Addressing moral injury in the military

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ABSTRACT

Moral injury is a relatively new, but increasingly studied, construct in the field of mental health, particularly in relation to current and ex-serving military personnel. Moral injury refers to the enduring psychosocial, spiritual or ethical harms that can result from exposure to high-stakes events that strongly clash with one's moral beliefs. There is a pressing need for further research to advance understanding of the nature of moral injury; its relationship to mental disorders such as posttraumatic stress disorder and depression; triggering events and underpinning mechanisms; and prevalence, prevention and treatment. In the meantime, military leaders have an immediate need for guidance on how moral injury should be addressed and, where possible, prevented. Such guidance should be theoretically sound, evidence-informed and ethically responsible. Further, the implementation of any practice change based on the guidance should contribute to the advancement of science through robust evaluation. This paper draws together current research on moral injury, best-practice approaches in the adjacent field of psychological resilience, and principles of effective implementation and evaluation. This research is combined with the military and veteran mental health expertise of the authors to provide guidance on the design, implementation and evaluation of moral injury interventions in the military. The paper discusses relevant training in military ethical practice, as well as the key roles leaders have in creating cohesive teams and having frank discussions about the moral and ethical challenges that military personnel face.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Military personnel can develop moral injury following exposure to high-stakes events that strongly clash with their moral values.

⇒ Research to date has focused on causes and symptoms and further research is needed to identify effective prevention and early intervention strategies.

WHAT THIS STUDY ADDS

⇒ This paper provides guidance on preventative strategies that can be built into leadership, ethics and resilience training, and the critical role of leaders in addressing moral distress in after action reviews.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE AND/OR POLICY

⇒ Prevention and early intervention strategies can be embedded into routine military structures and procedures but must be accompanied by evaluation to contribute to the advancement of science.

INTRODUCTION

It has long been recognised that military personnel may confront ethical and moral dilemmas while deployed.[1] The potential for psychological harm arising from ethical dilemmas has also long been recognised, but it is only relatively recently that researchers and clinicians have started to focus on the construct of moral injury (MI). While questions and controversies related to MI remain, there is increasing recognition that MI adds to our understanding of posttraumatic stress. MI can also be a useful lens to understand the broad psychosocial and spiritual outcomes currently not captured by diagnoses which nonetheless can impact operational sustainment and readiness. Importantly, even low-level moral distress can impact performance and organisational commitment, making consideration of opportunities for prevention and early intervention an imperative for military organisations. However, in the absence of evidence-based approaches, this represents a significant challenge. This paper aims to provide guidance on approaches to prevention and early intervention based on the current understanding of MI and contemporary approaches to psychological resilience. Recognising the challenge of implementing change in complex systems, we focus on adaptations to existing military structures and processes, including ethics, resilience and leadership training. Finally, we emphasise the importance of evaluating efforts to prevent MI for the advancement of evidence-based practice.

THE CONSTRUCT OF MI

Several attempts have been made to define MI, with no consensus definition emerging to date.[2] Broadly speaking, MI refers to enduring psychosocial and spiritual harms following exposure to high-stakes events that involve transgression of one's deeply held moral convictions or beliefs of right and wrong through one's own or others' action or inaction, or perceived betrayal by those in positions of authority or trust. Such events are termed potentially morally injurious events (PMIEs), in recognition that individuals will differ in their response. Although there are universal principles of morality,[3] an individual's sense of right and wrong is also influenced by

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sociocultural factors.[4] This makes it important to recognise the intersectionality of PMIEs with factors such as childhood adversity, military rank, gender (eg, increased risk of military sexual trauma for women), and race, sexuality or ethnicity (eg, racism and discrimination increasing risk of MI). PMIEs are generally categorised into one of three types: perceived transgressions by self, perceived transgressions by others and perceived betrayal.[5] While much of the research to date has involved combat veterans, PMIEs can also occur in the course of peacekeeping and humanitarian deployments.

