumatic experience that evokes a stress response and maladaptive coping behavior (Farnsworth et al., 2017). In the case of PTSD, such exposure must involve actual or threatened death, serious injury, or sexual violence (i.e., the A-criterion for PTSD). In the case of moral injury, there is no scientific or clinical consensus as to whether PMIEs must also meet the A-criterion (Litz & Kerig, 2019). However, studies have consistently shown PMIEs to be associated with various mental health symptoms including symptoms of PTSD, suggesting that PMIEs may share characteristics with A-criterion events and may share similar outcomes (Griffin et al., 2019).

On the other hand, there are also clear differences between moral injury and PTSD. Studies have shown PMIEs to be associated with a broader range of outcomes not traditionally encompassed by PTSD diagnostic criteria. These include depressive symptoms, substance use, suicidality, and existential or spiritual distress, such as questioning one's religious beliefs or moral worldview (Griffin et al., 2019). Molendijk (2018) offers a valuable conceptual differentiation, arguing that while PTSD involves a loss of one's sense of safety in the world, moral injury entails a violation of one's sense of right and wrong, resulting in a form of distress that she calls *moral disorientation*: "the associated loss of one's previous certainties about wrong and right; it is the loss of one's moral frame of reference and one's moral self-perception" (p. 6). A further conceptual distinction lies in the emphasis on distorted cognitions within the PTSD framework, as opposed to moral injury, where cognitions of blame and responsibility may be appropriate. Finally, moral injury, unlike PTSD, is currently not a formal DSM classification, which carries implications for treatment, official recognition procedures, and disability claims. Given the diagnostic overlap between PTSD and moral injury, important questions arise as to whether moral injury constitutes a qualitatively distinct clinical construct or should be regarded as a specific subtype of posttraumatic response, and whether its inclusion in a future edition of the DSM would be warranted—a point we will return to in Chapter 7.

The functional-contextual model of moral injury

Another key distinction between PTSD and moral injury was articulated by Farnsworth and colleagues (2017) in their functional-contextual model of moral injury. They argue that, whereas PTSD is considered a form of psychopathology, moral injury arises from

an *intact and functioning moral conscience* and therefore should not be pathologized in the same way. They instead conceptualize moral injury as the “expanded social, psychological, and spiritual suffering stemming from costly or unworkable attempts to manage, control, or cope with the experience of moral pain” (p. 392). In this model, moral pain refers to the dysphoric moral emotions and cognitions that emerge in response to a morally injurious event—a natural and non-pathological reaction to perceived moral transgression, which only leads to moral injury when someone undertakes maladaptive efforts to avoid, suppress, or control that pain. Farnsworth et al. thus emphasize that outcomes commonly associated with moral injury—such as self-handicapping, substance use, behavioral avoidance, and social withdrawal—are best understood as *functional responses* aimed at managing or escaping moral pain. Conceptualizing moral injury in this way helps to avoid pathologizing painful but fundamentally human responses to moral pain.

The causal framework for moral injury

Another influential early model of moral injury is the preliminary causal framework proposed by Litz and colleagues (2009). According to this framework, moral injury develops from cognitive dissonance created by the conflict between an individual’s moral beliefs and expectations on the one hand, and a moral transgression on the other. In an effort to reduce the discomfort caused by this dissonance, individuals may make attributions about the immoral behavior that are global (not context-dependent), stable (enduring), and internal (stemming from one’s character), such as “I am evil,” or “no one can be trusted.” Such maladaptive attributions may then lead to moral emotions such as guilt and shame, which in turn may create a self-perpetuating cycle of self-condemnation and social withdrawal. This then prevents exposure to corrective and reparative social experiences—such as empathy and acceptance from others—that could otherwise foster moral repair and self-forgiveness. Over time, this cycle may lead to self-destructive behavior, demoralization, and PTSD symptoms.

Litz and colleagues conceptualize moral injury as a syndrome—a constellation of clinical symptoms that reliably cohere and are linked to identifiable etiological and maintaining mechanisms (see also Litz, 2025; Litz et al., 2022). Farnsworth and colleagues (2017), by contrast, have cautioned that a pathology-oriented conceptualization risks conflating recovery with mere symptom reduction and may lead clinicians to prioritize alleviating guilt and shame even when these emotions are morally appropriate. From their perspective, the therapeutic focus should be on transforming how individuals relate to their moral pain, rather than on eliminating the pain itself. The differences between these perspectives raise important theoretical questions: can moral emotions exist in degrees that are statistically or clinically abnormal, thereby warranting classification as pathology? Or should moral pain be

regarded as a non-pathological human experience, regardless of its intensity or psychological impact?

Continuum model of moral stressors

To contribute to resolving these questions, Litz and Kerig (2019) proposed the heuristic continuum model of moral stressors, to clarify the conceptual boundaries between everyday moral experiences and events that are morally injurious. This framework positions moral experiences along a spectrum defined by three dimensions: event frequency (ranging from constant to rare), population prevalence (from high to low), and event impact (i.e., the degree of psychological, social, and spiritual harm, ranging from very little to extreme). At one end of this continuum lie moral challenges: relatively common experiences that may evoke mild and transient moral frustration but are unlikely to cause lasting harm. An example could be political inaction in response to issues that, while morally discomforting or anger-provoking, do not have an immediate personal impact. In the middle of the continuum are moral stressors, which are typically self-referential (directly involving or affecting the individual), less frequent but still relatively common, and associated with moderate moral distress. An example might include infidelity within a relationship, or another moral transgression that provokes emotional disturbance but does not result in enduring functional impairment. At the far end of the spectrum lies moral injury, which refers to rare and

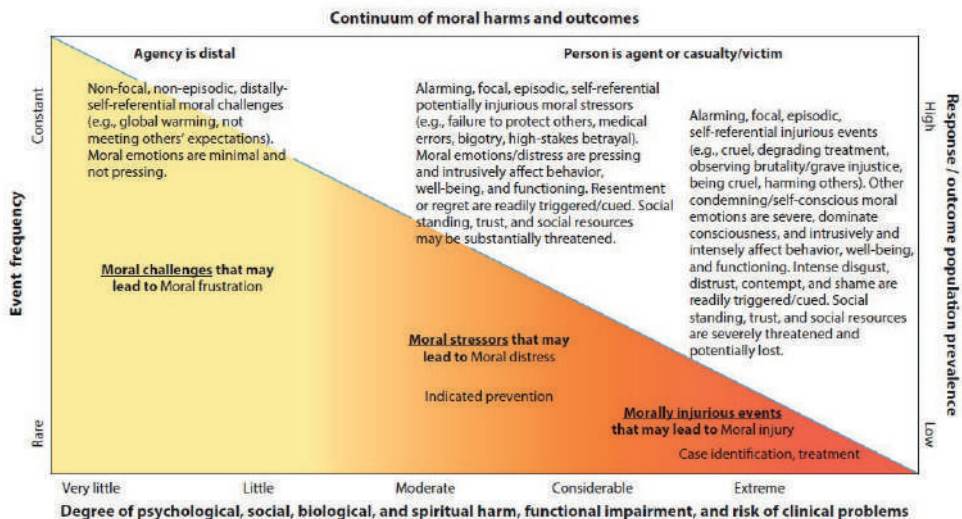


Figure 1. The dimensional model of moral stressors and outcomes (Litz & Kerig, 2019). Figure reproduced from Litz and Walker (2025) with permission from the authors.

severe moral transgressions that elicit profound and potentially chronic psychological, social, and spiritual suffering. Within this framework, PMIEs are conceptualized as very rare events—those that can produce clinically significant levels of distress and may require targeted intervention to facilitate recovery and moral repair.

Prevalence of PMIEs and PMIE types among U.S. veterans

There are currently not enough data on the prevalence of PMIEs—in military or civilian contexts—to conclude PMIEs are statistically rare events. This conceptualization of PMIEs as abnormal is reminiscent of the DSM-III conceptualization of PTSD, which defined traumatic events as “outside the range of usual human experience” (APA, 1980). This definition was adjusted in DSM-IV (APA, 1994), after it became apparent that many traumatic events were more common than previously assumed (Jongedijk, 2024), which could be the case for PMIEs too. In fact, early empirical research among American service members and veterans revealed that such experiences may be relatively common during war-zone deployments. In two nationally representative cohorts of U.S. veterans, prevalence estimates ranged from 10.8% to 18.8% for personal transgressions, 25.5% to 27.9% for transgressions by others, and 25.5% to 41.1% for betrayal events (Maguen et al., 2020; Wisco et al., 2017).

Additionally, in an effort to clarify the scope and nature of morally injurious experiences, Drescher and colleagues (2011) conducted qualitative interviews with health professionals familiar with the experiences of American veterans. Their respondents identified a wide range of morally injurious events, including experiences of betrayal, disproportionate violence, incidents involving civilians, and within-rank violence. Disproportionate violence, for example, encompassed the mistreatment of enemy combatants and acts of revenge. As these studies demonstrate, efforts to illuminate the prevalence and defining features of high-magnitude moral stressors have focused primarily on the experiences of U.S. combat veterans. Consequently, much remains unknown about the occurrence, phenomenology, and clinical relevance of PMIEs and moral injury in other military contexts, including peacekeeping operations and non-U.S. armed forces.

RESEARCH GAPS: MORAL INJURY AMONG DUTCH VETERANS

At the start of the work included in this thesis, only a handful of studies had examined the experiences of Dutch veterans, and none of them within a clinical context. This gap was notable, as the experiences of Dutch veterans can be expected to diverge from those of U.S. veterans, given differences in cultural background and military context.

Dutch troops, for example, have historically participated in various United Nations-mandated peacekeeping missions, such as in Lebanon, the former Yugoslavia, and Mali. U.S. forces, on the other hand, have typically engaged in combat-oriented operations rather than UN-led peacekeeping missions (although it must be acknowledged that both countries' troops have occasionally collaborated in joint operations, for example in Afghanistan and Iraq). Service members are likely to encounter PMIEs of a different nature depending on the operational context—for example, arising from the inability to use force in peacekeeping missions versus active engagement in combat operations. Additionally, Dutch veterans generally report more reserved and realistic expectations pre-deployment, including an anticipated gap between political and military realities (Molendijk, 2021), which may impact how they appraise PMIEs.

Because psychosocial reactions to potentially traumatic experiences can differ across cultures (Hinton & Lewis-Fernández, 2011), this raised the question as to whether a construct that has demonstrated explanatory value primarily in U.S. military populations is similarly applicable to Dutch veterans. In U.S. samples, the concept of moral injury has contributed to theory development, assessment, and treatment by helping to account for forms of deployment-related distress that are insufficiently captured by existing trauma-based concepts and frameworks. Examining the relevance of moral injury among Dutch (treatment-seeking) veterans is therefore important not only for understanding their specific experiences, but also for evaluating the broader cross-cultural validity and clinical utility of the concept, as well as its potential added value for identifying and addressing moral forms of suffering in clinical care.

PMIEs among Dutch veterans

Two notable non-clinical studies were among the first to demonstrate that Dutch veterans report experiences perceived as morally injurious and may experience resulting moral distress. Rietveld (2009) conducted a large-scale study on guilt and shame following deployment among more than 1,100 veterans who had participated in 14 different peacekeeping missions. She found that one quarter of surveyed veterans felt guilty and ashamed after their deployment about, for example, having assumed a bystander role or normless behavior in the deployment area. Although Rietveld did not study moral injury directly, she found that these feelings of guilt and shame were associated with more intense feelings of depression and anger, potentially indicative of moral distress.

Subsequently, Molendijk (2018, 2021) conducted an in-depth qualitative analysis of the experiences of 80 Dutch veterans deployed to Srebrenica (Bosnia) and Uruzgan (Afghanistan). Her research identified three central moral themes in their experiences: value conflict, moral overwhelm, and senselessness. Value conflicts arose in situations

where veterans were forced to choose between incompatible moral commitments. Moral overwhelm described a form of moral detachment paradoxically emerging from being deeply affected by the moral weight of a situation. Senselessness was experienced when veterans perceived their actions as meaningless or when the reality of deployment clashed with its stated rationale. As described earlier, Molendijk found veterans often described situations of irresolvable moral conflict resulting in tragic remorse (remorse about one's actions without feeling culpable) or moral disorientation. Drawing on these findings, Molendijk argued that moral injury should not solely be understood as a disorder but rather as an ethical struggle, and that addressing it may require more than psychotherapy alone.

RESEARCH AIMS AND QUESTIONS

While we recognize the importance of adopting a multidisciplinary approach to the study and treatment of moral injury, this dissertation nevertheless examines the phenomenon primarily from the perspective of clinical psychology. This focus was chosen because, prior to 2022, clinical research on moral injury among treatment-seeking veterans in the Netherlands was virtually absent. In addition, the available empirical work offered limited guidance for clinical practice: validated Dutch-language assessment instruments were non-existent and no clinical interview for moral injury had been developed. As a result, moral injury was not routinely assessed in veteran care. Moreover, evidence-informed interventions specifically targeting moral injury had not yet been developed or evaluated in the Dutch context. As a result, Dutch clinicians lacked both conceptual and practical tools to adequately recognize, assess, and address moral injury in mental health care.

Given this lack of empirical and clinical infrastructure, the overarching aim of this dissertation was 1) to assess the value and relevance of the concept of moral injury within the Dutch clinical context, and 2) to provide tools to improve clinical assessment and care. Specifically, the research in this dissertation sought to examine how the impact of PMIEs manifests among Dutch veterans and to identify associated clinical needs. By doing so, this work aims to provide an empirical foundation for future research and intervention development, as well as to inform clinical practice and treatment policy for veterans in the Netherlands. To achieve this aim, the following overarching research questions were formulated:

1. Is moral injury a clinically significant problem among Dutch treatment-seeking veterans that warrants clinical care and attention?
2. How prevalent are PMIEs among Dutch treatment-seeking veterans, and can distinct patterns of PMIE exposure be identified?

3. To what extent do Dutch veterans experience psychological distress following exposure to PMIEs, and what are the negative psychological outcomes associated with PMIEs?
4. If moral injury represents a clinically significant issue among Dutch veterans, how can it be assessed?
5. If moral injury represents a clinically significant issue among Dutch veterans, how can it be addressed, and what steps can be taken toward the design of treatments at this stage of concept development?

STUDY SETTINGS

The research presented in this dissertation was primarily conducted at ARQ Centrum'45, a national trauma center in the Netherlands specializing in the treatment of complex psychotrauma, including care for military veterans. Additional data collection took place at several other specialized trauma centers providing treatment to veterans, namely GGZ Drenthe, Reinier van Arkel, and Sinai Centrum. For the study in Chapter 3, data were collected at the Dutch Veterans Health Care, through home visits conducted by specialized social workers with treatment-seeking veterans, and partially online—among non-treatment-seeking veterans. The study in Chapter 2 concerns a secondary data analysis of data collected for a mixed-methods study into the well-being of Dutchbat III veterans (Olf et al., 2020) commissioned by the Dutch Ministry of Defense. During the course of conducting research for this PhD, the author worked at ARQ Centrum'45 as both a researcher and a therapist within a team specialized in the treatment of profession-related psychotrauma, including that of military veterans.

GENERAL OVERVIEW

This dissertation consists of several studies, each presented in a separate chapter.

Chapter 2 (*Potentially morally injurious experiences and associated factors among Dutch UN peacekeepers: a latent class analysis*) examines patterns of PMIE exposure and associated psychological outcomes among Dutch peacekeepers deployed to the former Yugoslavia during the Srebrenica genocide.

Chapter 3 (*Exposure to potentially morally injurious experiences among Dutch military veterans*) reports on the prevalence of PMIE exposure among treatment-seeking and non-treatment-seeking veterans, distinguishing between self-perpetrated transgressions, transgressions by others, and experiences of betrayal. This chapter also evaluates the psychometric properties of the Dutch version of the *Moral Injury Events Scale* (MIES).

Chapter 4 (*Moral injury in Dutch treatment-seeking veterans: a latent profile analysis*) investigates the extent to which Dutch veterans experience moral injury by identifying subgroups characterized by symptoms of PTSD and moral injury. The study further examines whether these subgroups differ in comorbid psychopathology and family functioning, and assesses the psychometric properties of the Dutch version of the *Expressions of Moral Injury Scale—Military Version* (EMIS-M).

Chapter 5 (*Mapping moral injury: development and feasibility of the Clinical Interview for Moral Injury—Military Version (CIMI-M)*) describes the development and preliminary evaluation of the *Clinical Interview for Moral Injury—Military Version*. At the outset of this dissertation, no clinical interview for identifying moral injury was available. This study details the development process and the results of a feasibility study of the CIMI-M, an instrument designed to assist with case conceptualization and treatment planning.

Chapter 6 (*Development of an online supportive treatment module for moral injury in military veterans and police officers*) presents the development and preliminary evaluation of an online treatment module for moral injury among treatment-seeking military veterans and police officers in the Netherlands. The aim of this study was to develop an online intervention to complement face-to-face treatment and to obtain user feedback on the draft version of the module, representing a preliminary step toward the treatment of moral injury in Dutch veterans.

Finally, **Chapter 7** will conclude with a summary of the research findings, a general discussion, and implications for future research and clinical practice.

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CHAPTER 2

Potentially morally injurious experiences and associated factors among Dutch UN peacekeepers: a latent class analysis

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ABSTRACT

Background

During peacekeeping missions, military personnel may be involved in or exposed to potentially morally injurious experiences (PMIEs), such as an inability to intervene due to a limited mandate. While exposure to such morally transgressive events has been shown to lead to moral injury in combat veterans, research on moral injury in peacekeepers is limited.

Objective

We aimed to determine patterns of exposure to PMIEs and associated outcome- and exposure-related factors among Dutch peacekeepers stationed in the former Yugoslavia during the Srebrenica genocide.

Method

Self-report data were collected among Dutchbat III veterans ($N = 431$). We used latent class analysis to identify subgroups of PMIE exposure as assessed by the Moral Injury Questionnaire—Military Version. We investigated whether deployment location, posttraumatic stress disorder (PTSD), posttraumatic growth, resilience, and quality of life differentiated between latent classes.

Results

The analysis identified a three-class solution: a high exposure class ($n = 79$), a moderate exposure class ($n = 216$), and a betrayal and powerlessness-only class ($n = 135$). More PMIE exposure was associated with deployment location and higher odds of having probable PTSD. PMIE exposure was not associated with posttraumatic growth. Resilience and quality of life were excluded from analyses due to high correlations with PTSD.

Conclusions

Peacekeepers may experience varying levels of PMIE exposure, with more exposure being associated with worse outcomes 25 years later. Although no causal relationship may be assumed, the results emphasize the importance of better understanding PMIEs within peacekeeping.

Keywords

Moral injury, PTSD, posttraumatic growth, veterans, military, latent class analysis, resilience, quality of life.

Highlights

- Peacekeeping veterans reported different patterns of exposure to potentially morally injurious experiences: high exposure, moderate exposure, or experiences of betrayal and powerlessness only.
- Deployment location predicted the pattern of exposure.
- More exposure was associated with worse psychological outcomes 25 years later.

INTRODUCTION

Morally injurious experiences in military peacekeepers

Since its establishment after World War II, the United Nations have employed 71 peacekeeping operations (see peacekeeping.un.org). Apart from helping countries to maintain peace and security, peacekeeping operations aim at achieving a range of other objectives including the protection of civilians, disarmament of former combatants, the organization of elections, and the promotion of human rights. Peacekeeping operations are guided by the principles of consent of all parties, impartiality, and the non-use of force except in self-defense and defense of the mandate (United Nations Department of Peacekeeping Operations, 2008). While peacekeeping operations may be highly effective, the United Nations increasingly recognize that operations may be challenged by the absence of political solutions, a lack of focus of mission mandates, complex threats leading to casualties, and lack of personnel and equipment (see peacekeeping.un.org).

The challenges involved in peacekeeping may prove morally burdening for those deployed (Dallaire & Beardsley, 2003; Shigemura & Nomura, 2002). For example, the limited mandate and lack of resources associated with peacekeeping missions may lead to painful moral dilemmas where on the one hand peacekeepers may wish to intervene, but on the other hand they may not be allowed to or may not have the necessary resources to be successful. In several instances, this limited power meant peacekeepers were unable to stop tragedies from taking place—the Rwanda and Srebrenica genocides being well-known examples (Klep, 2008).

For peacekeepers, such tragic events may amount to *potentially morally injurious experiences* (PMIEs). PMIEs may involve acts by self and others, including active perpetration, failure to prevent such perpetrations, as well as bearing witness to or falling victim to perpetrations (Litz et al., 2009). Examples of involvement in such events by peacekeepers include making cruel jokes about civilians due to feeling morally overwhelmed, and being forced to choose between providing medical aid to a wounded child or a wounded soldier (Molendijk, 2018). PMIEs can also concern the betrayal of ‘what’s right’ by authority figures (Shay, 2014), which peacekeepers may experience when they are restricted from engaging in combat and are thereby unable to prevent loss of civilian life (Dallaire & Beardsley, 2003). The long-lasting psychological, social, spiritual, and behavioral impact of such experiences is known as *moral injury* (MI; Litz et al., 2009).

PMIE exposure and mental health

A growing body of research suggests that PMIE exposure is associated with mental health problems. A meta-analysis by Williamson et al. (2018) demonstrated PMIE

exposure to be reliably associated with posttraumatic stress disorder (PTSD; American Psychiatric Association [APA], 2013), depression, and suicidality. Other studies also found associations between PMIE exposure and anxiety, substance use, lower work/social functioning, and painful moral emotions such as anger, guilt, and shame (Currier et al., 2015; Lancaster & Harris, 2018; Maguen et al., 2021; Nash et al., 2013).

Among veterans, the type and extent of exposure to PMIEs may differ, and different (patterns of) PMIEs may be associated with different outcomes. Several recent studies therefore examined patterns of PMIEs and their subsequent impact using the person-centered method known as latent class analysis (LCA). This method discerns latent subgroups in the data—in this case, co-occurring PMIEs—and enables the comparison of these groups with other variables. Zerach et al. (2021), for example, conducted an LCA among Israeli veterans and found three subgroups reporting different patterns of PMIE exposure: one group had predominantly experienced PMIEs for which they held themselves responsible, another group reported betrayal-related PMIEs, and the last group experienced few PMIEs at all. Another LCA among U.S. veterans (Saba et al., 2022) found four subgroups, of which two had experienced high and moderate PMIE exposure and two reported specific PMIE types (having witnessed transgressions and having been troubled by a failure to act). In both studies, the subgroups differed with respect to symptoms of PTSD and depression (Saba et al., 2022; Zerach et al., 2021), guilt (Zerach et al., 2021), and anxiety and anger (Saba et al., 2022).

PMIE exposure and salutogenic factors

However, PMIE exposure may also have a more positive impact. Posttraumatic growth (PTG) is the transformational process through which dealing with trauma can create positive changes, such as a greater appreciation for life and an enhanced sense of spirituality (Tedeschi & Calhoun, 2004). Evans et al. (2018) found that among U.S. veterans, their own moral violations were significantly associated with greater PTG, while overall PMIE exposure was not. Hijazi et al. (2015) similarly found that veterans who had a greater perception of moral wrongdoing displayed greater PTG.

Another salutogenic construct that may be associated with PMIE exposure is resilience. Resilience is conceptualized as the process through which an individual maintains a mental and physical equilibrium after experiencing an adverse event (Bonanno, 2004). The association between PMIE exposure and psychological resilience has, thus far, not been studied in veteran samples. In studies of healthcare professionals (Fitzpatrick et al., 2022; Rushton et al., 2022) and veterinarians (Crane et al., 2015), PMIE exposure and moral injury symptoms were found to be negatively associated with resilience.

Lastly, PMIE exposure may be related to quality of life (QoL). In a latent profile analysis of PTSD and moral injury-related outcomes, PMIE exposure was found to

increase the odds of being in a 'potential moral injury' class and having a lower QoL (Smigelsky et al., 2019). However, Evans et al. (2018) found moral violations by the self to be predictive of higher life satisfaction (one aspect of QoL).

Current study

While research points to differences in PMIE exposure and consequent psychosocial functioning among military veterans, little research exists on PMIE exposure and associated outcomes among veterans of peacekeeping missions. Yet peacekeepers commonly witness extreme human distress and suffer from feelings of powerlessness and shame when they are unable to intervene (Dirkzwager et al., 2005; Molendijk, 2021; Rietveld, 2009; Shigemura & Nomura, 2002). It has been posited that when PMIEs elicit an empathic response on which someone cannot act (e.g., being unable to help in the face of suffering), this increases the odds of developing moral injury (ter Heide, 2020).

To obtain insight into PMIE exposure and its consequences among peacekeeping veterans, we conducted an LCA of PMIEs among Dutch peacekeepers who were part of Dutchbat III. This battalion was stationed in the former Yugoslavia between January 6, 1995, and July 14, 1995, as part of the United Nations Protection Force peacekeeping mission during the Bosnian War. The battalion was tasked with carrying out *United Nations Security Council Resolution 819*, which designated the town of Srebrenica and its surroundings as a civilian 'safe area,' to be 'free from any armed attack or any other hostile act' (United Nations Security Council, 1993). Under the UN mandate, Dutchbat III was only permitted to use force in self-defense. In July 1995, Bosnian Serb forces captured the enclave, displacing many of its inhabitants and leading many to seek refuge in the Dutch compound. These forces then took away and killed over 8,000 Bosnian Muslim boys and men. This event, now known as the Srebrenica genocide, caused great outcry in the Netherlands, where Dutchbat III, the UN, and the Dutch government were strongly condemned for failing to protect the local Muslim population (Molendijk, 2021). Research suggests that many Dutchbat III veterans experience a lasting negative impact from their deployment, the genocide, and the subsequent societal condemnation (Olf et al., 2020). Moreover, during the mission, all types of PMIEs (acts of commission, acts of omission, and betrayal) took place (Molendijk, 2021).

Our aim was to investigate if we could find distinct patterns of PMIE exposure among Dutch peacekeepers, and whether these patterns could be predicted by location at the fall of Srebrenica, as a proxy measure of exposure to human distress. Additionally, we explored the association of PMIE patterns with different psychological outcomes with regard to PTSD, PTG, resilience, and QoL. Identifying distinct PMIE patterns and associated outcomes helps replicate prior studies, contributes to

knowledge about (the impact of) PMIE exposure among peacekeepers, and allows treatments for this group to be adjusted accordingly.

Based on prior findings, we hypothesized that we would find PMIE patterns characterized by various levels of PMIE exposure (e.g., low, moderate, and high) and/or marked by specific PMIE types. In addition, we hypothesized that veterans who were at the fall of Srebrenica would have higher PMIE exposure. We further expected different constellations of PMIE exposure to be differentially associated with PTSD symptom severity, PTG, resilience, and QoL.

METHOD

Participants

This study concerns a secondary analysis of data collected for a mixed-methods study into the well-being of Dutchbat III veterans (Olf et al., 2020) commissioned by the Dutch Ministry of Defense (MoD). The reason for commissioning the study was the observation that some Dutchbat III veterans still experienced problems as a result of the mission. The study was carried out by ARQ National Psychotrauma Center, a Dutch national institute for research, policy, diagnostics, and treatment of complex psychotrauma. Included in the study were active-duty and post-active Dutchbat III veterans. Data were collected between October and December 2019. The medical committee of the Amsterdam Academic Medical Center evaluated the quantitative part of the study as exempt from ethical approval under the Medical Research Involving Human Subjects Act (WMO; W19_208 # 19.285). A Privacy Impact Assessment was also carried out.

Procedure

To reach the active-duty veterans, the MoD shared contact details of veterans residing in the Netherlands. To contact active-duty veterans residing outside of the Netherlands, the MoD sent an email invitation to participate in the study, while several veteran organizations disseminated information online. In October 2019, letters were sent to all Dutchbat III veterans in the Netherlands ($N = 748$) to inform them of the study. One week later, these veterans received a personalized invitation to participate, alongside the informed consent form and questionnaires (on paper), and a return envelope. Participants could also fill out the questionnaires online. After two and four weeks, non-respondents received a letter to remind them of the study. There was a designated contact point for questions and assistance in filling out the questionnaires.

Fifteen active and post-active veterans, residing abroad, responded and received the questionnaires as well; as a result, a total of 763 veterans received the

questionnaires. All questionnaires filled out before January 2020 were included in the study, resulting in a total sample of 431 participants (56%). As shown in Table 1, participants were almost exclusively male. The average age was 53.78 ($SD = 7.12$). Of the total sample, just over half were at the enclave when it fell; the rest were elsewhere (i.e., another location in the former Yugoslavia or on leave outside the country).

Table 1 Participant characteristics ($N = 431$)

Variable	<i>n</i>	%
Sex		
Male	418	97.0
Female	13	3.0
Age		
≤ 50	93	21.6
51-55	174	40.4
56-60	66	15.3
61-65	38	8.8
66+	45	10.4
Missing	15	3.5
Marital status		
Unmarried	56	13.0
Married/registered partnership	289	67.1
Widow(er)	7	1.6
Divorced	76	17.6
Missing	3	0.7
Current employment status		
Employed	316	73.3
Unemployed/unfit for work	52	12.1
Retired	58	13.5
Study/volunteering	3	0.7
Missing	2	0.4
Unit		
Company staff	61	14.2
Infantry platoon	164	38.1
Logistics platoon	41	9.5
Medical platoon	63	14.7
Other	96	22.1
Missing	6	1.4
Location at the fall of Srebrenica		
At the enclave	233	54.1
Not at the enclave	198	45.9
- Within the former Yugoslavia	120	27.8
- On leave/elsewhere	78	18.1

Measures

Moral Injury Questionnaire—Military Version (MIQ-M; Currier et al., 2015)

The MIQ-M is a 20-item self-report questionnaire that assesses PMIEs. It consists of 14 ‘event items’ (e.g., *I saw / was involved in the death(s) of an innocent in the war*), as well as six ‘effect items’ (e.g., *I feel guilt over failing to save the life of someone in the war*). Items are rated on a four-point scale indicating PMIE frequency: *never, seldom, sometimes, or often* (sum score range 0–80). The MIQ-M has good psychometric properties (Currier et al., 2015). The instrument was translated to Dutch for the original data collection and specifically referred to experiences during the Dutchbat III mission.

PTSD Checklist for DSM-5 (PCL-5; Blevins et al., 2015)

The PCL-5 is a 20-item self-report instrument for PTSD symptoms according to the DSM-5. The severity of symptoms in the previous month is rated on a five-point Likert scale ranging from 0 (*not at all*) to 4 (*extremely*). The current study used a summed symptom severity score, ranging between 0 and 80. We used a threshold score of 33 as an indication of probable PTSD according to the DSM-5 (Bovin et al., 2016). The Dutch translation of the PCL-5 has demonstrated good psychometric properties (van Praag et al., 2020). Cronbach’s alpha in the current study was $\alpha = .98$. In this study, the PCL-5 did not specifically refer to the Dutchbat III mission but after the last item respondents were asked to indicate whether they felt that any symptoms were related to the mission.

Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996)

We used the PTGI to measure positive changes as a result of the Dutchbat III mission. The PTGI consists of 21 items and five subscales. The total scale was used as an indicator of overall PTG. Items are rated on a six-point Likert scale, ranging from 0 (*did not experience this*) to 5 (*experienced this to a great degree*). Summed scores were used, ranging 0–105; higher scores indicate more positive changes. The Dutch translation of the PTGI is psychometrically sound (Jaarsma et al., 2006). Internal consistency in this study was high, $\alpha = .93$.

Resilience Evaluation Scale (RES; van der Meer et al., 2018)

We measured general psychological resilience using the RES. The RES consists of nine items that are rated on a five-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). This study used summed scores whereby higher scores indicate greater resilience (range 9–45). The RES displays good psychometric properties (van der Meer et al., 2018). Internal consistency in this study was high, $\alpha = .94$.

Manchester Short Assessment of Quality of Life (MANSA; Priebe et al., 1999)

The MANSA comprises 12 items which measure current quality of life, scored on a seven-point satisfaction scale ranging from 1 (*cannot be worse*) to 7 (*cannot be better*). We used summed scores ranging 12–84; higher scores indicate higher satisfaction with various aspects of one's life. The Dutch translation of the MANSA is psychometrically sound (van Nieuwenhuizen et al., 2017). Cronbach's alpha in the current sample was $\alpha = .94$.

Data analysis

We conducted latent class analysis in Mplus (version 8.6, Muthén & Muthén, 1998–2017) to identify subgroups that displayed similar patterns of PMIE exposure. For missing data, full information maximum likelihood estimation was applied. We tested models with one to six classes and compared indices of model fit to identify the most accurate model with the least number of latent classes. Classes were added until classes became too small (<10% of the total sample) and fit measures suggested a diminishing gain in model fit. We also considered the theoretical interpretation and clinical relevance of each model. To avoid local likelihood maxima, we requested 5,000 random sets of starting values in the first step and 200 in the second step of optimization, as well as 500 initial stage iterations. To avoid local likelihood maxima for the bootstrapped likelihood ratio test (BLRT), we used 500 bootstrap samples with 50 sets of starting values in the first and 20 sets in the second step of optimization.

To assess model fit, we evaluated the Bayesian Information Criterion (BIC), the BLRT, and the Lo-Mendell-Rubin adjusted likelihood ratio test (LMR-LRT). Lower values of the BIC indicate better fit, while for the BLRT and LMR-LRT, a significant p -value indicates that the model with the added class improves the fit of the model (Nylund et al., 2007). We also examined the entropy values and average latent class probabilities; models with entropy values and average latent class assignment probabilities closer to 1.00 indicate higher classification accuracy (Geiser, 2013). Classification accuracy is considered acceptable when entropy values are >0.80 (Celeux & Soromenho, 1996).

Although it is common to dichotomize item responses to enhance the interpretability of LCA results, this proved challenging for the MIQ-M due to the different ways of interpreting the item response *seldom* for event and effect items. In the case of event items, *seldom* indicates someone experienced a PMIE at least once (i.e., the presence of a PMIE). However, for effect items, *seldom* indicates the near absence of a PMIEs impact. We therefore first ran an LCA for one to six classes without dichotomized item responses. Because the item response *often* was endorsed infrequently, we merged the answers *sometimes* and *often* into one answer category (in a similar approach to Eid et al., 2003). For the optimal class solution, the answer category *seldom* was found to have low conditional response probabilities for most items, suggesting it had little differentiating power. For easier interpretability

and reporting of results, we therefore decided to test models with one to six classes with dichotomized answer responses, but with different dichotomies for event and effect items. Item responses for event items were dichotomized to indicate whether someone had had an experience at least once (1; rated as having occurred *seldom*, *sometimes* or *often*) or not at all (0; rated as having occurred *never*). Item responses for effect items, on the other hand, were dichotomized to reflect whether someone considered the impact of a PMIE to be considerable (1; rated as occurring *sometimes* or *often*) or low (0; rated as occurring *never* or *seldom*).

To be exhaustive, we present model fit statistics for the LCA with three answer categories in Supplement 1. Regardless of the number of answer categories (three versus two), model fit measures (the BIC and LMR-LRT) favored the same optimal class solution (see Supplement 1). We investigated conditional response probabilities per class to label the latent classes. We also inspected the different class solutions in item probability plots. Our chosen label for each latent class was the same for both the LCA with two and three answer categories.

Subsequently, we used the three-step method to study associations between class membership and location at the fall of the enclave, PTSD symptom severity, PTG, resilience, and QoL (Asparouhov & Muthén, 2014). The three-step method calculates a multinomial logistic regression with class membership as the dependent variable and the other variables as predictors of latent subgroup membership. The three-step approach does not allow for full information maximum likelihood estimation and handles missing data by listwise deletion. As a result, data from 28 participants were excluded from the analysis. Item responses to 'location at the fall of Srebrenica' were dichotomized to reflect whether participants were (1) or were not (0) present when the enclave fell.

RESULTS

Preliminary analysis

We first examined missing data and variable frequency distributions in SPSS (version 27). Full MIQ-M data were available for 398 participants (92.3%). We deleted one participant for whom most MIQ-M responses and all other questionnaire items were missing. Additionally, we deleted MIQ-M items 13 and 17 from subsequent analyses due to low item endorsement frequencies: 427 participants (99.4%) said to never have experienced item 13 (experiencing sexual abuse) and 425 participants (98.9%) said to never have experienced item 17 (unnecessarily destroying civilian property; see Supplement 2). Low item endorsement frequencies are unlikely to differentiate between subgroups and likely to result in convergence issues in LCA, and are thus best removed from the analysis (Geiser, 2013).

Descriptives

Table 2 presents mean scores and bivariate correlations. All but four veterans (99.1% of the sample) endorsed at least one PMIE. The average PMIE score was 14.09 ($SD = 9.25$). PMIE exposure was positively correlated with PTSD symptom severity, lower QoL, and location, and negatively correlated with resilience. The average PTSD score was 18.5 ($SD = 20.09$), with 106 (24.7%) participants meeting the cut-off score of 33 for probable PTSD. Of all the respondents who replied ‘no’ to mission-relatedness of their PTSD symptoms, 153 (100%) had no probable PTSD diagnosis; of the respondents who replied ‘yes,’ 53 (38.4%) had no probable PTSD diagnosis; and of those who replied ‘I don’t know,’ 105 (83.3%) had no probable PTSD diagnosis. In other words: those who felt that their current symptoms were related to the mission were more likely to have a probable PTSD diagnosis than those who felt that their symptoms were unrelated or were not sure, and vice versa, those with a probable PTSD diagnosis were more likely to feel that their symptoms were related to the mission than those without a probable PTSD diagnosis ($p < .001$).

Latent class analysis

Table 3 summarizes model fit indicators for the LCA with one to six classes for the MIQ-M with dichotomized answers. As displayed in Table 3, the BIC favored a three-class solution; the BLRT was significant for all six classes; and the LMR-LRT yielded a significant p -value for two, three, and five classes, but not four and six. Inspection of the item probability plots and conditional response probabilities revealed that the three-class solution consisted of subgroups characterized by different levels of PMIE exposure; the four-class solution split one subgroup into two smaller but minimally different subgroups; and the five-class solution similarly divided another subgroup into two less-readily interpretable subgroups. Conceptually, we thus preferred the three-class solution over the other two. The entropy value also favored the three-class model, which showed good classification quality. Average latent class assignment probabilities supported the three-class solution too, with values of .90, .90, and .92 for the first, second, and third latent class, respectively. In conclusion, we deemed the three-class solution to be the most optimal, parsimonious, and clinically meaningful model.

Figure 1 shows the plot with item probabilities for the three-class solution. Notably, all three subgroups displayed high probabilities of endorsing items 1 (*things I*

saw / experienced in the war left me feeling betrayed or let-down by military / political leaders) and 12 (*I experienced tragic warzone events that were chaotic and beyond my control*), indicative of most participants having had these experiences. All subgroups demonstrated relatively low probabilities of endorsing items 9, 15, 16, 19, and 20, due to few participants having experienced these PMIEs (see Supplement 2). Other items were characterized by different levels of exposure per latent subgroup. We therefore labeled class 1 ‘high exposure’ ($n = 79$; 18.5%), class 2 ‘moderate exposure’ ($n = 216$; 50.2%), and class 3 ‘betrayal and powerlessness only’ ($n = 135$; 31.3%), as this latent subgroup was characterized by low endorsement of most items except for items 1 and 12.

