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BASIC RESEARCH ARTICLE



## The impact of trauma exposure and moral injury on UK military veterans: a qualitative study

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### ABSTRACT

**Background:** Exposure to a potentially morally injurious event (PMIE) has been found to be associated with a range of adverse mental health outcomes. However, how the psychological consequences following PMIEs compare to those encountered after a traumatic, but not a PMIE, remain poorly understood.

**Objective:** The aim was to qualitatively explore UK military veterans' responses to experiences of trauma and moral injury and the impact of such events on psychological wellbeing.

**Method:** Thirty male veterans who reported exposure to traumatic and/or morally injurious events were recruited. Semi-structured qualitative interviews were conducted, and data were analysed using thematic analysis.

**Results:** Six veterans described exposure to a non-morally injurious traumatic event, 15 reported experiencing a PMIE, and 9 described exposure to a 'mixed' event which was simultaneously morally injurious and traumatic. Veterans who encountered a PMIE described experiencing moral dissonance, or a clash between concurrently held sets of values (e.g. military values versus civilian values), which provoked considerable psychological distress. Veterans' cognitions and responses were found to differ following a PMIE compared to a traumatic, but not PMIE, which could have negative implications for daily functioning. Several risk and protective factors for experiencing distress following a PMIE were described.

**Conclusions:** This study provides some of the first evidence that events experienced by UK veterans can simultaneously be morally injurious and traumatic or life-threatening as well as highlighting the process by which moral injury may occur in UK veterans. These findings illustrate the need to examine effective pathways for prevention and intervention for veterans who have experienced a morally injurious event.

### El impacto de La exposición al trauma y daño moral en los veteranos militares del reino unido: un estudio cualitativo

**Antecedentes:** La exposición a un potencial evento moralmente perjudicial (PMIE por sus siglas en inglés) se ha asociado con un rango de resultados adversos en salud mental. Sin embargo, como las consecuencias psicológicas seguidas de PMIEs comparadas a aquellas encontradas después de un evento traumático, pero no un PMIE, permanece pobremente comprendido.

**Objetivo:** El objetivo fue explorar cualitativamente las respuestas a experiencias de trauma y daño moral de veteranos militares del Reino Unido y el impacto de tales eventos en el bienestar psicológico.

**Método:** Se reclutaron treinta veteranos varones que reportaron exposición a eventos traumáticos y/o moralmente perjudiciales. Se condujeron entrevistas cualitativas semiestructuradas, y los datos fueron analizados usando análisis temáticos.

**Resultados:** Seis veteranos describieron exposición a eventos traumáticos no moralmente perjudiciales, quince reportaron haber experimentado un PMIE, y nueve describieron exposición a un evento 'mixto' el cual fue simultáneamente moralmente perjudicial y traumático. Los veteranos que encontraron una PMIE describieron experimentar disonancia moral, o un choque entre conjuntos de valores mantenidos simultáneamente (ej. Valores militares versus valores civiles), los cuales provocaron sufrimiento psicológico considerable. Se encontraron que las respuestas y cogniciones de los veteranos diferían después de un PMIE comparada con un evento traumático, pero no el PMIE, el cual podría tener implicancias negativas para el funcionamiento diario. Se describieron varios factores de riesgo y protectores por la experimentación de sufrimiento seguido a un PMIE.

**Conclusiones:** este estudio provee algunas de las primeras evidencias que los eventos experimentados por los veteranos del Reino Unido pueden ser simultáneamente moralmente perjudiciales y traumáticos o de amenaza vital así como también enfatizar el proceso

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Moral injury; military veteran; trauma; PTSD; UK Armed Forces; morally injurious event

### PALABRAS CLAVE

daño moral; trauma; militar; Reino Unido; veterano; salud mental

### 关键词

道德伤害; 创伤; 军人; 英国; 退伍军人; 心理健康

### HIGHLIGHTS

- How the psychological consequences following morally injurious events compare to those encountered after a traumatic, but not a morally injurious event, remain poorly understood.
- Qualitative telephone interviews were anonymously carried out with 30 UK military veterans.
- Veterans' cognitions and responses were found to differ following a morally injurious event compared to a traumatic, but not morally injurious event, which could have negative implications for daily functioning.

por el cual el daño moral puede ocurrir en los veteranos del Reino Unido. Estos hallazgos enfatizan la necesidad de examinar las vías efectivas para la prevención e intervención a veteranos que han experimentado un evento moral perjudicial.