Symptoms of MI can include enduring and pervasive feelings of guilt, shame, anger and disgust; thoughts of being bad, damaged or unworthy; loss of trust in others; and spiritual outcomes such as loss of faith in previous religious beliefs and loss of belief in a just world.[6] The severity, persistence and functional impact associated with MI distinguish it from moral distress (the experience of troubling moral emotions[7]) or moral pain (dysphoric moral emotions and cognitions[8]). Similar to burnout, characterised as exhaustion, cynicism and sense of ineffectiveness in response to chronic work stress,[9] MI is not an accepted diagnosis, but still needs to be addressed for the sake of the individual as well as those with whom they work and their organisation. In the military context, even low-level moral distress should not be ignored as it can impact performance and organisational commitment. MI can be associated with, and be a precursor to, mental disorders such as post-traumatic stress disorder (PTSD) and depression. In military samples, exposure to PMIEs has been associated with PTSD, depression and suicidality,[10 11] as well as with substance use disorders.[12] The association with suicidality is over and above the established association between PTSD and suicidality.[13]

Although beyond the scope of this paper, key controversies associated with the MI construct include whether it adds to our understanding of PTSD and whether it unnecessarily pathologises normal moral emotions. Current leading conceptualisations of MI suggest that the breadth, form and function of MI symptoms go beyond PTSD,[8] and that moral distress should be considered along a continuum, with non-pathological distress being less severe, less impairing and time-limited than MI, which is severe, enduring and associated with significant functional impairment.[7]

AN EVIDENCE-INFORMED APPROACH TO ADDRESSING MI IN THE MILITARY

In the absence of a strong evidence base, the recommended approach is guided by our understanding of the nature of MI, with much of the research to date based on combat veteran populations, and contemporary approaches to psychological resilience including the potential for posttraumatic growth. Rozek and Bryan's[14] psychological model of MI suggests an interaction between predisposing factors (eg, social support, cognitive flexibility and emotion regulation), moral stressors (eg, taking a life), and responses including cognitions (eg, I'm a bad person), emotions (eg, guilt and shame), physical reactions (eg, pain and insomnia) and behaviours (eg, social isolation). The model highlights the importance of preparation for the ethical and psychological challenges presented by PMIEs, enhancing cognitive flexibility and emotion regulation, and building effective leaders and cohesive teams in preincident resilience training. It further suggests that early intervention post-PMIE should assess and address any problematic responses, helping the individual come to terms with the PMIE through individual, or shared, disclosure and discussion of opportunities for learning or reparation. As will be discussed, this needs to be achieved without glossing over moral transgression or promoting the avoidance of appropriate moral emotions such as guilt and shame.

However, intervention should not be considered at the level of the individual alone. Contemporary approaches to psychological resilience have moved beyond a reliance on individual resilience training programmes, with increasing recognition of the importance of group factors such as leadership[15] and team cohesion.[16] In relation to MI in particular, Shay[17] argues that units should be kept together through training, deployment, return to country and for a period following to allow them to process, and derive meaning from, what they have been through. This strategy is not always possible, for example in the case of reserves or replacement members. He also advocates for leadership that is expert, ethical and supports truth-telling. Consistent with this recommendation, leaders taking responsibility has been found to be potentially protective against MI.[18]

Thus, preparation for exposure to PMIEs requires a whole of organisation approach, with prevention and early intervention for MI considered in ethics, resilience and leadership training. The imperative lies not only in the well-being of the individual but in the implication of MI for military readiness and mission success.