Predictors of class membership

Means and standard deviations of the predictor variables are presented in Table 4. The mean PTSD total symptom severity score for those in the high exposure class was above the threshold score of 33 for probable PTSD. The high exposure class also reported the lowest mean scores for resilience and QoL. As can be seen in Table 2, QoL highly overlapped with both PTSD symptom severity ($-.80$) and resilience ($.67$), and resilience highly overlapped with PTSD symptom severity ($-.67$), indicating a high degree of multicollinearity among these predictors. In the multinomial regression model, in which the predictors PTSD symptom severity, PTG, QoL, resilience, and location were simultaneously regressed on the latent class variable, this resulted in issues concerning unstable regression coefficients. Such issues are common in regression models with a high degree of multicollinearity among predictors (Bowerman & O’Connell, 1990; Field, 2018). We therefore decided to remove QoL and resilience from the multinomial logistic regression. We then regressed PTSD symptom severity, PTG, and location on the latent class variable. Table 5 presents the results of the multinomial logistic regression analysis. The B coefficients (log odds) indicate the increased or decreased likelihood of being in one latent subgroup compared to another one, as the predictor variable increases by one unit. Participants who reported higher PTSD symptom severity and who were at the enclave when it fell were significantly more likely to be in the high exposure class than in the other two classes, and more likely to be in the moderate exposure class than in the betrayal and powerlessness-only class. Participants’ reported PTG did not differentiate significantly between classes.

Table 2 Mean scores and bivariate associations for the study variables

	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. PMIEs	398	14.09	9.25	-	.63*	.02	-.33*	-.47*	.35*
2. PTSD symptom severity	419	18.50	20.09		-	-.81	-.67*	-.80*	.07
3. Posttraumatic growth	412	38.40	21.43			-	.18*	.21*	-.02
4. Resilience	424	33.39	7.29				-	.67*	-.04
5. Quality of life	418	34.11	12.51					-	.03
6. Location	430	-	-						-

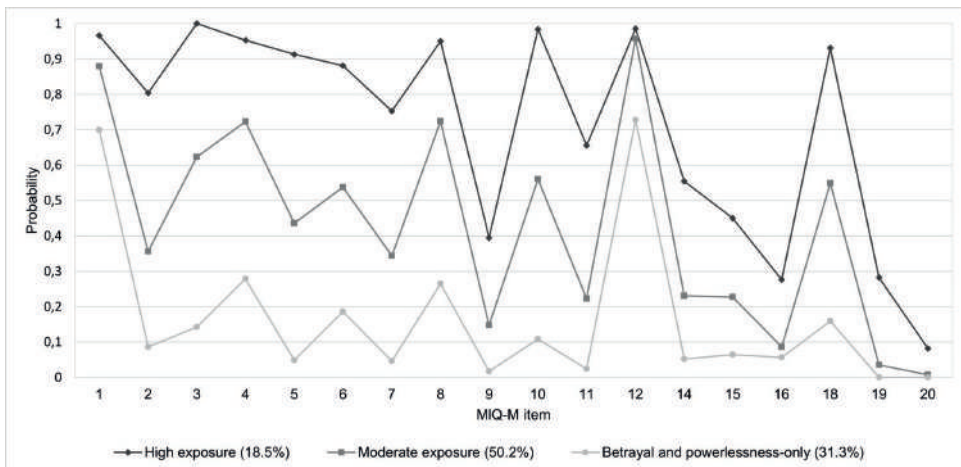
Note: PMIE = potentially morally injurious experience; PTSD = posttraumatic stress disorder.

* $p < .01$

Table 3 Model fit statistics for the latent class analysis of PMIE exposure ($N = 430$)

<i>n</i>	Log Likelihood	BIC	Entropy	LMR-LRT	LMR-LRT p	BLRT	BLRT p
1	-4088.78	8286.71	-	-	-	-	-
2	-3635.22	7494.79	.81	899.33	< .001	-4088.78	< .001
3	-3541.61	7422.80	.80	185.60	< .001	-3635.22	< .001
4	-3489.91	7434.60	.78	102.53	.086	-3541.61	< .001
5	-3457.56	7485.11	.78	64.14	.045	-3489.91	< .001
6	-3429.00	7543.21	.81	56.63	.096	-3457.56	< .001

Note: BIC = Bayesian Information Criterion; BLRT = bootstrapped likelihood ratio test; LMR-LRT = Lo-Mendell-Rubin likelihood ratio test; PMIE = potentially morally injurious experience.

**Figure 1** Probabilities of item endorsement per latent class

Note: MIQ-M = Moral Injury Questionnaire—Military Version.

Table 4 Means (*M*) and standard deviations (*SD*) of the predictor variables per latent class

	High exposure class			Moderate exposure class			Betrayal and powerlessness-only class		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
PTSD symptoms severity	80	38.73	20.78	214	17.89	18.47	125	6.60	9.62
Posttraumatic growth	79	36.28	20.83	208	39.29	20.60	125	38.26	23.15
Resilience	81	29.56	7.52	216	33.22	7.28	127	36.13	5.91
Quality of Life	80	44.08	15.19	213	34.15	11.33	125	27.66	7.37
Location	81	-	-	218	-	-	131	-	-
- Inside the enclave	59	-	-	125	-	-	81	-	-
- Outside of the enclave	22	-	-	93	-	-	50	-	-

Note: PTSD = posttraumatic stress disorder.

Table 5 Multinomial regression analysis of PMIE classes on PTSD, PTG, and location

	High exposure versus medium exposure			High exposure versus betrayal and powerlessness			Medium exposure versus betrayal and powerlessness		
	<i>B</i>	<i>SE</i>	95% CI <i>B</i>	<i>B</i>	<i>SE</i>	95% CI <i>B</i>	<i>B</i>	<i>SE</i>	95% CI <i>B</i>
PTSD	0.06**	0.01	0.04-0.23	0.14**	0.02	0.11-0.48	0.09**	0.02	0.06-0.12
PTG	0.01	0.01	-0.01-0.02	0.01	0.01	-0.01-0.03	0.00	0.01	-0.01-0.02
Location	1.12*	0.50	0.31-1.94	2.25**	0.55	1.33-3.18	1.13**	0.31	0.60-1.66

Note: PTG = posttraumatic growth; PMIE = potentially morally injurious experience; PTSD = posttraumatic stress disorder.

* $p < .05$, ** $p < .01$

DISCUSSION

Outcomes

The purpose of this study was to examine patterns of PMIE exposure among Dutch peacekeepers, as well as associations between those patterns and potential outcome- and exposure-related factors. In line with our expectations, we found two subgroups reporting different levels of exposure and one subgroup reporting a specific type of PMIE, i.e., feelings of betrayal and powerlessness. While all subgroups reported having felt betrayed and powerless, the latter subgroup was distinct in reporting only these PMIEs—i.e., their overall exposure to other PMIEs was low. Also as hypothesized, being present at the fall of Srebrenica was associated with more PMIE exposure, and

more PMIE exposure was associated with higher odds of having PTSD 25 years later. Levels of PTG did not differ between classes. We excluded resilience and QoL from the regression analysis as these constructs highly overlapped with PTSD symptom severity.

Our results display both similarities to and differences from earlier LCAs with combat veterans. Prior work with U.S. veterans similarly found subgroups characterized by high and moderate PMIE exposure, while also identifying subgroups characterized by specific but different PMIE types (Saba et al., 2022). Likewise, and partially aligning with our results, a study of Israeli combat veterans found subgroups who reported high exposure and experiences of betrayal, but also a large subgroup who reported little PMIE exposure overall (Zerach et al., 2021). Some of these differences might be attributed to prior studies relying on the Moral Injury Events Scale (Nash et al., 2013), which contains items that differentiate between self- and other-related PMIEs and betrayal. The MIQ- M, while assessing a wider range of PMIEs, does not distinguish between acts of commission and omission/witnessing, which may have impacted our results. It is also conceivable, however, that our results reflect the nature of this mission, which is generally considered morally injurious because of the genocide that took place and Dutchbat III's inability to intervene. Notably, all classes in our study displayed high odds of endorsing two items indicative of feeling like the situation was beyond one's control and of feeling betrayed by political and military leadership. Such experiences of betrayal and powerlessness, of being prevented from engaging in combat despite witnessing severe human distress, are precisely what might make peacekeeping missions morally injurious (Dallaire & Beardsley, 2003; Molendijk, 2021).

As expected, presence at the fall of Srebrenica—representing an indication of greater exposure to suffering—was associated with more exposure to PMIEs. Prior research has suggested that during combat missions, greater combat exposure increases the risk of PMIEs (Bryan et al., 2016; Currier et al., 2015; Maguen et al., 2010). During peacekeeping missions, however, where service members may be exposed to combat but generally do not engage in it directly, a more relevant predictor of PMIEs might be exposure to human distress. Such exposure might be particularly morally injurious when soldiers feel powerless before it—possibly because such situations elicit feelings of empathy that cannot be acted upon (ter Heide, 2020). Generally, people are more inclined to feel empathy when they feel connected to someone (because they know or like them, or are like them) or when there is a strong desire to help. This seems to apply to Dutchbat III veterans at Srebrenica, who were in close contact with the local population and generally felt impelled to protect them (Molendijk, 2021). Therefore, as veterans who were at the enclave were disproportionately exposed to civilian suffering, they also seem to have

been disproportionately affected. These findings thus highlight the importance of better understanding how feelings of empathy and powerlessness might contribute to PMIEs.

Our analysis of behavioral outcomes suggests that more PMIE exposure is associated with more negative outcomes, including higher PTSD symptom severity and lower quality of life. As pointed out by Saba et al. (2022), this aligns with studies of cumulative trauma exposure, which suggest that exposure to multiple traumatic events increases the odds of developing negative behavioral outcomes compared with exposure to a single traumatic experience (Davis et al., 2022; Macia et al., 2020). Furthermore, given that our data were collected 25 years post-deployment, this also supports the idea that the consequences of PMIE exposure may be lifelong—an idea that is often reiterated in the moral injury literature (Currier et al., 2021).

Because resilience and QoL highly overlapped with PTSD symptom severity, we removed these variables from the regression analysis. While QoL and resilience have been shown to be inversely related to PTSD among veterans (King et al., 1998; Pietrzak et al., 2009; Schnurr et al., 2009), studies have used differing operationalizations of resilience, complicating direct comparisons across studies (Windle et al., 2011). Additionally, this study found no association between PMIE exposure and PTG, possibly because prior research has specifically associated PTG with perceived moral violations by the self, rather than PMIE exposure overall (Evans et al., 2018; Hijazi et al., 2015).

Limitations and strengths

Several of the study's limitations require further elaboration. First, because this study concerned a secondary data analysis, measured negative mental health outcomes were limited to PTSD. Additionally, the MIQ-M was translated into Dutch for the original study and this Dutch version was not psychometrically validated. Moreover, as the MIQ-M conflates events and reactions to events, it is possible that the inclusion of effect items in the LCA impacted our results. However, as the effect items were particularly relevant for the experiences of Dutchbat III (e.g., item 1, concerning feelings of betrayal), we decided to retain these items while using a different dichotomization for event and effect items in the LCA. Also, as the MIQ-M was originally developed based on the experiences of U.S. warzone veterans (Currier et al., 2015), it might not fully match the experiences of peacekeeping soldiers. Some additional items, more aligned with the experiences of peacekeepers, could make the MIQ-M a more widely applicable instrument, appropriate for veterans from combat and non-combat missions alike.

Further, even though the Dutchbat mission has been exceptionally impactful, for individual lives as well as societies, no exclusive causality can be assigned to the

relationship between the events in Bosnia and the response 25 years later. Other life events may have had an impact on veterans' well-being—the assessment of events that took place in the intermediate time was beyond the scope of this research. However, most veterans who met a diagnosis of probable PTSD indicated that they felt their symptoms were related to the mission. In addition, compared to assessments of other cohorts (Reijnen & Duel, 2019), the number of Dutchbat III veterans suffering from mental health difficulties was higher—underlining the significance of the events in Srebrenica, Bosnia, in 1995.

Lastly, many Dutchbat III veterans feel they were negatively impacted by the societal condemnation that followed the Srebrenica genocide (Olff et al., 2020), and this possibly aggravated some veterans' moral suffering (Molendijk, 2021). Unfortunately, the current study was unable to assess this, and generally measures of PMIE exposure do not inquire about the experience of public condemnation. However, moral outrage directed at a military intervention or lack thereof is not unique to the Dutchbat III mission (Klep, 2008) and might affect veterans already struggling with their conscience. Little is currently known about the ways in which societal condemnation of a morally injurious situation may contribute to moral distress, posing a fruitful avenue for future research.

Notwithstanding these limitations, this study was the first to employ LCA to examine patterns of PMIE exposure in peacekeepers. By collecting data among Dutchbat III veterans—former peacekeepers known to have experienced a deeply tragic and potentially morally injurious event—we were able to investigate if respondent location at the time of this event impacted these patterns and subsequent outcomes. Over half the battalion participated in this study, which may be considered a particularly high response rate for a veteran sample.

We also contributed to the PMIE literature by partially replicating prior work with LCAs, while also being the first study to jointly examine PTG, resilience, and QoL in the context of PMIE exposure. Moreover, this study was the first to carry out a long-term follow-up of PMIE exposure and associated outcomes and demonstrated an association between current PTSD symptom severity and PMIE exposure 25 years prior. The study's outcomes thus point to the potentially lifelong consequences of exposure to PMIEs, which require further systematic study.

Implications and conclusion

Our results emphasize the importance of better understanding PMIE exposure and experiences of powerlessness among peacekeeping forces—particularly when acts of omission result from the mission's mandate. While acts of omission are assessed by currently available instruments measuring PMIEs, such acts are commonly described as a personal rather than an institutional failure. To better understand such experiences

and their impact, items assessing PMIEs characteristic of peacekeeping missions—such as situations marked by powerlessness and the inability to intervene—would be a meaningful addition to any instrument assessing PMIEs. Indeed, for both treatment and research purposes, a measure of PMIE exposure that is more widely applicable to veterans from different nations and missions, and that does not conflate events and reactions to events, would be very valuable.

Another implication is the importance of monitoring and proper, easily accessible aftercare when veterans are known to have been stationed in places where PMIEs occurred. In fact, over half of all Dutchbat III veterans had wished to receive support after the mission and, 25 years later, a third still express a need for treatment (Olf et al., 2020). Moreover, as demonstrated by this study, nearly a quarter still meet criteria for probable PTSD. These findings stress the importance of exploring the role of PMIE exposure and its impact on peacekeepers' poorer post-deployment well-being. Simultaneously, as Molendijk (2021) has justly pointed out, an overly narrow focus on mental health care as a solution to moral injury may distract from ways in which political decisions can contribute to moral distress. The experiences of Dutchbat III therefore not only stress the importance of proper aftercare but also serve as a reminder of how moral injury should not be treated as an exclusively individual phenomenon.

In conclusion, among peacekeeping veterans, we found various levels of PMIE exposure. Those who had been exposed to more human suffering reported higher levels of PMIE exposure, and higher PMIE exposure was associated with worse psychological outcomes 25 years later. We believe these results highlight the importance of better understanding morally injurious experiences within peacekeeping, so that interventions for moral injury post-peacekeeping can be tailored accordingly.

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Author contributions

MdG: data analysis, interpretation of results, manuscript preparation. NvdA: study conception and design, data analysis, interpretation of results. TM: study conception and design, writing – review and editing. MO: study conception and design, writing – review and editing. JJtH: study conception and design, interpretation of results, writing – review and editing, supervision.

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SUPPLEMENT 1 Model fit statistics for the latent class analysis of PMIE exposure ($N = 430$), using three answer categories

n	Log likelihood	BIC	Entropy	LMR-LRT	LMR-LRT p	BLRT	BLRT p
1	-6176.35	12571.00	-	-	-	-	-
2	-5570.46	11583.59	.86	1206.25	< .001	-6176.350	< .001
3	-5437.20	11541.42	.84	265.34	< .003	-5570.464	< .001
4	-5367.13	11625.63	.84	139.53	.482	-5437.201	< .001
5	-5306.93	11729.60	.84	119.86	.823	-5367.128	< .001
6	-5254.46	11849.02	.86	99.21	.764	-5306.932	< .001

Note: BIC = Bayesian Information Criterion; BLRT = bootstrapped likelihood ratio test; LMR-LRT = Lo-Mendell-Rubin likelihood ratio test.

SUPPLEMENT 2 Item-level responses to the MIQ-M (*N* = 430)

Item	Response	<i>n</i>	%	Dichotomized response	<i>n</i>	%
1 Things I saw/ experienced in the war left me feeling betrayed or let-down by military/ political leaders	Never	27	6.3	Never/seldom	69	16.1
	Seldom	42	9.8			
	Sometimes	152	35.3	Sometimes/often	360	83.7
	Often	208	48.4			
	Missing	1	0.2			
2 I did things in the war that betrayed my personal values	Never	277	64.4	Never	277	64.4
	Seldom	60	14.0	Seldom/sometimes/often	152	35.4
	Sometimes	72	16.7			
	Often	20	4.7			
	Missing	1	0.2			
3 There were times in the war that I saw/engaged in revenge/retribution for things that happened	Never	196	45.6	Never	196	45.6
	Seldom	69	16.0	Seldom/sometimes/often	231	53.7
	Sometimes	132	30.7			
	Often	30	7.0			
	Missing	3	0.7			
4 I had an encounter(s) with the enemy that made him/her seem more 'human' and made my job more difficult	Never	158	36.7	Never	158	36.7
	Seldom	101	23.5	Seldom/sometimes/often	265	61.7
	Sometimes	123	28.6			
	Often	41	9.5			
	Missing	7	1.6			
5 I saw/was involved in violations of rules of engagement	Never	252	58.6	Never	252	58.6
	Seldom	51	11.9	Seldom/sometimes/often	166	38.6
	Sometimes	87	20.2			
	Often	28	6.5			
	Missing	12	2.8			
6 I saw/was involved in the death(s) of an innocent in the war	Never	218	50.7	Never	218	50.7
	Seldom	73	17.0	Seldom/sometimes/often	210	48.8
	Sometimes	107	24.9			
	Often	30	7.0			
	Missing	2	0.5			
7 I feel guilt over failing to save the life of someone in the war	Never	235	54.7	Never/seldom	288	67.0
	Seldom	53	12.3			
	Sometimes	87	20.2	Sometimes/often	140	32.6
	Often	53	12.3			
	Missing	2	0.5			

SUPPLEMENT 2 continued

Item	Response	<i>n</i>	%	Dichotomized response	<i>n</i>	%
8 I had to make decisions in the war at times when I didn't know the right thing to do	Never	162	37.7	Never	162	37.7
	Seldom	113	26.3	Seldom/sometimes/often	265	61.6
	Sometimes	115	26.7			
	Often	37	8.6			
	Missing	3	0.7			
9 I feel guilt for surviving when others didn't	Never	316	73.5	Never/seldom	362	84.2
	Seldom	46	10.7			
	Sometimes	45	10.5	Sometimes/often	65	15.1
	Often	20	4.7			
	Missing	3	0.7			
10 I saw/was involved in violence that was out of proportion to the event	Never	215	50.0	Never	215	50.0
	Seldom	74	17.2	Seldom/sometimes/often	212	49.3
	Sometimes	100	23.3			
	Often	38	8.8			
	Missing	3	0.7			
11 I saw/was involved in the death(s) of children	Never	326	75.8	Never	326	75.8
	Seldom	56	13.0	Seldom/sometimes/often	103	24.0
	Sometimes	38	8.8			
	Often	9	2.1			
	Missing	1	0.2			
12 I experienced tragic war-zone events that were chaotic and beyond my control	Never	47	10.9	Never	47	10.9
	Seldom	75	17.4	Seldom/sometimes/often	381	88.6
	Sometimes	171	39.8			
	Often	135	31.4			
	Missing	2	0.5			
13 I was sexually assaulted	Never	427	99.4	Not included in analyses		
	Seldom	1	0.2			
	Sometimes	0	0.0			
	Often	1	0.2			
	Missing	1	0.2			
14 I sometimes treated civilians more harshly than was necessary	Never	329	76.5	Never	329	76.5
	Seldom	51	11.9	Seldom/sometimes/often	101	23.5
	Sometimes	46	10.7			
	Often	4	0.9			
	Missing	0	0.0			

SUPPLEMENT 2 continued

Item	Response	<i>n</i>	%	Dichotomized response	<i>n</i>	%
15 I felt betrayed or let-down by trusted civilians during the war	Never	268	62.3	Never/seldom	335	77.9
	Seldom	67	15.6			
	Sometimes	74	17.2	Sometimes/often	93	21.6
	Often	19	4.4			
	Missing	2	0.5			
16 I saw/was involved in a 'friendly-fire' incident	Never	380	88.4	Never	380	88.4
	Seldom	24	5.6	Seldom/sometimes/often	48	11.2
	Sometimes	21	4.9			
	Often	3	0.7			
	Missing	2	0.5			
17 I destroyed civilian property unnecessarily during the war	Never	425	98.9	Not included in analyses		
	Seldom	3	0.7			
	Sometimes	1	0.2			
	Often	1	0.2			
	Missing	0	0.0			
18 Seeing so much death has changed me	Never	122	28.4	Never/seldom	214	49.8
	Seldom	92	21.4			
	Sometimes	119	27.7	Sometimes/often	212	49.3
	Often	93	21.6			
	Missing	4	0.9			
19 I made mistakes in the war zone that led to injury or death	Never	400	93.0	Never	400	93.0
	Seldom	20	4.7	Seldom/sometimes/often	30	7.0
	Sometimes	8	1.9			
	Often	2	0.5			
	Missing	0	0.0			
20 I came to realize during the war that I enjoyed violence	Never	397	92.3	Never/seldom	422	98.1
	Seldom	25	5.8			
	Sometimes	8	1.9	Sometimes/often	8	1.9
	Often	0	0.0			
	Missing	0	0.0			

Note: MIQ-M = Moral Injury Questionnaire—Military Version.



CHAPTER 3

Exposure to potentially morally
injurious experiences among Dutch
military veterans

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ABSTRACT

The Moral Injury Events Scale (MIES) is a widely used instrument, but questions exist regarding its suitability as a screening instrument for potentially morally injurious experiences, related to its factor structure and cross-cultural applicability. This study therefore sought to evaluate its factor structure and reliability in a Dutch veteran sample and assessed the prevalence and nature of PMIE exposure. Treatment-seeking ($N = 176$, recruited through the Netherlands Veterans Institute) and non-treatment-seeking ($N = 468$, recruited through an online call) Dutch veterans completed the MIES. Using confirmatory factor analysis (CFA) and dynamic fit indices, we evaluated the fit of previously proposed factor models. We also examined the MIES' internal consistency and temporal stability. Additionally, PMIE exposure, associated distress, and treatment needs were evaluated. CFA supported a two-factor model—consisting of Transgressions-Self and Transgressions-Others—and a three-factor model with Betrayal as an additional scale. The MIES demonstrated good internal consistency and temporal stability. PMIE exposure was high, particularly among treatment-seeking veterans, with 92.0% reporting at least one PMIE and 85.8% experiencing moral distress. While the MIES demonstrated adequate psychometric properties in this Dutch context, its construct validity needs further investigation. Based on statistical and theoretical considerations, we deemed the two-factor model preferable over the three-factor model. The high reported PMIE exposure could be considered an indication of the MIES' cross-cultural relevance. Our findings emphasize the need for conceptual refinement of the MIES, particularly regarding its ability to differentiate event exposure from associated distress and the conceptualization of betrayal.

Keywords

Moral injury, potentially morally injurious experiences, prevalence, military veterans, confirmatory factor analysis.

INTRODUCTION

Moral injury is a clinical syndrome that entails functionally impairing alterations in various domains, including moral emotions, self- and other-perception and social behavior (Litz & Walker, 2025). These alterations may result from situations in which deeply held moral beliefs are violated, known as potentially morally injurious experiences (PMIEs; Litz et al., 2009). The concept of moral injury originated in a military context, with the majority of studies conducted among U.S. military populations (McEwen et al., 2021). These studies show that both PMIE exposure and outcomes are related to poorer mental health, and consequently, that treatment may be indicated.

Given its clinical relevance, the prevalence of PMIE exposure and moral injury among different military populations is a matter of interest. Exposure may be assessed through various established or more recent self-report measures (e.g., Griffin et al., 2025; Houle et al., 2024). Among these, the Moral Injury Events Scale (MIES; Nash et al., 2013) seems especially suitable to assess exposure, given its brevity and screening objective. However, the applicability of these measures to non-American contexts remains undecided. There are indications that contextual factors, including national and military/organizational culture, as well as societal attitudes toward the military and expectations before joining the military, may influence how morally challenging deployment experiences are interpreted (Molendijk, 2021; Molendijk et al., 2022). This raises questions about the cross-cultural applicability and reliability of current assessment tools. In light of these concerns, the present study sought to evaluate the factor structure and reliability of the MIES in two samples of Dutch military veterans, and to determine the prevalence of PMIEs and related moral distress in this population.

Factor structure

The MIES was developed to assess exposure to PMIEs and related subjective distress during military service (Nash et al., 2013). The scale comprises nine items; the first six assess perceived transgressions committed by oneself or others. These are structured as paired questions, addressing exposure to a PMIE (e.g., “I acted in ways that violated my own moral code or values”) and related distress (e.g., “I am troubled by having acted in ways that violated my own morals or values”). The remaining three items measure experiences of betrayal, specifically by military leaders, fellow service members, and individuals outside the military, respectively. In their validation study, Nash et al. (2013) analyzed two cohorts of U.S. ground combat Marines and identified two latent factors: Perceived Transgressions (items 1-6) and Perceived Betrayals (items 7-9). Both subscales demonstrated strong internal consistency ($\alpha \geq .82$) and temporal

stability. The study also provided preliminary evidence supporting the construct validity of the MIES.

Subsequent efforts to replicate the factor structure of the MIES have yielded inconsistent findings. Bryan et al. (2016) identified a three-factor structure—comprising Transgressions-Others (items 1-2), Transgressions-Self (items 3-6), and Betrayal (items 7-9)—based on a clinical sample and a non-clinical sample of American service members. However, the Transgressions-Others factor consisted of only two items, which may be attributable to high correlation rather than a distinct and meaningful factor. Richardson et al. (2020), using a sample of recently separated U.S. service members, identified an alternative two-factor structure, distinguishing between Transgressions-Self (items 3-6) and Transgressions-Others (items 1-2 and 7-9).

Plouffe et al. (2023) subsequently conducted a replication study with a clinical and non-clinical sample of Canadian service members. In the first study, they found that the two-factor structure proposed by Nash et al. (2013) best fit the data, although items 1 and 2 cross-loaded onto both factors. In the second study, which tested both Nash et al.'s (2013) and Richardson et al.'s (2020) two-factor models, the results indicated poor model fit for both, which the authors attributed to method variance arising from the item pairs with similar wording. Despite these discrepancies in factor structure, all studies have reported strong internal consistency for the MIES (Bryan et al., 2016; Plouffe et al., 2023; Richardson et al., 2020).

As Plouffe et al. (2023) have pointed out, there are potential concerns with these validation studies, including small sample sizes and the use of correlated residuals among item pairs. While correlated residuals can improve model fit, they should be applied cautiously and with strong theoretical justification, as their use complicates model interpretation and reduces the potential for replication (Hermida, 2015). Richardson et al. (2020) have also raised concerns about the data-driven approach of earlier studies, particularly the reliance on exploratory factor analysis (EFA). A data-driven approach may lead to models that fit the data from a specific sample but lack theoretical justification and are difficult to replicate. A theory-driven approach, on the other hand, may help ensure that the factor structure reflects the underlying constructs the instrument intends to measure. The current literature suggests it is helpful to distinguish between transgressions committed by oneself and by others, as these are associated with different moral emotions and impacts (Litz, 2025; Litz et al., 2022; Stein et al., 2012). Self-perpetrated transgressions, for example, are associated with shame, self-condemnation, and internalizing behavior (e.g., withdrawal and social isolation), whereas transgressions by others are associated with anger, condemnation of others, and externalizing behavior (e.g., disinhibition and risk taking; Kotov et al., 2017; Litz, 2025). This distinction underscores the importance of a theory-driven examination of the factor structure of the MIES.

Exposure to PMIEs

Several studies have used the MIES to examine the prevalence of PMIEs among (former) service members from different countries. Zerach and Levi-Belz (2018) found that among Israeli combat veterans, 21.9% endorsed at least one transgressions-self item, 33.7% endorsed at least one transgressions-others item, and 31% endorsed at least one betrayal item. Jordan and colleagues (2017) examined U.S. Marines who had engaged in heavy ground combat. They found that 24.1% endorsed at least one transgressions-self item, 28.4% endorsed at least one betrayal item, and 37.5% endorsed at least one of either (in this study, the transgressions-others items were excluded). Wisco et al. (2017) examined a sample of U.S. veterans and reported that 10.8% endorsed self-committed transgressions, 25.5% endorsed transgressions by others, and 25.5% endorsed at least one betrayal item. Notably, unlike the other studies, which classified item endorsement at “slightly agree” or higher, this study used a threshold of “moderately agree” or higher, complicating direct comparisons. These findings suggest that PMIEs are a cross-cultural phenomenon; however, the current evidence base remains mostly limited to American and Israeli veterans. Broader international research is needed to establish the cross-cultural relevance of the moral injury concept and the cross-cultural applicability of moral injury measures.

Additionally, differences in PMIE exposure (and/or appraisals) may be related not only to cultural factors but also to deployment factors, with some countries engaging predominantly in combat missions and others in peacekeeping missions. Previous studies have almost exclusively focused on combat veterans, leaving PMIE exposure among peacekeeping veterans relatively unexplored. Many Dutch veterans have served in peacekeeping missions under United Nations mandates. Previous research has shown that one quarter of Dutch veterans report feeling guilt and shame post-deployment due to, for example, having had a bystander role in a war zone (Rietveld, 2009). Dutch peacekeepers deployed to the former Yugoslavia during the Srebrenica genocide have been found to struggle with feelings of betrayal and powerlessness, stemming from their inability to intervene under the United Nations mandate (de Goede et al., 2024; ter Heide et al., 2025). These findings point to the possibility that peacekeepers may encounter different PMIEs compared to those in combat settings, yet empirical data on PMIE prevalence across different mission types remain scarce.

Finally, it is important to note that to date, while the MIES has been administered with treatment-seeking service members, no studies have reported the prevalence of PMIE exposure among clinical samples. This limits our understanding of PMIE prevalence among treatment-seeking versus non-treatment-seeking veterans.

Current study

The need for cross-culturally validated instruments in the moral injury field, the challenges in replicating the factor structure of the MIES, and the lack of data on PMIE exposure among veterans from different nations, missions and clinical contexts underscore the necessity of more research. The first objective of this study was therefore to address these gaps by evaluating psychometric properties of the MIES in a Dutch sample of treatment-seeking veterans. Specifically, we aimed to examine the factor structure as well as the internal consistency and temporal reliability of the MIES. Secondly, the study aimed to obtain descriptive statistics regarding exposure to different PMIEs (i.e., self-perpetrated transgressions, transgressions by others, and betrayal) in this group. The overarching objective of the study was to reliably assess PMIE exposure in Dutch veterans and to determine their clinical relevance in this population (as indicated by high reported PMIE rates), to inform treatment policy in the Netherlands.

Based on theoretical considerations and previous studies that have demonstrated differences in the impact of self- versus other-committed moral transgressions (Hall et al., 2022; Litz, 2025; Litz et al., 2018), we hypothesized that a two-factor model consisting of two latent factors, Transgressions-Self and Transgressions-Others/Betrayal, would fit our data better than other previously proposed models. Based on prior research, we hypothesized that the MIES would demonstrate adequate internal consistency and temporal stability in a Dutch context. As for PMIE exposure, we anticipated that treatment-seeking Dutch veterans would report higher exposure to PMIEs than found in prior work with non-clinical samples (>34%; Jordan et al., 2017; Zerach & Levi-Belz, 2018), as well as higher PMIE-related subjective distress.

MATERIALS AND METHOD

Participants and procedure

Sample 1

The study was approved by the Ethics Committee of the Faculty of Social and Behavioral Sciences of Utrecht University [approval no. 22-0116]. Data were collected between May 2022 and December 2023. Participants were Dutch veterans who contacted the Netherlands Veterans Institute regarding a psychosocial support request. Upon reaching out to the institute, veterans are connected with a specialized social worker who conducts home visits. The intake process spans several sessions, after which veterans are typically referred for treatment at a mental health care institute specializing in military-related trauma. All veterans who contacted the institute received an information letter about the study via email before their first

intake session. During one of the initial intake sessions, social workers invited veterans to participate in the study. If they agreed, the social worker provided an online link where they could access study details, provide written consent by completing the informed consent form, and complete the MIES. During the data collection period, 632 veterans had an intake session with a social worker, of which 182 veterans (28.8%) consented to participate in the study. Of these 182, six (3.3%) exited the online link before filling in the first MIES item and were excluded, leaving 176 (96.7%) veterans for the current study. Participants' demographic characteristics and deployment history are presented in Table 1.

Table 1 Participant characteristics Sample 1 ($N = 176$) and Sample 2 ($N = 468$)

Variable	Sample 1		Sample 2	
	<i>n</i>	%	<i>n</i>	%
Gender				
Male	167	94.9%	419	89.5%
Female	9	5.1%	48	10.3%
Other	0	0%	1	0.2%
Age				
≤ 35	10	5.7%	37	7.9%
36-40	31	17.6%	66	14.1%
41-45	32	18.2%	63	13.5%
46-50	48	27.3%	76	16.2%
51-55	18	10.2%	60	12.8%
56-60	13	7.4%	66	14.1%
61+	24	13.6%	100	21.4%
Deployment history				
WWII, Korea, New Guinea, Dutch East Indies	0	0%	0	0%
Lebanon (UNIFIL)	10	5.7%	55	11.8%
Former Yugoslavia	101	57.4%	199	42.5%
Afghanistan	71	40.3%	244	52.1%
Iraq	27	15.3%	96	20.5%
Mali	4	2.3%	50	10.7%
Other	30	17.0%	180	38.5%
Help request related to moral distress				
Yes	93	52.8%		
No	12	6.8%		
I don't know	41	23.3%		
Does not apply	19	10.8%		
Missing	11	6.3%		

Note: UNIFIL = United Nations Interim Force in Lebanon; WWII = World War II.

To assess the test-retest reliability of the MIES, an additional sample of veterans was recruited through ARQ Centrum'45, a Dutch national center specializing in the treatment of psychopathology following psychotrauma, including care for military veterans. Data to establish the test-retest reliability were collected between April and June 2024. Primary therapists recruited veterans under their care by sending the study information letter through an online patient portal and inviting them to participate. Only veterans who were not currently receiving care or who had not previously received care related to moral injury were invited. Veterans who consented were provided with an email link directing them to a questionnaire platform within the patient portal, where they could access study details, provide written consent by completing the informed consent form, and fill out the MIES. Two weeks after the initial MIES completion, participants received a follow-up email prompting them to complete the MIES a second time. The link for the follow-up questionnaire was valid for one week, ensuring that all responses were collected two to three weeks after the initial assessment. For assessing test-retest reliability, a repeat administration of minimum two weeks is considered acceptable (Mokkink et al., 2018). A total of 33 veterans agreed to participate in the study. Of those, 28 (84.8%) completed the MIES twice. Data from the remaining five were excluded.

Sample 2

We aimed to recruit a minimum of 250 participants, which is considered adequate for stable results in a CFA of a small-scale model conducted with patient data (White, 2022). However, during data collection, it became evident that recruiting 250 treatment-seeking participants within the designated inclusion period was not feasible. Consequently, data collection was extended to a second, non-clinical veteran sample to increase sample size. This study amendment was approved by the same Ethics Committee [23-0024].

Data of Sample 2 were collected between April and June 2023. Veterans were recruited through an announcement on the ARQ Centrum'45 LinkedIn page and the online bulletin board of a Dutch veterans' magazine. The text explicitly addressed military veterans and stated that service members who had not been deployed and veterans currently receiving mental health care were not eligible for participation. The text also provided information about the study and included a link to the online questionnaire platform. Upon accessing this link, veterans could review study details, provide written consent by completing the informed consent form, and fill out the MIES. A total of 497 participants filled in the questions; however, 15 (3.0%) were excluded for indicating that they had not been deployed and 14 (2.8%) were excluded for exiting the online link before filling in the first MIES item. Consequently, a total of

468 participants (94.2%) were included. Demographic characteristics and deployment history for Sample 2 are displayed in Table 1.

Measures

Moral Injury Events Scale (MIES)

The MIES (Nash et al., 2013) is a self-report questionnaire consisting of nine items designed to assess exposure to PMIEs—i.e., transgressions-self, transgressions-others, and perceived betrayals—as well as associated distress. Items are rated on a 6-point Likert-scale ranging from 1 (“strongly disagree”) to 6 (“strongly agree”). Higher scores indicate greater PMIE exposure and/or related distress. The MIES has demonstrated strong internal consistency ($\alpha = .90$) and temporal stability over a three-month period (Nash et al., 2013).

Translation procedure

The MIES was translated into Dutch in accordance with the guidelines proposed by Sousa and Rojjanasirat (2011). The translation process included forward- and back-translation by two certified translators and two bilingual scientist-practitioners with expertise in moral injury. Any discrepancies between the original and translated versions were resolved through discussion among the scientist-practitioners. Remaining uncertainties were clarified in consultation with the original developer of the MIES. The translation was reviewed at two separate stages by a panel consisting of patient representatives, moral injury experts, and social workers specializing in veteran care. For the Dutch translation of the MIES, see Supplement 1.

Demographic characteristics, deployment(s), and request for help

In addition to the MIES, participants were asked to provide demographic information, including their age, gender (male/female/other), and deployment history. Deployment history was assessed through a multiple-choice question where participants could select one or more of the following options: 1) World War II, Korea, New Guinea, and the Dutch East Indies; 2) Lebanon (UNIFIL); 3) Former Yugoslavia; 4) Afghanistan; 5) Iraq; 6) Mali; 7) Other; 8) I have not been deployed. Participants were also asked if they requested help related to moral distress (“Would you want help to reduce the burden of these experiences?”) with answer options “yes,” “no,” “I do not know,” and “not applicable.”

Statistical analyses

We first examined the normality of MIES items by examining skewness and kurtosis. We then calculated inter-item correlations and item-total correlations. Boxplots were

generated to detect potential outliers in the data; no outliers were identified. These analyses were conducted in SPSS (version 27).

