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The prevalence of moral distress and moral injury among U.S. veterans

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ABSTRACT

Moral injury is a syndrome that involves adverse outcomes stemming from experiences violating deeply held moral beliefs. Moral injury has emerged as a distinct mental health concern, yet its prevalence among U.S. veterans remains uncertain. The aim of this study was to determine the prevalence of potentially morally injurious events (PMIEs), moral distress, and moral injury among U.S. veterans. This cross-sectional study surveyed a nationally representative sample of 3002 U.S. veterans using KnowledgePanel. The Moral Injury Outcome Scale assessed PMIE exposure, moral distress (subclinical), moral injury (clinical syndrome), and their functional impact. Among respondents, 44.7 % (95 % CI, 42.1–47.2) endorsed PMIEs; 45.2 % reported witnessing inhumanity, 40.2 % were directly affected by others' transgressions, and 14.0 % reported perpetrating transgressive acts. The weighted prevalence of moral distress and moral injury among PMIE endorsers was 9.1 % (95 % CI, 7.1–11.2) and 13.1 % (95 % CI, 9.9–16.3), respectively. In the full sample, prevalence was 4.1 % (95 % CI, 3.1–5.0) for moral distress and 5.9 % (95 % CI, 4.4–7.4) for moral injury. Moral injury was associated with significant functional impairment, with most cases characterized by shame-related (47.8 %) or blended subvariant symptoms (33.3 %). Approximately 664,000 and 955,000 U.S. veterans report functionally impairing moral distress and moral injury, respectively. These findings highlight the need for surveillance, mitigation, and treatment for these unique mental health challenges.

1. Introduction

Moral injury—an adverse mental health and functional outcome stemming from experiences that violate deeply held moral beliefs and expectations—has emerged as a distinct mental health concern, especially in occupations that entail exposure to human suffering and high-stakes decision-making (Litz et al., 2009). In military contexts, decisions may involve life-or-death stakes, complex rules of engagement, high-stakes interdependency, and exposure to suffering, making service members particularly vulnerable to moral stressors and potentially morally injurious events (PMIEs). In particular, some service members may be required to engage in or support sanctioned uses of lethal force. Although service members are trained to internalize the ethical justifications and strategic goals of combat missions, personal moral judgments may conflict with institutional objectives or methods. Consequently, the phenomenology of moral injury may reflect a broader tension between individual moral beliefs and military institutional imperatives for some. The cumulative effects of all these experiences can have lasting psychological, social, and functional consequences.

Despite its prominence in the trauma field and in clinical discourse, systematic research on moral injury remains underdeveloped (Griffin et al., 2019; Litz, 2025). Thankfully, recent advances in conceptualizing (Litz, 2024; Litz and Walker, 2025) and measuring (Houle et al., 2024; Norman et al., 2024) moral injury have provided a foundation for advancing research. These developments have clarified distinctions between moral injury and posttraumatic stress disorder (PTSD), enabling more targeted clinical interventions. Additionally, these advances provide a dimensional framework that establishes a continuum from moral distress to moral injury, helping clinicians distinguish cases requiring preventative support from those necessitating clinical treatment.

Our survival as a species depends on reciprocal altruism, which

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ensures protective kinship relationships and social cohesion (Ellemers and van Nunspeet, 2020). Neurobiologically, virtuous behaviors activate reward circuitry, reinforcing bonds that foster safety, trust, comfort, and well-being (Baumeister and Leary, 1995; Kross et al., 2011). However, this deep-seated need for cohesive relationships makes us particularly vulnerable when moral and social bonds are violated (Eisenberger et al., 2003; Farnsworth et al., 2017; Haidt, 2003; Kross et al., 2011). These violations form the foundation of moral injury, which represents a targetable, functionally impairing clinical problem at the end of a continuum of adversities defined by breaches of the social contract and their associated outcomes (Litz and Kerig, 2019; Litz and Walker, 2025; see Fig. 1). Moral injury specifically requires exposure to potentially morally injurious events (PMIEs) that encompass both agentic acts (committing or failing to prevent transgressions) and non-agentic experiences (witnessing or being directly affected by others' transgressions). By comparison, moral stressors are lower-magnitude transgressive experiences that can lead to moral distress—a preclinical state entailing less symptom burden and functional impairment than moral injury. The manifestation of these outcomes typically follows predictable patterns: agentic PMIEs are associated with shame-related moral distress or injury (e.g., self-condemnation, guilt), while non-agentic PMIEs tend to produce trust violation-related moral distress or injury (e.g., anger, loss of faith in humanity), though individuals can experience both subvariants simultaneously (Litz et al., 2022).

While moral injury is not included in the DSM, it is a distinct psychosocial syndrome that has some overlapping symptoms with PTSD (e.g., unbidden haunting memories; Litz and Walker, 2025). Unique symptoms of moral injury include negative beliefs about personal or collective humanity, self- or other-condemnation, loss of valued and valuing relationships, self-conscious (guilt and shame) or other-condemning (anger, disgust) moral emotions, and existential questioning. As a clinical syndrome, moral injury manifests through distinct psychological, neurobehavioral, and social disruptions that differ from PTSD and depression (Baumeister and Leary, 1995; Coccaro et al., 2007; Eisenberger et al., 2003; Ellemers and van Nunspeet, 2020; Farnsworth et al., 2017; Haidt, 2003; Kross et al., 2011; Litz and Kerig, 2019; Litz and Walker, 2025), whereas moral distress involves less symptom severity and functional impairment (Litz and Walker, 2025).

Although moral injury has gained recognition as a critical mental health concern, robust population-level data on its prevalence remain scarce. Existing research often relies on convenience samples or flawed measurement lacking in content validity (Griffin et al., 2019; Litz, 2025). This gap in knowledge limits the ability to develop comprehensive prevention and intervention strategies. Understanding the prevalence and characteristics of moral distress and moral injury is essential for tailoring prevention efforts, supporting affected individuals, and informing clinical and policy decisions.