PREVENTION

First, in regard to leadership training, Zust and Krauss[19] emphasise the importance of moral issues being integrated into military leadership training and mission command. This integration should equip leaders to prepare personnel for operational moral dilemmas and commanders should recognise the morally challenging aspects of a mission as being potentially damaging to mental health. Following PMIEs, leaders have a role in creating a meaningful narrative that emphasises what personnel did well while acknowledging that ambiguity may still exist. Consideration should also be given to referring on to professional help if social or occupational dysfunction persists or worsens. Leaders should also focus on building strong unit cohesion and morale, as well as facilitate the use of peer support. Previous research has shown that cohesive units with high morale exhibit less behavioural health problems.[15]

Second, prevention of MI should be considered in the design of military ethics training.[20] Traditionally, military ethics is based on the just war theory, the international humanitarian law and codes of ethics,[21] and aims to provide guidance when personnel face ethical dilemmas which require them to choose between two or more competing ethical imperatives, duties or values.[22] However, in modern warfare, personnel also need to be prepared to confront '*ethically insoluble dilemmas*' (p103),[22] which are situations in which the individual has insufficient information to make a sound ethical decision. For example, confronted by an unidentified vehicle refusing to stop at a checkpoint, they must choose a course of action, leaving the outcome (killing the enemy or killing innocent civilians) to chance. Effective operational preparation should include military personnel being exposed to challenging and ambiguous situations[23] and the potential for ethically insoluble dilemmas acknowledged.[22] Further, there is increasing recognition of the need for values-based (in addition to rules-based) approaches to ethics training to prepare personnel for complex environments in which rules and laws are unclear.[24] Personal moral standards may help personnel navigate circumstances in which role-based values provide insufficient guidance, for example, when maintaining the military value of loyalty leads to covering up a transgressive act.[21] An evaluation of an

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ethics training course based on values rather than rules reported that participants were better able to recognise, articulate and address moral dilemmas.[24] The authors suggest that improving a member's moral competence—the capacity to articulate one's moral values and the values of others, recognise situations where values are at stake, articulate the moral dilemma or recognise an insoluble moral dilemma and justify their actions—may reduce moral distress and the potential for MI.

Third, preparation for PMIEs should be incorporated into resilience and predeployment training. Berghaus and Cartagena[25] note that traditional resilience training often aims to prepare personnel for highly stressful and traumatic events but not for addressing moral issues or the moral dimensions of traumatic events. Notwithstanding the absence of evidence for the effectiveness of resilience training,[26] these authors argue that the moral development of personnel would be best served by combining resilience and ethics training. Similarly, van Baarle and Molendijk[27] identify the limitations of traditional resilience training, with its focus on strength and positive meaning-making, in equipping soldiers to deal with the complexity of moral dilemmas and potential feelings of shame, guilt and anger. The authors identify three elements of ethics training that could supplement traditional resilience training: (1) the *'Socratic attitude'*, listening, postponing judgement and critically examining what you stand for; (2) sharing personal experiences and reflections on moral choices associated with doubt and vulnerability; and (3) relating ethics theory to one's own experience so that moral struggles are understood as being rooted in culture and social value systems rather than just within oneself.

EARLY INTERVENTION

The nature of PMIEs may lead to reluctance to disclose or discuss the event due to social or legal repercussions,[28] as well as the socially withdrawing behaviours evoked by emotions such as shame and guilt.[29] This reluctance makes it important for leaders to proactively initiate potentially difficult conversations and supportive action rather than wait for personnel to come forward. The timing of early intervention is also critical. Questioning or reflecting on the moral dimension of military experiences while the mission is underway could detract from mission focus and increase the risk of harm to the individual and others. However, it may be appropriate to foreshadow potential moral dilemmas prior to a mission and to reflect on them in after action reviews.

Currier and colleagues[30] highlight the critical role of leaders in preventing betrayal-based MI in their research with US veterans of the Iraq and Afghanistan wars. *'Military leadership perceived as incompetent and 'out of touch' with life on the ground'* and *'Military leadership perceived as self-serving and uncaring'* were commonly cited organisational factors leading to MI (p110). Thus, we recommend that leaders consider interventions that promote trust in their leadership following PMIEs in which members may have felt betrayed or let down by them. For example, leaders could have an open dialogue in which reasons for actions or decisions are explained and the potential outcomes of alternative courses of action discussed. Where appropriate, this dialogue may include disclosure of factors that personnel were not necessarily privy to at the time or that were unknown when the mission was planned. Leaders' capacity to convey an understanding of the lived experience and perspective of personnel on the ground is also important.