Next, we conducted a confirmatory factor analysis (CFA) for Sample 1 and Sample 2 respectively to evaluate the two-factor structure of the MIES as previously reported by Richardson et al. (2020), consisting of Transgressions-Self (items 3-6) and Transgressions-Others (items 1-2 and 7-9). We conducted the CFA in Mplus (version 8.6, Muthén & Muthén, 1998–2017) using weighted least squares mean and variance adjusted (WLSMV) estimation, which is appropriate for Likert-scale responses. Of the MIES data, 4.7% were missing. Missing data were handled using pairwise deletion, which is the default approach for WLSMV in Mplus. This method ensures that all available data contribute to the estimation of model parameters while maintaining the robustness of the estimation procedure (Asparouhov & Muthén, 2010). Error variances were not allowed to correlate. To assess adequacy of model fit, we calculated the chi-square, comparative fit index (CFI), Tucker-Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). To evaluate these fit statistics, the Hu and Bentler (1999) guidelines for cut-offs are commonly used (CFI and $TLI \geq 0.95$, $RMSEA \leq 0.06$, and $SRMR \leq 0.08$). However, McNeish and Wolf (2023) advise against using fixed cut-offs for fit indices, as fit indices are unstandardized and their interpretation may change based on model characteristics like number of items, number of factors, and response scale. They therefore developed an open-source, web-based software application for calculating dynamic fit index cut-offs which are adaptively tailored to the specific characteristics of the data and model under evaluation (Wolf & McNeish, 2020). We obtained these cut-offs for the CFI and RMSEA from this web application. As this web application does not provide a dynamic cut off index for the TLI or SRMR, we relied on the Hu and Bentler (1999) guidelines for evaluating these fit estimates, $TLI \geq 0.95$ and $SRMR \leq 0.08$. We also ran the CFA with maximum likelihood estimation to obtain the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) to compare models; lower values of the AIC and BIC indicate better fit. For comprehensiveness and to assess which factor model showed the best fit, we also tested the two-factor structure identified by Nash et al. (2013) and the three-factor structure proposed by Bryan et al. (2016), and obtained dynamic fit indices for both models.

Following the CFA, we examined the internal consistency of the scale and its subscales using Cronbach's alpha, as well as the temporal stability of the items using Pearson's correlation coefficients. In line with earlier studies (Jordan et al., 2017; Zerach & Levi-Belz, 2018), we calculated PMIE exposure per subscale by selecting items endorsed at "slightly agree" or higher. We also conducted a paired t-test to compare the MIES scores of veterans expressing a need for care versus those who did not. These tests were also conducted using SPSS (version 27).

Preregistration

This study was preregistered on the Open Science Framework (OSF) website. The preregistration, including hypotheses, sample size, and planned analyses, is accessible at: <https://doi.org/10.17605/OSF.IO/H9YBZ>. Although the preregistration specified a one-year data collection period, recruitment of Sample 1 continued for a year and a half to achieve a sufficiently large sample size. Analyses of differences in PMIE exposure based on age, gender, or deployment history were not conducted, due to the limited sample size of Sample 1 and to maintain focus and manage the complexity of the overall study design after adding a second sample.

RESULTS

Descriptive statistics

Values of skew and kurtosis are displayed in Table 2. Values of skew for MIES items in Sample 1 ranged from -1.06 to 0.68, and values of kurtosis ranged from -1.44 to 0.76. Values of skew in Sample 2 ranged from -0.54 to 1.31, and values of kurtosis ranged from -1.21 to 0.88. Skewness values below ± 2 and kurtosis values below ± 7 are considered acceptable for CFA (West et al., 1995); non-normality was therefore not an issue.

Inter-item correlations and item-total correlations for both samples are displayed in Table 3. Inter-item correlations between event items and associated distress items were mostly high ($\geq .70$), except item pair 1-2, for which the correlation was .46 in Sample 1 and .52 in Sample 2.

Factor structure

Table 4 displays the fit estimates and corresponding dynamic fit indices for the one-factor model, the two-factor models by Nash et al. (2013) and Richardson et al. (2020), and the three-factor model by Bryan et al. (2016). Fit estimates that met the corresponding dynamic cut-off are displayed in bold for clarity. For the TLI, in Sample 1, none of the models met the Hu and Bentler (1999) cut-off of ≥ 0.95 , but the two-factor model by Richardson et al. (2020) showed the highest value, namely TLI = 0.93. As the TLI is known to over-reject correct factor models in small samples (≤ 200 participants; Hu & Bentler, 1999), a TLI of 0.93 could be considered acceptable in this sample. In Sample 2, the three-factor model was the only model to meet the cut-off. For the CFI, in both samples, none of the factor models met the corresponding dynamic cut-off; though in Sample 1 the two-factor model by Richardson et al. (2020) was closest to the cut-off, and in Sample 2, the three-factor model showed the highest CFI. None of the models in either sample met the dynamic cut-off for the RMSEA. For the SRMR, in

Sample 1 both the two-factor model by Richardson et al. (2020) and the three-factor model met the Hu and Bentler (1999) cut-off, and in Sample 2 all models except the one-factor model met the cut-off. The three-factor model showed the lowest AIC and BIC across samples.

Factor loadings are displayed in Table 5. Factor loadings for the two-factor model were generally strong (> 0.70) or adequate (< 0.70 and > 0.50), with the exception of item 8, which exhibited a factor loading of 0.50 on factor 2 in Sample 1 and 0.49 in Sample 2. Factor loadings for the three-factor model were predominantly strong, with factor loadings for a few items being adequate, most notably for item 8.

Reliability

Internal consistency of the MIES was high, with a Cronbach's α of .82 for Sample 1 and .86 for Sample 2. For the two-factor model, the internal consistency was $\alpha = .87$ (factor 1) and $\alpha = .70$ (factor 2). For the three-factor model, the internal consistency was $\alpha = .62$ (factor 1), $\alpha = .70$ (factor 2), and $\alpha = .63$ (factor 3). To assess the temporal stability of individual MIES items, we evaluated Pearson's correlation coefficients. These ranged from .52 to .91, suggesting good test-retest reliability—except for item 1, for which the correlation coefficient was .30 (see Table 2). The mean interval between the first and second administration was 17.0 ($SD = 2.9$) days. Mean scores and standard deviations for both samples are also displayed in Table 2.

Exposure to PMIEs and moral distress

We calculated the percentage of participants who endorsed “slightly agree” or higher per MIES item, see Table 6. In both samples, the most commonly endorsed PMIE type was transgressions by others. A total of 162 participants (92.0%) in Sample 1 and 382 participants (81.6%) in Sample 2 endorsed at least one MIES event item (item 1, 3, 5, 7, 8 or 9). The average number of PMIEs experienced was 5.20 for Sample 1 and 2.80 for Sample 2. In Sample 1, 151 participants (85.8%) reported moral distress by endorsing at least one of the items concerning feeling troubled by a PMIE (item 2, 4, or 6); in Sample 2, 192 participants (41.0%). Asked if they needed treatment for PMIE-related distress, among the treatment-seeking veterans of Sample 1, 93 veterans (52.8%) expressed a need for care. The total MIES score was significantly higher among veterans expressing a need for care ($M = 37.24$, $SD = 8.86$) versus those not having a need for care or those that were not sure ($M = 30.04$, $SD = 8.74$), $t(163) = 5.21$, $p < .001$, $d = .82$.

Table 2 MIES mean scores, standard deviations, skewness and kurtosis for Sample 1 and Sample 2 and test-retest correlations

Item	Sample 1 <i>M (SD)</i>	Sample 2 <i>M (SD)</i>	Sample 1 skew	Sample 2 skew	Sample 1 kurtosis	Sample 2 kurtosis	<i>r</i>
1	4.6 (1.5)	4.0 (1.5)	-1.06	-0.54	0.76	-0.80	.30
2	4.3 (1.5)	2.7 (1.5)	-0.76	0.67	-0.37	-0.61	.63
3	3.5 (1.7)	2.4 (1.4)	0.05	0.89	-1.44	-0.26	.73
4	3.5 (1.7)	2.2 (1.3)	-0.06	1.20	-1.36	0.68	.52
5	3.7 (1.7)	2.4 (1.4)	-0.20	0.83	-1.30	-0.38	.82
6	3.7 (1.6)	2.3 (1.3)	-0.14	1.05	-1.30	0.23	.82
7	4.3 (1.7)	3.2 (1.6)	-0.63	0.18	-0.93	-1.21	.91
8	2.8 (1.7)	2.1 (1.3)	0.68	1.31	-0.94	0.88	.84
9	3.6 (1.7)	2.6 (1.5)	-0.64	0.72	-1.38	-0.65	.67
Total	3.8 (1.1)	2.7 (1.0)					

Note: MIES = Moral Injury Events Scale.

Table 3 MIES inter-item correlations and item-total correlations for Sample 1 and Sample 2

Item	1	2	3	4	5	6	7	8	9
1	1.00								
2	.46/.52	1.00							
3	.29/.37	.37/.50	1.00						
4	.22/.31	.32/.55	.85/.80	1.00					
5	.17/.36	.41/.49	.49/.55	.53/.55	1.00				
6	.20/.33	.32/.54	.50/.57	.51/.64	.84/.83	1.00			
7	.38/.38	.30/.48	.29/.31	.31/.35	.45/.33	.37/.36	1.00		
8	.24/.19	.25/.29	.13/.18	.23/.22	.23/.17	.16/.19	.40/.43	1.00	
9	.25/.33	.26/.47	.14/.30	.18/.35	.34/.33	.24/.35	.44/.52	.26/.37	1.00
MIES total	.41/.50	.51/.70	.60/.64	.62/.68	.69/.65	.62/.69	.57/.57	.35/.36	.40/.54

Note: MIES = Moral Injury Events Scale.

Table 4 Fit statistics for the confirmatory factor analysis

Factor solution	χ^2	TLI	CFI	DFI CFI	RMSEA	DFI RMSEA	SRMR	AIC	BIC
Sample 1:									
1-factor	380.44*	0.873	0.905	≥ 0.994	0.273	≤ 0.055	0.102	4644.03	4815.24
2-factors (Richardson et al., 2020)	214.18*	0.930	0.949	≥ 0.996	0.203	≤ 0.047	0.069	4569.98	4744.36
2-factors (Nash et al., 2013)	329.25*	0.887	0.919	≥ 0.996	0.257	≤ 0.050	0.090	4605.52	4779.90
3-factors (Bryan et al., 2016)	226.23*	0.918	0.946	≥ 0.996	0.219	≤ 0.056	0.064	4556.74	4737.46
Sample 2:									
1-factor	701.09*	0.880	0.910	≥ 0.995	0.231	≤ 0.058	0.077	10970.31	11194.32
2- factors (Richardson et al., 2020)	375.30*	0.935	0.953	≥ 0.996	0.169	≤ 0.052	0.049	10797.64	11025.80
2-factors (Nash et al., 2013)	476.62*	0.917	0.940	≥ 0.996	0.192	≤ 0.049	0.057	10834.63	11062.80
3-factors (Bryan et al., 2016)	273.28*	0.950	0.967	≥ 0.996	0.149	≤ 0.053	0.035	10731.51	10967.97

Note: AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; CFI = comparative fit index; DFI = dynamic fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; TLI = Tucker-Lewis index. * = $p < .001$.

Table 5 Factor loadings for the 2-factor model by Richardson et al. (2020) and 3-factor model Bryan et al. (2016) in Sample 1 and Sample 2.

Item	Richardson et al. (2020)				Bryan et al. (2016)					
	Sample 1		Sample 2		Sample 1			Sample 2		
	1	2	1	2	1	2	3	1	2	3
1		0.64		0.63	0.70			0.64		
2		0.71		0.89	0.80			0.92		
3	0.90		0.88			0.90			0.88	
4	0.92		0.91			0.92			0.91	
5	0.92		0.88			0.92			0.88	
6	0.88		0.91			0.88			0.91	
7		0.77		0.70			0.86			0.79
8		0.50		0.49			0.56			0.55
9		0.58		0.70			0.61			0.80

Table 6 Endorsement of MIES items at “slightly agree” or higher for Sample 1 and Sample 2

Item	Sample 1		Sample 2	
	n	%	n	%
At least one MIES item	168	95.5%	388	82.9%
Transgressions by others				
At least one item	157	89.2%	339	72.4%
1. I saw things that were morally wrong	141	80.1%	329	70.3%
2. I am troubled by having witnessed others' immoral acts	136	77.3%	148	31.6%
Transgressions by self				
At least one item	125	71.0%	187	40.0%
3. I acted in ways that violated my own moral code or values	86	48.9%	124	26.5%
4. I am troubled by having acted in ways that violated my own morals or values	93	52.8%	85	18.2%
5. I violated my own morals by failing to do something that I felt I should have done	97	55.1%	115	24.6%
6. I am troubled because I violated my morals by failing to do something I felt I should have	95	54.0%	88	18.8%
Betrayal				
At least one item	135	76.7%	245	52.4%
7. I feel betrayed by leaders who I once trusted	120	68.2%	210	44.9%
8. I feel betrayed by fellow service members who I once trusted	53	30.1%	81	17.3%
9. I feel betrayed by others outside the U.S. military who I once trusted	91	51.7%	131	28.0%
PMIE exposure				
At least one item (item 1, 3, 5, 7, 8, or 9)	162	92.0%	382	81.6%
Moral distress				
At least one item (item 2, 4, or 6)	151	85.8%	192	41.0%

Note: MIES = Moral Injury Events Scale; PMIE = potentially morally injurious experience.

DISCUSSION

Psychometric properties of the MIES

This study examined the reliability and factor structure of the MIES, as well as the prevalence of various PMIEs types, among two samples of Dutch treatment-seeking and non-treatment-seeking veterans. As expected, the MIES showed high internal consistency and generally good temporal stability. Consistent with previous psychometric evaluations of the MIES, several item pairs showed high inter-item correlations ($\geq .80$ for items 3–4 and 5–6), suggesting potential redundancy. Inter-item correlations exceeding $.70$ typically indicate insufficient item differentiation (Kline, 1979), and previous work by Richardson et al. (2020) found that removing the event items from these pairs (items 1, 3, and 5) had minimal impact on overall model fit. In the current study, the correlation between items 1 and 2 was relatively modest ($.46$ – $.52$), but items 3–4 and 5–6 were strongly intercorrelated, indicating that each pair could arguably be reduced to a single item for parsimony.

These findings reinforce concerns raised in previous studies (Plouffe et al., 2023; Richardson et al., 2020) regarding the construct validity of the MIES—specifically, whether it measures exposure to PMIEs, the resulting moral distress, or both. This conceptual ambiguity is also reflected in the literature, where the MIES is sometimes used to assess PMIE exposure and in other cases interpreted as an outcome measure (see Houle et al., 2024). Relatedly, the MIES has shown moderate-to-strong associations with measures of psychological distress (Lancaster & Harris, 2018), further complicating its interpretability as a measure of PMIE exposure. However, no study to date has examined the predictive value of the item pairs on the MIES—that is, the extent to which one or both items within each pair are associated with measures of moral injury and/or psychological distress. To determine whether these item pairs could be reduced to a single item (and if so, which one to retain), it is essential to assess the predictive value of these items. This would clarify whether the MIES primarily reflects exposure to PMIEs, associated distress, or both.

Factor structure

We conducted CFA to evaluate previously proposed models, using dynamic fit indices derived for our samples. Both the two-factor model proposed by Richardson et al. (2020)—consisting of Transgressions-Self and Transgressions-Others—and the three-factor model by Bryan et al. (2016)—which separates Transgressions-Others into Transgressions-Others and Betrayal—met some but not all fit criteria, showing acceptable but not ideal model fit. The two-factor model performed slightly better in the first sample and the three-factor model performed better in the second sample. However, research suggests that factors should ideally contain a minimum of three

items to ensure adequate reliability and interpretability, although a two-item factor may be considered acceptable if the items are highly correlated ($r > .70$) and relatively uncorrelated with other items (Worthington & Whittaker, 2006). In the present study, although items 1 and 2 did not correlate highly with other items, they also did not correlate highly with each other. Moreover, in the three-factor model, internal consistency for factors 1 and 3 was low, whereas the two-factor model demonstrated acceptable to good internal consistency. Given these considerations, we deemed the two-factor model statistically superior to the three-factor model.

From the perspective of theory and clinical relevance, however, it is important to question whether there is added value in distinguishing between morally transgressive acts committed by others and experiences of betrayal. Some studies conducted with the MIES suggest the betrayal items are associated with different outcomes than the items concerning transgressions by others. For example, some have found experiences of betrayal to be the only PMIE type significantly associated with posttraumatic stress disorder (PTSD) symptom clusters (Battaglia et al., 2019; Zerach & Levi-Belz, 2018) and greater odds of post-deployment suicide attempts (Wisco et al., 2017). This would indicate that, from a clinical perspective, it is important to separately assess experiences of betrayal. However, complicating the interpretation of studies examining outcomes associated with betrayal is the inconsistent conceptualization of betrayal across studies. Some treat betrayal as a PMIE in its own right, while others regard it as a response to a transgression committed by someone else. This conceptual ambiguity is mirrored in the MIES items that assess exposure to betrayal, which, given their wording (e.g., “I feel betrayed...”), do not clearly specify whether they are assessing an objective event or the subjective experience of being betrayed. We believe our findings thus not only underscore problems with the interpretation and construct validity of the MIES, but also the need for a clearer conceptualization and operationalization of betrayal within the moral injury literature. More research is needed to determine whether betrayal constitutes a distinct PMIE type or a specific psychological outcome. Clarifying this distinction is essential not only for improving instruments like the MIES, but also for informing clinical assessment and treatment strategies for veterans affected by moral injury.

Exposure to PMIEs and moral distress

As anticipated, PMIEs were found to be highly prevalent among Dutch treatment-seeking veterans, with nearly all individuals in this sample (92.0%) reporting exposure to at least one PMIE. The non-treatment-seeking sample also reported high rates of PMIEs (81.6% experienced at least one), although the average number of PMIEs experienced was lower (5.2 vs. 2.8 PMIEs in the treatment-seeking and non-treatment-seeking samples respectively). In both groups, the most commonly endorsed PMIEs

were transgressions by others. Notably, the majority of treatment-seeking veterans disclosed experiencing moral distress in response to PMIEs, compared to less than half in the non-treatment-seeking group. Over half of the treatment-seeking group indicated a desire to receive treatment for their moral distress, which was associated with higher MIES scores.

It is unclear whether the PMIE rates observed among Dutch treatment-seeking veterans in the current study are particularly high in comparison to other samples, as other studies employing the MIES in clinical veteran samples (e.g., Bryan et al., 2016; Plouffe et al., 2023) have not reported PMIE prevalence rates. Regarding the non-treatment-seeking group, the prevalence rates found in the present study appear higher than those reported in studies among U.S. and Israeli combat veterans, which used the same threshold for item endorsement (Jordan et al., 2017; Zerach & Levi-Belz, 2018). In those studies, endorsement rates for transgressions-self ranged from 21.9% to 24.1%, transgressions-others was reported to be 33.7%, and betrayal ranged from 28.4% to 31.0%. In contrast, the current study found substantially higher endorsement rates in the Dutch non-treatment-seeking sample: 40.0% for transgressions-self, 72.4% for transgressions-others, and 52.4% for betrayal.

To explore why PMIE rates among Dutch veterans are so high, the study findings were discussed with the social workers who helped administer the MIES among treatment-seeking veterans. They confirmed that the data reflect the high prevalence of PMIEs and moral struggles they hear about from veterans. When asked why Dutch veterans possibly report more PMIE exposure than their U.S. and Israeli counterparts, the social workers pointed to several cultural and military differences. They suggested that Dutch service members are more likely to have been raised in a relatively sheltered environment with minimal exposure to violence or gun use prior to their military service. As such, their initial deployment may often have been their first direct encounter with the harsh realities of war and violence. Moreover, they mentioned Dutch veterans are less likely to have been socialized into nationalistic attitudes or strong perceptions of external threat to their homeland. In this context, morally complex deployment experiences may be harder to justify through appeals to national defense or patriotic duty, potentially making such experiences more likely to be morally injurious. Furthermore, Dutch forces predominantly engage in peacekeeping and peace enforcement missions rather than in combat roles, which may further influence the experience and psychological impact of their deployment (cf. de Goede et al., 2024). Given that moral injury research in military populations has predominantly been conducted among North American and Israeli (combat) forces, our findings highlight the importance of studying military populations from across the globe, to gain a broader understanding of how contextual factors influence the appraisals of PMIEs and contribute to moral distress or injury.

Irrespective of the cause, the high prevalence of reported PMIE exposure, particularly transgressions-others, among Dutch veterans underscores the morally burdening nature of peacekeeping missions and the importance of strategies aimed at preventing and alleviating moral injury. Qualitative research with military veterans of the Dutchbat III peacekeeping mission emphasized the importance of being fully informed about mission objectives and feasibility, of strong organizational support during and after the mission, and of explicit acknowledgement of moral challenges and accomplishments during the mission, to prevent moral injury (ter Heide et al., 2025). For veterans who develop moral injury, clinical care may be needed that focuses specifically on the moral injury domains, such as Adaptive Disclosure, Building Spiritual Strength, Impact of Killing, and Trauma-Informed Guilt Reduction Therapy (Aita et al., 2023), in addition to care focusing on PTSD.

Strengths and limitations

This study exhibited several methodological and conceptual strengths. Most notably, this is the first psychometric evaluation of the MIES conducted in a European, non-English speaking context, contributing to the cross-cultural applicability of the instrument. We also translated the MIES through a thorough translation process (Sousa & Rojjanasrirat, 2011), ensuring linguistic and conceptual equivalence of the Dutch instrument. Another key strength lies in the use of dynamic fit indices to evaluate competing factor structures. This innovative approach allowed for a more accurate and context-sensitive assessment of model fit in comparison to previous studies that reported inconsistent or inadequate model fit. Finally, the study's theory-driven analysis sets it apart from prior investigations that were largely data-driven in nature.

However, this study is not without limitations. The sample of treatment-seeking veterans was relatively small because the response rate was low. However, no information was available regarding those who declined participation. It is possible that due to logistical limitations, not all potential study participants were invited to participate (the social workers were, for example, not always able to inform potential participants about the study). It is also possible that veterans who experienced a PMIE or moral distress were more inclined to participate. Although this concern was discussed with the social workers who facilitated recruitment—and their impression was that the data accurately reflected the population they work with—this assumption could not be formally verified. To address the limited sample size in the treatment-seeking group, a second sample was recruited online. While this online sample was sufficiently large, it constituted a convenience sample, which introduces additional limitations including risk of selection bias and potentially limited generalizability to the broader veteran population. Furthermore, given the cross-sectional design of the study and the fact that many participants' deployments occurred years prior, the

potential for recall bias must be acknowledged. Lastly, we were unable to examine the construct and predictive validity of the MIES, as the present study did not include additional questionnaires for comparison. The number of questionnaires that could be administered at the Netherlands Veterans Institute was restricted to minimize response burden. Consequently, we were also unable to assess the predictive value of the individual items within the item pairs, which would have been informative given the conceptual ambiguity of the MIES.

Implications

Given the issues with the MIES' construct validity, as well as uncertainty regarding what it truly measures (PMIEs or moral distress), its utility in research and clinical practice is called into question. Interestingly, in the current study, treatment-seeking veterans showed less differentiation between event and reaction items than their non-treatment-seeking counterparts. Specifically, treatment-seeking veterans who endorsed an event item nearly always endorsed the corresponding reaction item—a pattern not observed among the non-treatment-seeking participants. This finding suggests that the MIES may hold greater value as a screening tool for PMIE exposure and associated distress among recently deployed, non-treatment-seeking veterans than among those already engaged in mental health care. However, other studies have reported little differentiation between event and reaction items among non-clinical samples (see Bryan et al., 2016; Richardson et al., 2020), and Houle et al. (2024), in their systematic review of moral injury instruments, recommend not using the MIES based on its conflation of these items. Given these considerations, future research should further investigate the construct and predictive validity of the MIES before drawing firm conclusions about its clinical or research utility.

CONCLUSION

This study examined psychometric properties and cross-cultural applicability of the MIES among both treatment-seeking and non-treatment-seeking Dutch veterans. Our findings indicate that the MIES demonstrates generally adequate psychometric qualities and support a two-factor structure comprising Transgressions-Self and Transgressions-Others. Our results underscore the need to conceptually refine the scale, particularly in relation to the conceptualization of betrayal. Concerns regarding the construct validity of the MIES persist, raising questions about the scale's ability to clearly distinguish between exposure to PMIEs and the psychological distress they elicit. Future research should focus on resolving these conceptual ambiguities. Lastly, a large majority of veterans in this study reported experiencing PMIEs, which was

associated with treatment-seeking and wanting care for moral injury. This stresses the need for screening for PMIEs and moral injury in military veterans and providing moral injury-focused care. The high levels of reported PMIE exposure could be considered an indication of the MIES' applicability in a Dutch context. In conclusion, this study shows the moral burdens of engagement in military (peacekeeping and peace enforcement) missions, the relevance of the concepts of PMIEs and moral injury for Dutch veterans seeking treatment, and the need to refine these concepts as well as the instruments that measure them to ensure appropriate identification and care for affected individuals.

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Author contributions

MdG: conceptualization, formal analysis, project administration, writing—original draft. JJtH: conceptualization, project administration, supervision, writing—review and editing. PB: conceptualization, supervision, writing—review and editing.

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SUPPLEMENT 1

Moral Injury Events Scale - NL (MIES-NL)

Instructies: Omcirkel een getal om aan te geven in hoeverre u het eens of oneens bent met de volgende uitspraken. De uitspraken gaan over uw ervaringen op enig moment sinds u in militaire dienst bent gegaan.

		Sterk mee oneens	Mee oneens	Enigszins mee oneens	Enigszins mee eens	Mee eens	Sterk mee eens
1.	Ik heb dingen gezien die moreel verkeerd waren.	1	2	3	4	5	6
2.	Ik heb er last van dat ik getuige ben geweest van immorele daden van anderen.	1	2	3	4	5	6
3.	Ik heb dingen gedaan die in strijd waren met mijn eigen moreel kompas of normen en waarden.	1	2	3	4	5	6
4.	Ik heb er last van dat ik dingen heb gedaan die in strijd zijn met mijn eigen normen en waarden.	1	2	3	4	5	6
5.	Ik heb mijn eigen normen en waarden geschonden door iets <i>niet</i> te doen dat ik voor mijn gevoel wel had moeten doen.	1	2	3	4	5	6
6.	Ik heb er last van dat ik mijn eigen normen en waarden heb geschonden door iets <i>niet</i> te doen dat ik voor mijn gevoel wel had moeten doen.	1	2	3	4	5	6
7.	Ik voel me verraden door militaire en/of politieke leiders die ik ooit vertrouwde.	1	2	3	4	5	6
8.	Ik voel me verraden door collega-militairen die ik ooit vertrouwde.	1	2	3	4	5	6
9.	Ik voel me verraden door mensen buiten Defensie die ik ooit vertrouwde.	1	2	3	4	5	6

Original instrument:

Nash, W. P., Marino Carper, T. L., Mills, M. A., Au, T., Goldsmith, A., & Litz, B. T. (2013). Psychometric evaluation of the moral injury events scale. *Military medicine*, 178(6), 646-652.

Dutch version:

de Goede, M., Boelen, P. A., & ter Heide, F.J.J. (2022). *Moral Injury Events Scale – Nederlandstalige versie*. Diemen: ARQ Nationaal Psychotrauma Centrum.



CHAPTER 4

Moral injury in Dutch treatment-seeking veterans: a latent profile analysis

Submitted as:

de Goede, M. L., ter Heide, F. J. J., van Ee-Blankers, E., de Haart, R., Thomaes, K., & Boelen, P. A. Moral injury in Dutch treatment-seeking veterans: A latent profile analysis.

ABSTRACT

Background

Moral injury (MI) is a construct distinct from, yet related to, posttraumatic stress disorder (PTSD). To date, no study has assessed MI among Dutch treatment-seeking veterans using a validated measure.

Objective

This study aimed to (a) examine the factor structure and psychometric properties of the Dutch Expressions of Moral Injury Scale—Military Version (EMIS-M); (b) to identify profiles of PTSD and MI outcomes among treatment-seeking Dutch veterans, and their associations with comorbid psychopathology and family functioning.

Method

Participants were 455 Dutch treatment-seeking veterans at four national psychotrauma centers. Data were drawn from pre-intake routine outcome monitoring assessments. We evaluated the internal consistency, temporal stability, and factor structure of the EMIS-M, and conducted latent profile analysis (LPA) to identify subgroups of PTSD and MI outcomes, followed by analyses of associated psychopathology and family functioning.

Results

The EMIS-M demonstrated good psychometric properties. Confirmatory factor analysis (CFA) supported a two-factor structure (MI-self and MI-other), though fit indices suggested room for improvement. LPA revealed three profiles: ‘subclinical MI and PTSD’ (20.9%), ‘moderate MI and PTSD’ (47.9%), and ‘high MI and PTSD’ (31.2%). Higher levels of MI and PTSD were associated with greater comorbid psychopathology. Family functioning was significantly poorer in the moderate and high groups compared to the subclinical group.

Conclusions

Findings indicate that the Dutch EMIS-M is a psychometrically acceptable instrument for assessing MI among treatment-seeking veterans. MI frequently co-occurred with PTSD and was associated with greater psychopathology and poorer family functioning, underscoring the need for careful assessment of MI in veteran care.

Keywords

Moral injury, posttraumatic stress disorder, veterans, EMIS-M, latent profile analysis, psychopathology, family functioning.

Highlights

- The Dutch EMIS-M shows good reliability and supports a two-factor structure.
- Three MI and PTSD profiles identified: subclinical, moderate, high.
- Higher MI and PTSD are linked to more comorbid psychopathology and poorer family functioning.

INTRODUCTION

Moral injury (MI), or the enduring moral burden veterans may experience as a result of committing, failing to prevent, or witnessing moral transgressions, is increasingly recognized as a significant clinical concern (Litz & Walker, 2025). However, most research on MI following military deployment has been conducted among U.S. veterans (e.g., Griffin et al., 2025), raising questions about the extent to which the construct applies beyond this context. The experiences of Dutch veterans may differ from their U.S. counterparts due to different cultural and military contexts. Dutch troops have historically served in several UN peacekeeping missions, which may have exposed them to different types of potentially morally injurious experiences (PMIEs) than U.S. combat veterans (de Goede et al., 2024). Peacekeeping operations can be morally injurious, for example, when mandate restrictions limit the ability to intervene in unfolding violence. Among Dutch peacekeepers deployed to the former Yugoslavia during the Srebrenica genocide, greater PMIE exposure—particularly experiences of being powerless—was associated with increased odds of posttraumatic stress disorder (PTSD; American Psychiatric Association [APA], 2013) 25 years later (de Goede et al., 2024). In this same cohort, attributions of personal responsibility and negative public portrayals further exacerbated vulnerability to adverse psychosocial outcomes (ter Heide et al., 2025). Emerging evidence also suggests that the meaning and impact of specific PMIEs may vary by operational context; for example, killing during deployment appears to predict more severe negative outcomes in peacekeeping settings than in combat missions (Nordstrand et al., 2025).

To date, no study has systematically assessed morally injurious outcomes among treatment-seeking Dutch veterans using a validated measure of MI. The present study therefore examined MI among trauma treatment-seeking Dutch veterans using a translation of the Expressions of Moral Injury Scale-Military Version (EMIS-M; Currier et al., 2018). We first examined the psychometric properties and factor structure of the Dutch EMIS-M. Subsequently, we explored profiles of MI and PTSD indicators as well as the extent to which these profiles predict comorbid psychopathology and family functioning.

The Expressions of Moral Injury Scale—Military Version (EMIS-M)

The EMIS-M was one of the first instruments developed to assess MI (Currier et al., 2018). The authors found support for a two-factor model, consisting of self-directed and other-directed MI, as well as a bifactor model, which adds an overarching MI factor (Currier et al., 2018). All factors demonstrated strong internal consistency and temporal reliability over a six-month period. The scale was also found to have strong convergent

validity with measures of PTSD, depression, and PMIEs; strong divergent validity with measures of social support, hope, and gratitude; and strong incremental validity.

In recent years, the EMIS-M has been adapted for first responders (Tappenden et al., 2024) and civilians (Thomas et al., 2024). Among first responders, Tappenden et al. (2024) reported support for the bifactor model; however, the robustness of this finding may be compromised by the way in which the model was estimated. Among civilians, Thomas et al. (2024) found the two-factor model to be a good fit, while Morriss & Berle (2023) found the two-factor model and bifactor model both fit the data. The question thus remains which factor model is best. Apart from Currier et al. (2018), the EMIS-M has not been psychometrically evaluated in other military samples.

MI profiles and associations with psychopathology and family functioning

Identifying clinical profiles in trauma-exposed veterans may provide valuable insights into treatment needs and the proportion of veterans requiring interventions targeting MI. Several studies of MI among military veterans using latent profile analysis (LPA) or latent class analysis (LCA) have consistently revealed distinct subgroups characterized by varying constellations of PTSD and MI indicators. Mensink et al. (2022), for example, identified four classes, including an MI class (8%), a combined MI and PTSD class (52%), a PTSD class (34%), and a class with neither MI nor PTSD (6%). Similarly, Smigelsky et al. (2019) identified three profiles among U.S. veterans: a high PTSD and depression profile (48%), a moderate PTSD and depression profile (30%), and a potential MI profile (22%). Currier et al. (2021), using MI and complex PTSD indicators, found a high distress group (80%) and a low distress group (20%) among British veterans. Except for Currier et al. (2021), no other study has applied LPA/LCA using a validated MI questionnaire among an exclusively veteran population.

LPA may also be used to distinguish clinical differences across profiles. Mensink et al. (2022) found, for example, that participants reporting more comorbid psychopathology were more likely to be in the MI-PTSD or MI class than the PTSD or neither-MI-nor-PTSD class. Clinical differences may also concern inter- rather than intrapersonal problems. However, although MI appears associated with poorer family functioning (e.g., Blom et al., 2023; Ne'eman-Haviv et al., 2025; Williamson et al., 2020, 2023), to date, no study has examined differences in family functioning among profiles.

Current study

The objectives of the current study were (1) to evaluate the factor structure of the EMIS-M, as well as its internal consistency and temporal stability; (2) to identify clinical

subgroups based on PTSD and MI indicators and to determine if these subgroups could be differentiated by comorbid psychopathology and family functioning. The overarching aim was to assess the extent to which Dutch treatment-seeking veterans experience MI and to determine the clinical relevance of the construct in this population, with the goal of informing treatment policy in the Netherlands.

Based on theoretical considerations and prior research (Currier et al., 2018; Morriss & Berle, 2023; Thomas et al., 2024), we hypothesized to find a two-factor model consisting of self-directed and other-directed MI, and that the Dutch EMIS-M would exhibit satisfactory internal consistency and test-retest reliability. Based on studies that identified clinical profiles among morally injured populations, we hypothesized to find at least three profiles, characterized by the presence of MI without PTSD, MI with PTSD, and PTSD without MI. Moreover, we expected profiles characterized by more severe MI and PTSD symptomatology to be associated with higher levels of comorbid psychopathology and lower levels of family functioning.

METHOD

Participants and procedure

The study was approved by the Ethics Committee of the Faculty of Social and Behavioral Sciences of Utrecht University [approval no. 22-0116; no. 22-0562]. Data were collected between May 2022 and November 2024. Eligible participants were Dutch veterans seeking psychological treatment at one of four centers specialized in the treatment of complex psychotrauma, including the treatment of military veterans: ARQ Centrum'45, GGZ Drenthe Mental Health Institute, Reinier van Arkel, and Sinai Centrum. The study used data from the routine outcome monitoring (ROM) assessment conducted at intake. For this study and concurrent clinical use, the EMIS-M was added to the standard ROM battery. All other questionnaires were part of the regular ROM assessment, which veteran patients were requested by email to complete online. Before filling in the assessment, patients were asked to provide informed consent for the use of their ROM data in research.

We aimed to recruit 400 participants, which is considered adequate for LPA and distal outcome analysis (Wolf et al., 2013). Moreover, a sample size of 250 participants is considered sufficient for stable results in a confirmatory factor analysis (CFA) of a small-scale model using patient data (White, 2022). During the data collection period, 516 veterans filled in the ROM; of these, 457 veterans (89%) consented to the use of their data for research. Two veterans were excluded for not filling out the EMIS-M. The resulting sample size was 455 participants. Participants' age and sex are displayed in Table 1.

Table 1 Participant characteristics (*N* = 455)

Variable	<i>n</i>	%
Sex		
Male	423	93.0%
Female	32	7.0%
Age		
≤ 35	31	6.8%
36-40	88	19.3%
41-45	67	14.7%
46-50	95	20.9%
51-55	60	13.2%
56-60	39	8.6%
61+	75	16.5%

To determine the short-term test-retest reliability of the EMIS-M, an additional sample was recruited through ARQ Centrum'45 and Sinai Centrum between May and November 2023. A question was temporarily added to the EMIS-M in the ROM battery, asking veterans to fill in the EMIS-M a second time. If participants selected yes, they received a follow-up email two weeks later with a link to the online assessment portal that provided additional information about the study, a consent form, and the second EMIS-M. The link worked for one week, ensuring that all second administrations were collected within two to three weeks. A minimum interval of two weeks is generally considered acceptable for determining short-term test-retest reliability (Mokkink et al., 2018). A total of 37 veterans consented to participate in the study; 25 completed the EMIS-M on both occasions. Data from the remaining 12 participants were excluded from the analyses.

Preregistration

This study was preregistered on the Open Science Framework (OSF) website. The preregistration, including hypotheses, sample size, and planned analyses, is accessible at: <https://doi.org/10.17605/OSF.IO/H9YBZ>. Although the preregistration specified a data collection period of 18 months, recruitment continued for an additional year to achieve the required sample size. The original study protocol also included the questionnaire Research And Development-SF/36 (Rand-36; van der Zee & Sanderman, 2012) to assess physical and societal functioning. However, this questionnaire was replaced by the TRACK—a questionnaire developed by the Dutch Veterans Health Care for similar purposes—during the data collection period. In the final dataset, an insufficient number of participants had filled in either questionnaire

(109 and 125 participants for the Rand-36 and TRACK, respectively). Consequently, we excluded these questionnaires from the analysis. Moreover, in the preregistration we hypothesized to find two profiles (PTSD with and without MI); this was revised to at least three profiles based on more recent research (Mensink et al., 2022).

Measures

Expressions of Moral Injury Scale—Military Version (EMIS-M)

The EMIS-M (Currier et al., 2018) is a 17-item self-report questionnaire that measures agreement with MI expressions within military populations. Items are rated on a 5-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). Higher scores indicate worse psychological outcomes. The EMIS-M has demonstrated strong internal consistency ($\alpha \geq .94$) and temporal stability (Currier et al., 2018).

The EMIS-M was translated into Dutch following the guidelines by Sousa and Rojjanasirirat (2011). The translation procedure involved forward and back translation, carried out by two certified translators and two bilingual scientist-practitioners with expertise in MI. Discrepancies between the original and translated versions were resolved through discussion among the scientist-practitioners. Remaining ambiguities were addressed in consultation with the original developer. The translated version was reviewed at two separate stages by a panel of veteran patient representatives, MI experts, and social workers working in veteran care.