This study addresses this gap by surveying a nationally representative sample of U.S. Veterans using the Moral Injury Outcome Scale (MIOS; Litz et al., 2022, see Supplementary Material), a psychometrically validated measure that assesses all types of PMIEs, differentiates between shame- and trust violation-related subvariants, distinguishes moral distress from moral injury, and evaluates the functional impact of symptoms. By establishing the prevalence of moral distress and moral injury in a nationally representative sample, this study can provide empirical support for recognizing these conditions as distinct clinical entities that merit specialized assessment and intervention approaches. The population-level findings can also inform resource allocation, screening practices, and preventive interventions within healthcare systems, ultimately improving our capacity to address moral harms and outcomes among veterans.

2. Methods

2.1. Study design

This observational, population-based study followed the STROBE reporting guidelines (von Elm et al., 2007). We received anonymized data from Ipsos, Inc. who collected the data from a preexisting panel (see below). The VA Boston Research and Development Committee

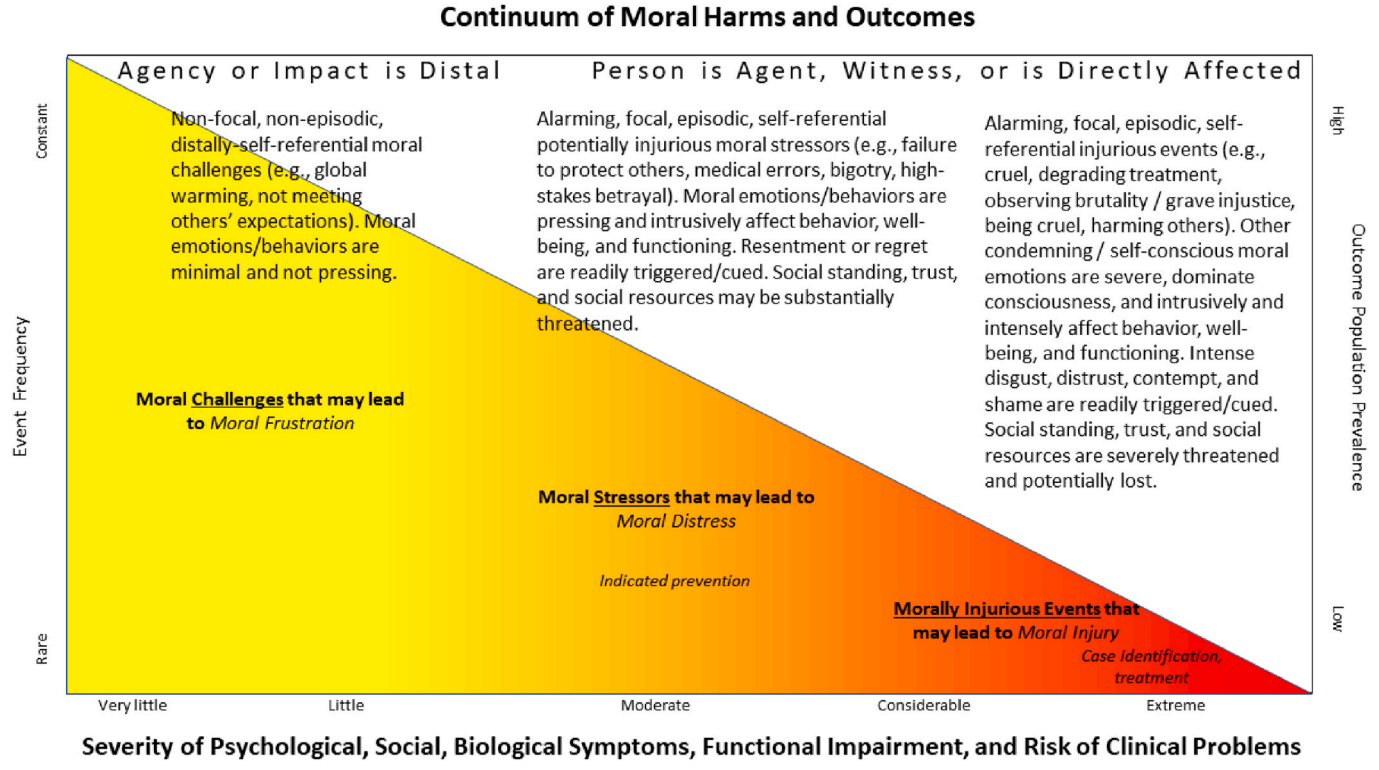

Fig. 1. Dimensional model of moral harms and outcomes.

determined that this study was not human subjects' research. The data are available upon request and approval by the VA Boston Research and Development Committee.

2.2. Setting and participants

A random sample of 4209 veteran panel members was drawn from Ipsos, Inc.'s KnowledgePanel, a probability-based, online, access survey panel of a nationally representative sample of over 50,000 US households that covers about 98 % of American households. Panel members are randomly selected so that survey results can represent the US population with a measurable level of accuracy and a calculable response rate. For this study, Ipsos customized a stratified random sampling based on panel membership of veterans. A total of 3176 veterans responded to an invitation and 3002 qualified for the online survey (completion rate: 75.5 %; qualification rate: 94.5 %). Participants were paid $20 for a 30-min survey conducted November 2–10, 2023.

2.3. Exposure

Exposure to PMIEs was assessed using the MIOS and were not limited to events during one's military service (Litz et al., 2022). Participants who indicated they experienced a PMIE reported whether their worst and most currently distressing experience entailed: (a) doing something or failing to do that went against their moral code or values (agentic PMIEs); (b) seeing someone (or people) do something or fail to do something that went against their moral code or values; or (c) being directly affected by someone doing something or failing to do something that went against their moral code or values (b and c are non-agentic PMIEs). When applicable, multiple event types were serially ranked starting with the worst aspect.

2.4. Main outcomes and measures

Moral distress and injury were the main outcomes and were assessed with the MIOS, which is a psychometrically validated measure of moral injury as an outcome (see Supplementary Material). It was developed through a multi-stage, international research effort to ensure content validity, construct validity, and cross-national reliability (Houle et al., 2024; Litz et al., 2022). The MIOS has three sections: (a) an assessment of PMIE exposure and type; (b) a 14-item moral injury symptom scale that uses a Likert-type scale from 0 (strongly disagree) to 4 (strongly agree) to assess the impact of the worst and most currently distressing PMIE within the last month. The MIOS has a shame-related subscale (with internalizing symptoms, such as self-condemnation) and a trust violation-related subscale (with externalizing symptoms, such as loss of trust in others); and (c) an 8-item version of the Brief Inventory of Psychosocial Functioning (B-IPF; Kleiman et al., 2020) that assesses the functional impact of the worst PMIE and moral injury symptoms on a Likert-type scale from 0 (not at all) to 6 (extremely; e.g., relationships with spouse/partner). Moral injury symptoms are assessed only when PMIEs are endorsed. Cronbach's α for this sample was excellent for MIOS total scores (α = .89) and the shame-related and trust violation-related subscales (α = .88 and 0.78, respectively). For the BIPF, the α = .87. For a full list of the measures used in the survey, see Supplementary Material.