Leaders also have a role in addressing transgression-based PMIEs experienced by their teams. Rather than routinely referring personnel experiencing moral distress to a chaplain or psychologist, Berghaus and Cartagena[25] argue that leaders can often ameliorate distress by helping members to make meaning of their experiences through discussion after a PMIE (eg, integrated into regular after action reviews) focused on reinforcing the mission, sense of purpose in the activity, acknowledging the moral dilemmas and reinforcing the principles that guide decision making in this context. However, this should not be done in a way that glosses over the moral complexity of experiences, or fails to acknowledge and address negative emotions such as sorrow, guilt and shame; these efforts are more likely to engender, than prevent, MI.[27] Consistent with this, Zust and Krauss[19] highlight the importance of leadership acknowledging moral dilemmas and helping the individuals affected to actively work through and resolve any resulting moral conflict and create a meaningful narrative. This attempt at resolution may involve encouraging people to acknowledge their values, accept responsibility for past actions or inaction, and be guided in their future actions by their values. Military leaders who have built cohesive teams may also draw on the wider team to help individuals resolve moral dissonance through, for example, informal social gatherings with peers.[19] In circumstances where a PMIE involves a potential breach of law, leaders should ensure a clear understanding from all parties of limits to confidentiality in a military setting, have a clear plan for managing anonymity and arrange appropriate onward support.

In a complex and rapidly changing operational environment, regular reflective practice led by leaders is considered essential to effectively adapt the professional body of knowledge.[31] Johnson[32] delineates four components of reflective practice linked to leaders' capacity for ethical decision making and moral leadership: (1) deliberate and contemplative thinking; (2) synthesising ideas and making connections between known and new information to help make meaning; (3) using an iterative process to generate deeper levels of learning; and (4) active reflection to intentionally engage and explore thoughts. Further research is needed to establish empirical support for the relationship between fostering reflection on moral dilemmas, MI and resilience.[27] Such research should examine MI outcomes for members, comparing those with leaders who employ regular reflective practice with those with leaders who do not.

The nature of PMIEs and the confidentiality afforded by chaplains mean that some personnel may prefer religious or spiritual guidance.[33] Further, their availability on deployment often makes chaplains the first touchpoint for members exposed to PMIEs. Canadian military studies[34] found that personnel exposed to PMIEs were more likely to seek help from a religious/spiritual advisor than a mental health professional. Research into the effectiveness of chaplaincy interventions to address MI is in its infancy,[35] but their unique capacity to address the religious aspects of MI positions chaplains as a potentially important component of support for some military member suffering MI and a pathway to mental healthcare for others. As such, further research to test the effectiveness of chaplains' role in early intervention for MI is recommended.

Relative to military leaders and chaplains, mental health practitioners are more likely to have a role supporting and treating those who develop more severe psychological distress and/or mental health disorder following a PMIE. Psychological approaches to MI include standard evidence-based treatments for PTSD, adapted PTSD interventions and new interventions targeting MI specifically.[35]The core experiences of guilt, shame and anger associated with MI have led to a focus on forgiveness in targeted psychological interventions: self-forgiveness for

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things that the individual has done or failed to do themselves and forgiveness of the other for events involving betrayal or moral transgression on the part of someone else.[36–38] The importance of opportunities for corrective experience that challenge negative and global attributions and opportunities for reparation has also been emphasised,[39] as has acceptance of experience and commitment to value-based behaviour.[40] Further research is needed before recommendations can be made with confidence about the preferred approach, but in the mean time practitioners should be guided by the current evidence showing promise for prolonged exposure, cognitive processing therapy, impact of killing, adaptive disclosure, and acceptance and commitment therapy.[35]