PTSD Checklist-5 (PCL-5)

The PCL-5 (Hoeboer et al., 2024; Weathers et al., 2013) is a 20-item self-report instrument that assesses PTSD symptoms according to DSM-5 during the past month. Items are rated on a 5-point Likert-scale indicating symptom endorsement ranging from 0 (“not at all”) to 4 (“extremely”). The PCL-5 consists of four subscales that correspond to the four symptom clusters of PTSD: Intrusion (items 1-5), Avoidance (items 6-7), Negative Alterations in Cognition and Mood (items 8-14) and Alterations in Arousal and Reactivity (items 15-20). The total score indicates PTSD symptom severity (0-80). The current study used summed scores per subscale, ranging 0-20 for Intrusion, 0-8 for Avoidance, 0-28 for Negative Alterations in Cognition and Mood, and 0-24 for Alterations in Arousal and Reactivity. The Dutch translation of the PCL-5 has demonstrated good psychometric properties (Hoeboer et al., 2024). Internal consistency in the current sample was $\alpha = .93$ for the total scale and .89, .84, .84, and .78 for the respective subscales.

Brief Symptom Inventory (BSI)

The BSI (Derogatis & Melisaratos, 1983; Dutch translation de Beurs & Zitman, 2006) is a 53-item self-report questionnaire for general psychopathology in the past seven

days. Items are rated on a 5-point Likert scale indicating symptom endorsement from 0 (“not at all”) to 4 (“extremely”). The total score (used in this study) provides an index of general psychopathology. The Dutch translation of the scale has good psychometric properties (de Beurs & Zitman, 2006) and internal consistency in the current study was excellent, $\alpha = .97$.

SCORE-15 index of family functioning and change (SCORE-15)

The SCORE-15 (Stratton et al., 2014) measures the quality of family functioning across three dimensions: Strengths and Adaptability, Overwhelmed by Difficulties, and Disrupted Communication. The scale consists of 15 items rated on a 5-point scale indicating agreement with the given statements, ranging from 1 (“completely”) to 5 (“not at all”), with lower scores indicating better functioning. Internal consistency in the current sample was good, $\alpha = .80$.

Demographic characteristics

As part of the ROM assessment, participants were asked to indicate their age and sex (male/female).

Data analysis

First, we assessed the normality of the EMIS-M items by inspecting values of skewness and kurtosis. Next, we computed inter-item and item-total correlations. To identify potential outliers, boxplots were generated; no outliers were detected. All analyses were performed using SPSS (version 27).

Confirmatory factor analysis and reliability

We conducted a CFA to evaluate the factor structure of the EMIS-M. We tested a one-factor model, a two-factor model consisting of MI-self and MI-other, and the bifactor model as specified by Currier et al. (2018). CFA was performed in Mplus (version 8.6; Muthén & Muthén, 1998–2017) using the weighted least squares mean and variance adjusted (WLSMV) estimator, which is suitable for Likert-type data. No EMIS-M data were missing. Error variances were specified as uncorrelated.

To assess the adequacy of model fit, we examined several fit indices: chi-square, comparative fit index (CFI), Tucker-Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). Guidelines from Hu and Bentler (1999) suggest acceptable fit thresholds for these indices (CFI and TLI ≥ 0.95 , RMSEA ≤ 0.06 , and SRMR ≤ 0.08). However, McNeish and Wolf (2023) caution against relying on fixed cut-offs, noting that these indices are unstandardized and their interpretation can vary depending on model characteristics. We therefore used an open-source, web-based tool (Wolf & McNeish, 2020) that

calculates dynamic fit index cut-offs tailored to the specific properties of the model and data, to obtain dynamic cut-offs for the CFI and RMSEA. We evaluated the TLI and SRMR based on the Hu and Bentler (1999) guideline of $TLI \geq 0.95$ and $SRMR \leq 0.08$. Additionally, we conducted the CFA using maximum likelihood estimation to compute the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC), with lower values indicating better model fit. After completing the CFA, we assessed the internal consistency of the scale and emerging subscales using Cronbach's alpha and evaluated the temporal stability of the items using Pearson correlation coefficients.

Latent profile analysis

Next, we conducted an LPA in Mplus (version 8.6; Muthén & Muthén, 1998–2017) using emerging EMIS-M and PCL-5 subscales to identify subgroups that showed similar patterns of PTSD and MI indicators. No data were missing. To ensure comparability across instruments, all scores were standardized into z-scores. We estimated models with one to six latent profiles and compared model fit indices to determine the most parsimonious and best-fitting solution. Additional latent profiles were added until profile sizes dropped below 10% of the total sample and improvements in fit became negligible. Theoretical interpretability and clinical relevance were also considered when selecting the optimal model. To avoid local likelihood maxima, we requested 500 random sets of starting values in the first step and 50 in the second step of optimization. We also specified 50 initial stage iterations.

To evaluate model fit, we considered the BIC, the Bootstrap Likelihood Ratio Test (BLRT), and the Lo-Mendell-Rubin adjusted likelihood ratio test (LMR-LRT). Lower BIC values suggest better model fit, while significant p-values for the BLRT and LMR-LRT indicate that including an additional profile significantly improves model fit (Nylund et al., 2007). In addition, we assessed classification accuracy by examining entropy values and average latent profile assignment probabilities; for both, values closer to 1.00 reflect more precise classification (Geiser, 2013). Entropy values at or above 0.80 are considered indicative of acceptable classification accuracy (Celeux & Soromenho, 1996). Upon selecting the optimal solution, we examined the conditional response probabilities per profile to label the profiles. Additionally, we reviewed plots of item z-scores for the solutions.

Last, we conducted two independent distal outcome analyses, using the BSI and SCORE-15 respectively, to examine whether the profiles predicted scores on these outcome variables. For the BSI, 0.44% of data points were missing; for the SCORE-15, 10.93%. Missing data were handled using the BCH method in Mplus, which excludes individuals with missing values on the distal outcome from the analysis, while retaining them in the latent profile estimation, so the profile solution remains based on the full sample.

RESULTS

Descriptive statistics

Values of skew for the EMIS-M ranged from -0.95 to 0.94 and values of kurtosis ranged from -1.37 to 0.35, see Table 2. Values of skew below ± 2 and values of kurtosis below ± 7 are considered acceptable for CFA (West et al., 1995). Inter-item correlations mostly were in the recommended range (.15-.50; Clark & Watson, 2016), ranging from .15 to .64, see Supplement 1. Mean scores and standard deviations for the EMIS-M are also displayed in Table 2. The average total score on the EMIS-M was 48.62 ($SD = 14.47$).

Table 2 EMIS-M mean scores, standard deviations and test-retest reliability correlations

Item	<i>M (SD)</i>	Skew	Kurtosis	<i>r</i>
1	3.02 (1.38)	-0.13	-1.29	
2	2.83 (1.47)	0.13	-1.37	
3	3.11 (1.22)	-0.15	-0.87	
4	2.67 (1.19)	0.31	-0.80	
5	2.54 (1.24)	0.28	-1.06	
6	2.26 (1.30)	0.62	-0.92	
7	2.88 (1.40)	0.06	-1.26	
8	2.00 (1.09)	0.94	0.09	
9	3.30 (1.34)	-0.32	-1.09	
10	3.50 (1.29)	-0.58	-0.73	
11	2.90 (1.31)	0.02	-1.16	
12	2.51 (1.19)	0.42	-0.80	
13	3.20 (1.40)	-0.26	-1.25	
14	2.08 (1.09)	0.82	-0.01	
15	3.71 (1.14)	-0.95	0.35	
16	2.87 (1.27)	-0.06	-1.14	
17	3.24 (1.31)	-0.32	-1.01	
EMIS-self	2.61 (0.91)			.81
EMIS-other	3.14 (0.96)			.82
Total	2.86 (0.85)			.82

Note: EMIS-M = Expressions of Moral Injury Scale—Military Version.

Factor structure

Table 3 displays the fit estimates and corresponding dynamic fit indices for the one-factor and two-factor model. Estimation of the bifactor model indicated that the first-order derivative product matrix was not positive definite and that several standard errors were potentially not trustworthy, indicating possible model nonidentification. Given our sample size ($N = 455$) relative to the model's complexity (70 freely estimated parameters), we suspected inadequate power to recover a stable bifactor solution (this occurred because sample size requirements were determined based on the LPA). Consequently, we adopted the correlated two-factor solution, which was identified and produced well-behaved standard errors.

The one-factor model showed poor fit as the CFI and RMSEA did not meet the dynamic fit thresholds and only the SRMR met the recommended cut-off value. The two-factor model showed relatively acceptable model fit; the CFI and RMSEA met the dynamic fit indices for a mediocre fitting model and the SRMR indicated good fit. However, the TLI was still below the recommended value of ≥ 0.95 (Hu & Bentler, 1999). Factor loadings for the two-factor model are displayed in Supplement 2. All factor loadings were strong (> 0.70) or adequate (< 0.70 and > 0.50). The average total score for the MI-self subscale was 23.47 ($SD = 8.22$) and for the MI-other subscale was 25.15 ($SD = 7.64$).

Reliability

The EMIS-M's internal consistency was excellent, with a Cronbach's α of .92. For the two-factor model, the internal consistency was $\alpha = .89$ (factor 1, MI-self) and $\alpha = .88$ (factor 2, MI-other). To assess the temporal stability, we evaluated Pearson's correlation coefficients of the total scale and subscales. These were high, with coefficients of .82, .81 and .82 for the total scale, MI-self subscale and MI-other subscale, respectively (see Table 2). The mean interval between the first and second administration of the EMIS-M was 14.44 ($SD = 1.94$) days.

Latent profile analysis

Model fit indices for the latent profile analysis are presented in Table 4. The AIC and BIC were lowest for the six-profile solution, indicating better fit. Entropy values were acceptable for the three-, five-, and six-profile solutions, suggesting adequate classification quality. The LMR-LRT supported the three-profile solution, while the BLRT yielded significant p-values across all solutions. Despite some indices favoring the five- and six-profile models, both included profiles representing less than 10% of the sample, which may reflect sample-specific noise rather than meaningful subgroups, limiting replicability and interpretability. We therefore inspected the item z-score plots to inform model selection. The three-profile solution revealed distinct

and clinically meaningful subgroups, characterized by (1) high and relatively parallel levels of MI and PTSD symptoms, (2) average levels of both, and (3) below-average MI and PTSD symptoms.

In contrast, the five-profile solution included four profiles reflecting a gradient of symptom severity (high, average, below average, and further below average) and a fifth, smaller profile (8.6% of participants) characterized by below-average MI and slightly above-average PTSD symptoms. The six-profile solution introduced an additional subgroup (10.2% of participants) with slightly above-average MI and below-average PTSD symptoms. However, these additional profiles were small and potentially unstable, offering no meaningful gain in interpretability or clinical utility. Conceptually, we preferred the three-profile solution, as it was the most parsimonious, interpretable, and clinically meaningful. This solution also had the lowest BIC among the models for which the LMR-LRT remained significant and demonstrated good entropy. Average latent profile assignment probabilities further supported the adequacy of the model, with values of .95, .89, and .90 for the first, second, and third profiles, respectively.

Figure 1 shows the mean z-scores of PTSD and moral injury indicators across the three latent profiles. Profiles were characterized by varying levels of MI and PTSD symptoms. We labeled profile 1 'subclinical MI and PTSD' ($n = 95$, 20.9%), profile 2 'moderate MI and PTSD' ($n = 218$, 47.9%), and profile 3 'high MI and PTSD' ($n = 142$, 31.2%).

Comorbid psychopathology and family functioning

Table 5 displays the descriptive statistics for the three profiles. General psychopathology and family functioning were compared as distal outcomes of profile membership. Compared to the 'subclinical MI and PTSD' profile, individuals in the 'moderate MI and PTSD' profile reported significantly greater overall psychopathology (chi-square = 139.64, $p < .001$). Those in the 'high MI and PTSD' profile reported even greater levels of psychopathology compared to the 'subclinical MI and PTSD' profile (chi-square = 568.39, $p < .001$). The 'moderate MI and PTSD' and 'high MI and PTSD' profiles also differed significantly, with individuals in the 'high MI and PTSD' profile reporting higher psychopathology scores than those in the 'moderate MI and PTSD' profile (chi-square = 172.41, $p < .001$).

For family functioning, individuals in the 'subclinical MI and PTSD' profile reported significantly better family functioning compared to those in the 'moderate MI and PTSD' profile (chi-square = 5.88, $p = .015$) and the 'high MI and PTSD' profile (chi-square = 17.80, $p < .001$), although mean differences between the profiles were small. The difference in family functioning between the 'moderate MI and PTSD' and 'high MI and PTSD' profiles was not statistically significant (chi-square = 2.91, $p = .088$).

Table 3 Fit statistics for the confirmatory factor analysis

Factor solution	χ^2	TLI	CFI	DFI	CFI	RMSEA	DFI	RMSEA	SRMR	AIC	BIC
1-factor model	843.55	0.780	0.808	≥ 0.891	≥ 0.891	0.116	≤ 0.083	0.073	0.073	22641.93	22852.07
2-factor model	520.16	0.877	0.893	≥ 0.895	≥ 0.895	0.087	≤ 0.089	0.054	0.054	22320.54	22534.80

Note: AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; CFI = comparative fit index; DFI = dynamic fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; TLI = Tucker-Lewis index.
All $\chi^2 p = 0$.

Table 4 Model fit statistics for the latent profile analysis of EMIS-M and PCL-5 subscales ($N = 455$)

n	Log Likelihood	AIC	BIC	Entropy	LMR-LRT	LMR-LRT p	BLRT	BLRT p
1	-3870.70	7765.40	7814.85	-	-	-	-	-
2	-3418.80	6875.60	6953.88	.87	883.19	$< .001$	903.80	$< .001$
3	-3293.04	6638.07	6745.20	.80	245.79	.02	251.53	$< .001$
4	-3250.29	6566.58	6702.55	.79	83.54	.33	85.49	$< .001$
5	-3204.31	6488.62	6653.44	.81	89.86	.58	91.95	$< .001$
6	-3169.28	6432.56	6626.21	.81	68.47	.12	70.07	$< .001$

Note: BIC = Bayesian Information Criterion; BLRT = bootstrapped likelihood ratio test; EMIS-M = Expressions of Moral Injury Scale—Military Version; LMR-LRT = Lo-Mendell-Rubin likelihood ratio test; PCL-5 = PTSD Checklist-5.

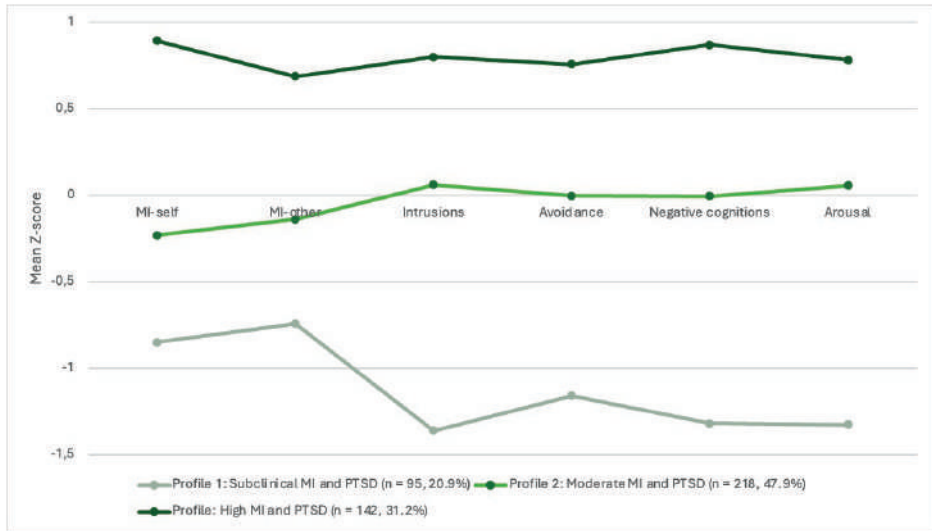


Figure 1 Latent profile-specific mean standardized scores on MI and PTSD indicators

Note: MI = moral injury; PTSD = posttraumatic stress disorder.

Table 5 Descriptive statistics for the three-profile solution

	Class 1 (subclinical MI & PTSD)				Class 2 (moderate MI & PTSD)				Class 3 (high MI & PTSD)			
	N (%)	M	SD	z-score	N (%)	M	SD	z-score	N (%)	M	SD	z-score
Age		49.86	10.17			48.24	10.02			49.47	9.30	
Sex	95 (20.9)				218 (47.9)				142 (31.2)			
Female	4 (4.2)				18 (8.3)				10 (7.0)			
Male	91 (95.8)				200 (91.7)				132 (93.0)			
Moral injury (EMIS-M)		35.67	11.98			45.63	10.91			61.87	9.60	
Moral injury-self		16.40	5.96	-0.86		21.50	6.03	-0.24		31.23	6.12	0.94
Moral injury-other		19.27	7.19	-0.77		24.13	6.69	-0.13		30.63	5.43	0.72
PTSD (PCL-5)		23.12	7.79			47.28	7.11			61.98	6.58	
Intrusion		4.48	3.11	-1.39		11.46	3.17	0.06		15.15	2.54	0.83
Avoidance		2.37	1.77	-1.15		4.84	1.73	-0.01		6.58	1.16	0.79
Negative alterations		8.03	4.23	-1.32		16.10	4.05	-0.01		21.77	2.97	0.91
Arousal		8.23	3.23	-1.34		14.88	3.23	0.06		18.48	2.75	0.81
General psychopathology (BSI)	94	40.61	20.56		218	79.53	26.04		141	120.92	29.80	
Family functioning (SCORE-15)	81	49.85	7.12		202	47.00	10.00		123	45.12	8.74	

Note: BSI = Brief Symptom Inventory; EMIS-M = Expressions of Moral Injury Scale—Military Version; MI = moral injury; PCL-5 = PTSD Checklist for DSM-5; PTSD = posttraumatic stress disorder; SCORE-15 = SCORE-15 index of family functioning and change.

DISCUSSION

The main objective of this study was to examine the extent to which Dutch treatment-seeking veterans experience MI. To do so, we first validated the EMIS-M in a clinical sample of 455 Dutch veterans, testing its internal consistency, temporal stability and factor structure. Secondly, we identified profiles of PTSD and MI outcomes and examined if these profiles predicted comorbid psychopathology and family functioning.

Psychometric properties of the EMIS-M

As hypothesized, the EMIS-M and its subscales showed excellent internal consistency. The temporal stability of the total scale and subscales were high over a two-week period. In the original study (Currier et al., 2018) test-retest reliability was favorable over a six-month period, indicating the EMIS-M has good temporal stability over shorter and longer intervals. Inter-item correlations were predominantly in the acceptable range.

Factor structure

We conducted CFA to evaluate the factor structure of the EMIS-M, using dynamic fit indices tailored to our sample. We tested a one-factor model and a two-factor model consisting of MI-self and MI-other, showing poor and mediocre fit respectively. Due to inadequate power (i.e., a small sample size relative to the complexity of the model), we were unable to recover a stable bifactor solution. Given prior evidence suggesting that the EMIS-M may be better represented by a bifactor structure rather than a two-factor model, a bifactor model possibly would have provided superior fit, accounting for variance not captured by the two-factor solution.

Symptom profiles, comorbid psychopathology, and family functioning

Using LPA, we identified three latent profiles of PTSD and MI outcomes among treatment-seeking veterans. These profiles consisted of ‘subclinical MI and PTSD’ (20.9%), ‘moderate MI and PTSD’ (47.9%), and ‘high MI and PTSD’ (31.2%), all showing relatively parallel levels of PTSD and MI outcomes. Symptom levels showed that even veterans in the ‘subclinical MI and PTSD’ profile endorsed PTSD and MI outcomes, although generally below clinical thresholds. Contrary to expectations, we did not find profiles characterized by high levels of MI alongside low levels of PTSD, or vice versa.

Previous research provides potential explanations for why we failed to find profiles with greater differentiation between PTSD and MI, or an MI-only profile. Mensink et al. (2022), for example, found that treatment-seeking veterans were most likely to be in the combined MI and PTSD, whereas the MI-only class consisted mostly of police officers. Similarly, the LPA by Currier et al. (2021) among a clinical veteran

sample, found two profiles characterized by parallel levels of MI and (C)PTSD symptom severity. Studies employing LCA/LPA among police officers and refugees have also found subgroups with more differentiation between PTSD and MI (Mooren, Boelen, et al., 2024; Mooren, de la Rie, et al., 2024). Together, these findings suggest that MI potentially more frequently co-occurs with PTSD in treatment-seeking veterans than in other populations. Prior research in the Netherlands has also demonstrated that treatment-seeking veterans report high levels of PMIE exposure (92%) and PMIE-related distress (86%; de Goede et al., manuscript submitted for publication). This suggests that MI may be more present among Dutch veterans than previously assumed, or that the moral burden of deployment experiences may make veterans more likely to seek out treatment. Taken together, these findings underscore the clinical relevance of MI in trauma-exposed, treatment-seeking Dutch veterans.

We also examined whether the three profiles predicted comorbid psychopathology and family functioning. As hypothesized, veterans in the ‘moderate MI and PTSD’ group reported significantly higher levels of comorbid psychopathology than those in the ‘subclinical MI and PTSD’ group; veterans in the ‘high MI and PTSD’ group, in turn, reported significantly higher levels of comorbid psychopathology than both the ‘subclinical MI and PTSD’ and ‘moderate MI and PTSD’ groups. This is in line with prior studies (e.g., Mensink et al., 2022; Mooren, de la Rie, et al., 2024).

With respect to family functioning, and in line with expectations, the ‘subclinical MI and PTSD’ group reported significantly better outcomes than the ‘moderate MI and PTSD’ and ‘high MI and PTSD’ groups. Although the ‘high MI and PTSD’ group reported poorer family functioning than the ‘moderate MI and PTSD’ group, the difference was not significant. These findings suggest that family functioning problems warrant clinical attention whenever veterans experience clinically significant PTSD or MI symptoms, regardless of severity. The results align with preliminary research showing that MI often involves interpersonal difficulties that strain family life, including anger problems, reduced empathy, feeling undeserving of a loving family, and social withdrawal (Litz et al., 2022; Williamson et al., 2020, 2023).

Strengths and limitations

This study is the first to examine the presence of clinically significant MI among Dutch veterans. Moreover, it is among the first to apply LPA in an exclusively veteran population to identify clinical profiles, thereby offering insights that may guide treatment needs and clarify the proportion of treatment-seeking veterans who could benefit from MI interventions. The study also adds to the emerging literature on MI and family functioning. In addition, the study employed dynamic fit indices to evaluate the factor structure of the instrument—an innovative method for assessing model fit. Finally, the collaboration among four psychotrauma centers across the Netherlands

ensured that the sample is representative of Dutch treatment-seeking veterans, enhancing the generalizability and clinical relevance of the findings.

However, several limitations of this study should be acknowledged. Firstly, insufficient statistical power prevented us from examining the bifactor model, for which prior studies found some support (Currier et al., 2018; Morriss & Berle, 2023; Tappenden et al., 2024). Secondly, the use of the EMIS-M has several limitations. The EMIS-M does not anchor expressions of MI to a PMIE; instead, it instructs the respondent to think of things that they did or saw in the military and does not specify a time-period. We also did not assess if participants experienced a PMIE. The instrument has also been criticized for containing items that capture both exposure and responses to events, and for failing to assess the functional impact of endorsed items (Litz et al., 2022; Morriss & Berle, 2023). Newer MI measures, such as the Moral Injury Outcome Scale (Litz et al., 2022), circumvent some of the issues and could have been more appropriate to use, but were not yet available at the time the study commenced.

Potential implications

The findings demonstrate that MI frequently co-occurs with PTSD among Dutch treatment-seeking veterans and that higher levels of both are associated with greater overall psychopathology. These results highlight the importance of carefully assessing treatment priorities within this group, including routine screening for exposure to PMIEs and morally injurious outcomes alongside PTSD. Clinically, the findings underscore the need to attend to veterans' specific symptom profiles and help-seeking needs. For veterans whose PTSD symptoms co-occur with moral emotions such as guilt, shame, or anger, it may be helpful to consider interventions that target moral distress when formulating a treatment plan. Although preliminary evidence suggests that MI-focused interventions can reduce morally injurious outcomes (Aita et al., 2023), it is important to note that relatively little research has examined the extent to which standard TFT reduces MI or how PTSD and MI change concurrently over the course of treatment (Held et al., 2018).

Our findings also underscore the importance of addressing family functioning and engaging family members who may struggle to understand or support their veteran spouse or parent. Close relatives have reported being highly impacted by veterans' moral distress, sometimes internalizing the reasons for their withdrawal (Williamson et al., 2023). Both clinicians and veterans in the study by Williamson et al. (2023) described family-related problems as cyclical, with withdrawal from one's family exacerbating psychological suffering over time. Moreover, morally injured veterans expressed concerns about transmitting their psychological problems to their children (Williamson et al., 2020). Current treatments for MI may not sufficiently address

these relational dimensions of functioning, highlighting the need to systematically address family functioning in treatment. In addition, spouses and children may require treatment too. As cost-effective, low-threshold online interventions have been developed for MI (e.g., ter Heide et al., 2022), similar interventions could be developed to provide psychoeducation and support for family members.

Finally, the study points to directions for future research. Given the strong co-occurrence and parallel severity of PTSD and MI observed in this study, an important unanswered question is whether MI outcomes decrease during evidence-based TFT that primarily targets PTSD. Few studies have examined improvements in MI outcomes after TFT using validated MI measures. Longitudinal research assessing both PTSD and MI over the course of treatment is therefore needed to clarify whether current interventions sufficiently address moral suffering. Such work would provide essential guidance for optimizing treatments and tailoring care to veterans' full spectrum of posttraumatic difficulties.

CONCLUSION

This study examined the psychometric properties of the Dutch EMIS-M and the extent to which Dutch treatment-seeking veterans experience MI. The psychometric properties of the EMIS-M were favorable. Although newer instruments have been developed to address limitations of the EMIS-M, our findings indicate that the scale remains an acceptable measure for clinical use. LPA identified three clinical profiles—subclinical, moderate, and high MI and PTSD—showing that MI and PTSD tend to co-occur at parallel levels rather than in isolation in Dutch treatment seeking veterans. Veterans with higher levels of both conditions reported significantly greater comorbid psychopathology and poorer family functioning, underscoring the additive burden of these difficulties. These findings highlight the clinical relevance of MI in this population and suggest that careful assessment of moral suffering alongside PTSD may be warranted, while further research is needed to clarify how MI responds to trauma-focused treatments.

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Author contributions

MdG: conceptualization, formal analysis, project administration (lead), writing—original draft. JJtH: conceptualization, supervision, writing—review and editing. EvE: project administration (supporting), writing—review and editing. RdH: project administration (supporting), writing—review and editing. KT: project administration (supporting), writing—review and editing. BP: conceptualization, supervision, writing—review and editing.

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SUPPLEMENT 1

EMIS-M item-total correlations and item intercorrelations

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1.00																
2	.32	1.00															
3	.36	.50	1.00														
4	.44	.19	.41	1.00													
5	.35	.24	.37	.48	1.00												
6	.28	.45	.36	.23	.29	1.00											
7	.64	.28	.36	.50	.45	.31	1.00										
8	.39	.22	.36	.49	.55	.33	.50	1.00									
9	.41	.44	.57	.35	.35	.40	.39	.34	1.00								
10	.52	.41	.49	.40	.32	.35	.51	.34	.63	1.00							
11	.53	.30	.44	.48	.51	.37	.59	.52	.48	.52	1.00						
12	.39	.28	.39	.46	.53	.30	.44	.52	.46	.40	.60	1.00					
13	.37	.55	.48	.31	.31	.60	.38	.30	.53	.49	.45	.36	1.00				
14	.37	.15	.26	.46	.48	.20	.48	.61	.27	.31	.50	.50	.30	1.00			
15	.35	.32	.53	.39	.32	.34	.40	.34	.58	.51	.49	.38	.49	.33	1.00		
16	.41	.28	.41	.48	.42	.29	.54	.40	.46	.49	.60	.43	.38	.44	.49	1.00	
17	.44	.34	.39	.35	.32	.36	.45	.33	.46	.57	.44	.39	.45	.29	.50	.48	1.00
Total	.62	.49	.63	.59	.58	.51	.67	.60	.67	.69	.73	.63	.64	.54	.63	.65	.61

Note: EMIS-M = Expressions of Moral Injury Scale—Military Version.

SUPPLEMENT 2

Factor loadings for the two-factor model

Item	MI-self	MI-other
1	0.65	
2		0.59
3		0.70
4	0.67	
5	0.66	
6		0.57
7	0.75	
8	0.69	
9		0.80
10		0.75
11	0.80	
12	0.70	
13		0.72
14	0.66	
15		0.70
16	0.69	
17		0.65

Note: MI = Moral injury.

SUPPLEMENT 3

Expressions of Moral Injury Scale—Military Version—NL (EMIS-M-NL)

Militairen kunnen tijdens hun diensttijd dingen doen of meemaken die invloed hebben op hun emotionele welzijn, relaties en latere kwaliteit van leven. Als u kijkt naar uw eigen gevoelens, overtuigingen en gedrag met betrekking tot dingen die u als militair hebt gedaan of gezien, **in hoeverre bent u het dan eens of oneens met de volgende stellingen?**

		Sterk mee oneens	Mee oneens	Neutraal	Mee eens	Sterk mee eens
1.	Ik schaam me voor dingen die ik heb gedaan of gezien tijdens mijn diensttijd.	1	2	3	4	5
2.	Het maakt me boos dat ik verraden ben door iemand die ik vertrouwde tijdens mijn diensttijd.	1	2	3	4	5
3.	Mijn ervaringen als militair hebben mij geleerd dat het slechts een kwestie van tijd is voordat mensen mijn vertrouwen zullen beschamen.	1	2	3	4	5
4.	Door dingen die ik heb gedaan of gezien als militair, twijfel ik of ik wel morele beslissingen kan nemen.	1	2	3	4	5
5.	Om mezelf te straffen voor dingen die ik heb gedaan of gezien als militair, verwaarloos ik vaak mijn gezondheid en veiligheid.	1	2	3	4	5
6.	Soms denk ik na over wraak nemen op personen die mij onrecht hebben aangedaan tijdens mijn diensttijd.	1	2	3	4	5
7.	Ik voel me schuldig over dingen die zijn gebeurd tijdens mijn diensttijd die onvergeeflijk zijn.	1	2	3	4	5
8.	Vanwege dingen die ik heb gedaan of gezien als militair, verdien ik het niet langer dat iemand van mij houdt.	1	2	3	4	5
9.	Door mijn ervaringen als militair ben ik ernstig gaan twijfelen aan de intenties van mensen met gezag.	1	2	3	4	5
10.	Het morele falen waar ik getuige van ben geweest tijdens mijn diensttijd, heeft een nare smaak in mijn mond achtergelaten.	1	2	3	4	5

	Sterk mee oneens	Mee oneens	Neutraal	Mee eens	Sterk mee eens
11. Ik voel me soms zo slecht over dingen die ik heb gedaan of gezien als militair, dat ik me verstop voor anderen of me terugtrek.	1	2	3	4	5
12. Door dingen die ik heb gedaan of gezien als militair, saboteer ik mijn eigen pogingen om wat te bereiken in het leven.	1	2	3	4	5
13. Hoe lang het ook geleden is, ik blijf een hekel houden aan mensen die mijn vertrouwen hebben geschonden tijdens mijn dienstdienst.	1	2	3	4	5
14. Ik ben iemand die geen vergeving verdient door wat ik heb gedaan of gezien als militair.	1	2	3	4	5
15. Door wat ik heb gedaan of gezien als militair ben ik soms mijn vertrouwen kwijt in de goedheid van de mens.	1	2	3	4	5
16. Ik haal soms uit naar anderen omdat ik me slecht voel over dingen die ik heb gedaan of gezien als militair.	1	2	3	4	5
17. Als ik terugkijk op mijn dienstdienst, walg ik van dingen die andere mensen toen deden.	1	2	3	4	5

Een totaalscore kan worden berekend, alsmede een score op de subschalen 'zelf-gerichte' en 'ander-gerichte' moral injury. Deze schalen bestaan uit de volgende items:

Zelf-gerichte moral injury: EMIS1, EMIS4, EMIS5, EMIS7, EMIS8, EMIS11, EMIS12, EMIS14, EMIS16.

Ander-gerichte moral injury: EMIS2, EMIS3, EMIS6, EMIS9, EMIS10, EMIS13, EMIS15, EMIS17.

Original instrument:

Currier, J. M., Farnsworth, J. K., Drescher, K. D., McDermott, R. C., Sims, B. M., & Albright, D. L. (2018). Development and evaluation of the Expressions of Moral Injury Scale—Military Version. *Clinical Psychology & Psychotherapy*, 25(3), 474-488.

Dutch version:

de Goede, M.L., Boelen, P., & ter Heide, F. J. J. (2022). *Expressions of Moral Injury Scale – Military Version (EMIS-M) – Nederlandstalige versie*. Diemen: ARQ Nationaal Psychotrauma Centrum.



CHAPTER 5

Mapping moral injury: development and feasibility of the Clinical Interview for Moral Injury —Military Version (CIMI-M)

Submitted as:

de Goede, M. L., Boelen, P. A., Litz, B. T., & ter Heide, F. J. J. Mapping moral injury: Development and feasibility of the Clinical Interview for Moral Injury—Military Version (CIMI-M).

ABSTRACT

Objective

There is currently no clinical interview to assess exposure to potentially morally injurious experiences (PMIEs) and their impact. To enable a person-centered assessment of moral injury in military veterans, we developed a structured, non-diagnostic clinical interview that supports descriptive assessment, case conceptualization, and treatment planning, as well as conducted an initial evaluation of its feasibility, acceptability, and clinical utility.

Method

The Clinical Interview for Moral Injury—Military Version (CIMI-M) was developed through an iterative, stakeholder-informed process. Items from existing moral injury instruments were selected, adapted and supplemented to create an interview with a descriptive, theory-driven approach. Clinicians ($N = 7$) and military veterans ($N = 8$) at two Dutch trauma centers who conducted the CIMI-M were interviewed and completed questionnaires assessing the CIMI-M's feasibility, acceptability, and clinical utility. Interviews were analyzed using the General Inductive Approach for qualitative evaluation data.

Results

Mean evaluation scores were 7.63 for veterans and 8.41 for clinicians (10-point scale). Qualitative analysis of interview transcripts revealed that the CIMI-M helped veterans share their experiences, while clinicians found it valuable for fostering trust and planning treatment. Both groups agreed that the CIMI-M generated insightful content about PMIEs and their impact. Based on feedback, several interview questions were revised or added.

Conclusions

The CIMI-M is a feasible, acceptable, and clinically useful descriptive interview. By focusing on understanding PMIEs and their impact, it offers a potentially valuable complement to existing assessment approaches for moral injury. Further evaluation, including in non-veteran populations, is needed.

Keywords

Moral injury, potentially morally injurious experience, military, clinical interview.

INTRODUCTION

During military missions, service members may be exposed to or involved in high-stakes events that violate deeply held moral beliefs, also known as potentially morally injurious experiences (PMIEs; Litz et al., 2009). The concept of moral injury delineates the potentially impairing impact from such events. It is commonly defined as *‘the lasting psychological, biological, spiritual, behavioral, and social impact of perpetrating, failing to prevent, or bearing witness to acts that transgress deeply held moral beliefs and expectations’* (Litz et al., 2009, p. 697). In recent years, a growing body of research has shown that deployed service members face an elevated risk of PMIE exposure, moral injury, and associated mental health problems (e.g., McEwen et al., 2021). Consequently, moral injury has gained recognition as a pressing clinical problem, leading to the development of various interventions (Evans et al., 2023).

Despite its clinical relevance, moral injury is still an emerging construct conceptually and empirically. One development is the now broadly recognized distinction between PMIEs as a precipitating event and moral injury as a psychosocial outcome, which were originally conflated (e.g., Frankfurt & Frazier, 2016). Another development is the delineation by an international consortium of different domains of impact which together define the syndrome of moral injury (Litz et al., 2022). These domains entail: (a) alterations in self- and other-perception, defined as disruptions in how individuals define themselves or the world with respect to what they or others are capable of; (b) alterations in moral thinking, which entails judging oneself or others harshly, moralistically, and with condemnation; (c) social impacts, defined as alterations in one’s degree of comfort with others, connectedness, and social acceptance or belonging, as well as changes in the frequency and quality of engagement with others; (d) moral emotions and moods, defined as predominant, pressing, and easily triggered moral emotions; (e) self-harming/sabotaging behaviors, defined as deliberate and nondeliberate behaviors that negatively impact functioning and impair health, personal safety, and quality of life or well-being; and (f) changes in beliefs about life meaning and purpose, defined as emptiness, purposelessness, and alterations in religious or spiritual beliefs or behaviors. Debate remains, however, around what does and does not constitute a PMIE (e.g., Bonson et al., 2023), and whether and/or how moral injury is distinct from depression and posttraumatic stress disorder (PTSD; American Psychiatric Association [APA], 2013) (e.g., Benfer et al., 2023; Litz & Walker, 2025). There is also ongoing debate about whether clinical assessment should be symptom-focused or functional (Borges et al., 2022), and about the boundaries between moral frustration, distress, and functionally impairing moral injury (Litz & Walker, 2025; Maguen et al., 2024).

Several questionnaires have been developed to assess exposure to PMIEs and moral injury as an outcome. These include the Moral Injury Events Scale (MIES; Nash et al., 2013), Moral Injury Questionnaire—Military Version (MIQ-M; Currier et al., 2015), Expressions of Moral Injury Scale—Military Version (EMIS-M; Currier et al., 2018), Moral Injury Symptom Scale—Military Version (MISS-M; Koenig et al., 2018), and, more recently, the Moral Injury Outcome Scale (MIOS; Litz et al., 2022) and Moral Injury and Distress Scale (MIDS; Norman et al., 2024; for a critical review, see Houle et al., 2024). However, questionnaire measures have significant limitations. Firstly, they may not provide the depth and detail required to fully assess the parameters of exposure to PMIEs and various domains of impact. Current moral injury questionnaires, for instance, do not inquire about what moral beliefs were violated, which is relevant for treatment. Secondly, self-report questionnaires are subject to response biases (e.g., social desirability bias, over-reporting and under-reporting) and variable interpretations of items (Hersen, 2004). Thirdly, questionnaires require gist judgments of past behavior, the precision of which can be arguably enhanced by a give-and-take dialogue with a clinician. Lastly, they do not inquire after patients' perceptions of the PMIE and its consequences or preferences for treatment.