### 创伤暴露和道德伤害对英国退伍军人的影响：一项定性研究

**背景：**已发现暴露于潜在道德伤害事件 (PMIE) 与一系列不良心理健康结果有关。但是，对于经历PMIE相较于非PMIE创伤后的心理后果仍知之甚少。

**目标：**旨在定性探索英国退伍军人对创伤和道德伤害经历的反应以及此类事件对心理健康的影响。

**方法：**招募了30名报告遭受创伤和/或道德伤害事件的男性退伍军人。进行了半结构化定性访谈，并使用主题分析对数据进行了分析。

**结果：**六名退伍军人描述了暴露于非道德损伤性创伤事件，十五名报告经历了PMIE，九名退伍军人描述了暴露于‘混合’事件，即同时发生了道德伤害及创伤。遭遇PMIE的退伍军人描述了道德失调，或同时持有的多套价值观（例如军事价值观与平民价值观）之间的冲突，这引起了极大的心理困扰。相较于非PMIE创伤，经历PMIE后退伍军人的认知和反应不同，可能会对日常功能产生负面影响。描述了PMIE后经历困扰的几种风险和保护因素。

**结论：**本研究提供了一些初步证据，表明英国退伍军人经历的事件可能同时在道德上造成伤害和创伤或威胁生命，并重点介绍了英国退伍军人可能发生道德伤害的过程。这些结果强调有必要考查对经历过道德伤害事件的退伍军人进行预防和干预的有效途径。

**关键词：**道德伤害；创伤；军人；英国；退伍军人；心理健康。

Many professionals are required to make challenging ethical or moral decisions in their line of work, including police officers, media professionals and military personnel. While decision-making is often likely to be consistent with occupational codes of conduct, substantial psychological distress can be experienced when individuals perpetrate, witness or fail to prevent actions which transgress their core moral or ethical beliefs (Janoff-Bulman, 1992; Litz et al., 2009). Significant degrees of such distress have been termed ‘moral injury’, which previous studies have found to be associated with a range of adverse mental health outcomes including depression, suicidality, substance misuse and post-traumatic stress disorder (PTSD) (Frankfurt & Frazier, 2016; Litz et al., 2009; Maguen et al., 2010; Williamson, Stevelink, & Greenberg, 2018).

The majority of moral injury research has been carried out with US (ex-)military personnel (Bryan, Bryan, Morrow, Etienne, & Ray-Sannerud, 2014; Currier, Holland, & Malott, 2015; Dennis et al., 2017; Griffin et al., 2019). To date, only one exploratory study has examined experiences of moral injury in help-seeking UK military veterans (Williamson, Greenberg, & Murphy, 2019). In this study, moral injury was considered to have negative implications for wellbeing. Examples of potentially morally injurious events (PMIEs) described by UK military veterans included mistreating civilians or enemy combatants, being ordered to break rules of engagement, and disrespecting dead bodies (Williamson et al., 2019). However, this study was based on a small sample treatment-seeking military veterans and the range of implications moral injury may have for wellbeing in UK veterans remains poorly understood.

Emerging evidence indicates that the responses and symptom profiles following morally injurious events may be distinctive from those caused by other trauma

types. Bryant et al. (Bryan, Bryan, Roberge, Leifker, & Rozek, 2018) found military personnel who had faced life-threatening trauma and developed PTSD had a symptom profile which primarily featured memory loss, nightmares, flashbacks and an exaggerated startle response. In contrast, the symptom profile of those with moral injury has been suggested to be more likely to include higher levels of guilt, anger, shame, depression and social isolation (Griffin et al., 2019; Williamson et al., 2019). Moreover, different types of PMIEs (e.g. perpetration, witnessing, failing to prevent, betrayal) may provoke distinct responses. For example, Litz et al. (Litz et al., 2018) recently found that perpetration-based PMIEs were associated with greater levels of guilt, re-experiencing, and self-blame compared to life-threat traumas. Taken together, this could suggest that individuals with mental health problems related to a moral injury may have distinct psychological responses and potentially have different treatment needs as a result.