We used a norm-referenced (standardized) T-score approach to derive raw score ranges on the MIOS that indicate clinically significant cases of moral distress (T-scores ≥60 and ≤64; raw scores = 26–30) and moral injury (T-scores ≥65; raw scores ≥31). Analyses and results presented in Table 1 validate the T-score classification system. The data show clear differentiation between moral distress and non-cases, moral injury and non-cases, moral distress and moral injury cases, with progressively worse outcomes across non-cases, moral distress cases, and moral injury cases, across multiple measures, with moderate to large effect sizes. Moral injury cases had substantially higher levels of mental and behavioral health symptoms (including PTSD, depression, anger, and shame), greater functional impairment, reduced quality of life, and increased social disconnection compared to both non-cases and moral distress cases. Particularly noteworthy is that moral distress occupies an intermediate position between non-cases and moral injury, with both sharing similar symptom profiles but differing in severity and functional impact. Because there is no gold standard clinical interview-based caseness definition, this approach ensured that case classification was determined by statistical abnormality based on the magnitude of moral injury symptom endorsement, consistent with the continuum model of moral harms and outcomes (ranging from challenges/frustration to stressors/distress to injurious events/injury, as depicted in Fig. 1; Litz and Walker, 2025). It also ensured that caseness definitions were clinically meaningful, replicable, and appropriate for population-level estimates.

2.5. Statistical analyses

Table S1 in the Supplementary Materials shows the planned estimated margins of sampling error (MoSE) at the 95 % confidence level and possible point estimates for a veteran sample, for younger veterans (18–54), and for those who endorse warzone exposure. The safest assumption was to plan for a 50 % prevalence estimate and to factor in the need for subgroup analyses to ensure the desired level of precision for the smallest group of interest and to ensure excellent MoSEs for point prevalence estimates. The estimated MoSE accounts for an assumption of an unequal weighting effect, equal to 2. Based on these calculations, we planned to recruit 3000 veterans, including approximately 950 who have served in a combat or war zone and 400 younger veterans aged 18 to 54.

Ipsos provided veteran-specific weights based on differential non-response and geodemographic benchmarks secured from the 2022 Veteran Supplement of the US Current Population Survey (based on age by gender, race/Hispanic ethnicity, education, region, branch last served, years in service, household income, see US Census Bureau, 2024). An iterative proportional fitting (raking) procedure was used to produce the final weights, which were trimmed and scaled to add up to 3002 cases.

We used post-stratification weighted values for all prevalence estimates of demographic characteristics, obtained using PROC SURVEYFREQ. We used bivariate logistic regression to examine if there was statistical evidence of a main effect in differential post-stratification weighted demographic characteristics between PMIE endorsers and non-endorsers, as well as between moral injury and moral distress cases. We examined post-hoc pairwise differences in each category within each demographic trait, providing the odds ratio and associated confidence interval. We controlled family-wise error rate at 0.05 level of significance by using Benjamini-Hochberg method for multiple comparisons on post-hoc tests (Benjamini and Hochberg, 1995). For the continuous characteristics of age, years in military, and times deployed to warzone, we performed t-tests using the weighted post-stratification means in PROC SURVEYMEANS and PROC SURVEYREG. We provided Cohen's *d* to index standardized effect sizes. There were negligible missing data (<10 cases) because participants are part of survey panels, were paid, and participants could not proceed with survey items unless they responded.

Using SAS PROC SURVEYFREQ, we computed post-stratification weighted prevalences and 95 % confidence intervals for each type of worst and most currently distressing PMIE, and moral injury and moral distress cases. We used SAS PROC SURVEYLOGISTIC to conduct logistic regressions to determine if there was a main effect of worst and most currently distressing PMIE on the odds of presenting with moral injury and moral distress, respectively. The comparator group for both groups was patients presenting with neither moral distress nor moral injury (T-score <60). We then examined post-hoc comparisons to determine the effect on odds of presenting with moral injury and moral distress based on endorsing one of the three types of PMIE as worst and most

Table 1
Unweighted group differences for Moral Injury Outcome Scale (MIOS) T-scores <60, T-scores between 60 and 64, and T-scores ≥65.