A comprehensive structured clinical interview facilitates a more complete understanding of an individual's difficulties and helps identify concerns that patients may struggle to articulate. It uses prompts and follow-up questions to clarify details and ambiguous answers. A clinical interview is also a potentially more reliable way to assess the clinical significance of a presenting problem, making it an indispensable tool in treatment planning. Within the field of psychotrauma, most clinical interviews (such as the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5); Weathers et al., 2018) are designed to assess the presence and severity of symptoms in relation to diagnostic criteria. While such interviews are well suited for diagnosing established disorders, they are less fitting for assessing experiences and impacts that fall outside of symptom-based classification systems, such as moral injury. Because there is currently no consensus regarding the boundary conditions of moral injury, a diagnostic clinical interview is thus neither feasible nor desirable at this stage of construct development. Instead, a clinical interview that adopts a descriptive approach to the assessment of PMIEs and moral injury is more appropriate. A descriptive clinical interview allows for a systematic exploration of the individual's lived experience, including the meaning attributed to PMIEs, violated moral values, and resulting emotional, relational, and existential impacts—domains that may not be structurally assessed in a regular intake interview. An example of a descriptive clinical interview not rooted in diagnostic criteria is the Cultural Formulation Interview (CFI; Aggarwal & Lewis-Fernández, 2015), which was designed to assist clinicians in identifying the impact of culture on illness and ensure cultural sensitivity throughout

the diagnostic process. Rather than assessing symptoms and generating diagnoses, it facilitates a deeper clinical understanding of the presenting problem by clarifying the patient's perspective, relevant contextual factors, and expectations for care, thereby supporting informed treatment planning. As such, it presents a valuable example for the assessment of moral injury in the absence of established diagnostic criteria.

Despite the rapid development of therapeutic interventions and self-report instruments for moral injury, currently no clinical interview for moral injury exists. To fill this gap, we developed the Clinical Interview for Moral Injury—Military Version (CIMI-M) as a descriptive clinical tool to assist case conceptualization and treatment planning. Our objective was to create a clinical interview for moral injury that: (1) assesses different PMIE types as well as the different moral injury domains generated by an international consortium (Litz et al., 2022); (2) allows for a descriptive dialogue that includes the patient's own perspective; and (3) facilitates case conceptualization and treatment planning. We also aimed to produce an interview that would be readily trainable, thereby providing a practical and broadly useable tool. In this paper, we describe the development of the CIMI-M. We also provide the results of a feasibility study of the CIMI-M, which entailed an open-ended and empirical examination of veterans' and therapists' perspectives of its initial feasibility, acceptability, and clinical utility, and which was used to modify the interview. We hypothesized that both veterans and clinicians would judge the CIMI-M as feasible, acceptable and clinically useful.

DEVELOPMENT OF THE CIMI-M

Setting

The CIMI-M was developed at ARQ Centrum⁴⁵, a Dutch national center for expert diagnostics and treatment of complex psychotrauma. The center provides specialized care for military veterans as part of the Dutch Veterans Health Care. Fifty-nine percent of veterans at the center present with a moral injury or moral injury plus PTSD symptom profile (Mensink et al., 2022).

Instrument aim

The CIMI-M was designed as a tool for case conceptualization and treatment planning for moral injury. A case conceptualization entails integrating a patient's individual experiences, and describing and making sense of a patient's problems, within a treatment framework (Tarrier & Calam, 2002). Conceptualization is a collaborative process between the therapist and patient that honors the individuality of the patient and results in a parsimonious overview of any information considered essential to guide treatment planning (Kuyken et al., 2009).

Design

We planned the development process based on recommendations for intervention development by O’Cathain et al. (2019), while also incorporating Haynes et al.’s (1995) guidelines for content validity. Due to the absence of formal guidelines for developing a descriptive clinical interview, we adapted the process proposed by O’Cathain et al. (2019) to develop the CIMI-M, as these principles for intervention development were well-suited to our objectives and provided a framework for a comprehensive and systematic development process. Steps taken included: (1) a literature review; (2) defining the construct and determining a theoretical framework; (3) initial selection of questions and prompts; (4) expert consultation; (5) piloting the interview; (6) conducting a feasibility study; and (7) refining the interview. We approached the process in a dynamic way, moving back and forth between overlapping actions through iterative cycles. We also involved various stakeholders (enrolled patients, patient representatives, therapists, and moral injury researchers) throughout the process. Development ran from June 2022 until January 2025.

Literature check

To ascertain the absence of a clinical interview for moral injury and collect potential interview questions, we conducted a search on PubMed and APA PsycINFO for peer-reviewed papers, using the search terms “moral injury AND (interview OR clinical interview OR diagnostic interview OR clinician-administered OR clinician-rated OR intake OR qualitative).” We discovered no extant clinical interviews for moral injury, with only scant references to interview questions used in qualitative studies (with questions directed at veterans or clinicians; Litz et al., 2022; Purcell et al., 2016; Williamson et al., 2020; Yeterian et al., 2019). In addition, we reviewed several moral injury-related (work)books and manuals that included suggested questions for clinicians (Currier et al., 2021; Evans et al., 2020; Litz et al., 2017; Norman et al., 2019). We also received interview questions from ongoing studies.

Theoretical framework

To ground an intervention (or in this case, a clinical interview) in theory, O’Cathain et al. (2019) recommend drawing from more than one existing theory, as multiple theories can help identify what is important and feasible. Moreover, drawing from multiple theories can avoid confirmation bias among clinicians who may focus on answers supporting their favored treatment (Farnsworth, 2021). We therefore incorporated the following theories of moral injury into the interview: (1) the working model of moral injury by Litz et al. (2009), which centers around attributions made about moral violations, (2) the functional approach by Farnsworth et al. (2017), which focuses on the role of coping with moral pain, and (3) the six domains of moral injury delineated by Litz et al. (2022;

namely, self-perception, moral thinking, social impacts, self-harming/self-sabotaging, impairing moral emotions, and beliefs about meaning and purpose). In the instruction manual, we included information about: (4) the moral foundations theory (Graham et al., 2013), to help the interviewer examine what moral values were violated during a PMIE, and (5) the definition of a PMIE by Bonson et al. (2023, p. 78). This definition delineates a PMIE as a high-stakes event in which “one’s deeply held beliefs of right and wrong are at stake,” irrespective of the outcome. According to this framework, PMIEs may or may not meet the PTSD A-criterion (APA, 2013) but invariably involve a violation of moral values and/or a conflict with moral beliefs.

Initial item selection and generation

The literature review led to an initial pool of 201 open-ended questions, which the first and fourth authors clustered according to a structure that was refined over several iterations. The initial structure included the following headings: *general/opening questions*, *PMIE(s)*, *general impact*, *moral emotions*, *cognitive processes (self-perception, moral thinking, beliefs about meaning and purpose)*, *coping (general coping, self-harming/sabotaging)*, *social impacts*, *functional impacts*, *desired change/readiness for change*. Within this item pool, whenever two questions were nearly identical, the clearest and most concise question was retained. If two questions inquired about the same experience but were worded very differently, both were kept. Questions that were deemed missing were added. This resulted in a list of 116 items.

Expert consultation and initial testing

Three patient representatives and three moral injury scientist-practitioners from the Netherlands and the United States were asked to provide feedback on the initial list of 116 questions, arranged according to the abovementioned structure, in an Excel file. They were instructed to mark questions as essential or redundant, to add any questions they deemed missing, to comment on the preliminary structure, and to provide any other feedback in a column behind each question or heading. Questions that they marked as essential were included in the first interview draft. Disagreements (i.e., one person marking a question as essential, another as redundant) were solved through discussion between the first and fourth author, after which the second and third authors provided additional feedback. Some questions were retained as potential follow-up questions. This resulted in the first interview draft, consisting of 32 questions and 31 potential follow-up questions. Questions about the impact of a PMIE were linked to an index PMIE by adding “as a result of [the experience]” to the question (e.g., “Do you have a tendency to undermine or sabotage yourself as a result of [the experience]?”). An introduction with instructions for administration was also added.

The first draft was then evaluated by another five experts (clinicians and researchers with knowledge of moral injury and instrument development) and one patient representative. They were instructed to evaluate the introduction and the wording of the questions, to mark redundant questions, and to include any other feedback. Disagreements in the feedback were again solved through discussion between the first and fourth author. This led to a second draft, which was then tested with two veterans undergoing treatment at ARQ Centrum⁴⁵. Following this, the interview underwent further refinement, resulting in the version used for the feasibility study. This refinement included removing the phrase “in the past month” from questions regarding the impact of the PMIE, and changing those questions from the past to the present tense (e.g., “In the past month, did you have a tendency to undermine or sabotage yourself, as a result of [the experience]?” to “Do you have a tendency to undermine or sabotage yourself, as a result of [the experience]?”). Initially included to ensure that experienced problems were current, this phrasing was ultimately seen by both veterans and clinicians as making the interview feel more like a checklist than a dialogue, thus undermining one of the interview’s primary objectives.

The final version used for the study included 26 questions and 36 potential follow-up questions, grouped under the abovementioned headings, as well as an introduction and instructions.

FEASIBILITY STUDY

Design

We conducted a feasibility study using qualitative (interview) and quantitative (descriptive) data. The study concentrated on the perceived initial feasibility, acceptability, and clinical utility of the interview.

Setting and participants

The study was carried out at two centers offering tertiary care to trauma-exposed military veterans: ARQ Centrum⁴⁵ and Sinai Centrum. Recruited were (1) veterans who were on the waitlist for treatment and who, during intake, had disclosed a PMIE and/or negative moral emotions related to a traumatic event, and (2) clinicians familiar with the concept of moral injury. The CIMI-M was conducted 10 times. Eight veterans consented to participate. Two veterans who did not want to participate in a debrief interview consented to their clinician being interviewed for the study. Seven clinicians took part in the study, two of which conducted the CIMI-M twice. One clinician, as the study coordinator, conducted the CIMI-M too but was not interviewed. The final

sample thus consisted of 15 participants, which is deemed sufficient for feasibility testing (O’Cathain et al., 2019). The veterans consisted of seven men and one woman; the clinicians consisted of six women and one man. All participants had the Dutch nationality. Of the veteran participants, three had a multicultural background.

Procedure

The study received ethical approval from the Ethics Review Board of the Faculty of Social and Behavioral Sciences of Utrecht University [approval no. 23-0026]. The recruitment period for the study ran from July 2023 until September 2023. Veterans who were potential participants were contacted by either the first author or by their primary therapist; clinicians who were potential participants were contacted by the first author. In both cases, the study procedure was explained and an information letter shared. The information letter stated that any personal and/or clinical information shared during the CIMI-M was confidential and would only be used for clinical purposes. If veterans and/or clinicians agreed to conduct the CIMI-M, clinicians were asked to schedule an appointment with the veteran for conducting the clinical interview in consultation with the first author, who then scheduled appointments to conduct the debrief interviews with the veteran and clinician on the same day. Clinicians were instructed to schedule 90 minutes for the CIMI-M, based on prior testing. Some clinicians already knew the veteran they interviewed, while others did not. After conducting the CIMI-M, veterans and clinicians separately met with the first author and signed two informed consent forms (one for the study and one for recording the debrief interview). Subsequently, they filled out the debrief questionnaire and took part in the semi-structured debrief interview.

Veterans’ answers to the CIMI-M were used for treatment planning and some subsequently received treatment for moral injury. All clinicians conducted a follow-up session one to two weeks later to discuss the case conceptualization and its implications for treatment with the veteran.

Assessment

Veterans completed the Debriefing Instrument for Patients (DIP), and clinicians completed the Debriefing Instrument for Clinicians (DIC; Lewis-Fernandez et al., 2017). The DIP and DIC consist of 14 and 17 self-report items respectively, assessing the clinical utility (DIP 8 items, DIC 11 items), feasibility (3 items), and acceptability (3 items) of a clinical interview. Items are rated on a 4-point Likert-scale (*strongly disagree, disagree, agree, strongly agree*) plus the option of *not applicable*. The questionnaires were originally developed to evaluate the CFI (Lewis-Fernandez et al., 2017). The questionnaires were translated to Dutch and some of the wording was adapted for study purposes, as approved by the authors. We removed two negatively worded DIP

items (10 and 12) as prior research demonstrated they negatively impacted internal consistency (Lewis-Fernandez et al., 2017), resulting in two items for feasibility and two for acceptability. Additionally, during the debrief interview veterans and clinicians were asked to rate the CIMI-M overall on a 10-point scale ranging from 0 (*very low*) to 10 (*very high*) (“How would you evaluate the interview on a scale from 0 to 10 and could you explain this score?”).

Semi-structured debrief interviews were conducted to obtain more detailed information about how veterans and clinicians experienced the CIMI-M. Questions were partially based on interview questions used for the evaluation of the CFI (Lewis-Fernandez et al., 2017). Included were questions assessing the most and least helpful questions of the CIMI-M, its structure and length, its role in treatment planning, overall interview quality, and suggestions for improving the interview. Debrief interview questions are included in Supplement 1. Debrief interviews lasted 20-30 minutes.

Analysis

Descriptive statistics were computed using SPSS version 23 for Windows. DIP/DIC responses were used to generate descriptive data. There were no missing DIP/DIC data, and one missing response for the overall CIMI-M rating. Answers to the debrief interview were inserted in MAXQDA 2022 and analyzed using the General Inductive Approach for coding qualitative evaluation data (Thomas, 2006). We first identified and labeled all text segments relevant for the evaluation goals, producing 27 codes. We then combined codes to minimize redundancy and overlap, resulting in 10 labels. Subsequently, we grouped these labels into overarching categories reflecting the evaluation objectives.

RESULTS

Descriptive statistics

Veterans rated the CIMI-M favorably, with an average rating of $M = 7.63$ ($SD = 1.16$, range 5-9). On the DIP, clinical utility was rated $M = 3.34$ ($SD = 0.47$, range 2-4), feasibility $M = 3.39$ ($SD = 0.55$, range 2-4), and acceptability $M = 3.33$ ($SD = 0.75$, range 2-4).

Clinicians rated the CIMI-M very positively, with an average rating of $M = 8.41$ ($SD = 0.38$, range 7.50-8.50). On the DIC, clinical utility was rated $M = 3.61$ ($SD = 0.22$, range 2-4), feasibility $M = 3.38$ ($SD = 0.41$, range 3-4), and acceptability $M = 3.29$ ($SD = 0.49$, range 2-4).

Qualitative analysis

Through qualitative analysis we identified several themes related to various aspects of the interview. We divided these themes into several categories related to the interview's feasibility, acceptability, and clinical utility. Sample quotations per theme are listed in Table 1.

Table 1 Sample quotations per category and theme

Category & theme	Sample quotation
Feasibility: <i>Training</i>	Clinician: "I lean towards saying that it is advisable to have some information about moral injury. So in that sense—just like you have a training for the CAPS—I would also like to have a training for this. It doesn't have to be that long at all, but it is important that someone understands when we are truly speaking of a morally injurious experience and when we are not."
<i>Interview structure</i>	Veteran: "For an interview it is quite long, yes [...] It's not bad, it's necessary, to cover all the questions properly and also certainly given the emotions... then you just need time, you can't do that in a ten-minute interview." Clinician: "The structure is logical, you start somewhat broader and then zoom in more and more on, well, the things of which someone says, 'that is morally distressing me'. So I think it's nice for the person you're interviewing to work with such a 'funnel'. And that you don't go straight to the most painful part, but first explain something and start broader, and then look at 'what is bothering me the most and how does that manifest.'"
<i>Interview manual</i>	Clinician: "I do think it's an easy interview to conduct, also with the instructions in the manual. Sometimes you have semi-structured interview manuals, where you have to look in three places at once in order to follow the interview properly or to not skip things. In that respect I just found this very practical."
Acceptability: <i>Emotional impact</i>	Veteran: "This touched me in such a way that I see the images again, I was back again in that moment, and I could also interpret the moment and distance myself from it, so in the sense of, 'okay, that was then.' Still what I feel started in that moment and isn't pleasant. And it [the interview] evoking all these things in me wasn't pleasant either. [...] It was heavy in the sense that you recall many things that you have been avoiding, for me almost for 30 years. I had all the space I needed to tell that story. And also... I also felt acknowledgement... 'it's not crazy that I am bothered by that'. That feeling came over me strongly."
<i>Interview questions</i>	Veteran: "It also gave me a calm feeling to think about what you don't always think about. The film [of the PMIE] often plays in my mind, but then you don't think about what is happening now or how you feel. And that, because of those questions you asked, I did get the idea of, 'yeah, how do I actually feel now?'" Clinician: "Because of those questions, the probing like, 'what happened, what happened then, what did you do, what did others do' and so on—if you ask all of that, people can no longer avoid [what happened]. For example, the man I spoke to, of course he was quite ashamed of what he had done, so he didn't say it at first, but in the end he did share that he had killed someone. So I found that quite useful."

<i>Therapeutic relationship</i>	Clinician: "I do think it [the interview] immediately did something with the trust. I had the feeling that, well... for me it was also our first introduction—I am going to be his primary therapist—but we were able to go into quite a bit of depth right away. And I was also able to feel how much he already was willing to give me so to speak, how much he confided in me, how open he was already."
Clinical utility: <i>Sharing their story</i>	Veteran: "I liked this better than the CAPS, because I actually found it to be more aligned or smoother, [...] which made it feel more like a conversation than like ticking items off a questionnaire. Because that feeling is... I generally experience that as very unpleasant. Because that gives me the feeling that you're a number, instead of... being able to tell your story and that it matters." Clinician: "I think we went into depth in a structured way without anyone feeling like we're ticking things off a list. Which of course is the case with the CAPS, but this [interview] is also like, 'I want to understand better how this has shaped you and how you this still bothers you'. So I think that for people who primarily experience a lot of distrust, it is a really beautiful way to say, 'hey, I want to understand you and I want to take a good look at from which angle you can best be treated.'"
<i>Reflection and insight</i>	Veteran: "The questions are actually the right ones. That's really nice on the one hand, but not on the other, because you stir up a lot more than I actually thought was there. So you also get to know yourself a little bit more; you actually also learn how far along you are." Clinician: "I've got the idea that we really gained more insight into his symptoms and also the role of the morally traumatic event. Because he talked about it quite rationally, especially at first, and the interview made his feelings come to the surface, as well as more awareness of how it influences his daily life. So insight into his feelings, but also his cognitions and that self-care for him, 'that it really caused me to take less good care of myself and to work against myself'. And also the realization that other people failed to do something, he found that important too, as in, 'that is something I'm still quite angry about actually.' And that anger is still a theme in his life, so that all gave him a lot of insight."
<i>Concept of moral injury</i>	Clinician: "I liked the fact that at the beginning [of the interview] there is an explanation for yourself to clearly distinguish between the PMIE and the moral injury, the impact. Because in practice, now that the concept is receiving more clinical attention, I still see that the event itself is equated with the outcome, that is it equated with moral injury."
<i>Relation to treatment</i>	Clinician: "I think, for a number of my patients, if I had done this interview before the [online treatment] module, the module would also have run more smoothly. Because I notice now that the module can now take a very long time—which is not necessarily a bad thing because it does support treatment—but that's not necessarily what the module is for. And so suppose I had conducted this first, then maybe we would have gotten through the first chapters [of the module] faster. [...] Because now I spend quite a lot of time going over the explanations, because I don't yet know at all what their moral values are. Whereas if you have already conducted this interview, then you can reflect on that and you can actually zoom in directly on: 'which morally injurious incidents are the most painful for you?'"

Feasibility

Training

Some clinicians recommended developing a brief training for interviewers, to ensure that interviewers would understand the concept and properly use the interview, while also familiarizing them with its structure.

Interview structure

The interview structure, including its sections and the order of questions, was generally seen as logical and appropriate. Length and duration (approximately 1.5 hours) were almost unanimously deemed sufficient. While some veterans found the interview lengthy, they acknowledged that a shorter interview would not have allowed them to share their stories adequately, particularly when it might be a veteran's first time (fully) sharing the story of the PMIE.

Interview manual

Overall, clinicians were positive about the interview manual, including its instructions, layout and readability. Some suggestions for improvement were given, including the addition of a template for the case conceptualization.

Acceptability

(Emotional) impact

Veterans reported experiencing difficult emotions and physical reactions, such as heavy breathing and reliving their morally injurious experiences in response to the interview. While many found the interview heavy and challenging, most indicated that confronting these emotions felt necessary. Some appreciated the clinician's empathetic response as a recognition of their moral pain. Clinicians confirmed observing these reactions in the veterans.

Interview questions

Veterans found the interview questions easy to understand and free of judgment. The question about the emotional impact of the PMIE was generally found most helpful: despite evoking difficult emotions, some said it helped them articulate their feelings. Conversely, many veterans found a question about the spiritual impact of the PMIE less helpful, as they could not relate to it. Veterans found the interview contained the right level of detail. One veteran struggled to focus on one incident, as he had experienced multiple PMIEs.

Clinicians offered suggestions for refining questions and reducing potential overlap. Clinicians saw the questions on military context as particularly helpful. They also particularly appreciated the section on moral emotions and cognitions. Clinicians

also deemed the question about the spiritual impact of the PMIE the least helpful, as well as a question about the veteran's quality of life, which was considered redundant.

Therapeutic relationship

Veterans stressed the importance of a clinician fostering trust and safety. Clinicians maintained that the interview enhanced the therapeutic relationship and built trust, making it a valuable precursor to moral injury treatment if conducted by the same clinician. Some clinicians believed another therapist could also administer the interview.

Clinical utility

Sharing their story

Veterans mentioned that sharing their story was hard but found that the interview helped them express their experiences and the subsequent impact, both during the study and subsequent treatment. Clinicians similarly believed the interview helped veterans to open up, as the interview included in-depth questions and inquired about the meaning attributed to the PMIE. Several clinicians and veterans appreciated that the CIMI-M felt more like a natural conversation than a checklist.

Reflection and insight

Veterans indicated that the interview helped them reflect on what happened to them and brought new insights. Some mentioned typically avoiding thinking or talking about the PMIE but found that the interview helped them view the event in a new light (e.g., realizing “it’s not strange that this has had such a profound impact on me.”). Clinicians reported gaining deeper insight into the meaning attributed to the PMIE, its impact on daily functioning, and what moral beliefs were violated.

Concept of moral injury

Some clinicians expressed difficulty in fully grasping the concept of moral injury and how to define a PMIE. They said the interview helped them to better understand the concept and what questions to ask.

Relation to treatment

Veterans were hopeful that sharing their story would help them get the right treatment. Clinicians remarked on the timing of the interview, seeing value in conducting the interview during the intake phase or immediately before the start of trauma treatment with veterans who have experienced a PMIE. Some clinicians expressed having a better idea of what treatment to offer following the interviews; others remained uncertain and asked for intervention suggestions at the end of the interview.

Interview adaptation

Based on the feasibility study, we made several refinements to the CIMI-M to produce its final version. Revisions included the rewording of some questions, additional follow-up questions, and a new question about self-worth. As a question about the spiritual impact of the PMIE did not resonate with non-religious veterans, we split this question into two questions: one inquiring about the impact of the PMIE on religious and spiritual beliefs and another inquiring about the loss of belief in the meaning or value of life. We also made structural adjustments to the headings and question sequencing for the interview to align with the domains of moral injury outlined by Litz et al. (2022).

The resulting structure included the following headings: section 1: *context*; section 2: *the PMIE(s)*; section 3: *domains of moral injury (subheadings: impairing moral emotions, self-perception, moral thinking, self-harming and self-sabotaging, social impacts, beliefs about meaning and purpose, and impact on other areas of life)*; section 4: *desired change and readiness for change*. We also revised the introductory text and appended a case conceptualization template at the end of the interview, based on the interview structure. The final CIMI-M therefore consisted of: 1) an introductory section for clinicians including guidance on administering the interview; 2) an introductory text to be read aloud to the veteran at the start of the interview; 3) the interview itself, organized according to the headings outlined above; and 4) a template to support case conceptualization and writing a clinical report. The full CIMI-M is provided in Supplement 2.

DISCUSSION

We reported on the development and preliminary evaluation of the Clinical Interview for Moral Injury (CIMI-M), a structured, descriptive, and easily trainable interview designed for use with (former) service members to support case conceptualization of their moral injury. The interview was developed through an iterative process that involved moral injury experts (i.e., patient representatives, clinicians, and researchers) and was evaluated in a feasibility study. Clinicians and veterans who participated evaluated the CIMI-M as feasible, acceptable, and clinically useful. Its descriptive approach aids in mapping the impact of PMIE exposure, context of the PMIE, violated moral values, and meaning attributed to the event. In this way, the interview clarifies the patient's perspective and complements existing self-report scales for moral injury, thereby supporting more informed treatment planning and intervention selection.

The development of the CIMI-M presented a challenge, given the ongoing debate around the construct of moral injury and its clinical boundaries. The lack of

conceptual clarity extends to core aspects of moral injury, such as the definition of PMIEs (Bonson et al., 2023) and the distinction between clinically significant moral injury and normative distress (Maguen et al., 2024). Consequently, the interview does not offer a cut-off point or boundary condition for determining clinically significant moral injury, nor does it produce a severity score. As a result, it cannot be used to “diagnose” moral injury or to track changes in morally injurious impacts, unlike clinical interviews such as the CAPS-5.

The CIMI-M addresses the lack of a consensus definition by design, by integrating multiple theoretical frameworks, making the CIMI-M a theoretically inclusive instrument that addresses the diverse and evolving conceptualizations of moral injury. Simultaneously, the current development of the CIMI-M helps clinicians to address moral injury in real time, rather than waiting for a conceptual consensus to emerge. Many service members and veterans require immediate support for moral injury, creating a need for practical tools that facilitate care in the absence of a fully agreed upon conceptualization. Additionally, feedback from veterans suggested that a diagnostic approach would be less effective in creating the supportive environment needed for sharing their story, especially if for the first time. Moreover, for clinicians wishing to identify *clinically significant* moral injury, existing self-report instruments may be employed alongside the CIMI-M, such as the MIDS, for which cut-off scores have been estimated (Maguen et al., 2024). It must again be noted, however, that creating a diagnostic tool was not the aim of the CIMI-M, as moral injury is not a classified mental disorder. Given these factors, we believe that the development of the CIMI-M was timely and important, providing a meaningful framework for addressing moral injury even as the field continues to refine the construct.

Strengths and limitations

As the first clinical interview for moral injury, the CIMI-M fills a significant gap in the assessment of moral injury. Because the CIMI-M is theoretically inclusive, clinicians working from different theoretical perspectives or trained in different therapeutic modalities for moral injury are likely to benefit from using the CIMI-M. Using an iterative feedback process allowed for continual refinement of the CIMI-M based on expert and patient feedback, incorporating diverse insights to ensure the interview is patient-centered, user-friendly, and efficient. Engaging the perspective of those with experiential knowledge throughout the development process also helped ensure the interview is not only theoretically sound but also attuned to the needs of the target population (Abma et al., 2009). The preliminary evaluation also included interviews with both veterans and clinicians, strengthening the reliability of the findings and contributing to a more nuanced understanding of the CIMI-M’s initial acceptability, feasibility and utility in clinical practice.

However, there are also several limitations to the process through which the CIMI-M was developed. Firstly, a limitation encountered during the development process is the absence of formal guidelines specifically tailored to the creation of descriptive clinical interviews. While the adaptation of O’Cathain et al.’s (2019) intervention development framework provided a systematic approach, the lack of specialized guidance for developing a clinical interview might have led us to overlook aspects unique to clinical interviews. Secondly, interview questions were generated primarily by adapting items from existing interviews and seeking expert feedback on these adaptations. This approach has its limitations, as it relies on existing literature and expert opinion, both of which can vary with regard to the conceptualization of moral injury (Litz et al., 2022). Thirdly, the iterative feedback process through which the CIMI-M was developed, while thorough, involved a relatively specialized group of stakeholders who primarily concentrated on ensuring the questions were appropriate for a military population. This limits the generalizability of the CIMI-M across different populations. Particularly the context-related questions, which inquire about the interviewee’s deployment(s) and reasons for joining the military, would require modification if the CIMI-M were to be adapted for civilians or individuals in other professions. Additionally, the feasibility study was conducted at two Dutch centers offering tertiary care to trauma-exposed military veterans, who in this study were mostly male. Therefore, to determine whether the acceptability, feasibility, and clinical utility of the CIMI-M can be generalized across various settings and populations, more systematic research is required, preferably across different countries with participants of different genders and backgrounds. An international field trial, similar to the one conducted for the CFI (Lewis-Fernández et al., 2017), would be particularly valuable in this regard. More firmly establishing the clinical utility of the CIMI-M would also necessitate long-term data collection, ideally extending post-therapy, to assess if and how conducting the interview influences the therapeutic process and outcomes. Lastly, highly motivated clinicians with an interest in moral injury participated in the study. This may have introduced a positive bias, potentially leading to more favorable ratings of the CIMI-M. Including clinicians with less familiarity with moral injury also could have been valuable for an assessment of the interview’s usability across varying levels of expertise.

Clinical implications

The CIMI-M facilitates the formulation of a comprehensive case conceptualization that encompasses all key elements relevant to moral injury, including a detailed description of the PMIE, an overview of the violated moral values, and an assessment of the morally injurious impacts, including coping strategies for dealing with moral pain. Systematically addressing these domains could aid clinicians in effectively matching

therapeutic interventions to their patient's needs. The case conceptualization can help identify, for instance, whether the patient requires interventions aimed at facilitating meaning-making or supporting social repair. Ultimately, tailoring treatment to the needs of the specific individual in this way may increase the likelihood of therapeutic success.

For successful implementation of the CIMI-M, lessons may be learned from the roll-out of the CFI (Silvius et al., 2024). Implementing a descriptive clinical interview with a person-centered, contextual approach rather than a symptom-oriented one, requires a fundamental shift in clinical assessment, particularly for clinicians trained in symptom-based diagnostics. As a result, the CFI was found to be at risk of becoming a mere checklist or of not being implemented at all (Silvius et al., 2024); challenges the CIMI-M might similarly face. To prevent the additional assessment being perceived as burdensome and to ensure the proper administration of the interview, training might be recommended for clinicians to make optimal use of the interview in clinical practice.

CONCLUSION

In conclusion, the CIMI-M represents the first clinical interview specifically designed to assess moral injury. Its development involved the active engagement of various stakeholders and adhered to guidelines for intervention development, while also taking into account content validity. The CIMI-M was positively evaluated by veterans and clinicians in a feasibility study and subsequently refined based on their feedback. Moving forward, we hope to adapt the CIMI-M for application in diverse populations affected by moral injury, such as healthcare workers, first responders, and refugees, thereby broadening its impact and relevance for the treatment of moral injury.

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Author contributions

MdG: conceptualization, project administration, formal analysis, writing—original draft. PB: conceptualization, supervision, writing—review and editing. BL: conceptualization, supervision, writing—review and editing. JJtH: conceptualization, project administration, supervision, writing—review and editing.

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SUPPLEMENT 1

Debrief questions for patients

1. What did you think of the interview overall?
2. How would you evaluate the interview on a scale from 0 to 10 and can you explain why?
3. If you had to give at least one suggestion to improve the interview, what would it be?
4. What did you think of the structure of the interview?
5. What did you think of the length of the interview?
6. Did this interview help you share your experience(s), and if so, how?
7. What did you find the most helpful question during this interview? What did you find the least helpful question?
8. Were there any questions that you found difficult to answer? Why was that?
9. Are there any questions in the interview that you think should be changed or removed, for example, because they were unclear? Are there any questions that were not asked that you think should have been asked?
10. How do you think the interview will affect your treatment?
11. Do you have any other suggestions to improve the interview?

Debrief questions for clinicians

1. What did you think of the interview overall?
2. How would you evaluate the interview on a scale from 0 to 10 and can you explain why?
3. If you had to give at least one suggestion to improve the interview, what would it be?
4. What did you think of the structure of the interview?
5. What did you think of the length of the interview?
6. Did the interview help you obtain important information that you might not otherwise have asked about, and if so, how?
7. Did the interview affect the therapeutic relationship with the patient, and if so, how?
8. What did you find the most helpful question during this interview? What did you find the least helpful question?
9. Are there any questions in the interview that you think should be changed or removed, for example, because they were unclear? Are there any questions that were not asked that you think should have been asked?
10. How and when do you think this interview is best conducted? Do you think the interview will help determine caseness and create a treatment plan?
11. Do you have any other suggestions to improve the interview?

SUPPLEMENT 2



5

Clinical Interview for Moral Injury – Military version (CIMI-M)

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CIMI-M version 1, January 2025. The latest version of the CIMI-M may be obtained from info@arq.org

INTRODUCTION

Purpose

The Clinical Interview for Moral Injury—Military Version (CIMI-M) aims to determine whether a service member or veteran has experienced a potentially morally injurious experience (PMIE) and to assess its impact. Results from the CIMI-M can be used to create a case conceptualization and guide treatment planning. The CIMI-M can also be used to determine whether an interviewee is a clinical case, that is whether the interviewee experiences clinically significant problems after a potentially morally injurious experience that warrant treatment.**A**

Structure

The CIMI-M has four sections. Section 1 assesses the military context in which the event(s) occurred. Section 2 assesses the potentially morally injurious experience(s). Section 3 explores the impact of these experiences across six domains of moral injury. Finally, section 4 examines the interviewee's desired change and readiness for change. A reporting template is provided at the end of the interview to summarize interview outcomes.

Potentially morally injurious experience

A PMIE is a stressor that may cause a unique form of distress because the event violates someone's moral beliefs and expectations. The violation of moral values and beliefs can result from *one's own* actions or *someone else's* behavior. Someone may violate their moral values by taking a particular action (an *act of commission*) or by not acting or failing to act (an *act of omission*). A PMIE can also entail events in which the person witnesses or is directly impacted by the transgressive behavior of others, such as enemy combatants, military leaders, or colleagues.

These events often carry serious consequences for the individual and/or others. While a PMIE may meet Criterion A for post-traumatic stress disorder (PTSD; namely, exposure to actual or threatened death, serious injury, or sexual assault), this is not always the case. For example, a service member who humiliated civilians in a war zone may experience moral distress without the event meeting Criterion A for PTSD. Thus, it is crucial to explore whether a person's deeply held beliefs about right and wrong were at stake during the event, regardless of its outcome (Bonson et al., 2023). A person may have felt strongly in the moment that what happened was "wrong," but may also have come to this realization later.

Moral injury

Moral injury is a potential clinical problem that can arise from experiencing one or more PMIEs. It typically involves clinically significant changes across six domains of functioning (Litz et al., 2022).

Domains of moral injury:

- Impairing moral emotions (guilt, shame, anger, disgust, etc.);
 - Alterations in self- and other-perception (disruptions in how individuals define themselves or the world with respect to what they or others are capable of);
 - Moral thinking (changes in moral thinking, such as condemning others on moral grounds or a hyper-focus on one's own moral behavior);
 - Social impacts (changes in social behavior and the degree of connectedness with others, such as feeling socially isolated, difficulty trusting others or feeling empathy for others);
 - Self-harming / self-sabotaging (conscious or unconscious behavior that negatively impacts one's health, safety, quality of life, functioning and happiness, such as poor self-care or suicidality);
 - Beliefs about meaning and purpose (changes in ideas about the meaning and purpose of life, including religious, spiritual and existential beliefs).
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INSTRUCTIONS FOR INTERVIEW ADMINISTRATION

Screening tools

It is recommended to use this interview when there is evidence that someone has experienced a PMIE, as indicated, for example, during an intake conversation. Before conducting the interview, it can be beneficial to also administer a questionnaire to screen for exposure to PMIEs, expressions of moral injury, and associated functional impairments, such as the *Moral Injury Outcome Scale* (MIOS; Litz et al., 2022). On the MIOS, endorsement of a PMIE coupled with a score between 26-31 suggests probable moral distress (sub-clinical but noteworthy moral injury), and a score equal to or greater to 31 suggests the interviewee may experience clinically significant moral injury.

Interview duration

Administering the CIMI-M generally takes 90 to 120 minutes. Allow sufficient time, particularly for the questions about the PMIE and violated moral beliefs and expectations (section 2), and the questions about moral emotions and self- and other-perception (part of section 3). The latter part of the interview typically requires less time than the earlier sections.

Attitude

Discussing the PMIE(s) may bring out moral emotions and experiences (e.g., feelings of shame or anger and disgust) for the interviewee. For some, it may even be the first time sharing these experiences. It is therefore important to adopt a non-judgmental and supportive therapeutic attitude during the interview. If needed, remind the interviewee that sharing these experiences is understandably quite challenging. Reassure them that they only need to share what they feel comfortable sharing. Do not hesitate to ask follow-up questions, but prioritize creating a safe environment.

Guidance on questions

Not every interview question needs to be asked. The relevance of certain questions depends on the specific type of PMIE the interviewee has experienced. If a question is optional, this is indicated before the question.

Text that should be read to the interviewee (including questions and explanations) is italicized. Instructions for the interviewer are boxed and not italicized; this text is not meant to be read aloud. After some interview questions, you may see the following types of prompts:

- **Follow-up questions:** These are provided to help gather more information if the interviewee's initial response is limited.
- **If unclear:** These questions may be asked if the interviewee does not understand the original question.

Use the exact wording of the interview questions as much as possible. If needed, you can ask additional questions to clarify responses, but keep these to a minimum to limit the overall interview length.

Example

2.3 What about this experience was the most distressing for you?

If unclear: *Did this experience go against your conscience?*

Follow-up questions: *What about this experience felt unjust or wrong to you? In what way? Did this experience also conflict with your moral beliefs and expectations, or norms and values in other ways?*

Selecting the most distressing PMIE

If someone has experienced multiple PMIEs, the (impact of the) worst and currently most distressing PMIE is selected as the focus of the interview. If there's any uncertainty about whether an event qualifies as a PMIE, proceed with the interview to explore its impact further.

Questions that refer to the PMIE include the words '[the experience]'. We recommend using a term preferred or provided by the interviewee here.

Case conceptualization and treatment plan

The CIMI-M can be used to create an initial case conceptualization to aid in treatment planning. This case conceptualization can also be built upon or referred to during treatment. A template for case conceptualization is provided at the end of the interview.

When deciding if treatment for moral injury is appropriate, it is important that the person is experiencing clinically significant distress related to more than one domain of moral injury. The moral impact of an event can range in severity from *moral frustration* to *moral distress* and, at its most severe, moral injury (Litz & Kerig, 2019). Moral injury is characterized by clinically significant suffering. The clinical significance of a given domain is defined by the magnitude of the expressions of moral injury and the degree to which they negatively impact functioning.

For the treatment of moral injury several models exist. Most of these are cognitive-behavioral therapies and include treatments that focus on processing the morally injurious experience and reparative learning through virtuous and compassionate action (Adaptive Disclosure; Litz, 2024; Litz et al., 2017), challenging guilt-related cognitions¹ (TrIGR; Norman et al., 2019), or accepting tragic insights (ACT; Evans et al., 2020). Treatment should be selected based on the individual's needs, as not all approaches are equally relevant to a specific patient.

Patients may also have preferences regarding treatment format, such as individual versus group therapy, whether to involve their family and support network, and any additional care they would like, such as spiritual care (e.g., from a chaplain) or expressive therapy (e.g., creative therapy, music therapy or psychomotor therapy).