The limited research to date in UK military veterans has yet to compare the experiences of morally injured individuals to trauma-exposed but not morally injured participants. How the cognitions, emotions and responses experienced following PMIEs compare to those encountered after a traumatic but not morally injurious event remains poorly understood. Thus, it is not clear whether moral injury may distinctly affect wellbeing over and above the core symptoms of PTSD. A deeper understanding of UK veteran experiences of, and responses to, moral injury compared to other trauma types may inform clinical practice and ensure that appropriate support, guidance and treatment are available in future. To address this gap, we conducted in-depth, semi-structured qualitative interviews with both morally injured and non-morally injured,

trauma-exposed UK military veterans to explore responses to experiences of trauma and moral injury as well as the impact of such events on psychological wellbeing.

## 1. Method

The study received ethical approval from King's College London Research Ethics Committee (RESCM-17/18-4002) and Combat Stress Research Committee. All participants gave informed consent for participation.

### 1.1. Participants

Between November 2018 and January 2019, 30 veterans were recruited to the study. Veterans were eligible for participation if they were aged 18 years and above and self-reported experiencing a challenging event during military service. The following exclusion criteria were applied prior to participation: unable to speak English, speech or hearing difficulties, or still serving in the Armed Forces. We used opportunity sampling and participants were recruited by the circulation of the study information posted on social media, online platforms, veteran affiliated charities, veteran-specific newsletters, and military-affiliated magazines. Study advertisements included statements such as: 'many Armed Forces personnel experience events during military service that challenge their perceptions of themselves and the world – take part in our confidential research to help us understand the impact of these events'. The purposive sampling method of snowballing was also utilized, with participants asked to share study information with other potentially eligible individuals. Individuals who contacted the research team were screened for eligibility in line with study inclusion/exclusion criteria, with informed consent obtained from those who were willing to take part. Of the 31 participants who contacted the research team to take part in the qualitative interview, 30 consented to participate. No participants were excluded from the study, rather it was not possible to contact the remaining one participant.

To determine whether a participant had experienced a moral injury, all participants were asked whether they had experienced an event(s) during military service that challenged their view of who they are, the world they live in, or their sense of right and wrong and to provide a brief summary of the event. If participants described exposure to several events, they were asked to state which event bothered them the most and this event was the focus of the qualitative interview. Participants were considered to have exposure to moral injury if the self-reported event was an act of omission or commission which violated their ethical or moral code

and where the primary emotion expressed was of guilt/shame. Participants were classified as having experienced a trauma-only incident if the event described was consistent with DSM-5 Criterion A and participants did not describe an act of commission/omission which violated their moral code. Participants were classified as 'mixed' if elements of both traumatic and morally injurious experiences were expressed; for example, the event was both potentially life-threatening and morally injurious (Stein et al., 2012). Researchers VW and SA independently classified participants as morally injured, 'mixed' or trauma exposed by reviewing participant data. Disagreements between authors were rare and resolved following a re-examination of the data and a consensus was reached.

### 1.2. Qualitative interview schedule

Interviews were carried out by VW by telephone and lasted for 65 minutes (SD 16.6) on average (range 36.4–99.3 minutes). Any potentially identifying participant information was removed from interview transcripts and participant contact details were destroyed following the interview as stated on the participant information sheet. The interview schedule was developed based on the research questions, previous qualitative research exploring veteran experiences of military trauma/moral injury and the broader literature on moral injury and post-trauma responses (Supplementary Table 1). Thus, the interview focused on experiences of traumatic or morally injurious events and their impact on wellbeing and daily functioning and participants. Interview questions were open-ended questions to encourage participants to recount in detail their subjective experience (Braun & Clarke, 2006; Gill, Stewart, Treasure, & Chadwick, 2008). Interviews were audio-recorded and transcribed verbatim. Interview audio files were destroyed following transcription. Thirty participants completed the interview and thematic saturation was achieved. Prior to the qualitative interview, demographic information was collected from all participants.

### 1.3. Analysis

Nvivo 12 was used to facilitate thematic analysis. An inductive thematic analysis approach was utilized following the steps recommended by Braun & Clarke (Braun & Clarke, 2006) – repeated reading of the data set, generation of preliminary codes, searching for and developing candidate themes, and examining and organizing themes. Transcripts were manually coded in a systematic manner, with initial codes collated to form overarching themes (Braun & Clarke, 2006). Coded text segments for each candidate theme were examined to confirm themes were coherent and