	Participant groups, unweighted *M(SD)*			Mean differences between groups								
	PMIE endorsers with T scores <60 (n = 1088)	Moral distress cases (T scores between 60 and 64) (n = 119)	Moral injury cases (T scores ≥65) (n = 109)	Difference between moral distress and Non-distress or injury cases	95 % CI	d	Difference between moral injury and non-injury cases	95 % CI	d	Difference between moral injury and moral distress cases	95 % CI	d
MIOS total score	12.91(6.90)	27.91(1.32)	35.69(4.78)	15.00***	13.75, 6.24	1.36	22.78***	21.45, 4.11	1.94	7.78***	6.88, 8.68	2.27
MIOS # of clinically significant items (item ratings of 3–4)	1.45(1.35)	4.06(2.19)	7.86(2.21)	2.61***	2.33, 2.89	1.08	6.42***	6.12, 6.71	2.52	3.81***	3.22, 4.39	1.73
BIPF total score	11.96(16.33)	33.70(20.46)	45.01(20.51)	21.73***	18.50, 4.96	0.77	33.05***	29.68, 6.41	1.30	11.31***	5.87, 16.76	0.55
BIPF # of clinically significant items (item ratings of 4–6)	1.39(1.90)	4.04(2.43)	4.72(2.19)	2.74***	2.36, 3.13	0.84	3.43***	3.04, 3.81	1.04	0.68***	0.07, 1.30	0.30
PCL-5	8.57(10.58)	26.59(15.16)	41.59(16.51)	16.19***	14.01, 8.36	0.84	31.17***	28.88, 3.50	1.54	15.00***	10.85, 19.15	0.95
PHQ-9	4.15(4.57)	10.97(6.36)	16.30(6.34)	6.06***	5.15, 6.97	0.75	11.39***	10.45, 2.33	1.37	5.33***	3.67, 6.99	0.84
TRSI	0.32 (1.60)	2.33(4.70)	6.06(6.16)	1.84***	1.42, 2.26	0.50	5.58***	5.09, 6.06	1.30	3.74***	20.31, 5.16	0.69
DAR-5	6.37(2.62)	10.89(4.63)	14.46(5.22)	3.79***	3.19, 4.39	0.71	7.36***	6.72, 8.00	1.31	3.57***	2.28, 4.87	0.73
SCS	3.63(0.68)	2.81(0.63)	2.41(0.64)	−0.79***	−0.92, −0.66	0.69	−1.19***	−1.33, −1.06	0.99	−0.40***	−0.57, −0.23	0.63
CS	3.85(0.78)	3.49(0.86)	3.42(0.83)	−0.45***	−0.59, −0.31	0.37	−0.52	−0.66, −0.38	0.42	−0.08	−0.30, 0.15	0.08
WHOQOL Functioning	14.83(2.99)	11.53(3.04)	10.07(3.28)	−2.79***	−3.37, −2.20	0.54	−4.25***	−4.86, −3.63	0.79	−1.46***	−2.28, −0.63	0.46
WHOQOL Physical Health	15.48(3.39)	12.57(3.51)	11.54(3.63)	−2.58***	−3.25, −1.91	0.44	−3.61***	−4.31, −2.91	0.59	−1.03	−1.96, −0.10	0.29
WHOQOL Psychological Health	15.20(2.89)	11.39(2.91)	9.72(3.12)	−3.53***	−4.08, −2.99	0.74	−5.21***	−5.78, −4.64	1.04	−1.67***	−2.46, −0.88	0.56
WHOQOL Social Health	14.81(3.27)	11.27(3.41)	9.60(3.72)	−2.96***	−3.60, −2.32	0.52	−4.63***	−5.31, −3.96	0.78	−1.67***	−2.60, −0.74	0.47
WHOQOL Environmental Health	15.73(3.02)	12.73(3.41)	11.68(3.33)	−2.56***	−3.15, −1.96	0.48	−3.61***	−4.23, −2.99	0.66	−1.05	−1.93, −0.17	0.31
DSI-SS	0.14(0.71)	0.62(1.48)	1.79(2.35)	0.46***	0.30, 0.61	0.33	1.63***	1.44, 1.83	0.95	1.17***	0.65, 1.69	0.61
AUDIT	2.76(3.43)	3.72(4.93)	4.98(6.00)	0.81*	0.11, 1.51	0.13	2.06***	1.31, 2.82	0.31	1.26	−0.17, 2.68	0.23
CTS2-PA	1.93(4.60)	4.84(6.78)	12.91(21.18)	2.33***	1.38, 3.28	0.28	10.40***	8.84, 11.95	0.77	8.07***	4.00, 12.14	0.53
RSS	2.52(1.14)	3.83(1.93)	5.43 (2.31)	1.20***	0.94, 1.45	0.54	2.80***	2.53, 3.07	1.18	1.60***	1.05, 2.16	0.76
PROMIS-ES	16.48(4.02)	13.26(4.59)	11.55(4.24)	−2.95***	−3.73, −2.17	0.43	−4.66***	−5.46, −3.85	0.66	−1.71**	−2.87, −0.55	0.39
SOBI	30.88(9.65)	45.96(9.41)	53.72(7.82)	13.35***	11.49, 5.20	. 81	21.11***	19.21, 3.01	1.26	7.77***	5.48, 10.05	0.90
UCLA-Loneliness	4.16(1.61)	6.11(1.88)	7.28(1.66)	1.67***	1.34, 2.00	0.57	2.83***	2.50, 3.16	0.96	1.16***	0.70, 1.63	0.66

Note. PMIE = potentially morally injurious events; MD = moral distress; MI = moral injury; MIOS = Moral Injury Outcome Scale, MIOS total score range 0–56, MIOS clinically significant items range 0–8; BIPF = Brief Inventory of Psychosocial Functioning, total score range 0–48, BIPF clinically significant items range 0–18; PCL-5 = PTSD Checklist for DSM-5, total score range 0–80; PHQ-9 = Patient Health Questionnaire, total score range 0–27; TRSI = Traumatic Shame Inventory, total score range 0–36; DAR-5 = Dimensions of Anger Reactions, range 5–25; SCS = Self-Compassion Scale, total mean subscale score range 1–5; CS = Compassion Scale, grand mean of all items range 1–5; WHOQOL = World Health Organization Quality of Life, WHOQOL-Functioning range 4–20, WHOQOL-Physical Health range 4–20, WHOQOL-Social Health range 4–20, WHOQOL-Environmental Health range 4–20; DSI-SS = Depression Symptom Index-Suicidality Subscale, total score range 0–12; AUDIT = Alcohol Use Disorders Identification Test, total score range 0–40; CTS2-PA – Conflict Tactics Scale-Psychological Aggression, total score range 0–48; RSS = Religious and Spiritual Struggles Scale, total score range 2–10; PROMIS-ES = Patient-Reported Outcomes Measurement Information System Emotional Support Subscale, total score range 4–20; SOBI = Sense of Belonging Inventory, total score range 18–72; UCLA-Loneliness = UCLA Loneliness Scale, total score range 3–9. *$p < .05$, **$p < .01$, ***$p < .001$, Benjamini-Hochberg corrected for multiple comparisons.

distressing, using Benjamini-Hochberg to correct for multiple comparisons and preserve family-wise error rate at 0.05 (Benjamini and Hochberg, 1995). We used SAS PROC SURVEYFREQ to obtain the weighted prevalences and 95 % confidence intervals for examining the shame-related and trust violation-related moral injury and moral distress cases.

We used SAS PROC SURVEYMEANS and PROC SURVEYREG to examine the main effects and pairwise comparisons of mean functional endorsement for PMIE endorsers, moral distress cases, and moral injury cases; we included Benjamini-Hochberg corrected p-values and Cohen's *d* measures of effect size.