¹ During the interview, the interviewee may share guilt-related thoughts they experience since the PMIE. Guilt may stem from accurate appraisals of responsibility and culpability or be partly or fully caused by distorted beliefs and biased appraisals about culpability and responsibility (see Kubany et al., 1994; Norman et al., 2019).

CLINICAL INTERVIEW FOR MORAL INJURY—MILITARY VERSION (CIMI-M)

Name interviewee: Date of birth:

Name interviewer: Date:

Introduction for the interviewee

Introduction: *The purpose of this interview is to explore if you have had a stressful experience in which you did or failed to do something that went against your values, conscience, or moral beliefs. Or you had an experience during which you witnessed others doing or failing to do things that went against your moral beliefs, or you were directly impacted by such behavior. Such an experience often feels extremely wrong, unjust, or unfair. Afterwards, you may have felt very ashamed, guilty, angry or disgusted by what happened. Experiences like these are called “morally injurious experiences.” If you have been through such an experience, I would like to find out in what context this happened. I would also like to get a sense of the lasting impact of the experience. Do you understand what I mean by a morally injurious experience?*

If the interviewee responds “no”:

An example of a morally injurious experience could be a situation where doing “the right thing” was very important, but it was hard to determine what that was. Or, it might be a situation where you did or failed to do something that had serious consequences. It could also be something that someone else did that had serious consequences, and that affected you personally as a victim or witness. If it’s still unclear what I mean by a “morally injurious experience,” that’s alright; we’ll take time to explore together if you might have experienced something like this.

If you have had a morally injurious experience, we can use this interview for planning your treatment, if necessary. Some of the questions may feel challenging, but you don’t have to answer any question you’re uncomfortable with—just let me know if you’d rather not answer a question.

In a moment I’ll start with some general questions. If you need a short break during the interview, feel free to let me know. And please tell me if there’s anything you don’t understand.

Do you have any questions before we begin?

1. CONTEXT

Instruction: The following questions are intended to learn about the interviewee's norms, values, and moral expectations prior to the morally injurious event. Questions 1.4 and 1.5 can help clarify what the interviewee's actual responsibilities were at the time of the event. This may be helpful to keep in mind when asking question 3.3, which may bring up guilt-related thoughts. The interviewee may blame themselves for the event without actually having been responsible for it; this information may be relevant for treatment (see the instruction for question 3.3).

1.1 What motivated you to join the military?

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1.2 Have you been deployed, and if so, where?

Follow-up questions: *Did you experience a potentially morally injurious experience during your deployment(s) or at another time? When were you deployed? How old were you then?*

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Instruction: Ask question 1.3 only if someone experienced a PMIE during their deployment.

1.3 What were you hoping to accomplish there?

If unclear: What personal goal did you have when you went there? What expectations did you have?

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1.4 What were your role and rank during your deployment(s)?

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1.5 For whom and what (specific tasks) were you responsible?

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1.6 What were the most positive things that happened during your deployment(s) or in the service generally?

Follow-up questions: *Did you feel pride, a powerful sense of purpose and belonging to a group or unit? Or did you make friends for life, mature as a person, or did others have pride in you, like leaders, your family and friends, or the country?*

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2. THE POTENTIALLY MORALLY INJURIOUS EXPERIENCE(S)

Introduction: I'm now going to ask you some questions about the morally injurious experience you may have had. So this entails an experience where something happened that went against your values, your conscience, or your ideas of right and wrong. If you've had multiple experiences like this, I'd like you to focus on the one that is currently the most distressing for you.

2.1 Could you tell me what happened?

Follow-up questions: When did this happen? Where were you? Who was involved? What happened, step-by-step? What did you do? What did others do? What were you feeling at the time? What were the consequences? How did others react?

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2.2 Have you had any other morally distressing experiences?

If yes: Explore these experiences in the same way.

Follow-up question: Which of these experiences is currently causing you the most distress?

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Instruction: For this interview, focus on the experience that is currently the most distressing for interviewee. Select what type of PMIE this is:

PMIE type:

- ☐ The interviewee did something that violated their moral values (an *act of commission*);
- ☐ The interviewee failed to do something that violated their moral values (an *act of omission*). NB: this includes experiences where the interviewee tried to prevent the outcome but failed;
- ☐ The interviewee witnessed someone else violating their moral values or witnessed cruelty or the aftermath of mass violence;
- ☐ The interviewee was directly impacted by another person that violated the interviewee's moral values (e.g., someone betrayed their trust resulting in unnecessary danger or harm);
- ☐ The interviewee did not experience a PMIE.

If the interviewee did not experience a PMIE, the interview may be terminated.

2.3 What about this experience was the most distressing for you?

If unclear: Did this experience go against your conscience?

Follow-up questions: What about this experience felt unjust or wrong to you? In what way? Did this experience also conflict with your moral beliefs and expectations, or norms and values in other ways?

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3. DOMAINS OF MORAL INJURY

Domain of impact: impairing moral emotions

Instruction: This domain concerns predominant, pressing, and easily triggered moral emotions. Moral emotions include guilt, shame, remorse, humiliation, anger, disgust, or contempt.

3.1 How does this experience make you feel?

Follow-up questions (inquire about every emotion): *For example, do you feel guilt, shame, remorse, humiliation, anger, disgust, or contempt? Do you feel betrayed? Do you feel differently now compared to how you felt during or shortly after [the experience]? What has changed your feelings about [the experience] over time?*

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3.2 How do you cope with these emotions?

Follow-up question: *What do you do when you are alone? How do you treat others? Does this behavior help you?*

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Domain of impact: alterations in self- or other-perception

Instruction: This domain concerns disruptions in how individuals define themselves or the world with respect to what they or others are capable of. It entails negative alterations in ideas about personal or collective humanity. This is similar to the idea of shattered assumptions about a just world and personal invulnerability. Listen for themes of: seeing oneself as a bad person, loss of trust in one's ability to act morally or the ability of others to act morally, or feelings of self-hatred or inadequacy.

Instruction: Question 3.3 and 3.4 may not apply to every type of PMIE. Generally speaking, question 3.3 is appropriate to ask if the interviewee did or failed to do something that violated their values; question 3.4 is appropriate to ask if someone else did something that violated their values. However, in some cases both questions may be relevant. Assess the relevance of these questions before including them in the interview.

3.3 How have your thoughts and beliefs about yourself changed as a result of [the experience]?

If unclear: *Do you think differently about the extent to which you are a good person or can be trusted?*

Follow-up questions: *Do you feel like you are a bad person? Do you struggle to forgive yourself? If so, what is unforgivable? Has [the experience] affected your self-image, self-worth, or self-confidence in other ways?*

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3.4 How have your thoughts and beliefs about other people or the world changed as a result of [the experience]?

If unclear: *Do you think differently about the extent to which people can be good and the world is a good and just place?*

Follow-up questions: *Do you feel like others can't be trusted and if you don't look out they will fail you? Do you struggle to forgive others for anything? If so, what is unforgivable? Has [the experience] affected your faith in other people in other ways?*

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Instruction: Question 3.5 explores whether the interviewee has experienced other potentially traumatic events that may shape how they view the PMIE. Such events might include adverse childhood experiences and other incidents that contribute to negative core beliefs like “I am a bad person” or “others cannot be trusted.” If these beliefs were reinforced during the morally injurious experience, it can intensify its impact and make recovery more challenging.

3.5 Did you have any earlier experiences in life that influence how you perceive [the experience]?

If yes: *In what ways?*

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Domain of impact: moral thinking

Instruction: This domain concerns changes in moral thinking. It entails a person judging themselves or others harshly, moralistically, and with condemnation. Listen for themes of: critical thoughts about oneself or others, a hyperfocus on moral behavior, and constant and deliberate thinking about the morally injurious experience.

3.6 Do you have a tendency to judge or condemn yourself or others harshly, since [the experience]?

Follow-up questions: *In what ways?*

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Instruction: Question 3.7 may not apply to every type of PMIE; assess its relevance before including it in the interview. It is important here to distinguish between *deliberate* thinking and intrusive thoughts. Ensure that the interviewee is intentionally thinking about the experience, rather than experiencing uncontrollable intrusions.

3.7 Do you feel like you need to keep thinking about [the experience] or the people involved, because you can't allow yourself to forget them or what happened?

If yes: *In what ways?*

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Instruction: Ask question 3.8 only if *someone else* did or failed to do something that went against the interviewee's moral beliefs.

3.8 Do you think or have fantasies about taking revenge on people who were involved in [the experience]?

If yes: *In what ways?*

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Domain of impact: self-harming and self-sabotaging

Instruction: This domain concerns conscious and unconscious behaviors that negatively impact the interviewee's functioning, health, safety, and quality of life. Listen for themes of: lack of self-care or motivation, self-sabotaging, substance abuse, engaging in risky or aggressive behaviors, self-harming, or suicidality.

3.9 Do you take less good care of yourself or your health, because of [the experience]?

If yes: *In what ways?*

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3.10 Do you undermine or sabotage yourself, because of [the experience]?

If yes: *In what ways?*

If unclear: *Do you feel like you no longer deserve to succeed, experience positive feelings, or enjoy life?*

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3.11 Do you engage in aggressive or risky behaviors, because of [the experience]?

If yes: *In what ways?*

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3.12 Do you numb your feelings or harm yourself, because of [the experience]?

If yes: *In what ways?*

If unclear: *Do you use alcohol or other substances, or do you harm yourself physically, to cope with the emotional pain?*

Instruction: If the interviewee mentions suicidal thoughts in response to question 3.13, inquire about the nature of these thoughts and concrete plans. If the interviewee has concrete plans to end their life, follow your institution's protocol for handling suicidal behavior and/or ask the interviewee's permission to inform their primary therapist.

3.13 Do you ever think about ending your life, because of [the experience]?

If yes: Can you tell me a little more about those thoughts?

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Domain of impact: social impacts

Instruction: This domain concerns changes in social behavior and the degree of connectedness with others. Listen for themes of: lack of interest in social relationships, decreased trust in others, loss of community, social isolation, difficulty feeling empathy for others, or expecting rejection and judgment.

3.14 If you have a partner and/or children, does [the experience] affect your relationship with your partner and/or child(ren)?

If yes: *In what ways?*

Follow-up questions: *Do you have difficulty trusting them or sharing how you feel? Do you tend to isolate yourself from them? Do you have difficulty feeling empathy for them? How do they see [the experience], or how would they see it if they knew about it? How does this affect you?*

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3.15 Does [the experience] affect other important relationships in your life, such as your relationships with friends, colleagues, or the community to which you belong?

If yes: *In what ways?*

Follow-up questions: *Do you have difficulty trusting them or sharing how you feel? Do you tend to isolate yourself from them? Do you have difficulty feeling empathy for them? How do they see [the experience], or how would they see it if they knew about it? How does this affect you?*

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Domain of impact: beliefs about meaning and purpose

Instruction: This domain concerns changes in a person's beliefs about meaning and purpose, including religious, spiritual, or existential ideas. Listen for themes of: loss of (or a negatively altered relationship with) religion or spirituality, loss of belief in the meaning of life, or loss of the belief that a human life is valuable.

3.16 Does [the experience] affect the way you look at life? Think for example about how you view the meaning of life or the value of human life.

If yes: In what ways?

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3.17 Do you see yourself as a religious or spiritual person? If so, does [the experience] affect your faith or spirituality?

If yes: In what ways?

Follow-up questions: Do you currently find strength in your faith or spirituality? In what ways?

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Impact on other areas of life

Instruction: Use question 3.18 to explore other areas of functioning that have not yet been addressed during the interview, if relevant (e.g., ask about the interviewee's sexual functioning if the morally injurious event involved sexual violence).

3.18 Does [the experience] affect your daily functioning in other ways?

Follow-up question: *What isn't going well? What is going well?*

Follow-up questions [if relevant]: *Does [the experience] affect your daily activities or hobbies? Does [the experience] affect your work? Does [the experience] affect your physical health? Does [the experience] affect how you experience your sexuality?*

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4. DESIRED CHANGE AND READINESS FOR CHANGE

4.1 Of all the ways [the experience] affects your life, what would you most like to change or need help with?

Follow-up question: *If you make changes in this area, what would be different in your life?*

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4.2 Have you tried working on these problems yourself?

If yes: *What have you tried? What worked? What didn't? Why do you think that is?*

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Instruction: Use question 4.3 to discuss treatment options with the interviewee (e.g., trauma-focused therapy, individual or group treatment, online interventions, The Moral Injury Workbook, etc.).

4.3 What kind of help do you think you need?

Follow-up questions: *Do you prefer individual or group treatment? Is it important for you to involve your family, loved ones, or your community? Is it important for you to include your faith or spirituality? What would you recommend to someone going through a similar experience?*

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4.4 Is there anything else you would like to add or discuss?

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Reporting template

Date:

Name interviewee:

Name interviewer:

Case conceptualization

Use the space below to brainstorm and hypothesize about the causes of the person's unique constellation of problems, and in particular the modifiable characteristics that might serve as targets for treatment. This is an initial descriptive functional case conceptualization. This can serve as a foundation for creating a more detailed, explanatory case conceptualization in collaboration with the patient during treatment. For example, using this case conceptualization, you might explore the function of coping behaviors (see Borges et al., 2022).

It might help to bear in mind the following overview (reproduced from Litz & Walker, 2025, with permission from the authors):

MI subtype	Others' behavioral, emotional, and belief-based reactions	Behavioral, emotional, and belief-based signs of harm	What is potentially lost?	Recovering what is lost by leveraging / creating corrective learning opportunities in therapy, at home, at work, in communities
Shame-related phenomena	Anger, fear, empathy failure, bitterness, disowning, exclusion/rejection, condemnation, fundamental attribution bias (the event defines the transgressor; it is a trait)	Submission, avoidance of intimacy and scrutiny, isolation, anxiety from loss of social standing, dysphoria, anhedonia, self-dehumanization, desire for the community to know that the event does not define the person (unless the person believes the event is self-defining)	Pride, value/self-worth, self-compassion, social cohesion, prosocial relationships, belongingness, humanity, the balance of personal goodness, relative to badness, comfort and safety, deservedness, hedonic relational experiences	Confess/disclose the harm, share/express impact, get compassionate validation; clarify meaning / implication; get feedback from caring others (and professionals) about the implication of the event and help generating a repair plan Daily purposeful virtuous behaviors, especially compassion, in ad hoc and planned ways Mindful allowing of others to show their humanity, be kind, trustworthy, and selfless Working on belonging: Increasing the size and reach of "Us" groups and reducing the size and reach of "Other" groups Doing valued things, being a part of groups that are valuing Taking misdeeds, missteps, unempathetic, rejecting, and selfish behaviors by self and others in stride - developing perspective and tolerance Generating a maintenance plan and planning response to setbacks
Trust-violation-related phenomena	Fear, helplessness, frustration, empathy failure, disconnection, disbelieving, fundamental attribution bias (the person is angry and bitter)	Broken heartedness, anger, disillusionment, intolerance, grievance, outrage, cynicism, indifference, loss of faith in humanity, authorities, and institutions, social vigilance and distrust, justice-seeking, confirmation-seeking, demoralization	Social comfort and cohesion, prosocial relationships, trust/faith in humanity, belongingness, compassion, optimism, beliefs/expectancies about mattering, justice, the potential for good in others, hedonic relational experiences.	

Military service and deployment context

E.g., what positive repertoires and beliefs have been altered and lost because of the morally injurious experience? To what extent has the interviewee lost personal or collective value and kinship (belonging) and to what extent might these things be reclaimed in other ways to repair the experience?

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The potentially morally injurious experience

E.g., what happened? Was the event singular in nature or did it happen repeatedly? Can the experience be tied thematically to shame- or trust-violation problems, or both?

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PMIE type:

- ☐ The interviewee did something that violated their moral values (an *act of commission*);
- ☐ The interviewee failed to do something that violated their moral values (an *act of omission*). NB: this includes experiences where the interviewee tried to prevent the outcome but failed;

- ☐ The interviewee witnessed someone else violating their moral values or witnessed cruelty or the aftermath of mass violence;
- ☐ The interviewee was directly impacted by another person that violated the interviewee's moral values (e.g., someone betrayed their trust resulting in unnecessary danger or harm).

Violated moral beliefs and expectations

E.g., what moral beliefs and expectations were violated or played a key role during the PMIE?

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Domain of impact: impairing moral emotions

E.g., what appears to trigger moral emotions? What are the precipitating events and consequences?

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Domain of impact: self- and other-perception

E.g., how much has the interviewee lost faith in their own humanity or in humanity? What might help the interviewee repair the loss of faith in the goodness of the self or others?

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Domain of impact: moral thinking

E.g., how pressing and impairing is this problem? What might help the interviewee be less moralistic and judgmental in their lives currently?

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Domain of impact: self-harming and self-sabotaging

E.g., how pressing and impairing are these problems? To what extent might these problems change if the interviewee engaged in reparative activities socially and in terms of leisure? Would it help to do good and be compassionate, or to allow others to be good and caring?

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Domain of impact: social impacts

E.g., to what extent is the interviewee socially isolated and avoidant of social activity that would otherwise provide corrective and reparative moral experiences? E.g., doing good and being compassionate to others as a way of addressing self-hatred, allowing others to be good, trusting others however cautiously to restore faith in humanity, etc.

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Domain of impact: beliefs about meaning and purpose

E.g., how might connections with others, belonging to a community, and other activities shift existential harm?

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Impact on other areas of life

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Desired change and readiness for change

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Caseness

Determine caseness (i.e., does the interviewee most likely experience clinically significant moral injury that warrants treatment) by answering the following questions:

- 1) Has the interviewee experienced a high magnitude and currently distressing PMIE?
- 2) Is the PMIE associated with current functionally interfering problems within more than one domain of impact?
- 3) Is there sufficient information to suggest that these problems are new onset (i.e., began or worsened after experiencing the PMIE)?
- 4) Is there sufficient evidence that recovery has been impeded or not likely and moral injury should be considered a pressing problem that should be addressed clinically?

Treatment options

Based on the interview findings and patient preferences, indicate the most appropriate treatment approach. Multiple options can be selected.

Treatment focus:

- ☐ Trauma-focused therapy (to reduce intrusions or intense emotional pain);
- ☐ Challenging guilt-related thoughts or self-blame (distortions regarding one's own role and responsibility in the event);

- ☐ Meaning-making (working on negative perceptions of self and/or others);
- ☐ Social recovery (living according to one's own moral values within one's community).

Treatment format:

- ☐ Individual therapy
- ☐ Group therapy

Involvement of support system:

- ☐ No
- ☐ Yes:

Additional care:

- ☐ Spiritual care/chaplain
- ☐ Expressive arts therapist
- ☐ Other:

Summary

On ... (date), the Clinical Interview for Moral Injury—Military Version (CIMI-M) was conducted with ... (name). The patient concerns ... (gender, age, target population, deployment).

Experience(s)

The CIMI-M revealed *no exposure to a morally injurious experience / exposure to* (choose: *a moral challenge / moral stressor / potentially morally injurious experience*), namely ... (describe the event). During this event, (select: *the patient / another person*) (select: *did / failed to do*) something that violated the patient's moral values. This event can be categorized as (describe PMIE type, e.g., *an act of commission / omission*, etc.). The violated values pertain to ... (specify values).

Impact

As a result, the patient reports difficulties across multiple domains, including (choose: *impairing moral emotions / self- and other-perception / moral thinking / self-harming and self-sabotaging / social impacts / beliefs about meaning and purpose*). Regarding impairing moral emotions, the patient experiences ... (specify). Changes in self- and other-perception are evident in ... (specify). Regarding moral thinking, the patient reports ... (specify). Dysfunctional coping mechanisms include ... (specify). The social impacts concern... (specify). Alterations in beliefs about meaning

and purpose are evident in ... (specify). Additional impact on other areas of life includes ... (specify). The overall impact can be characterized as (choose: *moral frustration* / *moral distress* / *moral injury*).

Recommendations for treatment

The recommended approach includes (select: *no treatment* / *psychoeducation* / *treatment focused on* ... specify focus, e.g., *trauma-focused therapy* / *addressing guilt-related cognitions* / *meaning-making* / *social recovery*). The patient has expressed a preference for (select: *individual therapy* / *group therapy*) with (select: *system involvement* / *no system involvement*). If system involvement is preferred, this involves: ... (specify details). Additional care is recommended, including (select: *spiritual care* / *expressive therapy* / *other: ...*).

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CHAPTER 6

Development of an online supportive treatment module for moral injury in military veterans and police officers

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ABSTRACT

Background

Military members and police officers often operate in high-stakes situations and under high levels of physical and psychological stress. Consequently, they may be confronted with morally injurious experiences and develop moral injury. Most treatments for moral injury are cognitive-

behavioral, face-to-face treatments, which may be supported by online interventions. Online interventions have shown promise in the treatment of trauma-related psychopathology, but few such interventions for moral injury yet exist.

Objective

To develop and conduct a preliminary evaluation of an online treatment module for moral injury in treatment-seeking military veterans and police officers, to be used in conjunction with regular face-to-face treatment.

Method

An online module was developed based on the moral injury literature, using elements from seven existing treatments. A preliminary evaluation was conducted using both quantitative and qualitative methods, and focusing on perceived feasibility, acceptability and engagement of the module, as well as potential benefits and harms. The concept module was evaluated by 15 assessors, including patient representatives, multidisciplinary caregivers and experts.

Results

The module was rated favorably, with mean evaluation scores ranging from 7.9 to 8.8 on a 10-point scale. Several suggestions for improvement were made, especially concerning privacy issues, safety instructions, patient-therapist collaborations, and role plays, and the module was adapted accordingly.

Conclusion

Using input from literature, patient representatives and experts, we developed an online treatment module for moral injury in military veterans and police officers, to be used in conjunction with face-to-face therapy. Acceptability and feasibility will be further examined in a future pilot study.

Keywords

Moral injury, police officers, military veterans, e-health, online treatment.

INTRODUCTION

The concept of moral injury refers to the lasting and multidimensional impact of perpetrating, failing to prevent or witnessing acts that transgress deeply held moral expectations and beliefs (Litz et al., 2009). Intentionally harming a civilian during armed conflict, failing to save a child from a fire, or standing by as a colleague mistreats a prisoner are examples of such acts. Involvement in morally transgressive acts may lead to moral injury, especially when it occurs in high-stakes situations (Shay, 2014), where those involved risk death, serious injury or sexual violence (Evans et al., 2020). While the moral injury concept has been predominantly developed and studied in military populations, it may also apply to other populations exposed to occupational trauma, especially police officers (Griffin et al., 2019; Papazoglou & Chopko, 2017). Like military members, police officers are trained to serve and protect, meaning they may use legitimate, but not excessive, force, and must act to save civilians from serious harm. Given that such tasks may be performed under high levels of physical and psychological stress, both military members and police officers are at risk of encountering potentially morally injurious events (PMIEs) and consequently, of developing moral injury.

Moral injury is a psychological, social and existential wound that has been found to be associated with the development of psychiatric problems and functional impairment, including posttraumatic stress disorder (PTSD; American Psychiatric Association [APA], 2013), suicidal ideation and depressive symptoms (Griffin et al., 2019; Maguen et al., 2020). Consequently, for some individuals who suffer from moral injury, psychological intervention may be necessary to increase their psychosocial well-being and quality of life. The development of interventions for alleviating moral injury is relatively in its infancy. Most psychological interventions for moral injury, including Adaptive Disclosure (AD; Litz et al., 2016), Trauma-Informed Guilt Reduction Therapy (TriGR; Norman et al., 2019) and Acceptance and Commitment Therapy for Moral Injury (ACT-MI; Evans et al., 2020) are based on cognitive-behavioral treatment (CBT) frameworks (Currier et al., 2021a). Such frameworks commonly encourage patients to work on their treatment goals outside of the treatment room. In recent years, this is increasingly done through internet or e-health interventions. Internet-delivered CBT has shown promise in treating patients with PTSD (Lewis et al., 2019; Simon et al., 2019), including military veterans (Jones et al., 2020).

The term “internet interventions” may refer to a range of interventions, from complete internet-delivered treatments to digital treatment components such as online modules (Smoktunowicz et al., 2020). Several such treatments or treatment components may be suitable for helping patients heal from moral injury. However, as far as we know, references to the use of internet interventions for moral injury

are limited to a case study of the successful treatment of a service member using ACT-MI via telehealth (Borges, 2019), and a feasibility and acceptability study of an online therapy group for healthcare providers working during the COVID-19 pandemic (Smith-MacDonald et al., 2022). This implies that most treatments for patients with moral injury take place face-to-face. Supporting face-to-face treatment with internet interventions such as online modules may carry several benefits. Patients may work on their treatment goals from their own home and in their own time, keeping arousal low; patients may be provided with structured, accurate visual and written information that may be more easily processed or referred back to; patients and therapists may exchange information in a digitally secure environment; and insights derived from the internet intervention may then be shared in and inspire face-to-face treatment sessions.

In order to support the face-to-face treatment of patients with moral injury through internet interventions, we developed an online treatment module for moral injury in treatment-seeking military veterans and police officers in the Netherlands. Dutch military members are known to encounter PMIEs during peacekeeping missions, including being in the position of bystander, indirect effects of decisions and actions, and transgressive behavior (Rietveld, 2009). In a quarter of military veterans, this may lead to feelings of shame and guilt post-mission, which in turn is related to more severe depression and anger (Rietveld, 2009). During and after missions, Dutch military members and veterans may experience conflicting values as well as feelings of moral detachment and senselessness (Molendijk, 2018). Little research has been conducted on moral injury in Dutch police officers. Treatment-seeking Dutch police officers have been exposed to an average of 19.5 work-related potentially traumatic experiences, including PMIEs such as executing charges in which persons were injured, injury of a colleague, and failed cardiopulmonary resuscitation (van der Meer et al., 2017). Consequently, around 43% of treatment-seeking Dutch police officers meet symptom profiles of moral injury, with or without PTSD (Mensink et al., 2022).

In this paper, we report on the development and preliminary evaluation of an online treatment module for treatment-seeking military veterans and police officers in the Netherlands. Aim of the development of this module was to make available an online intervention to support face-to-face treatment of military veterans and police officers with moral injury. Aim of the preliminary evaluation was to gain feedback on and improve the concept version of the module involving various stakeholders and experts. Our hypothesis was that the concept version of the module would be considered acceptable, feasible, engaging and not harmful, but might still be improved.

METHOD

Setting

The module was developed at ARQ Centrum'45, the Dutch national center for expert diagnostics and treatment of complex psychotrauma. The center offers tertiary care to trauma-exposed military veterans and police officers who have failed to benefit from or have relapsed after first-line treatment (GGZ Standaarden, 2020). Most of these patients meet criteria for PTSD according to DSM-5 and are routinely treated with treatments of choice following the Dutch treatment guidelines for PTSD (GGZ Standaarden, 2020): trauma-focused CBT [including prolonged exposure (PE), narrative exposure therapy (NET), and brief eclectic psychotherapy for PTSD (BEPP)] or eye movement desensitization and reprocessing (EMDR) therapy.

To support face-to-face treatment through e-health interventions, ARQ Centrum'45 uses an e-health platform called Minddistrict. Minddistrict offers online modules and diaries for patients that can be accessed through mobile devices. These modules are developed in collaboration with patient representatives and care providers. The modules are generally transdiagnostic, i.e., focused on complaints or symptoms rather than on diagnoses, and generally consist of written information, video material of experts and patient representatives, and online assignments. Assignments may be completed independently by the patient or may be shared with the therapist who then provides written feedback. All information exchanged through Minddistrict is secure, requiring a login and password.

Development steps

Development was based on guidance for the development of complex interventions to improve health and healthcare (O'Cathain et al., 2019), using the following steps (not necessarily in this order): (1) planning of the development process, (2) involving stakeholders, (3) bringing together a team, (4) reviewing published research evidence, (5) drawing on existing theories, (6) articulating program theory, (7) undertaking primary data collection, (8) understanding context, (9) paying attention to implementation, (10) designing and refining the intervention. Development ran from February 2021 till February 2022 and was chiefly conducted by a clinical psychologist, a social-psychiatric nurse and a communication expert, in consultation with Minddistrict, two patient representatives, an army chaplain and three therapists.

Literature search

To decide on the content of the module, we conducted an APA PsycINFO search of peer-reviewed papers on psychotherapeutic treatments for moral injury using the search terms “moral injury AND (treatment OR therapy OR intervention OR manual).”

The resulting evidence was limited. Case studies were found of ACT-MI (Borges, 2019), BEPP for Moral Trauma (BEPP-MT) (de la Rie et al., 2021), Cognitive Therapy (CT) (Held et al., 2018; Murray & Ehlers, 2021) and PE (Held et al., 2018; Evans et al., 2021). Pilot studies were found of AD (Gray et al., 2012) and Impact of Killing (IoK) (Burkman et al., 2019; Maguen et al., 2017; Purcell et al., 2016). We excluded interventions intended primarily for delivery by chaplains or clergy, including Building Spiritual Strength (BSS) (Harris et al., 2011) and the Mental Health Clinician and Community Clergy Collaboration (Pyne et al., 2019). In addition, we consulted the book *Addressing moral injury in clinical practice* (Currier et al., 2021b), which provides an overview of treatment approaches for moral injury. Last, we searched for interventions for which detailed manuals or protocols had been published, which was the case for AD (Litz et al., 2016), TrIGR (Norman et al., 2019), and ACT-MI (Evans et al., 2020). AD (Litz et al., 2009, 2016) is an integral cognitive-behavioral treatment of moral injury, involving eight steps: connection, preparation and psychoeducation, modified exposure, examination and integration of maladaptive beliefs, dialogue with a benevolent moral authority, reparation and forgiveness, fostering reconnection, and after-treatment planning. TrIGR (Norman et al., 2019) is a cognitive treatment that primarily focuses on the identification and appraisal of four domains of cognitive errors: hindsight bias, lack of justification, responsibility, and wrongdoing. ACT-MI (Evans et al., 2020) focuses on acceptance of moral pain (through interventions such as psychoeducation, defusion and mindfulness) and commitment to living a value-driven life (through interventions such as fostering forgiveness and compassion, and identifying and acting upon values).

In conclusion, we based the module on interventions described in the following treatments: ACT-MI, AD, BEPP-MT, CT, IoK, PE and TrIGR.

Integrating the literature, we concluded that the treatments include most if not all of the following interventions: (1) psychoeducation, (2) processing of morally injurious memories, (3) exploring maladaptive attributions, (4) mindfulness, (5) forgiveness, (6) reconnection, and (7) living according to important values. Those interventions may be perceived as addressing the three prominent domains that may be affected in moral injury: psychological (emotional, cognitive and behavioral), social/interpersonal, and spiritual/existential (Griffin et al., 2019; Litz et al., 2009).

Module development

Based on the literature, we then developed a first version of the module. This version consisted of eight chapters with the following topics: module explanation, moral injury and PTSD, moral code and values (chapter 1), morally injurious experiences, moral emotions, moral pain and moral judgments (chapter 2), moral injury narrative, hotspot, prolonged exposure and EMDR (chapter 3), determining and exploring hindsight bias,

lack of justification, responsibility and wrongdoing (chapter 4), a written, imaginary or actual dialogue with a benevolent moral authority (chapter 5), practicing mindfulness (chapter 6), the costs and benefits of forgiveness, and forgiving actions (chapter 7), determining values, and value-driven actions (chapter 8). The length of the module (eight chapters) was based on the average length of standardized treatments for moral injury, ranging from six (TrIGR) to ten (IoK) sessions. All chapters contained written information, video clips of patient representatives and professionals, and assignments.

Language

Following recommendations for therapist style and stance when working with morally injured patients, written information was carefully worded to be encouraging, supportive and non-judgmental (Litz et al., 2016). We took care to use inclusive language, for example by using case vignettes that alternately referred to military veterans and police officers, men and women, and persons with a western and non-western first name. In addition, we took language proficiency into account by limiting sentences to 15 words and avoiding use of the passive tense, in accordance with Dutch B1 language guidelines (Dienst Publiek en Communicatie Ministerie van Algemene Zaken, n.d.). Difficult words, such as abstract words and jargon, were avoided by using easier alternatives or by giving an explanation and/or illustrative example. To further improve readability, paragraphs were limited to 450 characters.

Video material

Video clips were filmed by a professional filmmaker. The final clips included descriptions of morally burdening experiences, moral emotions and cognitions, coping, reprocessing and reconnection, by a male military veteran and a female police officer who had both been in treatment for moral injury; a word of welcome and explanations of moral injury, prolonged exposure and EMDR, by a therapist; explanations on moral injury, morality, values, forgiveness and the work of a chaplain, by a military chaplain; and roleplays of a dialogue with a benevolent moral authority, exploring cognitive errors, and living a value-driven life, featuring a therapist and a patient played by a therapist. Care was taken that the descriptions of morally burdening experiences were specific enough to spark recognition but general enough not to upset patients. All video clips were pre-discussed and scripts were written of the roleplays in consultation with a military veteran. All clips were approved by those who featured in them before being included in the module. The two patient representatives signed informed consent forms for inclusion of the video clips in the module. They were debriefed after filming and received a gift coupon in recognition of their effort as well as reimbursement of their travel expenses. The military chaplain also received a gift coupon.

Assignments

Assignments were included that consist mostly of invitations to describe personal experiences of morally injurious events, moral injury symptoms, moral emotions and judgments, values and goals, and to examine moral judgments. To this end, spaces are provided where patients may insert text. In addition, patients are invited to watch video clips of patient representatives and experts, and psychoeducational videos of the Dutch societies for CBT and EMDR. Last, mindfulness exercises were inserted that are available through Minddistrict. Care was taken to include only assignments that might be performed at home, without the presence of a therapist, and asking patients to choose a good time and place and to note how they felt afterwards. At the end of each module chapter, assignments are saved and therapists receive an email alert to provide written feedback.

Preliminary evaluation

Design

In order to improve the online module, we conducted a preliminary quantitative and qualitative assessment of module content, style, format and delivery. Evaluation focused on perceived feasibility, acceptability and engagement of the module, as well as potential value and benefits, harms and unintended consequences (O’Cathain et al., 2015, 2019).

Procedure

A questionnaire was made evaluating the content, format, style, delivery and perceived proceeds of the overall module, and the contents of the separate chapters. The questionnaire consisted of 13 quantitative items rated on a 10-point scale ranging from 1 (very low) to 10 (very high) (for example, “How would you rate the content of this chapter?”), as well as 21 open questions with room for comments and suggestions (for example, “Do you expect the module to be potentially harmful to users? If so, in what respect?”).

An email was sent to 15 stakeholders and experts asking them to evaluate the module. Upon consent, they were provided with an online link to the module and to the questionnaire. Response was 100%. Four assessors provided only qualitative

feedback. Evaluations were conducted by two patient representatives; one military chaplain; two researchers specializing in moral injury or e-health; and ten therapists from five treatment centers specializing in the treatment of military veterans, police officers and/or moral injury. As none of the patient representatives were currently in treatment and the evaluation did not concern medical research, no medical-ethical assessment was required.

Analysis

Descriptive statistics were calculated using SPSS version 23 for Windows. Answers to the open questions as well as additional written feedback sent by some assessors were inserted in Excel and analyzed following the General Inductive Approach for analyzing qualitative evaluation data (Thomas, 2006). All text that was deemed relevant to the evaluation aims was labeled to identify themes. Next, in a second round of coding, some themes were merged to reduce overlap and redundancy among the codes. The resulting themes were subsequently combined under superordinate categories, which were based on the evaluation aims.

RESULTS

Descriptive statistics

The module was rated very favorably, with the mean evaluation scores of various chapters and aspects ranging from 7.9 to 8.8. Module content was rated $M = 8.8$ ($SD = 0.8$, range 8–10), style $M = 8.5$ ($SD = 0.8$, range 7–10), format $M = 8.5$ ($SD = 0.8$, range 7–10), and delivery $M = 8.2$ ($SD = 1.1$, range 7–10). Perceived benefits for users were rated $M = 8.5$ ($SD = 0.9$, range 7–10).

Qualitative analysis

Qualitative analysis revealed several themes related to various components of the module, which we organized across four categories: acceptability, feasibility, engagement, and unintended consequences (see Table 1).

Table 1 Sample quotations illustrating feedback categories and themes

Categories	Themes	Description	Sample Quotation
Acceptability	Suitability for the target population	The assessors believed the module is suitable for the target population. They appreciated the video examples provided by patient representatives, which were described as something patients would be able to relate to.	"The videos of the patient representatives are wonderful and illustrate the subject beautifully."
	Confidentiality	Some assessors stressed the importance of explicitly addressing any confidentiality concerns patients may have, both at the start of the module and when exercises ask for the disclosure of personal experiences and thoughts.	"It might be good to also describe confidentiality/privacy in assignments where clients have to be vulnerable? [I] can imagine that there are distrustful clients who find it difficult to fill in their experiences on a website? Maybe suggest an alternative, for example: you can also write this down for yourself in a notebook."
	Benefits	Assessors believed the module would most likely be beneficial to patients. Potential benefits they mentioned include an increased understanding of moral injury and better insight into how therapy and certain exercises can be helpful.	"[The module] would give me a lot of clarity and reassurance. To understand what it does to you, that it is not crazy what you are struggling with. It makes it easier to discuss things, also with your partner. (...) This can lead to more understanding. I found these things difficult to explain myself, so this module is very clear and helpful."
Feasibility	Clinical context	Many assessors stressed the importance of offering the module as blended treatment. They emphasized it would be best to conduct the module alongside in-person therapy, to maximize the potential of the module. Embedding the module within a clinical context was also perceived as helpful in case module topics were triggering.	"With the guidance of the practitioner, it is feasible. It could trigger a lot. There should be an option to contact your practitioner. Especially if your appointment is next week. Simply knowing that is possible is reassuring."
Engagement	Clarity of information	Module information provided was generally evaluated as clear and complete. Particularly the videos of various experts and patient representatives were found to be illuminating and engaging. Some assessors offered suggestions for improving information.	"Good to see the concept of moral injury explained from different perspectives. Good differentiation between PTSD and moral injury, with the explanation of the patient representative. I think clients would be able to benefit a lot from that."

Categories	Themes	Description	Sample Quotation
	Overview of the module	Most assessors found the module clear and orderly structured, with a logical progression from one topic to the next. Some suggested the module would be easier to navigate if it had a more user-friendly menu to browse between chapters.	"It might be useful to have a navigation menu where you can browse back to all the different chapters. So if the patient wants to revisit the mindfulness chapter, this can be done with a single click in the navigation menu."
	Suggestions for improvement	Assessors offered various practical suggestions for improving the module, including adding certain exercises and examples of how to work on recovery.	"Maybe explicitly state that, (...) not only forgiveness and acceptance help, but also actively doing meaningful things? Achieving forgiveness not only through internal, mental processes, but also by actively doing things."
Unintended consequences	Potentially triggering elements	Assessors believed risks associated with the module to be low. However, some potentially triggering elements were mentioned, including an exposure exercise and stories of moral injury shared by the patient representatives.	"I can imagine that this is a tough chapter for people who (still) have a lot of PTSD symptoms. Such as the question to write down memories. Though I expect that this would be considered at intake."