**Table 1.** Participant demographic information.

Index	Total sample (n = 30)	Moral injury veterans (n = 15)	Mixed veterans (n = 9)	Trauma exposed veterans (n = 6)
Mean age, M(SD)	46.3 (12.4)	43.6 (10.6)	51.6 (16.1)	45.3 (9.2)
Marital status, n (%)				
Single	5 (16.7%)	3 (20.0%)	1 (11.1%)	1 (16.7%)
Married/living with partner	18 (60.0%)	9 (60.0%)	6 (66.7%)	3 (50.0%)
Separated/divorced/widowed	7 (23.3%)	3 (20.0%)	2 (22.2%)	2 (33.3%)
Branch, n (%)				
British Army	28 (93.3%)	15 (100.0%)	8 (88.9%)	5 (83.3%)
Service branch, n (%)				
Regular	26 (86.7%)	13 (86.7%)	7 (77.7%)	6 (100.0%)
Rank, n (%)				
Officer/non-commissioned officer	15 (50.0%)	6 (40.0%)	7 (66.7%)	2 (33.3%)
Junior rank	15 (50.0%)	9 (60.0%)	2 (22.2%)	4 (66.7%)

Moral injury veterans = veterans who self-reported exposure to a PMIE. Mixed veterans = veterans who self-reported experiencing a 'mixed' event where the event was both potentially morally injurious and traumatic/life-threatening. Trauma-exposed veterans = veterans who self-reported experiencing a traumatic or life-threatening (non-morally injurious) event.

accurately reflected the intended meanings evident across the data set (Braun & Clarke, 2006). Preliminary codes and themes were proposed by the primary researcher (VW). Given the subjective nature of the qualitative analysis, a reflexive record was kept by the primary researcher (VW) throughout data collection and analysis to facilitate the recognition of assumptions or biases and avoid premature interpretations of the data (Mason, 2002). Memos were also recorded regarding researcher (VW & SA) reflections and thoughts about developing themes and relationships between themes, consistent with an inductive analytical approach (Birks et al., 2008). Authors VW & SA independently reviewed all transcripts, examining codes and themes for agreement, coherence and accuracy. Any disagreements were resolved following a re-examination of the data. The credibility and trustworthiness of the results were also established via peer debriefing (Morrow, 2005). Feedback regarding the interpretation of the data was regularly sought from co-authors NG, SAMS, DM and EJ who have experience with military mental health and qualitative methods.

## 2. Results

### 2.1. Demographic characteristics

All sample participants were male with an average age of 46.3 years (SD 12.4; range 27–68 years). The majority (93.3%) had served in the British Army (see Table 1). All participants reporting having been deployed during their military service on average five times, with deployment areas including Iraq, Afghanistan, Sierra Leone, Bosnia, Kosovo and the Falklands. Fifteen participants experienced exposure to a PMIE, nine had experienced a 'mixed' event where the event was both potentially morally injurious and traumatic/life-threatening, and six experienced a traumatic or life-threatening (non-morally injurious) event.

### 2.2. Qualitative findings

As shown in Table 2, four overarching themes and five subthemes were found reflecting: (i) veteran experiences of morally injurious and non-morally injurious events; (ii) the impact of such events on cognitive appraisals; (iii) the effect of exposure on psychological wellbeing and (iv) potential risk and protective factors for distress following PMIEs. Anonymized excerpts have been provided in Table 2 to illustrate our findings.

### 2.3. Experiences of morally injurious and non-morally injurious events

Morally injurious experiences related to transgressive acts of commission or omission by either themselves or others (n = 15). Event types included witnessing human suffering (e.g. aftermath of ethnic cleansing in Bosnia or Rwanda), having a role in civilian/enemy combatant deaths, within ranks betrayal (e.g. bullying, perceived negligent orders by command). Similarly, 'mixed' events were experienced by nine veterans and were both potentially life-threatening and morally injurious; for example, mistreating civilians/enemy combatants after being threatened. Conversely, traumatic, yet non-morally injurious, events were described by six veterans and included frightening experiences such as being under enemy fire, exposure to an explosion, witnessing the death of colleagues, providing care to wounded civilians and experiencing a serious injury following equipment malfunction.