IMPLEMENTATION AND EVALUATION

We do not underestimate the challenge of implementing new practices in large and complex systems; however, lessons can be learnt from the implementation of military resilience training programmes[41] and guiding principles from the field of implementation science.[42] First, effective change relies on the support of leadership across all levels. Engagement with leaders should begin with ensuring that senior leaders understand the concept and risks associated with MI and commit to invest the necessary time and resources to address that risk. Equally important, this should be followed by identification of formal and informal leaders across all levels of the organisation who can promote prevention and early intervention initiatives and lead by example. Second, to encourage commitment and collaboration among all stakeholders, the planning, design, implementation and evaluation of approaches to address MI should involve personnel and their families, as well as military leaders, chaplains and mental health practitioners. Third, the approach needs to identify and address factors that drive systemic barriers to equity and inclusion (eg, racial, ethnic, gender or sexual identity). This may involve, for example, discussion of the intersectionality between MI and diversity in ethics training, ensuring diversity among the identified formal and informal MI leaders, and having more than one avenue for individuals seeking support. Fourth, capacity and capability to deliver new approaches to addressing MI need to be developed and reinforced in an ongoing way. In an environment of competing demands for organisational resources and the inherent challenge of discussing moral ambiguities in a military culture that may not generally favour questioning, efforts to address MI are unlikely to be sustained without a continued focus. Fifth, the approach to addressing MI needs to have enough flexibility to be adapted in different circumstances, without loss of fidelity. For example, the core elements of discussing PMIEs in ethics training or after action reviews may be agreed upon, but the timing and emphasis given to different elements may change depending on the unique circumstances of each deployment.

We have described a range of approaches to prevention and early intervention for MI that in combination aim to reduce the incidence of MI and related issues such as substance use, mental disorder, family breakdown and suicide. However, this end goal can be influenced by multiple factors, not all of which are known or able to be controlled. For this reason, the evaluation of prevention and early intervention for MI should consider not only the end goal but also more distal outcomes of each element of the approach, such as changes in attitudes, behaviour and knowledge after training, and changes in well-being following early intervention. Routine evaluation of each element is needed to identify whether it is achieving its immediate objective, as a precursor and necessary condition for evaluating its contribution to the end goal.

In addition to selecting outcome measures matched to the objective of each intervention, the success of the overall approach to managing MI in the military should be measured by reductions in MI following exposure to PMIEs. This requires reliable and valid measures of both PMIEs and MI outcomes. The inherent limitation of capturing information on specific PMIEs is important to acknowledge, given the social withdrawing nature of moral emotions, and institutional and individual-level barriers to disclosure of events that involve moral and, in some cases, potential legal transgressions. The use of standardised assessment of PMIEs is useful in this regard as it avoids the need for detailed disclosure of specific events. For those exposed to a PMIE, routine assessment of MI as an outcome will increase understanding of prevalence, predisposing and perpetuating factors and the effectiveness of interventions.

CONCLUSION

The construct of MI is increasingly recognised as important in understanding and responding to the broad range of psychosocial and spiritual impacts of operational traumatic events. Existing research has focused on describing the phenomenon and the development of treatment for MI, rather than prevention or early intervention. Military organisations are well placed to advance our understanding of preventative approaches through implementing and evaluating a range of interventions. In the absence of established evidence-based approaches, we recommend interventions informed by the nature of MI and contemporary approaches to psychological resilience. These should be embedded into existing military structures and processes designed to enhance operational readiness, including ethics, resilience, leadership and other routine training. Effective implementation of new approaches to mitigate the risk of MI requires leadership commitment, engagement of all stakeholders, ongoing resourcing and rigorous evaluation of outcomes to promote an organisational culture ready to prevent, identify and manage MI, as well as advance the science.