Acceptability

All assessors deemed the module to be acceptable and to meet an important clinical need, as in the Netherlands treatments developed specifically for moral injury are limited. Several assessors noted that certain elements of the module, such as its focus on self-forgiveness and moral values, are not addressed in current treatments and therefore particularly valuable. Simultaneously, some expressed concern that these elements could be challenging, as concepts such as "forgiveness" and "moral values" are rather abstract and could, without sufficient examples, be hard to fully comprehend. Similarly, they warned that the idea of self-forgiveness could feel out of reach and therefore discouraging for many suffering from moral injury. Nevertheless, all assessors considered the module to be suitable for the target population and were very positive about the inclusion of videos of patient representatives. Veteran assessors, in particular, described these video examples as relatable, illuminating, and helpful.

To increase acceptability, several assessors mentioned the importance of emphasizing confidentiality. They suggested more explicitly addressing confidentiality concerns at the start of the module, by explaining how the content is protected and whether a therapist will be able to see any of the answers filled in. Some assessors

suggested repeating this information when an exercise asks for self-disclosure, to increase openness and lower any distrust patients may feel.

Overall, all assessors expected the module to be beneficial to those suffering from moral injury. As potential benefits, they mentioned better insight into one's distress, easier communication about moral injury with others, and an increased understanding of how therapy may help.

Feasibility

Assessors generally found the module to be feasible and user-friendly. Several assessors raised questions about how to incorporate the module into existing treatments, to maximize its benefits and decrease potential risks. They suggested that synchronizing the module with face-to-face therapy, as intended, would enable patients to discuss certain topics and build on exercises with their therapist. Simultaneously, this could make it easier for patients to reach out for support if elements of the module were experienced as triggering.

Engagement

The information provided by the module was considered to be clear and concise. The videos were found to be particularly informative and engaging. Some assessors offered suggestions for changing certain wordings or for expanding explanations to improve comprehensibility.

Assessors felt Minddistrict was easy to use, though some commented the module could be improved by having a menu for navigating between different chapters. Several other practical suggestions for improving the module were offered, including adding various exercises.

Unintended consequences

Most assessors raised concern that some elements of the module could be triggering, particularly for patients experiencing a lot of distress. Potentially triggering elements of the module include the videos of patient representatives sharing their stories and a narrative writing assignment. At the same time, assessors believed that these unintended consequences would be manageable and acceptable if patients would be able to reach out to a therapist when necessary.

Adaptation

Based on the evaluation, module content was adapted. The main adaptations were that privacy issues were explained more elaborately, safety instructions (i.e., asking patients to choose a good time and place to complete an assignment) were repeated more often, collaboration with the therapist was explained more clearly, and role play

videos were shortened. In addition, psychoeducation and assessments were adapted to provide a stronger focus on moral injury due to moral transgressions by others (so-called betrayal trauma).

DISCUSSION

We reported on the development phase of an online treatment module for moral injury. Development resulted in an online module consisting of eight chapters and including written text, videos and assignments. The concept module was evaluated and rated favorably by various stakeholders and experts. In addition, assessors commented favorably on the module's acceptability, feasibility and engagement. However, they feared that some module components including some videos and assignments might be emotionally upsetting when watched or completed at home. Module content was then adapted.

The favorable evaluation of the module is in line with other studies that show that blended treatment, combining online modules with face-to-face treatment, is perceived as purposive and effective (Urech et al., 2019). Indeed, blending may be key given that patients' motivation to engage in internet-based interventions may be relatively low. In one study of military veterans' willingness to use e-mental health, only 50.6% of those without PTSD and 30.9% of those with probable PTSD were willing to try online computer-based interventions (Whealin et al., 2015). A study of internet-based TF-CBT for service members without face-to-face contact resulted in a 32.3% drop-out (Niemeyer et al., 2020)—a percentage that is relatively high (Hembree et al., 2003).

Although the module was rated favorably, its current form may have some disadvantages. While the module fits in a tradition of online CBT interventions for mental health, this tradition has been criticized for failing to stimulate adherence and sustained engagement (Mohr et al., 2018). An argument has been put forward for creating digital tools that provide a better fit with patients' lives and practitioners' workflows, and involving patients and practitioners from the start of development (Mohr et al., 2018). In hindsight, we indeed feel that patient representatives might have been involved more actively from the start of development and might have been asked which facets of moral injury should be addressed in the module in general and in the patient representatives' videos. As for practitioners' workflows, the module was developed in a digital platform that is widely used by practitioners to support face-to-face treatment.

Regarding unintended consequences, assessors feared that some video material and assignments might be emotionally upsetting. Indeed, in a study of internet-

based TF-CBT for service members, 9.5% reported severe resistance against writing assignments, and another 23.8% experienced intense negative feelings while they were writing (Whealin et al., 2015). However, another study of internet-based TF-CBT showed that adverse events and treatment satisfaction ratings were equal in two treatment arms with and without exposure components (Spence et al., 2014). Thus, although writing assignments may be perceived as emotionally challenging, this does not necessarily limit treatment satisfaction and effectiveness.

In conclusion, this module is the first online module to support face-to-face treatment of moral injury in police officers and military veterans. It was carefully developed based on development guidelines and the extant literature and in collaboration with patient representatives and experts from multiple disciplines. After evaluation, the module was adapted. In the near future, the adapted module will be evaluated in a feasibility and acceptability study using both quantitative and qualitative research methods. In addition, adapting the module to other populations, such as morally injured refugees or healthcare workers, may be considered.

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Author contributions

JH developed the module, conducted the evaluation, and drafted the first version of this paper. MG analyzed the qualitative and quantitative outcomes and drafted the first version of this paper. SD developed the module, conducted the evaluation, and contributed to the final version of this paper. SE developed the module and contributed to the final version of this paper. All authors contributed to the article and approved the submitted version.

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CHAPTER 7

General discussion and conclusion

INTRODUCTION

Over the past five years, David has received treatment for the PTSD and moral injury he developed post-Afghanistan, including participation in group therapy for moral injury. Through therapy, David began to recognize that his rigid self-discipline and refusal to acknowledge his own suffering mirrored the strict and punitive attitudes of his unit. He began to reflect on why he had taken the photo and came to understand it within the context of being bullied and feeling rejected. He was able to see his decision to leave the military in a new light—not as abandoning it, but as acting in accordance with what was morally right for him at that time. It is a decision he now feels proud of. Over time, he developed greater self-compassion, and though he believes the shame he feels will never fully go away, it now feels somewhat lighter to carry.

In the general introduction of this dissertation, David's story served as an illustrative starting point for understanding the lived experience of a Dutch veteran affected by moral injury. His narrative demonstrates the enduring psychological and moral consequences of violating personal values during deployment, as well as the possibility of moral repair and healing over time. His story also connects to the broader purpose underlying the empirical work presented here: to advance our understanding of moral injury among Dutch veterans in ways that can meaningfully inform clinical care. This dissertation addressed this aim by examining the clinical relevance, prevalence, and manifestations of moral injury among Dutch veterans, with particular attention to those seeking treatment. In addition, it sought to contribute to the clinical assessment and treatment of moral injury. The general introduction formulated five overarching research questions which this chapter will address. The chapter begins with a summary of the main findings from each chapter, followed by a general discussion that contextualizes these findings, highlights strengths and limitations, and shares concluding reflections.

SUMMARY OF MAIN FINDINGS

In **Chapter 2**, we analyzed patterns of potentially morally injurious experience (PMIE) exposure among Dutchbat III veterans deployed as United Nations peacekeepers to the former Yugoslavia during the July 1995 Srebrenica genocide. For this study, we performed latent class analysis (LCA) with the Moral Injury Questionnaire—Military Version (MIQ-M; Currier et al., 2015), a self-report measure for PMIE exposure, to examine distinct subgroups of PMIE exposure and their associations with outcome- and exposure-related factors. We identified two subgroups characterized by different levels of PMIE exposure: a 'high exposure' subgroup (18.5%) and a 'moderate

exposure' subgroup (50.2%). Additionally, we found one subgroup characterized by a specific PMIE profile, a 'betrayal and powerlessness-only' subgroup (31.3%). Although feelings of betrayal and powerlessness were reported across all subgroups, this third subgroup was unique in predominantly reporting these experiences, with relatively low exposure to other PMIEs. The subgroups differed in psychological outcomes and exposure-related characteristics: presence at the fall of Srebrenica was associated with greater PMIE exposure, and higher PMIE exposure was in turn associated with increased odds of meeting criteria for posttraumatic stress disorder (PTSD) 25 years later. Levels of posttraumatic growth did not differ between subgroups.

In **Chapter 3**, we examined the prevalence of various PMIE types among Dutch treatment-seeking and non-treatment-seeking veterans. In addition, we evaluated the reliability and factor structure of the Dutch Moral Injury Events Scale (MIES; Nash et al., 2013), a self-report measure for PMIE exposure and associated distress. PMIEs were highly prevalent among treatment-seeking veterans, with 92.0% reporting exposure to at least one PMIE. Although PMIEs were also common in the non-treatment-seeking sample (81.6% reported at least one PMIE), the mean number of PMIEs was lower than in the treatment-seeking group (2.8 vs. 5.2, respectively). In both samples, transgressions by others were the most frequently endorsed PMIE type. Most treatment-seeking veterans reported experiencing moral distress related to a PMIE (85.8%), whereas fewer than half of the non-treatment-seeking veterans (41.0%) did so. More than half of the treatment-seeking group (52.8%) also expressed a desire to receive treatment for their moral distress, which was associated with higher PMIE exposure and distress.

Overall, the MIES demonstrated adequate to good psychometric properties. However, the findings raised concerns regarding its construct validity, particularly whether the instrument primarily assesses exposure to PMIEs, the resulting moral distress, or both. Factor analyses supported a two-factor structure—Transgressions-Self and Transgressions-Others—as proposed by Richardson et al. (2020). Although a three-factor model separating Transgressions-Others into Transgressions-Others and Betrayal (Bryan et al., 2016) also showed acceptable fit, statistical considerations led to the conclusion that the two-factor model fit the data best.

In **Chapter 4**, we described a study using latent profile analysis (LPA) to identify latent subgroups of PTSD and moral injury outcomes among Dutch treatment-seeking veterans. We compared subgroups with respect to general psychopathology and family functioning. In addition, we evaluated the psychometric properties and factor structure of the Dutch Expressions of Moral Injury Scale—Military Version (EMIS-M; Currier et al., 2018), a self-report measure of morally injurious outcomes.

We identified three latent subgroups: ‘subclinical moral injury and PTSD’ (20.9%), ‘moderate moral injury and PTSD’ (47.9%), and ‘high moral injury and PTSD’ (31.2%). Veterans in the ‘moderate moral injury and PTSD’ subgroup reported significantly higher levels of comorbid psychopathology than those in the ‘subclinical moral injury and PTSD’ subgroup, whereas veterans in the ‘high moral injury and PTSD’ subgroup reported significantly higher levels of comorbid psychopathology than both other groups. With regard to family functioning, veterans in the ‘subclinical moral injury and PTSD’ subgroup reported significantly better functioning than the ‘moderate’ and ‘high moral injury and PTSD’ subgroups. Although the ‘high moral injury and PTSD’ subgroup showed poorer family functioning than the ‘moderate moral injury and PTSD’ subgroup, the difference was not statistically significant. Together, these findings indicate that impairments in family functioning merit clinical attention whenever veterans present with clinically meaningful moral injury or PTSD.

As for the psychometric properties of the EMIS-M, its main scale and subscales showed excellent internal consistency and high temporal stability. Analyses using dynamic fit indices supported a two-factor model, Moral Injury-Self and Moral Injury-Other; however, overall model fit was mediocre. Given prior evidence suggesting that the EMIS-M may be more accurately represented by a bifactor structure, it is possible that such a model would have provided a superior fit. Unfortunately, our study lacked sufficient statistical power to adequately test a bifactor model.

In **Chapter 5**, we presented the development and preliminary evaluation of the Clinical Interview for Moral Injury—Military Version (CIMI-M), a structured clinical interview designed to support case conceptualization and guide treatment planning and intervention selection. The CIMI-M is the first clinical interview specifically created to assess moral injury in military veterans. We developed the interview through an iterative, expert-informed process involving patient representatives, clinicians, and researchers, and the interview was subsequently examined in a feasibility study.

For the feasibility study, we combined questionnaire assessments with debrief interviews that we conducted with both clinicians and veterans to evaluate the CIMI-M’s feasibility, acceptability, and clinical utility, and to gather feedback for further refinement. Both clinicians and veterans rated the CIMI-M as feasible, acceptable, and clinically useful. We adapted various elements of the interview based on their feedback. This resulted in an interview that adopts a descriptive rather than diagnostic approach that facilitates systematic mapping of PMIE exposure, the contextual features of the event, violated moral values, and the impact of the experience. The CIMI-M complements existing self-report measures of moral injury and supports more tailored and informed treatment planning and intervention selection.

In **Chapter 6**, we outlined the development and evaluation of an online treatment module for moral injury. The module represents the first online intervention designed to complement face-to-face treatment of moral injury in police officers and military veterans. The online module consists of eight chapters and includes psychoeducational content on moral injury, videos featuring lived experience experts, and a range of structured assignments aimed at processing morally injurious experiences and associated distress. We developed the module in close collaboration with patient representatives and multidisciplinary experts. We integrated elements from existing treatments for moral injury into the module, including Adaptive Disclosure (AD; Litz et al., 2017), Trauma-Informed Guilt Reduction Therapy (TrIGR; Norman et al., 2019), and Acceptance and Commitment Therapy for Moral Injury (ACT-MI; Evans et al., 2020). These elements include interventions targeting mindfulness, forgiveness, social reconnection, and living according to important values. The conceptual version of the module was favorably evaluated by multiple stakeholders and experts. Feedback focused on acceptability, feasibility, user engagement, and potential unintended consequences, and informed the subsequent adaptations to the module. This resulted in a version of the module that is currently in use at various psychotrauma centers in the Netherlands.

DISCUSSION

In what follows we will reflect on this dissertation's findings, by answering the five overarching research questions from the general introduction and by integrating insights from this dissertation's studies with recent research findings. The discussion of each question is followed by potential implications and reflections for research and clinical practice.

1. **How prevalent are PMIEs among Dutch (treatment-seeking) veterans, and can distinct patterns of PMIE exposure be identified? (Chapters 2 and 3)**

Based on the studies included in this dissertation, PMIEs appear to be highly prevalent among Dutch veterans. In **Chapter 3**, 92.0% of treatment-seeking veterans reported exposure to at least one PMIE, compared with 81.6% of non-treatment-seeking veterans. Across both groups, transgressions by others were the most frequently endorsed PMIE type, reported by 89.2% of treatment-seeking veterans and 72.4% of non-treatment-seeking veterans. Transgressions by oneself were less prevalent but

still common, with 71.0% of treatment-seeking veterans and 40.0% of non-treatment-seeking veterans reporting such experiences. Experiences of betrayal were also widely reported, endorsed by 76.7% of treatment-seeking veterans and 52.4% of non-treatment-seeking veterans.

High levels of reported betrayal were also seen among the Dutchbat III veterans examined in **Chapter 2**. In that study, 83.7% of veterans reported feeling betrayed by military or political leaders, and all subgroups identified through LCA showed elevated odds of endorsing this item. Notably, even the subgroup characterized by relatively low overall PMIE exposure demonstrated high odds of reporting feelings of betrayal and powerlessness, although this finding should be interpreted in light of the historical and operational context of the Dutchbat III mission.

These findings contribute to a literature on PMIE prevalence that currently is still limited. Since the initiation of the research in this dissertation, no other studies have examined PMIE prevalence among Dutch veterans, and only one other study has investigated patterns of PMIE exposure within this population. Specifically, Gerrmann et al. (2025) used LCA to examine patterns of PMIE exposure among Dutch veterans deployed to Afghanistan. Also using the MIQ-M, they identified a ‘high exposure’ subgroup characterized primarily by experiences of betrayal and acts of commission and omission (13.6%), a ‘moderate exposure’ subgroup marked largely by witnessing death—particularly of innocent people (44.9%)—and a ‘minimal exposure’ subgroup (41.5%). Consistent with the findings from **Chapter 2**, the most frequently endorsed PMIE was witnessing tragic war zone events that were chaotic and outside one’s control (56.6% in the Afghanistan cohort versus 88.6% in the Dutchbat III cohort). Notably, the relative sizes of the ‘high’ and ‘moderate exposure’ subgroups were comparable across studies, with Gerrmann et al. (2025) reporting proportions similar to those observed in the Dutchbat III study (13.6% versus 18.5% and 44.9% versus 50.2% for the ‘high’ and ‘moderate exposure’ subgroups, respectively).

Beyond the Dutch context, comparisons with the broader PMIE literature remain challenging. To date, no other prevalence studies have been conducted in exclusively clinical veteran samples, limiting direct comparison with the treatment-seeking population examined in **Chapter 3**. In non-clinical samples, the earliest studies from the United States and Israel have reported prevalence estimates ranging from 21.9% to 24.1% for transgressions by oneself, 33.7% for transgressions by others, and 28.4% to 31.0% for betrayal experiences (Jordan et al., 2017; Zerach & Levi-Belz, 2018). However, these studies relied on ‘first-generation’ moral injury instruments, such as the MIES, whose conceptual and psychometric limitations are discussed below. More recent studies among U.S. combat veterans, employing more robustly developed ‘second-generation’ moral injury measures, have reported substantially higher

prevalence rates, with 44.7%–49.3% of veterans endorsing PMIE exposure (Litz et al., 2025; Maguen et al., 2025) on the Moral Injury and Distress Scale (MIDS; Norman et al., 2024) and Moral Injury Outcome Scale (MIOS; Litz et al., 2022). In line with the findings presented in **Chapters 2 and 3**, Litz et al. (2025) identified non-agentic PMIEs, such as witnessing or being affected by others' transgressions, as the most common experiences, whereas Maguen et al. (2025) did not assess non-agentic events. By contrast, a recent study among Norwegian peacekeepers reported considerably lower rates of PMIEs, with 16% endorsing involvement in morally questionable acts and 3% regretting killing or unnecessarily harming others (however, this study did not employ a validated instrument for assessing PMIE exposure, which limits interpretability; Harwood-Gross et al., 2024).

Contextualizing this dissertation's findings on PMIE exposure and patterns within the literature therefore requires caution, as meaningful comparison with prior research is complicated by differences in the methodologies employed, on the one hand, and different mission types, on the other. That is, studies assessing PMIE exposure among veterans have employed different instruments (e.g., the MIES, MIQ-M, MIOS, MIDS, or non-validated questionnaires) and, in instances where they have used the same instruments (e.g., the MIES), different thresholds for PMIE endorsement (as discussed in **Chapter 3**). Moreover, first-generation measures, including the MIES and MIQ-M, show problems with construct validity, particularly because they conflate exposure to PMIEs with morally injurious outcomes (as discussed in **Chapters 2 and 3**). To address this concern, **Chapter 3** reported overall PMIE exposure rates using the MIES' exposure items only (and excluding the outcome-related items); however, other studies have not adopted this approach. Additional limitations of these instruments include their development primarily based on combat veterans' experiences, rather than incorporating other military contexts (e.g., peacekeeping missions), as well as the ambiguous wording of certain items. For instance, endorsing a MIES item such as "I saw things that were morally wrong" is open to interpretation, since perceiving an act as morally wrong does not necessarily imply that it is sufficiently severe to constitute a PMIE (see Litz & Kerig, 2019, as discussed in the general introduction). Fortunately, as second-generation measures of moral injury—such as the MIOS—gain broader adoption, it is expected that cross-study comparisons of PMIE prevalence will become more precise and reliable.

Additionally, differences in mission type and operational context may substantially influence what is appraised as a PMIE. Preliminary research shows that PMIE interpretation is context-dependent and shaped by factors such as mission mandate and rules of engagement. For example, Nordstrand et al. (2025) found that killing during deployment predicted adverse psychological outcomes among peacekeepers

but not among personnel deployed to combat-oriented missions, underscoring the role of operational context in shaping moral appraisals. Given that most moral injury research has focused on combat veterans, PMIE exposure among peacekeeping forces remains relatively understudied, despite their distinct operational constraints and moral challenges. Relatedly, PMIE appraisals may also be influenced by post-deployment societal responses to military missions. The attitudes and reactions of the society to which veterans return can shape how deployment experiences are retrospectively interpreted, as was experienced by the Dutchbat III veterans of **Chapter 2**. In a qualitative study among the same cohort, ter Heide et al. (2025) found that public condemnation after the mission, including media sensationalism and scandalization, exacerbated their moral distress. Harwood-Gross et al. (2024), in a study of Norwegian peacekeepers, similarly found that societal recognition moderated the relationship between PMIE exposure and PTSD and depression. Ter Heide et al. (2025) also concluded that the traditional commission–omission framework did not fully capture veterans’ experiences, which were often characterized by perceived complicity in harmful outcomes, even when their involvement was unknowing and involuntary. This raises the question of how this impacts how veterans fill out self-report measures of PMIEs, where experiences of commission and omission are usually assessed separately.

In sum, comparing the rates of PMIE exposure among Dutch veterans to other veteran populations is complicated by differences across studies. Nevertheless, the research findings in this dissertation indicate that PMIE exposure is very common among Dutch veterans. Patterns of PMIEs can be identified based on the level of PMIE exposure and certain PMIE types, though these patterns are most likely affected by the mission mandate and rules of engagement. Future research would benefit from examining PMIE patterns using instruments with stronger construct validity, and from explicitly accounting for mission-related and contextual factors during and after deployment.

Implications and reflections for research and clinical practice

Prevalence of transgressions by oneself

It is notable that most studies on PMIE prevalence report that transgressions by others are the most frequently endorsed PMIE type. This could reflect response bias, as individuals may find it easier to disclose experiences committed by others than transgressions they committed themselves. Feelings of shame and self-condemnation may inhibit the sharing of self-committed transgressions. This potential bias may be reinforced by the design of some questionnaires. The MIQ-M, for example, inquires after being the victim of military sexual violence but not after being the perpetrator

of it. Such omissions may reflect the inability of researchers and clinicians to imagine carrying out certain morally transgressive acts, or our discomfort inquiring about them—particularly in cases involving perpetration. After all, stories of moral transgressions can evoke intense moral emotions not only in those who committed them, but also in the professionals who treat or study these experiences (Gilhuis & Molendijk, 2022; Litz et al., 2009). This discomfort may partly explain why moral injury has only recently emerged as a distinct construct, whereas PTSD—focused primarily on threat-based experiences—has been an established concept in clinical psychology for decades (Litz et al., 2009).

These considerations underscore the importance of attending to moral and military taboos in both research and clinical practice. Military taboos may involve not only sexual transgressions but also acts of killing or having enjoyed violence (van Lil et al., n.d.), and they remain understudied. It is therefore imperative that clinicians, researchers, and instrument developers reflect on how these taboos shape their assumptions, assessment practices, and interactions with veterans, as well as how they may contribute to the systematic underreporting of certain morally injurious experiences. Particularly in clinical practice, it is essential to explicitly inquire about self-committed transgressions and to cultivate a therapeutic relationship that fosters sufficient trust for veterans to disclose such experiences. To do so, the therapist must adopt a non-judgmental attitude, as even subtle expressions of discomfort may be experienced as condemnation by the veteran. However, remaining compassionate when faced with stories of excessive violence may place considerable emotional demands on the therapist. Engaging in this work therefore requires that clinicians deliberately reflect on the extent to which their own moral values shape their reactions and therapeutic attitude.

Peacekeeping and PMIE appraisals

Most research on moral injury in military populations has focused on veterans of combat missions (see e.g., McEwen et al., 2021). By contrast, few studies have specifically examined PMIE exposure among peacekeeping veterans, despite emerging evidence that they may encounter different types of PMIEs—such as those arising from limited mandates, as discussed in **Chapters 2 and 3**—or may appraise PMIEs differently due to variations in the rules of engagement (Nordstrand et al., 2025). Clinically, these differences matter. Addressing experiences of powerlessness may require therapeutic approaches that extend beyond existing moral injury interventions, for example by placing greater emphasis on restoring agency and situating individual distress within its broader institutional and political context.

Relatedly, preliminary research suggests that societal responses, including public recognition or condemnation, shape how veterans appraise PMIEs and experience moral distress (Harwood-Gross et al., 2024; ter Heide et al., 2025). Future research would therefore benefit from more systematically examining the role of societal responses and attitudes in PMIE appraisals and psychological outcomes. Understanding this is important because these factors can compound moral distress and may need to be addressed in treatment; in such instances, incorporating community perspectives or restorative practices could be crucial for facilitating moral repair.

2. To what extent do Dutch veterans experience psychological distress following exposure to PMIEs, and what are the negative psychological outcomes associated with PMIEs? (Chapters 2, 3 and 4)

Taken together, the studies in this dissertation show that PMIE exposure is closely associated with psychological distress among Dutch veterans, particularly among those who seek treatment. **Chapter 2** demonstrated that Dutchbat III veterans who reported higher levels of PMIE exposure had increased odds of meeting diagnostic criteria for PTSD 25 years after deployment. In **Chapter 3**, the majority of treatment-seeking veterans reported moral distress in response to PMIEs, compared with fewer than half of non-treatment-seeking veterans. More than half of the treatment-seeking veterans also expressed a desire to receive treatment for moral distress, a wish that was associated with higher levels of PMIE exposure. **Chapter 4** further highlighted the clinical relevance of moral injury by identifying three latent subgroups of moral injury and PTSD outcomes among treatment-seeking veterans: ‘subclinical,’ ‘moderate,’ and ‘high moral injury and PTSD’. Nearly 80% of veterans fell into the ‘moderate’ or ‘high moral injury and PTSD’ subgroups. Veterans in these subgroups reported higher levels of comorbid psychopathology and poorer family functioning. Collectively, these findings indicate that PMIE exposure and subsequent moral distress are associated with both general psychopathology and interpersonal functioning among Dutch veterans.

The studies presented in this dissertation constitute some of the first clinical investigations to examine moral injury and adverse psychological outcomes following PMIE exposure among Dutch veterans. To date, few studies have systematically investigated the psychological impact of PMIE exposure in this population using quantitative methods. One notable exception is the aforementioned study by Germann et al. (2025), which surveyed Dutch Afghanistan veterans approximately

ten years after deployment. In their study, veterans in the ‘high PMIE exposure’ subgroup reported the most severe psychological outcomes, including elevated levels of PTSD, depression, interpersonal sensitivity, guilt, and suppressed anger, relative to other subgroups. Another study of Dutch treatment-seeking veterans and police officers applied LCA to identify subgroups defined by patterns of moral injury and PTSD indicators (Mensink et al., 2022). Among the identified classes were a subgroup marked predominantly by moral injury and a subgroup characterized by co-occurring moral injury and PTSD. Together, these two subgroups comprised approximately 60% of the total sample. The highest levels of comorbid psychopathology were observed in the combined moral injury and PTSD subgroup, which consisted primarily of veterans rather than police officers.

Although further research on moral injury among Dutch veterans remains necessary, the findings presented here converge on a clear conclusion: across samples and study designs, PMIE exposure among Dutch veterans, and particularly treatment-seeking veterans, is consistently associated with substantial psychological and interpersonal impairment. These results align with findings from international studies, which similarly link PMIE exposure and moral injury to poorer mental health outcomes among veterans and other populations (McEwen et al., 2021). Together, this body of evidence underscores that moral injury is a clinically significant potential consequence of military deployment among Dutch veterans that warrants sustained clinical and scientific attention—a point we will return to at the end of this chapter.

Implications and reflections for research and clinical practice

Risk and protective factors for moral distress and moral injury

Non-treatment-seeking veterans reported lower levels of moral distress following PMIE exposure than treatment-seeking veterans. This raises the question of which factors increase vulnerability to moral distress and moral injury after PMIE exposure. One relevant factor appears to be the degree of cumulative PMIE exposure. In **Chapter 3**, treatment-seeking veterans reported having experienced, on average, more than two additional PMIEs compared with veterans who were not seeking treatment. Although this finding warrants further investigation, it aligns with research on cumulative trauma, which indicates that exposure to multiple traumatic events increases the likelihood of adverse psychological outcomes in an additive manner (Davis et al., 2022; Macia et al., 2020). **Chapter 2** further supports this idea, as higher levels of PMIE exposure were associated with increased odds of meeting diagnostic criteria for PTSD.

An important direction for future research therefore concerns identifying factors that may influence vulnerability or resilience to adverse outcomes following PMIE exposure, including contextual, psychological, and personality-related variables. For example, preliminary research shows that a potential risk factor for moral injury

may be adverse childhood experiences (ACEs; Battaglia et al., 2019; Williamson et al., 2021). Such early experiences may predispose one to experience moral injury, as ACEs (like PMIEs) can negatively shape core appraisals of the self, others, and the world. In particular, ACEs may foster shame, guilt, diminished self-worth, mistrust in others, and maladaptive coping strategies, thereby increasing vulnerability to the impact of later PMIEs. For this reason, we included one question inquiring about such experiences in the CIMI-M, although the association between ACEs and moral injury in Dutch veterans requires further study.

Another potential risk or resilience factor may be personal coping strategies. Molendijk (2024) interviewed Dutch veterans about their coping strategies and found that many reported relatively low levels of moral tension. Veterans often employed strategies such as simplification, justification, rationalization, and compartmentalization to navigate morally complex situations. These strategies may protect against moral distress or moral injury. It could thus be fruitful for future studies to assess which coping strategies and individual characteristics distinguish veterans who experience moral distress from those who do not. Simultaneously, it is important to acknowledge that certain potential ‘risk’ factors, such as strong personal moral values, may also reflect personal integrity and resilience, underscoring the need to carefully consider how such ‘risk’ factors may also serve as protective strengths. Moreover, research should be careful not to focus solely on individual-level characteristics. Broader contextual, organizational, and political conditions also shape both the occurrence of PMIEs and their psychological impact, as illustrated by the Dutchbat III mission discussed in **Chapter 2**. Clinical psychology has traditionally approached psychological suffering as individual pathology; however, political and institutional realities form the conditions under which PMIEs arise. Understanding how both individual and systemic factors influence the experience of moral injury is therefore essential to inform effective prevention and intervention efforts.

Prevalence of moral injury

For future research, it would be insightful to investigate how many Dutch veterans experience subclinical moral distress versus clinically significant moral injury, a distinction the questionnaires used in this dissertation could not capture. Using the MIDS, the first instrument developed to provide a cutoff score for clinically meaningful moral injury, Maguen et al. (2025) found that 13.1% of veterans who had experienced a PMIE reported experiencing moral injury. Similarly, Litz et al. (2025) assessed moral distress and moral injury in a nationally representative sample of U.S. veterans and found that, among PMIE endorsers, 9.1% reported moral distress and 13.1% reported moral injury. Obtaining comparable prevalence estimates for Dutch veterans would further clarify the scope of moral injury in the Netherlands and help distinguish the needs of veterans with subclinical moral distress from those with clinically significant moral injury.

3. If moral injury represents a clinically significant issue among Dutch veterans, how can it be assessed? (Chapters 3, 4, and 5)

To assess PMIE exposure and moral injury in Dutch veterans, we translated and validated two moral injury measures and developed the CIMI-M, the first structured clinical interview for assessing moral injury. In **Chapter 3**, we described how we translated the MIES (Nash et al., 2013), a self-report measure of PMIE exposure and related distress, into Dutch and examined its psychometric properties, including reliability and factor structure. The scale demonstrated adequate to good psychometric properties, but there were concerns regarding its construct validity. Based on these concerns, some have cautioned about the use of the MIES (Houle et al., 2024).

In **Chapter 4**, we translated and psychometrically evaluated the EMIS-M (Currier et al., 2018), a self-report measure of moral injury. The results showed that the Dutch EMIS-M has good psychometric properties and is suitable for use in clinical settings. However, the EMIS-M does not link expressions of moral injury to a specific PMIE. Instead, the instructions broadly refer to “things that participants did or saw in the military,” without specifying a time period (Currier et al., 2018). Therefore, assessing PMIE exposure alongside the EMIS-M remains important to ensure that the reported impact can be attributed to PMIE exposure.

In **Chapter 5**, we described how we developed the CIMI-M, a process that proved challenging because moral injury remains a relatively new construct with evolving clinical boundaries. In particular, research continues to debate how to define PMIEs (e.g., Bonson et al., 2023; VanderWeele et al., 2025) or how to distinguish clinically significant moral injury from normative distress (Maguen et al., 2024). For this reason, we developed a theoretically inclusive interview that adopts a descriptive rather than a diagnostic approach. As a result, the CIMI-M does not provide a cutoff score or severity index and does not aim to diagnose moral injury. Instead, the interview helps clinicians identify the potentially morally injurious impact of a PMIE, evaluate whether this impact warrants professional intervention, and formulate a case conceptualization and treatment plan, without requiring prior conceptual consensus.

Especially valuable for the development of the CIMI-M was work by an international consortium (Litz et al., 2022), which delineated six distinct domains of moral injury. These domains are debilitating moral emotions, changes in moral thinking, negative alterations in self-perception, social impacts, self-harming and self-sabotaging tendencies, and negative alterations in beliefs about meaning and purpose. As described in **Chapter 5**, clinicians can use the CIMI-M to identify expressions of moral injury within these domains and to evaluate the extent to which they impair functioning. When a veteran shows functional impairment in at least two domains related to the experience of a PMIE, treatment for moral injury may be indicated.

Implications and reflections for research and clinical practice

Recommendations for clinical assessment

To improve veteran care, incorporating a self-report moral injury questionnaire into the routine outcome monitoring could help clinicians identify veterans who have experienced PMIEs or are potentially struggling with moral injury. Although instruments such as the MIES and EMIS-M can be used for this, we recommend more recently developed measures, such as the MIOS (Litz et al., 2022; Dutch translation, Klei et al., 2024) and the MIDS (Maguen et al., 2024), as they address several limitations of the first-generation moral injury measures.¹ As discussed above, it is also important to explicitly inquire after PMIEs during intake, as veterans may hesitate to disclose these experiences due to shame. The CIMI-M can be used for this purpose. We recommend administering the CIMI-M as standard practice when there is an indication that a veteran has experienced a PMIE.

Defining PMIEs

With respect to identifying PMIE exposure using the CIMI-M, the interview manual acknowledges that a PMIE may meet PTSD Criterion A but does not strictly have to do so. The question of whether a PMIE must meet Criterion A in order to give rise to moral injury remains unresolved within the moral injury field. Litz and Walker (2025) argue that moral stressors are *de facto* PMIEs, because the primary distinction between moral distress and moral injury lies in the intensity of the impact of the event and the extent to which functioning is impaired. This position implies that PMIEs need not meet PTSD Criterion A. However, it also raises the risk of conceptual inflation, whereby what counts as a morally injurious event is expanded to include more common or less severe experiences, to the point of the concept losing its specificity and clinical usefulness. This concern has also been raised with respect to traumatic events that could lead to PTSD (see e.g., Spitzer et al., 2007). Therefore, if definitions of PMIEs include non-Criterion A events, the field must clarify on what basis other experiences should or should not qualify. Achieving consensus on what constitutes a PMIE therefore remains an important task for future research.

An interesting line of thinking that could inform these efforts comes from the social trauma literature. While conducting research for this dissertation, many

1 The MIDS can be used across different populations, including veterans, first responders, and healthcare workers. However, most MIDS items assess impacts associated with self-related transgressions, which may limit the instrument's suitability for assessing the impact of transgressions by others. The MIOS was developed to be the gold standard of moral injury measures and assesses the six domains of moral injury. It also explicitly links PMIE exposure to these domain-specific impacts and assesses functional impairment, making it the most comprehensive self-report instrument for assessing moral injury in veterans.

Dutch veterans described experiences that caused profound moral harm without involving Criterion A threats to physical integrity. Examples included treating civilians in inhumane or dehumanizing ways or desecrating a grave, as illustrated by David's narrative in the introduction. What these stories shared were not violations of someone's physical integrity but of their *social integrity* and their humanity. Interestingly, there are calls in the trauma literature for expanding PTSD Criterion A to include severe violations of one's social integrity, including instances of emotional abuse, bullying, belittling, degrading, shaming, public humiliation, and intentional exclusion—experiences that may threaten one's need for status, belonging, and respect (Neuner, 2023). While thus far the focus has been on the potential of such experiences to cause PTSD, inflicting or failing to prevent such harms could possibly also lead to moral injury. Such acts could be potentially morally injurious when they violate core moral principles described in the moral foundations theory, including *care* (to protect and not harm others) and *sanctity* (respect for what is considered sacred, such as life, the body, or a grave; Graham et al., 2013). Individuals can inflict harm and enact profound disrespect in non-physical ways, for example by humiliating or psychologically torturing a prisoner (forcibly undressing them, falsely telling them a loved one has passed)—thereby not only violating the sanity and sense of humanity of the other but also potentially losing their own.

If future definitions of PMIEs were to include violations of social integrity, an additional question concerns context. Shay (2014) emphasized the role of high-stakes situations, such as situations of life and death, in moral injury. Clearly, bullying or belittling someone in a war zone may carry more moral weight than similar behavior in everyday life, because the stakes, power dynamics, and potential consequences differ dramatically. As an illustrative example, in recent months Israeli soldiers have posted photos on social media depicting themselves posing in the lingerie of Palestinian women, who were likely killed or forcibly displaced. Having carried out such acts *could* later become a moral burden, given the broader context of genocide in which these acts occurred. In contrast, a similar act of attempting to degrade or dishonor women in a civilian setting, while still morally questionable, would be unlikely to produce a comparable moral injury. The severity and meaning of violations of social integrity may therefore depend strongly on situational and political conditions, although few studies have explicitly examined this. The definition of what constitutes a PMIE thus requires further conceptual refinement and represents an important avenue for future research.

Classifying moral injury

The CIMI-M was developed in the absence of conceptual consensus, including agreement on whether moral injury should be seen as a mental disorder. At present,

moral injury does not appear in diagnostic manuals such as the DSM-5 and scholars have offered several reasons for resisting diagnostic classification. These include concerns that diagnosis would unnecessarily pathologize individuals struggling with their conscience (Farnsworth et al., 2017) and that medicalizing moral injury would detach it from its political and institutional context, thereby reducing institutional accountability (Molendijk, 2021). These critiques resemble earlier debates surrounding prolonged grief disorder, where critics argued that diagnostic labeling risks pathologizing normal suffering and obscuring structural, political, and social factors that exacerbate bereavement-related distress (Killikelly et al., 2025).