### 2.4. Impact of morally injurious and traumatic events on cognitive appraisals

#### 2.4.1. Crises of moral dissonance

Both morally injured and 'mixed' veterans described that central to the distress caused by PMIEs was the experience of moral dissonance or conflict between their multifaceted value systems. Conflicts between

**Table 2.** Themes and subthemes following thematic analysis.

Themes and subthemes	Verbatim quotes
Experiences of morally injurious and non-morally injurious trauma	<i>'[During] my first two tours things happened, one or two things I did. I often have questioned myself about it whether I took the right decisions or not ... occasionally you are in the middle of a riot when you've got 12 [soldiers] and you are trying to deal with 250 [people] who are all throwing bottles, bricks and everything else at you – men and women. Again, you sometimes ... do things that perhaps are quite heavy handed which retrospectively you think should I have done that? Or should I have approached it in a different way?' (Male, 63 years, mixed)</i>
Impact of morally injurious and traumatic events on cognitive appraisals Crises of moral dissonance	<i>'If I was to go into a town and shoot five people, I would be a mass murderer. Yet if I was to shoot five people in uniform overseas you are legally entitled to do that because you have rules of engagement and all the rest of the stuff. But murder is murder at the end of the day. Killing is killing.' (Male, 47 years, moral injury)</i>
Prevention of moral dissonance	<i>'It came over the radio, 'oh we've got a bravo down here, he's injured. We'll need the med in to get him out.' ... Someone decided that no, hang on a fucking minute, we're not having a [helicopter] come out into hostile territory to recover somebody who is trying to kill us ... And from people at the site, they've basically come back and said he just stood ... until he stopped breathing. Obviously, that's just murder, there's no two ways about that. But in terms of right or wrong, it was right to do that ... we were risking a helicopter full of people to come in to extract somebody who had been trying to kill us, which could result in more of us being injured or killed.' (Male, 36 years, moral injury)</i>
Resolving moral dissonance	<i>'Eventually I came to this conclusion of where do I go with this? Do I keep feeling bad about it? ... I was like, I've read about how this ends with other people and you hear about people taking their lives and stuff ... and I've got no interest in doing that so I need to decide what I'm going to do with this. I decided to move past it ... I don't want to sound flippant because that kid died, it was a bad thing, a terrible thing, but it's done. I can't help myself by thinking about it all the time and being sad about it all the time ... If I choose to mourn that kid for the rest of my life everyday it's not going to help me in any way. You know? And that was the realization I think that changed things.' (Male, 36 years, moral injury)</i>
Effect on negative appraisals	<i>'When we were walking around and supposedly protecting and serving ... you didn't know who or what to trust or who was watching you, who wasn't watching you. You were hiding in plain sight. So, then your world view becomes a distrust.' (Male, 46 years, trauma)</i>
Implications for psychological wellbeing	<i>'So, yes, it does make you question who and what you are, and you shouldn't really be like that. Then I suppose you spend time trying to make amends and so forth ... I mean in a very belated and very pitiful way; I found the guy's grave and put a little cross on it. But what I try to do now is to find work with one of the military charities helping veterans move into jobs and so on.' (Male, 62 years, moral injury)</i>
Effect on posttraumatic growth	<i>'I'll be honest, I'll sometimes ask God for a favour and as they say there's no such thing as an atheist in the trenches. There is something there that I can't explain ... so spiritually I think it may have actually made me a better Christian.' (Male, 63 years, mixed)</i>
Risk and protective factors for experiencing a moral injury	<i>'You know right from wrong ... [but] it's the consequences of your actions, that's what you don't know. You don't know how it's going to impact you and I think the Army should really drill that into you in the career's office ... I think it's your age. I think it's how mature you are as a person ... I wasn't a very mature 19-year-old. Whereas somebody [who] probably is very mature and then they could deal with it differently.' (Male, 31 years moral injury)</i>

sets of values (e.g. military values versus civilian), as well as conflict within a set of values (e.g. conflict between military moral obligations; e.g. respecting the lives of civilians and enemy combatants, protecting colleagues, successfully completing the mission) were most commonly described by both groups. For example, after killing an enemy combatant, some veterans experienced considerable distress where there was a moral conflict between their civilian values (e.g. 'killing is murder') and military values (e.g. 'action justified within rules of engagement').

For veterans in both the morally injured and 'mixed' samples, exposure to such PMIEs and experiencing a clash of values or moral dissonance caused them to question their deeply held beliefs about the justness and necessity of armed conflict as well as their operational role. These veterans often reported that prior to the PMIE, they considered their tour to be serving a noble cause and, by extension, they themselves were a force for good. For many, this view disintegrated either during the deployment or upon their return home and was replaced with serious doubts about the purpose of the mission and

what their voluntary involvement inferred about them as a person. This distress was particularly marked in those veterans in both morally injured and 'mixed' samples who had experienced combat exposure in the Falklands and the recent Iraq/Afghanistan conflicts.