3. Results

3.1. Demographic, military service, and PMIE type

Table 2 shows the demographic and military service characteristics of the entire sample, with comparisons between PMIE endorsers and non-endorsers. PMIE endorsement was more likely among veterans with at least some college education, female gender, household income less than $25,000, not being married, junior enlisted grade, warzone deployment, and age. Tables 3 and 4 shows the demographic, military service characteristics, and PMIE types of moral distress and moral injury cases, respectively. Female gender, warzone deployment and number of deployments to warzones, age, and endorsement of agentic PMIEs were associated with a greater likelihood of moral distress. In addition, veterans who endorsed non-agentic witnessing as their PMIE had approximately 50 % lower odds of being a moral distress case than veterans who endorsed agentic or non-agentic, directly impacted PMIEs. Hispanic ethnicity, not being married, age, and endorsement of agentic PMIEs were associated with a greater likelihood of moral injury. Yet, veterans who endorsed non-agentic witnessing as their PMIE had approximately 80 % lower odds of being a moral injury case than veterans who endorsed agentic or non-agentic, directly impacted PMIEs.

3.2. The prevalence of PMIE endorsement, moral distress, and moral injury

A total of 1325/3002 veterans endorsed PMIEs (weighted 44.7 %, 95 % CI = 42.1–47.2). Among these, 586/1323 (weighted 45.2 %, 95 % CI = 42.9–49.5) reported non-agentic bearing witness; 550/1323 (weighted 40.2 %, 95 % CI = 36.5 = 44.0) non-agentic being directly affected by others' transgressions, and 187/1323 (weighted 14.0 %, 95 % CI = 11.4–16.6) reported committing personal transgressive acts of omission or commission (agentic). The majority of veterans endorsed a single PMIE, 632/1325 (weighted 44.2 %, 95 % CI = 40.5–47.9), 466/1325 endorsed two PMIE types (weighted 35.9 %, 95 % CI = 40.5–47.9), and 227/1325 endorsed all three types (weighted 19.9 %, 95 % CI = 16.6–23.1).

The weighted prevalence of moral distress and moral injury among PMIE endorsers was 9.1 % (119/1325; 95 % CI = 7.1–11.2) and 13.1 % (109/1325; 95 % CI = 9.9–16.3), respectively. In the overall sample, the weighted prevalence of moral distress and moral injury was 4.1 % (119/3002; 95 % CI = 3.1–5.0) and 5.9 % (109/3002; 95 % CI = 4.4–7.4), respectively.

3.3. The functional impact of moral distress and moral injury

Table 5 shows the weighted mean functional impact scores and standard errors for moral injury and moral distress cases and the balance of PMIE endorsers without moral distress or moral injury, as well as statistical tests of the mean differences between moral distress cases and non-moral injury and non-moral distress cases, moral injury cases and non-moral injury and non-moral distress cases, and moral injury and moral distress cases. As predicted, moral injury was associated with the most functional impairment, relative to moral distress cases, followed by PMIE endorsers. Moral distress cases also had substantially higher functional impact scores than non-moral distress/moral injury cases. In addition, 82 % of the moral injury cases and 63 % of moral distress cases endorsed at least one BIPF item at a score of 4 or above, and none of the non-moral distress/moral injury cases endorsed items at this threshold.

3.4. The prevalence of shame-related and trust violation-related subvariants

Table 6 shows the raw frequencies and weighted percentages of veterans who met caseness criteria for shame-related moral distress or moral injury only, trust violation-related moral distress and moral injury only, and both shame- and trust violation-related moral distress and moral injury. Most veterans who met caseness criteria for the subvariants of moral distress were trust violation cases (56 %, compared with 36 % shame-related cases) and very few cases met the criteria for both subvariants. In contrast, most subvariants of moral injury were solely shame-related (48 %, compared with 19 % trust violation-related cases) and a third endorsed both subvariants (33 %).

4. Discussion

Nearly half of U.S. veterans reported exposure to a PMIE (~7.25 million veterans), with non-agentic experiences—witnessing or being directly affected by others' transgressions—being the most common. PMIE exposure was more prevalent among women, younger individuals, those with a college education, lower-income veterans, and unmarried individuals. Warzone deployment and junior enlisted rank were also associated with greater odds of PMIE exposure. These findings suggest that PMIEs are not inevitable in military service but shaped by social, structural, and occupational factors. While higher education may increase exposure due to leadership responsibilities, other factors, such as lower autonomy and institutional protection, may heighten vulnerability.

Approximately 664,000 and 950,000 U.S. veterans who endorse PMIEs are estimated to meet the criteria for moral distress and moral injury, respectively. In the full sample, the estimated prevalence of moral injury and moral distress was lower because veterans who did not endorse a PMIE were de facto non-cases. The relatively low base rates underscore that moral distress and moral injury are stressor-linked conditions—like PTSD—where exposure alone does not determine outcome. Variability in risk likely reflects individual, social, and institutional factors that influence recovery following PMIEs. Prevention and treatment efforts should prioritize restoring compassion for oneself or others, and fostering hedonically reinforcing valued and affirming kinship relationships, which are central to mitigating and treating moral harm (Burkman et al., 2022; Kelley et al., 2019; Litz, 2024; Litz et al., 2024; Litz and Walker, 2025).

This study provided a comprehensive assessment of the prevalence of moral distress and moral injury, addressing significant limitations of prior research. The only other population study of moral injury to date assessed the prevalence of PMIEs and moral injury among healthcare workers, first responders, and veterans (Maguen et al., 2025). The authors' methodology had several limitations that could overestimate the prevalence of agentic PMIEs and related outcomes. They generated a score threshold for caseness using PTSD and trauma-related guilt as criteria and employed a scale that does not assess being directly impacted by others' transgressions (Maguen et al., 2024). Furthermore, the moral injury measure they used cannot determine the exclusive prevalence of the worst and most currently distressing PMIE used to index symptom reports and primarily captures shame-related outcomes (Norman et al., 2024). Additionally, they oversampled veterans with warzone deployments. Among veterans, the non-exclusive proportions of PMIEs endorsed were agentic acts of commission (40 %), and omission (34.2 %), and non-agentic witnessing (45.1 %), and 13.1 % of PMIE endorsers and 6.5 % of the population screened positive for moral injury

Table 2
Participant characteristics for total sample, participants who endorsed a PMIE, and participants who did not endorse a PMIE.