While we support these arguments, we also believe that these concerns apply to *all* mental health conditions, not just moral injury or prolonged grief. Moreover, it must be acknowledged that including moral injury in a diagnostic manual could offer tangible benefits for veterans. These benefits may include improved access to care and greater clarity in legal and insurance contexts, such as eligibility for reimbursed treatment or legal compensation. Given this, it is surprising that officially classifying moral injury is hardly considered.² The field should engage in more critical debate regarding this matter and actively weigh potential risks—such as pathologizing moral suffering—against possible clinical and practical benefits, including better recognition and access to care. The question of classifying moral injury also relates to the debate on whether it should be recognized as a distinct clinical construct or as a specific subtype of PTSD. Given how frequently moral injury and PTSD co-occur, and that certain traumatic events can trigger both, it is important to investigate to what extent these constructs share underlying psychobiological mechanisms. As noted in the general introduction, moral injury and PTSD substantially overlap, and the studies presented in this dissertation indicate that these constructs commonly co-occur among military veterans—potentially more so than in other populations. These considerations highlight the importance of developing a clinical framework that accounts for both the shared and distinct features and underlying mechanisms of moral injury and PTSD. Importantly, recognizing moral injury within such a framework does not require a pathologizing view of moral pain itself. Clinicians can acknowledge

2 It must be noted that, in December 2024, the American Psychiatric Association (APA) approved the addition of “Moral” to the existing “Religious or Spiritual Problem” category in the Section “Other Conditions That May Be a Focus of Clinical Attention” of the *DSM-5-TR*. The category now reads: *Z65.8 Moral, Religious, or Spiritual Problem*, defined as problems in which the focus of clinical attention is a moral, religious, or spiritual concern. Importantly, Z-codes refer to conditions that may warrant clinical attention but “are not mental disorders.” While this development reflects formal recognition of moral problems within the DSM framework, debate about recognizing moral injury as a distinct classification remains limited.

moral suffering as a human response while also recognizing that maladaptive coping patterns impair functioning and sustain distress.

4. If moral injury represents a clinically significant issue among Dutch veterans, how can it be addressed, and what steps can be taken toward the design of treatments at this stage of concept development? (Chapter 6)

The treatment of moral injury is still in its infancy in comparison to the treatment of PTSD. Existing interventions include AD (Litz et al., 2017), Brief Eclectic Psychotherapy for Moral Trauma (BEP-MT; de la Rie et al., 2021), Impact of Killing (IoK; Maguen et al., 2017) and ACT-MI (Evans et al., 2020). In **Chapter 6**, we described the development of an online module that targets moral injury and draws on these and several other approaches. The module is the first online treatment developed for moral injury and can be delivered in a blended format, combining face-to-face sessions with its psychoeducational content and structured homework assignments.

The preliminary evaluation of the module described in **Chapter 6** indicated that it was rated favorably by 15 assessors, who included patient representatives, multidisciplinary caregivers and experts in moral injury. The module has since been in use at several specialized centers for the treatment of psychotrauma among military personnel and police officers in the Netherlands. At ARQ Centrum'45, where the research for this dissertation was conducted, the module has been used in conjunction with individual therapy. Additionally, at ARQ Centrum'45, a group treatment for moral injury has been developed, for which the module can serve as a preparatory or adjunct intervention.

Although new interventions for moral injury continue to emerge, many questions remain about which approaches work best and for whom. To date, researchers have conducted only six randomized controlled trials (RCTs) of moral injury treatments, including trials of AD (Aita et al., 2023). A meta-analysis of these RCTs found improvements in psychological outcomes and increased self-forgiveness following treatment (Aita et al., 2023). Additionally, there are emerging group interventions for moral injury that specifically seek to reshape how participants relate to their morally injurious experiences, normalize moral pain, support meaning-making, and reduce avoidant coping (Evans et al., 2023). Scholars have also argued for integrating existential, spiritual, organizational, and political dimensions into moral injury interventions. These perspectives emphasize the importance of healing within a social context and point to approaches that include pastoral or philosophical counseling and community-based rituals for 'purification' and social reintegration (see, for example, Molendijk et al., 2022).

Implications and reflections for research and clinical practice

Evidence-based trauma treatments for moral injury

Although preliminary findings suggest that newly developed clinical interventions for moral injury may reduce morally injurious outcomes (Aita et al., 2023), relatively little research has examined the extent to which standard trauma-focused treatments may alleviate moral injury (Held et al., 2018). For PTSD, the focus of treatment is usually on exposure, cognitive restructuring, and reprocessing traumatic experiences through interventions such as EMDR. For moral injury, some authors have suggested that therapeutic approaches may benefit from a stronger focus on acceptance, meaning-making, and restoring social relationships to support moral repair (Evans et al., 2023; Litz, 2025). Particularly self-forgiveness and rebuilding social connections are seen as potentially important treatment targets (Litz & Walker, 2025). However, an important unresolved issue concerns whether moral injury diminishes during evidence-based treatments that were traditionally developed to target PTSD. To date, few studies have systematically examined changes in moral injury following trauma-focused interventions using validated moral injury measures. Future longitudinal studies should track both PTSD and moral injury over the course of existing evidence-based interventions to determine to what extent these address moral suffering.

The “clinical appropriation” of moral injury

An important question to emerge from the development of treatments for moral injury is the extent to which clinical psychologists are prepared to address existential concerns. Some scholars outside of clinical psychology have critiqued what they call the “clinical appropriation of moral injury” (see, for example, Eikenaar, 2022). This critique holds that psychiatry dominates the field, seeks to fit moral injury into rigid treatment protocols, and thereby marginalizes existential questions, which are best left to chaplains rather than psychologists or psychiatrists. While there is no denying that chaplain care has clear advantages—such as alignment with a patient’s specific spiritual or religious worldview—this perspective implies that psychologists lack the expertise to engage with existential matters. However, historically, existential inquiry has been a central aspect of psychotherapy, and many influential psychologists have explicitly incorporated existential perspectives into their therapeutic approaches (e.g., Frankl, 1985; Rogers, 1995; Yalom, 2020). Psychology curricula commonly address these approaches, and clinicians can reasonably be expected to have familiarity with them. Moreover, clinicians who see deep human suffering on a daily basis, particularly in the field of psychotrauma, inevitably encounter questions about human nature, the meaning of life, and morality. Therefore, to suggest that there is a “clinical appropriation” of moral injury and that clinicians cannot address the full complexity of human experience, including existential aspects of life, oversimplifies psychotherapy

and is ultimately counterproductive. Rather than positioning clinical and chaplaincy approaches as competing domains, this critique risks obscuring the complementary roles these disciplines can play in moral healing. In fact, many therapeutic approaches to moral injury already intentionally address existential concerns, and there are emerging interventions that actively foster cooperation between psychologists and chaplains (see, for example, Evans et al., 2023), which appears to be a more constructive way forward.

Strengths and limitations

The studies in this dissertation constitute the first large-scale quantitative clinical investigations in the Netherlands to examine moral injury in military veterans using validated measures of PMIE exposure and moral injury. These studies offer important insights that may help to improve veteran care and demonstrate that clinical research on military moral injury in the Netherlands is both necessary and timely, given the prevalence and impact of moral injury among Dutch veterans. A further strength of this dissertation lies in its broad scope, which covers multiple relevant aspects of moral injury, including PMIE prevalence, psychosocial responses following PMIE exposure, the assessment of PMIEs and moral injury, and the treatment of moral injury. The studies largely draw on representative veteran samples, including a large sample of veterans receiving care at four national psychotrauma centers and approximately half of the Dutchbat III battalion. Throughout the research process, we actively incorporated feedback from patient representatives and military veterans to ground the studies in lived experience and to enhance their relevance and quality. Although this dissertation does not claim to be comprehensive, it provides a solid foundation on which future clinical research can build.

The studies in this dissertation would likely have benefited from the availability of second-generation moral injury measures, such as the MIOS or MIDS, at the time of data collection. For our studies, we relied on the first instruments developed for assessing PMIE exposure and moral injury, which show several limitations, as discussed above. These limitations, particularly those concerning construct validity, warrant caution in interpreting the strength of the conclusions drawn. Additionally, in **Chapter 2**, we conducted a secondary analysis of existing data and therefore had no control over the measures used. In that study, assessing PMIE-related outcomes with a dedicated moral injury measure would have provided more specific information than relying on a measure of PTSD outcomes alone. The study of moral injury among treatment-seeking veterans in **Chapter 4** could also have been strengthened by explicitly linking expressions of moral injury to PMIE exposure. The EMIS-M does not include such an index, which limits its interpretability. We could have addressed this limitation by adding a separate PMIE exposure item, which newer instruments (such

as the MIOS and MIDS) do by design. We therefore recommend that future research on moral injury in Dutch veterans rely on these newer measures.

If we were to redesign the studies in this dissertation, we would complement the quantitative work with a qualitative investigation among Dutch treatment-seeking veterans. Most clinical research on moral injury is quantitative in nature and pays limited attention to veterans' lived experience of PMIEs and moral injury (ter Heide et al., 2025). A qualitative study could therefore have examined in depth how veterans describe, interpret, and give meaning to their PMIEs, and how these experiences shape their emotions, identity, relationships, and help-seeking. This would have provided more insight into the phenomenology of moral injury within this specific clinical population. Additionally, given that most of the existing moral injury research has been conducted in the U.S. (e.g., Griffin et al., 2025), qualitative data could have strengthened the empirical grounding of the construct in the Dutch setting. In particular, it could have clarified whether the established domains of moral injury adequately capture the lived experiences of Dutch veterans, or whether culturally specific themes emerge. As psychosocial reactions to traumatic events may vary across cultures and interact with time, place, and context (Hinton & Lewis-Fernández, 2011; Jongedijk, 2024), qualitative research could have helped determine whether refinements to the domains of moral injury are warranted.

Last, although the current body of evidence on moral injury suggests that it has incremental clinical relevance, most studies—including those in this dissertation—have been correlational and cross-sectional. Such designs cannot establish causality, clarify underlying mechanisms, or reveal developmental trajectories. Longitudinal research is therefore essential both to better understand the development of clinically significant moral injury and to establish its predictive validity for future psychological outcomes and functional impairment.

Final reflections

We end this dissertation with some final reflections for thought. These reflections are informed both by the history of psychotrauma and the historical moment in which this dissertation was written, from January 2022 to February 2026. This period was marked by large-scale conflict and genocidal violence in multiple regions of the world, with footage of this violence livestreamed to social media in an unprecedented manner. Witnessing these events online, while writing a dissertation on moral injury, prompted reflections about what contemporary conflicts, modern warfare, and other historical events can teach us about moral injury and the psychotrauma field today. Although it is beyond the scope of this dissertation to explore these ideas in depth, several will be briefly presented below as a starting point for further reflection and discussion.

Moral injury as a reflection of modern warfare

In his historical review of psychotrauma, Jongedijk (2024) describes how posttraumatic syndromes have taken shifting forms over time, reminding us that trauma concepts are social constructs that evolve according to the historical contexts in which they emerged. As such, posttraumatic syndromes not only reflect patterns of suffering but also prevailing cultural values and assumptions about which symptoms are recognized as legitimate expressions of “illness.” Reflecting on the evolution of PTSD from DSM-III to DSM-5, Jongedijk argues that the emergence of moral injury marked a shift in focus from intrusions and traumatic memory to the moral dimensions of trauma. He writes that, “Moral aspects have always played a role in traumatic situations, but perhaps they come to the fore especially in these days because, more than in the past, humanity is seen as an important value.” (Jongedijk, 2024, p. 11).

This observation raises an interesting question concerning why the concept of moral injury emerged when it did. Although Shay (1994) traced morally injurious experiences back to classical antiquity, we may wonder why the moral aspects of psychotrauma have become more salient in recent decades. Jongedijk argues this may be because modern societies place increasing value on humanity. While this is a possibility, we would argue that the development of moral injury within military psychiatry also mirrors the moral complexities of modern, often highly asymmetrical, warfare, and the extent to which this threatens humanity as a value.

In many contemporary conflicts, service members no longer meet face-to-face on the battlefield but operate within militaries marked by vast differences in technological capabilities. The remote warfare that the U.S. engages in provides a clear example. American drone operators may observe “targets” thousands of miles away, witness intimate details of their lives, participate in their killing from a position of physical safety at a domestic military base, and then return to their own homes at the end of the day. The moral and psychological burden of this work was poignantly illustrated in a New York Times article, which described it as “soul fatigue,” even though the term moral injury remained unstated (Philipps, 2022). One drone operator in the article describes,

“A fighter jet might see a target for 20 minutes. We had to watch a target for days, weeks and even months. We saw him play with his kids. We saw him interact with his family. We watched his whole life unfold. You are remote but also very much connected. Then one day, when all parameters are met, you kill him. Then you watch the death. You see the remorse and the burial. People often think this job is going to be like a video game, and I have to warn them, there is no reset button.”

Experiences like these illustrate how modern military technology can simultaneously distance and humanize, imposing the moral weight of asymmetrical warfare on operators, increasing the risk of moral distress. This moral complexity created by modern military technology is likely to further intensify as warfare increasingly relies on and lethal autonomous technologies and algorithmic systems (Kilungu, 2025). As military decision-making shifts toward probabilistic classifications and automated processes, responsibility and accountability become blurred, which could pose a major risk factor for moral injury.

Another aspect of modern warfare is its heightened visibility, as it occurs in an era of unprecedented documentation and access to information. These days, what happens in conflict zones is often documented with smartphones and shared on social media, allowing the public to witness the realities of conflict in real-time. When individuals can witness moral transgressions online, it may amplify public outcry and condemnation, particularly in response to civilian casualties or violations of international law. This could exacerbate moral distress in service members already struggling with their conscience.

Viewed against this backdrop, it is unsurprising that the concept of moral injury first emerged after the Vietnam War, a period that marked a turning point in modern conflict. Warfare had become increasingly asymmetrical, with the U.S. possessing overwhelming technological superiority. For the first time, the realities of war were broadcast into people's living rooms day by day. Graphic footage of destruction, casualties, and civilian suffering provoked strong emotional responses among the public, fueled anti-war sentiment, and complicated the reintegration of returning veterans. These historical shifts in both the conduct of war and public access to information thus meant increased moral complexity for veterans to manage, which arguably has only increased ever since. From this perspective, moral injury as a contemporary military trauma construct is a reflection of the moral burden of modern warfare. The way in which it manifests could therefore, in some cases, be seen as an unconscious but socially and culturally appropriate attempt to reclaim one's humanity in an era of warfare that is increasingly inhumane. Seen this way, moral injury did not emerge as a concept because humanity is increasingly seen as an important value, but rather, because humanity is a value that is increasingly at risk of being lost.

A historical parallel

Another question raised by the history of psychotrauma concerns what moral injury reveals about the field of psychotrauma itself and about the work of clinical psychologists today. There exists a historical parallel between the emergence of moral injury and the development of PTSD, which similarly has its roots in the Vietnam War. As Herman (1992) delineates in her seminal work, *Trauma and Recovery*, systematic

research into the long-term psychological effects of combat did not begin until after the Vietnam War and arose largely from organized efforts by disaffected veterans. Their activism drove large-scale psychiatric research, culminating in the delineation of PTSD as a combat-related syndrome, and leading to its formal recognition as a classification in 1980. Only after this legitimization did clinicians recognize that the traumatic syndrome seen among civilians was essentially the same as the posttraumatic stress seen in survivors of war.

Similar to the history of PTSD, the concept of moral injury has been heavily informed by the experiences of Vietnam veterans and has only thereafter been extended to other populations. This trajectory reflects the (arguably) disproportionate prominence given to a specific group—predominantly young, Western, (often) white male veterans—in shaping theoretical frameworks and treatment models that later become generalized. This raises questions about representativeness and the extent to which the experiences and symptom expressions of this group adequately capture the moral suffering of other populations. Creating theoretical constructs and treatments rooted in military experiences alone risks narrowing our conceptual and clinical lens.

This emphasis on veterans also exposes broader global inequalities in whose suffering receives attention, resources, and priority, and whose voices are heard. After the Vietnam War, while the experiences of U.S. veterans were dominant in shaping the PTSD construct, the suffering of Vietnamese civilians or combatants received little recognition. A similar pattern is repeating itself in contemporary work on moral injury. Similarly to how the wealth of certain nations enables the technological asymmetries that characterize modern warfare, it also determines which states can fund psychological research and care for their forces. States with greater resources can invest in the moral and psychological healing of their soldiers, generating the research funds needed for clinical studies. This then determines whose perspectives inform theory and treatments, obscuring more marginalized voices from the literature.

This dynamic can currently be seen playing out in the significant body of moral injury research emerging from Israel amid its ongoing genocide of the Palestinian people. Research documenting moral distress among Israeli soldiers and civilians has expanded rapidly in recent years, supported by substantial institutional resources (see, for example, Amsalem et al., 2025; Levi-Belz et al., 2025, 2026). At the same time, no studies on moral injury among Palestinians have been published—a situation that exposes the structural inequality and oppression faced by the Palestinian people, as well as the lack of resources devoted to their healing. While there are currently, unfortunately, too many places in the world where civilians experience the (moral) burden of conflict and genocidal violence, and where psychological care and research is limited, there are few contexts where the asymmetry in who is heard and

cared for is so starkly visible. This situation therefore serves as a salient example of how the psychotrauma field can inadvertently reinforce global inequalities and unjust dynamics that often lie at the root of trauma, and that many trauma therapists personally oppose. It is therefore imperative that we remain critically aware of whose moral healing is prioritized and how broader political and economic dynamics shape the allocation of research resources and, ultimately, the focus and limits of our work.

The professional is political

Relatedly, and as a last point, moral injury invites clinicians and researchers to reflect on how our own morals show up in our work. Referring to efforts by combat veterans to put PTSD on the map, Herman (1992, p. 47) put it succinctly when she stated that, “Without the context of a political movement, it has never been possible to advance the study of psychological trauma.” This is as true today as it was then. Researching and treating moral injury teaches us that ultimately, not only “the personal is political” (Hanisch, 1970), but also the *professional* is political. This is reflected in whose moral injuries we choose to treat, whose experiences we focus on, and who we prioritize in our clinical and research work. This is reflected in how we individualize suffering and in whether we attend to—or overlook—the institutional and political forces that shape the contexts in which morally injurious experiences occur. And this is reflected in how we respond to the morally complex and often painful stories this work brings to light, reminding us that our own moral and political values affect us during, and are inseparable from, the work that we do. There is no such thing as a morally neutral therapist or scientist. Working with moral injury offers an opportunity to examine the personal moral values that we carry into our work, to consider whether we ourselves are living according to those values, and to notice where our work provokes moral discomfort or even distress. Perhaps most importantly, it offers an opportunity to reflect on how we are part of the political realities that contribute to moral harm, and to consider how we might dedicate efforts to prevent morally injurious situations or to support the justice that trauma survivors need to heal. Some may see such efforts as outside the scope of their expertise, but if we ask the individuals that we treat to pursue moral healing by restoring core values in their lives, it is equally important to ask how our own sense of morality is expressed and enacted in our professional practice.

CONCLUSION

The overarching question of this dissertation was whether moral injury constitutes a clinically significant problem among Dutch treatment-seeking veterans that warrants clinical attention. Based on the findings presented here, we conclude that it is. PMIEs are highly prevalent among Dutch veterans, and many report moral distress or morally injurious outcomes, which can impair functioning, and, in some cases, require clinical intervention. This dissertation therefore demonstrates the importance of attending to PMIEs and moral injury in both research and clinical practice in the Netherlands. Arguably, these efforts are more urgent than ever. As we considered several historical and contemporary events in these final reflections, we also need to look forward. In response to the invasion of Ukraine and rising geopolitical tensions, the Netherlands and its NATO allies are strengthening defense and deterrence capacities, including by increasing military spending and expanding the readiness of the armed forces, hospitals, and mental health centers (NL Times, 2025). For the first time since the Second World War, the Dutch government anticipates the possibility of large-scale conflict in Europe that could involve Dutch forces and, in the worst case, have direct consequences for civilians. In this changing security landscape, increasing our understanding of moral injury is not just relevant for health care professionals working with the military, but also for policymakers, legislators, and potentially civil society. In the scenario of a potential future conflict, preventing and addressing morally injurious experiences will require integrated efforts across professional, political, and institutional domains. Whether this scenario becomes a reality or not, morally injurious events will continue to occur, both during military deployments and in many other contexts. It is therefore of utmost importance that we keep the moral injury field moving forward, by developing effective prevention strategies and interventions to alleviate the suffering of all who bear the moral burden of such experiences.

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ADDENDUM

Nederlandse samenvatting

Dankwoord

About the author

Publications

NEDERLANDSE SAMENVATTING (DUTCH SUMMARY)

Het doel van dit proefschrift was om de klinische relevantie van morele verwonding te onderzoeken onder Nederlandse veteranen, met bijzondere aandacht voor hulpzoekende veteranen. Daartoe hebben we ervaringen, uitingen en diagnostiek van morele verwonding bij Nederlandse veteranen onderzocht. Concreet richtte het onderzoek zich op 1) de mate waarin Nederlandse (hulpzoekende) veteranen potentieel moreel verwondende gebeurtenissen (PMVE's) hebben ervaren tijdens uitzending, 2) de wijze waarop de impact van deze ervaringen zich bij hen uit, en 3) het identificeren van morele verwonding en daarmee samenhangende klinische zorgbehoeften. Daarmee werd beoogd een empirische basis te leggen voor toekomstig onderzoek en interventies voor morele verwonding, evenals voor het verbeteren van het behandelbeleid voor veteranen in Nederland.

Om deze doelstelling te realiseren, formuleerden we de volgende onderzoeksvragen:

1. Is morele verwonding een klinisch relevant probleem onder Nederlandse hulpzoekende veteranen, dat klinische zorg en aandacht behoeft?
2. Hoe prevalent zijn PMVE's onder Nederlandse hulpzoekende veteranen en kunnen er verschillende patronen van blootstelling aan PMVE's worden geïdentificeerd?
3. In welke mate ervaren Nederlandse veteranen psychische lijdensdruk na blootstelling aan PMVE's en welke negatieve psychologische uitkomsten hangen samen met deze blootstelling?
4. Als morele verwonding een klinisch relevant probleem vormt onder Nederlandse veteranen, hoe kan dit worden gediagnosticeerd?
5. Als morele verwonding een klinisch relevant probleem vormt onder Nederlandse veteranen, hoe kan dit worden behandeld en welke stappen kunnen worden gezet richting interventieontwikkeling in deze fase van constructontwikkeling?

Hieronder zullen we de bevindingen uit de afzonderlijke hoofdstukken samenvatten, gevolgd door de conclusie en aanbevelingen voor de klinische praktijk.

In **Hoofdstuk 2** analyseerden we patronen van PMVE-blootstelling onder 431 Dutchbat III-veteranen die in juli 1995 als VN-vredesmacht gestationeerd waren in voormalig Joegoslavië tijdens de genocide in Srebrenica. Met behulp van latente klassenanalyse op basis van de Moral Injury Questionnaire—Military Version (MIQ-M), een zelfrapportage-instrument voor PMVE-blootstelling, identificeerden we subgroepen met verschillende patronen van blootstelling. Ook onderzochten we de samenhang tussen deze patronen en blootstellings- en uitkomstgerelateerde factoren. We vonden twee subgroepen die verschilden in mate van blootstelling: een 'hoge blootstelling'-

subgroep (18,5%) en een 'matige blootstelling'-subgroep (50,2%). Daarnaast identificeerden we een derde subgroep met een specifiek profiel, gekenmerkt door gevoelens van verraad en machteloosheid ('alleen verraad en machteloosheid'; 31,3%). Gevoelens van verraad en machteloosheid kwamen voor in alle subgroepen; de derde subgroep rapporteerde echter *alleen* deze ervaringen, met geringe blootstelling aan andere PMVE's. De subgroepen verschilden in psychologische uitkomsten en kenmerken van blootstelling: aanwezigheid bij de val van Srebrenica hing samen met hogere PMVE-blootstelling, en hogere PMVE-blootstelling was geassocieerd met een grotere kans op het voldoen aan de criteria voor een posttraumatische stressstoornis (PTSS) 25 jaar later. De mate van posttraumatische groei verschilde niet tussen de subgroepen.

In **Hoofdstuk 3** onderzochten we de prevalentie van verschillende typen PMVE's onder Nederlandse hulpzoekende en niet-hulpzoekende veteranen. Tevens onderzochten we de betrouwbaarheid en factorstructuur van de Nederlandse vertaling van de Moral Injury Events Scale (MIES), een zelfrapportage-instrument voor PMVE-blootstelling en daarmee samenhangende morele last. PMVE's kwamen zeer frequent voor onder hulpzoekende veteranen: 92,0% rapporteerde blootstelling aan ten minste één PMVE. Hoewel PMVE's ook veel voorkwamen in de niet-hulpzoekende steekproef (81,6%), lag het gemiddelde aantal gerapporteerde PMVE's lager dan in de hulpzoekende groep (respectievelijk 2,8 versus 5,2). In beide steekproeven werden morele schendingen door anderen het vaakst gerapporteerd. Het merendeel van de hulpzoekende veteranen (85,8%) zei een morele last te ervaren samenhangend met een PMVE, tegenover minder dan de helft (41,0%) van de niet-hulpzoekende veteranen. Meer dan de helft van de hulpzoekende groep (52,8%) gaf bovendien aan behoefte te hebben aan behandeling voor deze morele last; deze hulpbehoefte hing samen met hogere PMVE-blootstelling en meer morele last.

De MIES vertoonde matige tot goede psychometrische eigenschappen. De bevindingen riepen vragen op over de begripsvaliditeit van het instrument – met name of het primair blootstelling aan PMVE's meet, de daaruit voortvloeiende morele last, of beide. Factoranalyses ondersteunden een tweefactorstructuur: Schendingen-Zelf en Schendingen-Anderen. Een driefactormodel, waarin Schendingen-Anderen wordt opgesplitst in Schendingen-Anderen en Verraad, liet eveneens een acceptabele fit zien. Op basis van statistische overwegingen concludeerden we echter dat het tweefactormodel het beste aansloot bij de data.

In **Hoofdstuk 4** beschreven we een studie waarin we met behulp van latente profielanalyse subgroepen van Nederlandse hulpzoekende veteranen identificeerden op basis van PTSS-klachten en uitingen van morele verwonding. We vergeleken de

subgroepen met betrekking tot algemene psychopathologie en gezinsfunctioneren. Daarnaast onderzochten we de psychometrische eigenschappen en factorstructuur van de Nederlandse vertaling van de Expressions of Moral Injury Scale—Military Version (EMIS-M), een zelfrapportage-instrument voor uitingen van morele verwonding.

We identificeerden drie latente subgroepen: ‘subklinische morele verwonding en PTSS’ (20,9%), ‘gematigde morele verwonding en PTSS’ (47,9%) en ‘hoge morele verwonding en PTSS’ (31,2%). Veteranen in de subgroep ‘gematigde morele verwonding en PTSS’ rapporteerden significant meer comorbide psychopathologie dan de subgroep ‘subklinische morele verwonding en PTSS’, terwijl veteranen in de subgroep ‘hoge morele verwonding en PTSS’ significant hogere niveaus van comorbide psychopathologie rapporteerden dan beide andere subgroepen. Met betrekking tot gezinsfunctioneren rapporteerde de subgroep ‘subklinische morele verwonding en PTSS’ significant beter functioneren dan de subgroepen ‘gematigde’ en ‘hoge morele verwonding en PTSS’. Hoewel de subgroep ‘hoge morele verwonding en PTSS’ slechter gezinsfunctioneren rapporteerde dan de subgroep ‘gematigde morele verwonding en PTSS’, was dit verschil niet statistisch significant. Deze bevindingen benadrukken dat problemen in het gezinsfunctioneren klinische aandacht behoeven wanneer er sprake is van een klinisch significante morele verwonding en PTSS.

Wat betreft de psychometrische eigenschappen van de EMIS-M vertoonden zowel de totaalschaal als de subschalen zeer goede interne consistentie en test-hertest betrouwbaarheid. Analyses met dynamische fit-indices ondersteunden een tweefactorstructuur — Morele Verwonding-Zelf en Morele Verwonding-Ander — maar de algehele model-fit was matig. Aangezien eerder onderzoek suggereert dat de EMIS-M mogelijk een bifactorstructuur heeft, is het aannemelijk dat dit model een betere fit had opgeleverd. De statistische power van de huidige studie was echter onvoldoende om de bifactorstructuur te toetsen.

In **Hoofdstuk 5** presenteerden we de ontwikkeling en eerste evaluatie van het Klinisch Interview voor Moral Injury – Militairen versie (KIMI-M), een gestructureerd klinisch interview ter ondersteuning van het opstellen van een casusconceptualisatie en behandelplan. Het KIMI-M is het eerste klinische interview dat specifiek is ontwikkeld voor het identificeren van morele verwonding bij militaire veteranen. We ontwikkelden het interview middels een iteratief proces waarbij ervaringsdeskundigen, behandelaren en onderzoekers betrokken waren. Vervolgens onderzochten we het interview in een haalbaarheidsstudie.

Voor de haalbaarheidsstudie namen we vragenlijsten en evaluatie-interviews af met zowel behandelaren als veteranen. Hiermee evalueerden we de haalbaarheid, aanvaardbaarheid en klinische bruikbaarheid van het KIMI-M en verzamelden

we feedback om het interview te verbeteren. Zowel behandelaren als veteranen beoordeelden het KIMI-M als haalbaar, acceptabel en klinisch bruikbaar. Op basis van hun feedback werden verschillende onderdelen van het interview aangepast. Dit resulteerde in een interview met een beschrijvende in plaats van diagnostische insteek, gericht op het systematisch in kaart brengen van PMVE-blootstelling, contextuele kenmerken van de gebeurtenis(sen), geschonden morele waarden, en de impact van de ervaring(en). Het KIMI-M vormt een aanvulling op bestaande zelfrapportage-instrumenten voor morele verwonding en ondersteunt het maken van een behandelplan dat op het individu is afgestemd.

In **Hoofdstuk 6** beschreven we de ontwikkeling en eerste evaluatie van een online behandelmodule voor morele verwonding. Deze module richt zich specifiek op politieagenten en militaire veteranen, en betreft de eerste online interventie voor morele verwonding. De module kan als aanvulling op een face-to-face behandeling worden gebruikt en bestaat uit acht hoofdstukken. Deze hoofdstukken bevatten psychoeducatie over morele verwonding, videomateriaal met ervaringsdeskundigen, en diverse gestructureerde opdrachten gericht op de verwerking van moreel verwondende ervaringen en de daaruit voortkomende morele last. De module werd ontwikkeld in samenwerking met ervaringsdeskundigen en andere, multidisciplinaire experts op het gebied van morele verwonding. Elementen uit bestaande behandelingen voor morele verwonding zijn in de module geïntegreerd, waaronder uit Adaptive Disclosure, Trauma-Informed Guilt Reduction Therapy en Acceptance and Commitment Therapy for Moral Injury. Deze elementen omvatten interventies gericht op mindfulness, vergeving, sociale verbinding, en leven naar persoonlijke normen en waarden. De conceptuele versie van de module werd positief beoordeeld door verschillende belanghebbenden en experts. De module werd daarna verbeterd op basis van de ontvangen feedback, die zich richtte op de aanvaardbaarheid, haalbaarheid, gebruikersvriendelijkheid en mogelijke onbedoelde effecten van de module. Dit resulteerde in een versie van de module die momenteel wordt gebruikt in verschillende psychotraumacentra in Nederland.

In **Hoofdstuk 7** deelden we de belangrijkste bevindingen, implicaties van deze bevindingen voor onderzoek en de klinische praktijk, sterke punten en beperkingen van dit proefschrift, en een aantal bredere reflecties op wat hedendaagse conflicten, moderne oorlogsvoering en andere historische gebeurtenissen ons kunnen leren over moreel trauma en het psychotraumaveld.

Aanbevelingen voor de klinische praktijk

Uit onze bevindingen volgen enkele suggesties ter verbetering van de zorg voor veteranen. Ten eerste kan het opnemen van een zelfrapportagevragenlijst voor morele verwonding in de *routine outcome monitoring* (ROM) behandelaren ondersteunen bij het identificeren van veteranen die PMVE's hebben meegemaakt of mogelijk worstelen met morele verwonding. Instrumenten zoals de MIES en de EMIS-M kunnen hiervoor worden ingezet; echter vertonen deze instrumenten, met name de MIES, wel enige beperkingen, zoals besproken in dit proefschrift. In recente jaren zijn er meer zorgvuldig ontwikkelde vragenlijsten voor moral injury bijgekomen, zoals de Moral Injury Outcome Scale (MIOS) en de Moral Injury and Distress Scale (MIDS), die de beperkingen van de 'eerste generatie' instrumenten voor morele verwonding ondervangen.

Ten tweede is het, zoals in dit proefschrift besproken, van belang om tijdens de intake expliciet naar PMVE's te vragen, omdat veteranen vanwege gevoelens van schaamte terughoudend kunnen zijn in het delen van deze ervaringen. Het KIMI-M kan hiervoor worden gebruikt. Wij adviseren om het KIMI-M standaard af te nemen wanneer er aanwijzingen zijn dat een veteraan een PMVE heeft meegemaakt. Indien na afname van het KIMI-M blijkt dat een veteraan worstelt met de impact van een PMVE of mogelijk morele verwonding ervaart, kan de online module worden ingezet naast een face-to-face behandeling ter verwerking van deze ervaring en de daaruit voortkomende morele last.

Conclusie

Op basis van de bevindingen in dit proefschrift concluderen we dat morele verwonding een klinisch relevant probleem vormt onder Nederlandse veteranen dat klinische aandacht behoeft. PMVE's komen veelvuldig voor onder Nederlandse veteranen, en velen rapporteren uitingen van morele verwonding die het functioneren kunnen belemmeren en in sommige gevallen klinische interventie vereisen. Dit proefschrift benadrukt daarmee het belang van aandacht voor PMVE's en morele verwonding onder veteranen in zowel onderzoek als de klinische praktijk in Nederland.

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ABOUT THE AUTHOR

Mariëlle de Goede was born in 1990 in Apeldoorn, the Netherlands. She obtained her bachelor's degree in Psychology (cum laude, with honors) from the University of Amsterdam in 2013. She then enrolled in a one-year Advanced Chinese Language Program at Peking University on a Chinese Government Scholarship, and in 2016 completed a master's degree in East Asian Studies (cum laude) at Leiden University, focusing on China and North Korea. Her master's thesis examined cultural engagement projects in North Korea. Upon completion, she joined Koryo Group in Beijing, where she worked on humanitarian and cultural engagement projects in the DPRK, and traveled regularly to North Korea until early 2018.

Having witnessed how profoundly authoritarianism and political systems shape people's lives psychologically, she returned to psychology with the aim of helping individuals affected by political repression, conflict, and displacement. She completed a second master's degree, in Clinical Psychology (cum laude) at the University of Amsterdam in 2021. For this degree she carried out a research internship at ARQ Centrum'45, working with refugees and survivors of human trafficking, and subsequently joined ARQ as a researcher.

During her Clinical Psychology studies, Mariëlle also pursued an interest in sexology, contributing to the largest study ever conducted in the Netherlands and Belgium on erotic fantasies. Together with Lucas De Man, she co-authored a book on its findings, *Yes Please! Een zoektocht naar erotische fantasieën in Nederland en Vlaanderen* [Yes, Please! In search of erotic fantasies in the Netherlands and Flanders]. She also completed her clinical internship at the department of Sexology and Psychosomatic Gynaecology at Amsterdam University Medical Center.

After completing her master's degree, Mariëlle began her PhD in Clinical Psychology at ARQ Centrum'45 in 2022, under the supervision of Prof. dr. Paul Boelen and Prof. dr. Jackie June ter Heide. Alongside her doctoral research, she carried out clinical work on profession-related trauma and moral injury, and delivered trainings and lectures on moral injury for professionals and students. She also continues to speak publicly on sexual fantasies and how to work with them in sex therapy.

Connecting the threads of her work—whether it's political repression, sexuality, or moral conflict—is a fascination with how complex societal themes shape people's everyday experiences. Often these themes reveal the same underlying layers—such as shame and trauma—that become barriers to living freely and openly, and that Mariëlle is dedicated to helping people overcome.

PUBLICATIONS

Articles in peer-reviewed journals

de Goede, M. L., van der Aa, N., Mooren, T. M., Olff, M., & ter Heide, F. J. J. (2024). Potentially morally injurious experiences and associated factors among Dutch UN peacekeepers: a latent class analysis. *European Journal of Psychotraumatology*, 15(1), 2332105. <https://doi.org/10.1080/20008066.2024.2332105>

de Goede, M. L., ter Heide, F. J. J., van Ee-Blankers, E., de Haart, R., Thomaes, K., & Boelen, P. A. (in press). Moral injury in Dutch treatment-seeking veterans: a latent profile analysis. *European Journal of Psychotraumatology*.

ter Heide, F. J. J., de Goede, M. L., van Dam, S., & Ekkers, S. (2022). Development of an online supportive treatment module for moral injury in military veterans and police officers. *Frontiers in Psychiatry*, 13, 890858. <https://doi.org/10.3389/fpsy.2022.890858>

Articles submitted for publication

de Goede, M. L., Boelen, P. A., Litz, B. T., & ter Heide, F. J. J. (2026). *Mapping moral injury: development and feasibility of the Clinical Interview for Moral Injury—Military Version (CIMI-M)*. Manuscript submitted for publication.

de Goede, M. L., ter Heide, F. J. J., & Boelen, P. A. (2025) *Exposure to potentially morally injurious experiences among Dutch military veterans*. Manuscript submitted for publication.

Short publications in non-academic magazines

de Goede, M. L. (2024). Worstelen met een zware last: Onderzoek naar moral injury bij Dutchbat-III veteranen. *Checkpoint*, 6, 50–51.

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Books

De Man, L., & de Goede, M. L. (2020). *Yes, Please! Een zoektocht naar erotische fantasieën in Nederland en Vlaanderen*. A.W. Bruna Uitgevers.

Mariëlle de Goede

The Moral Burden of Military Deployment

Experiences, Expressions, and Assessment of Moral Injury in Dutch Veterans

During deployments, military personnel can be confronted with situations that conflict with their moral convictions, such as witnessing atrocities, having to make impossible decisions, or feeling betrayed by those they trusted. When such experiences violate their deeply held moral beliefs and expectations, they can leave a lasting psychological and spiritual wound known as moral injury. This dissertation examines the clinical relevance of moral injury among Dutch veterans, with particular attention to those seeking help.

Across five studies, it explores the experiences, expressions, and assessment of moral injury using both quantitative and qualitative methods. The first chapters examine how often Dutch veterans are exposed to potentially morally injurious events and identify distinct patterns of exposure—including among Dutchbat III veterans who experienced the fall of Srebrenica. Subsequent chapters show that such experiences are highly prevalent among help-seeking veterans and that many carry an associated moral burden. In these veterans, moral injury and posttraumatic stress often appear together, alongside problems such as poorer family functioning or other forms of psychopathology.

The final chapters turn to clinical application. They present the Clinical Interview for Moral Injury—Military Version (CIMI-M), the first clinical interview for moral injury in veterans, and the first online treatment module for moral injury. The dissertation concludes that moral injury is a clinically relevant problem among Dutch veterans that warrants dedicated attention in both research and clinical practice.

Mariëlle de Goede is a psychologist and researcher whose work spans sexuality, moral conflict, and other societal issues, connected by a fascination with how these themes shape people psychologically.