#### 2.4.2. Prevention of moral dissonance

Interestingly, veterans across the moral injury, 'mixed' and trauma samples described exposure to other challenging events, such as killing enemy combatants, during their military service and reported that these incidents did not cause them moral dissonance or lead to themselves questioning their moral or ethical code. In these cases, veterans described being able to justify the event or accommodate what happened within their moral framework, with justifications including that while their actions may have been wrong, they had acted for the greater good. Veterans were also able to prevent the experience of dissonance by holding beliefs that the right or wrongs of an event are a matter of perspective or that they were soldiers paid to do a job.

### 2.4.3. *Resolving moral dissonance*

Notably, several veterans in the moral injury sample, who experienced PMIEs and struggled with moral dissonance, described being able to resolve this value conflict. Some veterans resolved this moral dissonance by identifying a different source to blame for the event(s) rather than themselves (e.g. Ministry of Defence (MoD), chain of command). Others described coming to the decision that, while they could not change what had occurred, they must accept what had happened or it would have negative implications for their own mental health. This decision was brought on in some cases by the suicide of military colleagues. Morally injured veterans reported feeling particularly able to make this change in thinking over the years since the event or if they had successfully coped with challenging events in childhood. For several veterans, this resolution in moral dissonance was reached independently, although in some cases this was facilitated by formal psychological support which helped morally injured veterans to reframe the event or their involvement. Social support was not considered a facilitator of resolution. While discussion of the PMIE with friends, colleagues or family members was considered cathartic, veterans did not report that it helped to resolve their moral dissonance. Resolving moral dissonance was described by veterans as a key turning point and led to a reduction in their emotional distress and improvements in daily functioning. This resolution of moral dissonance was not described by veterans in the 'mixed' sample.

### 2.4.4. *Effect on negative appraisals*

Across all three samples, the experience of morally injurious and traumatic events had an impact on veterans' appraisals of themselves, others, and the world more generally, consistent with PTSD symptomology (DSM-5, 2013). The majority of individuals who had experienced a traumatic, non-morally injurious event described experiencing an ongoing sense of threat, where they themselves were vulnerable or expendable. Many described continuing difficulties, with pervasive concerns that the world they live in is highly dangerous and reported struggling with relationships or trusting others due to deep-set concerns that other people could be a potential threat.

Veterans who experienced 'mixed' PMIEs and threat to life described similar fear-based cognitions and concerns relating to themselves and their surroundings. However, distinct from the trauma-exposed sample, veterans who had experienced a 'mixed' or morally injurious event often held global perceptions that the world is an evil, corrupt place. Particularly following PMIEs related to witnessing human suffering, these veterans described reactions of despair and loss of faith in humanity. Moreover,

following PMIEs events involving acts of omission or commission, veterans in both the 'mixed' and moral injury samples often held an enduring belief that they as a person were bad, weak, or cowardly.

## 2.5. *Implications for psychological wellbeing*

Across both the moral injury and 'mixed' samples, veteran's experiences of a clash in value systems and moral dissonance often evoked emotional responses of profound shame, disgust and guilt, consistent with the criteria used by the research team to determine moral injury, 'mixed' or trauma event type. Particularly in cases of betrayal-related, military PMIEs (e.g. severe bullying, perceived negligent orders by command), these veterans reported feeling extremely angry and described strong feelings of irritability, which often negatively impacted their relationships with family members and colleagues.

In both the 'mixed' and moral injury samples, veterans who experienced PMIEs reported that their feelings of shame and self-loathing contributed to poor self-care as well as risk-taking behaviours (e.g. driving while intoxicated, speeding). Substance misuse (i.e. alcohol, illicit drug use) to distract from, or temporarily suppress, these feelings was also common. Another coping strategy evident in both the 'mixed' and moral injury samples was to make considerable efforts to atone or make amends for the PMIE. This included being involved in organizations to support fellow veterans, visiting the grave of enemy combatants they had killed and actively campaigning against bullying.

The primary emotional response described by trauma-exposed but not morally injured veterans were often feelings of intense anxiety, anhedonia and low mood. Many trauma-exposed veterans described 'classic' PTSD symptoms such as re-experiencing symptoms (e.g. nightmares, intrusive thoughts, flashbacks) and being hypervigilant to the potential threat which led to their withdraw from many social activities. While poor self-care and risk-taking behaviours were less common in this group compared to the 'mixed' and moral injury sample, substance misuse to manage distress was the most frequently described coping strategy in the trauma sample.