Characteristic	Participant groups, *n (weighted %)*						
	Entire sample (n = 3002)	No PMIE endorsed (n = 1677)	PMIE endorsed (n = 1325)	Rao-Scott χ^2	p	OR	95 % CI
Education				27.97	<0.001		
High school/less than high school	446 (30.5)	306 (36.2)	140 (23.4)			(ref)	(ref)
Some college or Associate's degree	1215 (35.4)	643 (32.0)	572 (39.6)			1.92	1.45, 2.54
Bachelor's degree or higher	1341 (34.1)	728 (31.8)	613 (37.0)			1.81	1.36, 2.40
Race/Ethnicity				4.05	0.40		
White, Non-Hispanic	2381 (75.2)	1367 (76.4)	1014 (73.7)			1.45	0.67, 3.14
Black, Non-Hispanic	254 (13.0)	126 (12.1)	128 (14.2)			1.76	0.77, 4.02
Other, Non-Hispanic	45 (2.7)	27 (3.2)	18 (2.1)			(ref)	(ref)
Hispanic	226 (7.4)	121 (6.8)	105 (8.3)			1.83	0.78, 4.32
2+ Races, Non-Hispanic	96 (1.6)	36 (1.5)	60 (1.8)			1.23	0.68, 4.71
Gender				11.86	<0.001		
Male	2634 (89.0)	1518 (91.4)	1116 (86.0)			(ref)	(ref)
Female	368 (11.0)	159 (8.6)	209 (14.0)			1.73	1.26, 2.36
Household Income				12.61	0.03		
Less than $25,000	251 (10.9)	110 (8.9)	141 (13.3)			1.79	1.18, 2.72
$25,000 to $49,999	553 (18.2)	330 (19.6)	223 (16.3)			1.00	0.71, 1.42
$50,000 to $74,999	581 (16.8)	335 (16.5)	246 (17.2)			1.26	0.89, 1.76
$75,000 to $99,999	563 (14.1)	298 (13.2)	265 (15.2)			1.38	0.99, 1.93
$100,000 to $149,999	620 (18.4)	347 (18.4)	273 (18.4)			1.20	0.86, 1.68
$150,000 or more	434 (21.6)	257 (23.3)	177 (19.4)			(ref)	(ref)
Marital Status				6.98	0.03		
Now married	2105 (68.3)	1219 (71.4)	886 (64.4)			(ref)	(ref)
Divorced/Separated/Widowed	702 (22.8)	367 (20.7)	335 (25.5)			1.37	1.07, 1.75
Never married	195 (8.9)	91 (8.0)	104 (10.1)			1.41	0.92, 2.16
Military Branch (n = 2982)		(n = 1663)	(n = 1319)	4.60	0.20		
Air Force	743 (19.1)	444 (20.7)	299 (17.2)			(ref)	(ref)
Army	1263 (47.1)	685 (45.8)	578 (48.7)			1.28	0.99, 1.66
Navy/Coast Guard	749 (22.4)	425 (23.0)	324 (21.6)			1.13	0.85, 1.51
Marine Corps	227 (11.4)	109 (10.5)	118 (12.5)			1.43	0.96, 2.15
Highest Military Grade (n = 2991)		(n = 1668)	(n = 1323)	4.01	0.13		
Junior Enlisted: E1-E3	551 (25.8)	301 (23.8)	250 (28.3)			1.30	0.92, 1.84
Non-commissioned Officer: E4-E9	1973 (62.9)	1088 (64.4)	885 (61.0)			1.04	0.78, 1.38
Warrant Officers and Officers: W1-W5; O1-O9	467 (11.3)	279 (11.7)	188 (10.7)			(ref)	(ref)
Warzone Deployment (n = 3000)		(n = 1675)		6.97	0.01		
Yes	986 (33.1)	510 (30.3)	476 (36.6)			1.33	1.08, 1.65
No	2014 (66.9)	1165 (69.7)	849 (63.4)			(ref)	(ref)
	Weighted Mean (SE)	Weighted Mean (SE)	Weighted Mean (SE)	Diff (95 % CI)	p	t (df)	Cohen's d
Age	61.86 (0.44)	64.70 (0.58)	58.34 (0.66)	6.36 (4.64, 8.08)	<0.001	7.23 (3001)	0.26
Times Deployed to Warzone (n = 978)	1.82 (0.07)	1.82 (0.11) (n = 506)	1.81 (0.09) (n = 472)	0.01 (−0.28, 0.30)	0.95	0.06 (977)	0.04
Years in Military (n = 2933)	6.96 (0.17)	7.20 (0.24) (n = 1634)	6.65 (0.22) (n = 1299)	0.55 (−0.09, 1.20)	0.09	1.69 (2932)	0.06

Note. PMIE = potentially morally injurious event.

Table 3
Participant characteristics for veterans with and without moral distress.