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REFERENCES

1 Friedman MJ. Post-Vietnam syndrome: recognition and management. *Psychosomatics* 1981;22:931–42.
2 Richardson NM, Lamson AL, Smith M, *et al*. Defining moral injury among military populations: a systematic review. *J Trauma Stress* 2020;33:575–86.
3 Hauser M. *Moral minds: how nature designed our universal sense of right and wrong*. New York: Ecco/HarperCollins Publishers, 2006.
4 Arutyunova KR, Alexandrov YI, Hauser MD. Sociocultural influences on moral judgments: East-West, male-female, and Young-Old. *Front Psychol* 2016;7:1334.
5 Nash WP, Marino Carper TL, Mills MA, *et al*. Psychometric evaluation of the moral injury events scale. *Mil Med* 2013;178:646–52.
6 Yeterian JD, Berke DS, Carney JR, *et al*. Defining and measuring moral injury: rationale, design, and preliminary findings from the moral injury outcome scale Consortium. *J Trauma Stress* 2019;32:363–72.
7 Litz BT, Kerig PK. Introduction to the special issue on moral injury: conceptual challenges, methodological issues, and clinical applications. *J Trauma Stress* 2019;32:341–9.
8 Farnsworth JK, Drescher KD, Evans W, *et al*. A functional approach to understanding and treating military-related moral injury. *J Contextual Behav Sci* 2017;6:391–7.
9 Maslach C, Leiter MP. Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry* 2016;15:103–11.
10 Nazarov A, Fikretoglu D, Liu A, *et al*. Greater prevalence of post-traumatic stress disorder and depression in deployed Canadian armed forces personnel at risk for moral injury. *Acta Psychiatr Scand* 2018;137:342–54.
11 Williamson V, Stevelink SAM, Greenberg N. Occupational moral injury and mental health: systematic review and meta-analysis. *Br J Psychiatry* 2018;212:339–46.
12 Maguen S, Nichter B, Norman SB, *et al*. Moral injury and substance use disorders among US combat veterans: results from the 2019-2020 National health and resilience in veterans study. *Psychol Med* 2021:1–7.
13 Nichter B, Norman SB, Maguen S, *et al*. Moral injury and suicidal behavior among US combat veterans: results from the 2019-2020 National health and resilience in veterans study. *Depress Anxiety* 2021;38:606–14.
14 Rozek DC, Bryan CJ. A cognitive behavioral model of moral injury. In: Currier JM, Drescher KD, Nieuwsma J, eds. Washington DC: Addressing Moral Injury in Clinical PracticeAmerican Psychological Association, 2021.
15 Wilk JE, Bliese PD, Thomas JL, *et al*. Unethical battlefield conduct reported by soldiers serving in the Iraq war. *J Nerv Ment Dis* 2013;201:259–65.
16 Anderson L, Campbell-Sills L, Ursano RJ, *et al*. Prospective associations of perceived unit cohesion with postdeployment mental health outcomes. *Depress Anxiety* 2019;36:511–21.
17 Shay J. *Archilles and Odysseus today: what Homer can tell us about military leadership. John C Rouman classical lecture series; University of new Hampshire: Hellenic communication service*, 2006.
18 Williamson V, Murphy D, Stevelink SAM, *et al*. The impact of trauma exposure and moral injury on UK military veterans: a qualitative study. *Eur J Psychotraumatol* 2020;11:1704554.
19 Zust J, Krauss S. *Force protection from moral injury: three objectives for military leaders*, 2019.
20 Thompson MM, Jetly R. Battlefield ethics training: integrating ethical scenarios in high-intensity military field exercises. *Eur J Psychotraumatol* 2014;5. doi:10.3402/ejpt.v5.23668. [Epub ahead of print: 14 08 2014].
21 Walker D, Thoma S, D I Walker AJ. *Preprint - Assessing Ethical Reasoning among Junior British Army Officers Using the Army Intermediate Concept Measure (AICM*, 2021.
22 Schulzke M. Ethically insoluble dilemmas in war. *Journal of Military Ethics* 2013;12:95–110.
23 Warner CH, Appenzeller GN, Mobbs A, *et al*. Effectiveness of battlefield-ethics training during combat deployment: a programme assessment. *Lancet* 2011;378:915–24.
24 van Baarle E, Hartman L, Verweij D, *et al*. What sticks? the evaluation of a Train-the-Trainer course in military ethics and its perceived outcomes. *Journal of Military Ethics* 2017;16:56–77.
25 Berghaus PT, Cartagena NL. Developing good soldiers: the problem of fragmentation within the army. *Journal of Military Ethics* 2013;12:287–303.
26 Joyce S, Shand F, Tighe J, *et al*. Road to resilience: a systematic review and meta-analysis of resilience training programmes and interventions. *BMJ Open* 2018;8:e017858.
27 van Baarle E, Molendijk T. Resilience as the road to mental readiness? reflections from an Ethics-of-care perspective. *Journal of Military Ethics* 2021;20:129–44.
28 Greenberg N, Docherty M, Gnanapragasam S, *et al*. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. *BMJ* 2020;368:m1211.
29 Nazarov A, Plouffe R, Forchuk C, *et al*. *Beliefs about confidentiality and attitudes toward disclosure of moral injuries. Australasian conference on traumatic stress; virtual*, 2021.
30 Currier JM, McCormick W, Drescher KD. How do morally injurious events occur? A qualitative analysis of perspectives of veterans with PTSD. *Traumatology* 2015;21:106–16.
31 Paparone C, Reed G. *The reflective military practitioner: how military professionals think in action. military review*, 2008: 66–75.
32 Johnson OE. *Creating space to think: the what, why, and how of deliberate reflection for effective leadership*, 2020.
33 Hodgson TJ, Carey LB, Injury M. Spirituality and the role of chaplains. *J Relig Health* 2017;56:1212–28.
34 Nazarov A, Fikretoglu D, Liu A, *et al*. Help-Seeking for mental health issues in deployed Canadian armed forces personnel at risk for moral injury. *Eur J Psychotraumatol* 2020;11:1729032.
35 Jones KA, Freijah I, Carey L, *et al*. Correction to: moral injury, chaplaincy and mental health provider approaches to treatment: a scoping review. *J Relig Heal th*2022;61:2632–3. doi:10.1007/s10943-022-01560-2
36 Maguen S, Burkman K, Madden E, *et al*. Impact of killing in war: a randomized, controlled pilot trial. *J Clin Psychol* 2017;73:997–1012.
37 Gray MJ, Schorr Y, Nash W, *et al*. Adaptive disclosure: an open trial of a novel exposure-based intervention for service members with combat-related psychological stress injuries. *Behav Ther* 2012;43:407–15.
38 Snider JJ. *Moral injury: repair through self-forgiveness*. US: ProQuest Information & Learning, 2017.
39 Litz BT, Stein N, Delaney E, *et al*. Moral injury and moral repair in war veterans: a preliminary model and intervention strategy. *Clin Psychol Rev* 2009;29:695–706.
40 Walser RD, Wharton E. Acceptance and commitment therapy: Using mindfulness and values in the treatment of moral injury. In: Currier KDD J, Nieuwsma JA, eds. *Addressing moral injury in clinical practice: American psychological association*, 2021.
41 Fikretoglu D, Liu A, Nazarov A, *et al*. A group randomized control trial to test the efficacy of the road to mental readiness (R2MR) program among Canadian military recruits. *BMC Psychiatry* 2019;19:326.
42 Phoenix Australia Centre for Posttraumatic Mental Health and the Canadian Centre of Excellence PTSD. *The conceptual framework to guide the implementation of best and next practice in services and supports for veterans and their families*. Melbourne, Australia: Phoenix Australia Centre for Posttraumatic Mental Health and Canadian Centre of Excellence PTSD, 2020.

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