Characteristic	Participant groups, *n (weighted %)*					
	No moral distress (T < 60; *n* = 1088)	Moral distress (T = 60–64; *n* = 119)	Rao-Scott χ^2	*p*	OR	95 % CI
Education			2.29	0.32		
High school/less than high school	117 (23.0)	9 (14.6)			(ref)	(ref)
Some college or Associate's degree	457 (39.5)	55 (45.1)			1.80	0.77, 4.24
Bachelor's degree or higher	514 (37.5)	55 (40.4)			1.70	0.72, 4.02
Race/Ethnicity (n = 1073)			7.96	0.05		
White, Non-Hispanic	848 (76.6)	87 (76.0)			1.62	0.71, 3.73
Black, Non-Hispanic	112 (15.9)	9 (9.7)			(ref)	(ref)
Hispanic	75 (6.3)	12 (10.0)			2.60	0.86, 7.82
2+ Races, Non-Hispanic	38 (1.3)	10 (4.3)			5.43*	1.67, 17.54
Gender			3.46	0.06		
Male	931 (86.6)	93 (78.6)			(ref)	(ref)
Female	157 (13.4)	26 (21.4)			1.76	0.96, 3.20
Household Income			6.98	0.22		
Less than $25,000	114 (13.7)	14 (10.8)			1.80	0.58, 5.64
$25,000 to $49,999	178 (14.6)	20 (19.8)			3.09	1.06, 9.04
$50,000 to $74,999	190 (16.2)	29 (21.2)			2.98	1.09, 8.13
$75,000 to $99,999	225 (16.1)	21 (19.0)			2.68	0.94, 7.65
$100,000 to $149,999	226 (19.0)	28 (20.1)			2.41	0.89, 6.47
$150,000 or more	155 (20.5)	7 (9.0)			(ref)	(ref)
Marital Status			0.24	0.89		
Now married	742 (67.0)	74 (64.5)			(ref)	(ref)
Divorced/Separated/Widowed	273 (25.4)	32 (26.6)			1.09	0.60, 1.98
Never married	73 (7.7)	13 (8.9)			1.21	0.56, 2.63
Military Branch	(*n* = 1082)		10.89	0.01		
Air Force	252 (18.6)	28 (16.7)			1.21	0.55, 2.68
Army	474 (48.1)	50 (42.4)			1.19	0.62, 2.27
Navy/Coast Guard	268 (22.5)	24 (16.6)			(ref)	(ref)
Marine Corps	88 (10.8)	17 (24.3)			3.05*	1.35, 6.90
Highest Military Grade	(*n* = 1087)	(*n* = 118)	3.00	0.22		
Junior Enlisted: E1-E3	204 (26.2)	25 (29.3)			2.33	1.01, 5.37
Non-commissioned Officer: E4-E9	720 (62.0)	79 (65.0)			2.18	1.06, 4.48
Warrant Officers and Officers: W1-W5; O1-O9	163 (11.8)	14 (5.7)			(ref)	(ref)
Warzone Deployment			0.89	0.35		
Yes	372 (35.0)	50 (40.8)			1.28	0.76, 2.13
No	716 (65.0)	69 (59.2)			(ref)	(ref)
PMIE Type			11.82	0.003		
Agentic	124 (10.3)	27 (22.3)			2.51*	1.39, 4.52
Non-agentic, witnessed	522 (50.2)	30 (41.1)			0.50*	0.29, 0.87
Non-agentic, directly impacted	442 (39.6)	62 (44.1)			1.21	0.73, 1.99
	Weighted Mean (SE)	Weighted Mean (SE)	Diff (95 % CI)	*p*	*t* (df)	Cohen's *d*
Age	60.98 (0.75)	53.47 (1.46)	7.51 (4.30, 10.71)	<0.001	4.60 (1206)	0.26*
Times Deployed to Warzone	1.73 (0.11) (*n* = 369)	2.47 (0.43) (*n* = 49)	0.74 (−0.12, 1.59)	0.09	1.69 (417)	0.17
Years in Military	6.66 (0.25) (*n* = 1068)	7.03 (0.65) (*n* = 116)	0.37 (−1.00, 1.74)	0.60	0.53 (1183)	0.03

Note. PMIE = potentially morally injurious event; *p*-value <0.05 Benjamini-Hochberg corrected for multiple comparisons.

(moral distress was not assessed).

Our findings validate moral distress and moral injury as distinct constructs (Litz and Walker, 2025). Moral injury cases exhibited significantly greater impairment in psychosocial functioning, PTSD symptoms, depression, anger, shame, loneliness, and reduced quality of life compared to moral distress cases (see Table 1). Additionally, the subvariant findings also show that moral distress and moral injury are distinct. Moral distress tends to manifest primarily through trust violation responses, while moral injury more often involves shame-related symptoms or a combination of both shame and trust violation symptoms. The high proportion of mixed symptom presentations in moral injury cases also suggests that as moral harm-related problems become more severe, they tend to affect multiple domains rather than remaining isolated to either shame or trust violation responses.

This study has several limitations. The cross-sectional design precludes causal inferences about the development of moral injury over time and the retrospective self-reporting may be subject to recall bias, particularly for veterans whose military service occurred many years ago. Additionally, perceptual biases may influence how veterans categorize their exposures to PMIEs. For example, a service member unable to prevent a suicide bombing due to faulty weaponry may interpret the event as agentic or type it as a non-agentic PMIE in which they were directly impacted or both. Finally, the results may not generalize to other professional cultures.

Future research should investigate interactions among moral injury, PTSD, and depression to clarify the broader role of moral harm in psychological distress and impairment. Longitudinal studies are particularly needed to examine the trajectories from PMIE exposure to moral distress and moral injury. Such studies could identify predictive factors that moderate or mediate these pathways, further clarifying the causal mechanisms underlying the development and persistence of moral injury. Given the high prevalence of functional impairment associated with moral injury reported here, intervention research should prioritize evaluating the efficacy of existing and novel treatments specifically

Table 4
Participant characteristics for veterans with and without moral injury (T score ≥65).

	Participant groups, *n (weighted %)*					
Characteristic	No moral injury (T < 60; *n* = 1088)	Moral injury (T ≥ 65; *n* = 109)	Rao-Scott χ^2	*p*	OR	95 % CI
Education			1.81	0.40		
High school/less than high school	117 (23.0)	13 (31.3)			1.57	0.72, 3.44
Some college or Associate's degree	457 (39.5)	55 (36.2)			1.06	0.58, 1.92
Bachelor's degree or higher	514 (37.5)	41 (32.5)			(ref)	(ref)
Race/Ethnicity (n = 1073)		(n = 107)	16.8	<0.001		
White, Non-Hispanic	848 (76.6)	71 (66.8)			1.35	0.48, 3.82
Black, Non-Hispanic	112 (15.9)	7 (10.2)			(ref)	(ref)
Hispanic	75 (6.3)	18 (19.9)			4.91*	1.47, 16.39
2+ Races, Non-Hispanic	38 (1.3)	11 (3.1)			3.66	1.05, 12.74
Gender			0.04	0.85		
Male	931 (86.6)	84 (87.3)			1.06	0.56, 2.05
Female	157 (13.4)	25 (12.7)			(ref)	(ref)
Household Income			7.31	0.20		
Less than $25,000	114 (13.7)	11 (12.8)			2.13	0.72, 6.51
$25,000 to $49,999	178 (14.6)	23 (24.4)			3.82*	1.61, 9.08
$50,000 to $74,999	190 (16.2)	24 (20.8)			2.93*	1.24, 6.91
$75,000 to $99,999	225 (16.1)	18 (7.1)			(ref)	(ref)
$100,000 to $149,999	226 (19.0)	19 (14.8)			1.78	0.70, 4.56
$150,000 or more	155 (20.5)	14 (20.2)			2.24	0.90, 5.54
Marital Status			17.73	<0.001		
Now married	742 (67.0)	63 (48.6)			(ref)	(ref)
Divorced/Separated/Widowed	273 (25.4)	29 (25.9)			1.41	0.73, 2.73
Never married	73 (7.7)	17 (25.5)			4.59*	2.09, 10.00
Military Branch	(*n* = 1082)		5.46	0.14		
Air Force	252 (18.6)	17 (9.1)			(ref)	(ref)
Army	474 (48.1)	52 (57.5)			2.44*	1.21, 4.92
Navy/Coast Guard	268 (22.5)	27 (18.8)			1.71	0.76, 3.83
Marine Corps	88 (10.8)	13 (14.7)			2.78	1.05, 7.31
Highest Military Grade	(*n* = 1087)		5.85	0.05		
Junior Enlisted: E1-E3	204 (26.2)	21 (41.1)			2.52	0.87, 7.30
Non-commissioned Officer: E4-E9	720 (62.0)	79 (51.5)			1.33	0.51, 3.50
Warrant Officers and Officers: W1-W5; O1-O9	163 (11.8)	9 (7.4)			(ref)	(ref)
Warzone Deployment			1.34	0.25		
Yes	372 (35.0)	50 (42.8)			1.39	0.79, 2.44
No	716 (65.0)	59 (57.2)			(ref)	(ref)
PMIE Type			26.61	<0.001		
Agentic	124 (10.3)	35 (30.3)			3.79*	2.05, 7.00
Non-agentic, witnessed	522 (50.2)	28 (26.9)			0.37*	0.19, 0.69
Non-agentic, directly impacted	442 (39.6)	46 (42.8)			1.15	0.65, 2.02
	Weighted Mean (SE)	Weighted Mean (SE)	Diff (95 % CI)	*p*	*t* (df)	Cohen's *d*
Age	60.98 (0.75)	45.85 (1.17)	15.13 (12.41, 17.84)	<0.001	10.92 (1196)	0.63*
Times Deployed to Warzone	1.73 (0.11) (*n* = 369)	1.79 (0.23) (*n* = 50)	0.05 (−0.44, 0.55)	0.83	0.22 (418)	0.02
Years in Military	6.66 (0.25) (*n* = 1068)	6.36 (0.71) (*n* = 106)	0.30 (−1.18, 1.78)	0.69	0.49 (1173)	0.02

Note. PMIE = potentially morally injurious event; *p*-value <0.05 Benjamini-Hochberg corrected for multiple comparisons.

Table 5
Differences in functioning scores for PMIE endorsers with no moral distress or injury (T < 60), moral distress (T = 60–64), and moral injury (T ≥ 65)[a].

	Participant groups			Group differences								
	No moral distress or injury (n = 1088)	Moral distress cases (n = 119)	Moral injury cases (n = 109)	Difference between non-cases and moral distress cases	95 % CI	*d*	Difference between non-cases and moral injury cases	95 % CI	*d*	Difference between moral distress and moral injury cases	95 % CI	*d*
	weighted M(SE)											
BIPF[a]	12.95(0.74)	35.1(2.49)	45.23(2.2)	22.14**	16.05, 28.24	0.48	32.28**	26.83, 37.72	0.77	10.13*	2.34, 17.92	0.17

[a] *$p < .01$, **$p < .001$.
[a] BIPF = Brief Inventory of Psychosocial Functioning.

targeting moral injury outcomes. Randomized controlled trials assessing social-functional rehabilitation interventions that emphasize corrective prosocial experiences, belongingness, and restoring faith in personal or collective humanity would be particularly valuable. These studies should examine both immediate and long-term efficacy across diverse veteran subgroups, including demographic characteristics and differing types of PMIE exposure. Additionally, research should expand beyond veteran populations to clarify whether MIOS-defined syndromal

Table 6
The prevalence of shame-related and trust-violation-related moral distress and moral injury.

Characteristic	Participant groups, *n (weighted %)*			
	Moral distress (T = 60–64; *n* = 252)	95 % CI	Moral injury (T ≥ 65; *n* = 178)	95 % CI
Shame-related only	104 (35.55)	27.70, 43.41	71 (47.83)	37.16, 58.51
Trust violation-related only	123 (55.97)	47.67, 64.28	40 (18.86)	11.49, 26.24
Both shame- and trust violation-related	25 (8.47)	4.34, 12.61	41 (33.30)	22.39, 44.22

characteristics and associated outcomes generalize across occupational and cultural contexts. Such cross-cultural research would ensure that moral injury interventions are appropriately tailored to diverse groups experiencing moral distress and moral injury across varied occupational and societal settings. Finally, given our findings highlighting the significant impact of agentic PMIEs, future studies should explore preventive strategies within military training and leadership practices to reduce the occurrence of these events.

These findings underscore the need for surveillance, mitigation, and treatment for moral distress and moral injury in veterans. Screening for moral injury among mental health–seeking veterans could generate national surveillance data and help clinicians tailor care. Resources should be allocated to promote, design, evaluate, and implement mitigation strategies that account for demographic and service-related risk factors, with particular attention to higher-risk subgroups such as women, younger veterans, and those with lower socioeconomic status. Treatment development should especially focus on veterans who report agentic PMIEs and being directly victimized by others' transgressions.

CRediT authorship contribution statement

Brett T. Litz: Writing – original draft, Supervision, Project administration, Methodology, Funding acquisition, Conceptualization. **Hannah E. Walker:** Writing – review & editing, Project administration, Investigation, Formal analysis. **Robert H. Pietrzak:** Writing – review & editing, Methodology, Formal analysis. **Luke Rusowicz-Orazem:** Writing – review & editing, Formal analysis, Data curation.

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The authors declare that they have no competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jpsychires.2025.06.031.

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Glossary

PMIE =: Potentially morally injurious experience
PTSD =: posttraumatic stress disorder
MIOS =: Moral Injury Outcome Scale
BIPF =: Brief Inventory of Psychosocial Functioning
MoSE =: margins of sampling error