### 2.5.1. *Effect on posttraumatic growth*

Perceived experiences of posttraumatic growth, such as a greater appreciation for the value of life, perceived improvements in one's ability to empathize with others and greater gratitude for relationships with family members, were reported across all three samples by both morally injured and non-morally injured veterans. A small number of veterans with exposure to PMIE also described a growth in their spirituality or religious beliefs, which was a source of great comfort. This spiritual

growth was not described in trauma-exposed (non-morally injured) veterans.

Nonetheless, veterans in the 'mixed' and moral injury samples described having spiritual/religious beliefs prior to the PMIE and subsequently losing their faith or trust in a just God following their experience. Similarly, many veterans who reported having no spiritual/religious beliefs prior to the PMIE discussed how they came to view organized religion more negatively as a result of their morally injurious experience. For many of these veterans, their morally injurious experience contributed to perceptions that there cannot be a God – because what God would allow an event like this to occur – or views that organized religion is the root cause of violent conflict. This loss of spiritual/religious beliefs was not described in trauma-exposed non-morally injured veterans.

## **2.6. Risk and protective factors for experiencing a moral injury**

All participating veterans were asked for their views on what could be a potential risk and/or protective factors to experiencing distress following an event that challenges one's ethical or moral code. Factors relating to the event's context, other people's reactions and individual circumstances were considered to be possible contributing features. In terms of context, veterans across the three samples reported that distress may be highly likely if the PMIE involved victims that were perceived to be especially vulnerable (e.g. children, civilians, or more junior colleagues). The reactions of other people at the time, including a perceived lack of support from command in response to the event as well as inadequate social support from friends and family members, were thought to compound this distress. Conversely, empathetic support after the event, particularly from fellow personnel/veterans who had experienced similar incidents, and experiences of leaders taking responsibility for events, was considered by veterans to be helpful. Finally, individual factors such as perceived unawareness or unpreparedness of the potential emotional/psychological consequences of one's decisions (an insightfulness that was often considered to come with older age), low education attainment, and concurrent exposure to other stressors (e.g. serious illness, death of a family member) were also considered as possible risk factors for greater distress following PMIEs.

## **3. Discussion**

This study aimed to examine the experiences and responses of morally injured and non-morally injured, trauma-exposed UK military veterans and

the impact of such events on psychological wellbeing. We identified four key themes relating to the similarities and differences in UK veteran experiences of and responses to traumatic and morally injurious events, the experience of moral dissonance following PMIEs, the implications of traumatic and morally injurious events for wellbeing, and perceptions of potential risk and protective factors for distress following morally injurious events.

Veterans experienced moral injury after a range of events, including witnessing human suffering and experiences of within ranks betrayal. This presentation and index of events is consistent with previous studies of moral injury in both US and UK military samples (e.g. Bryan et al., 2014; Jones, 2018; Williamson et al., 2019). The present study illustrates that moral injury can be experienced by veterans following events that were both ethically challenging and life-threatening or otherwise consistent with PTSD criterion A in DSM-5 (Nordstrand et al., 2019). This is notable as the majority of the moral injury literature thus far has not made this distinction; for example, one of the most commonly cited definitions of moral injury (Litz et al., 2009) does not include a reference to the fact that the PMIE may simultaneously be threatening. It is possible that the combined impact of both a traumatic and PMIE may act as a 'double stressor' and could complicate treatment as therapists may focus more on the traumatic aspects of the event (rather than the morally injurious features) which are well addressed by conventional models of PTSD care. Therefore, our findings potentially contribute towards the conceptual clarification of moral injury in a UK context. They indicate a need for future studies of moral injury to consider screening for PMIE exposure more comprehensively, taking into account that while an event may violate one's moral code, it may also have concurrently posed threat to life or physical integrity (DSM 5, 2013).

A second theme that was found was the veteran's lived experiences of moral dissonance following morally injurious events. This study presented evidence that suggested that morally injurious experiences can lead to a clash between existing sets of values (e.g. military versus civilian) and this could contribute towards several negative cognitive and emotional responses (e.g. altered world view, shame, worthlessness), which are characteristic of moral injury (Drescher et al., 2011; Frankfurt & Frazier, 2016; Litz et al., 2009). This value clash was not experienced by non-morally injured participants nor following all potentially morally injurious events. Our findings highlight the cognitive process by which moral injury can develop and that moral injury in veterans does not always involve a straightforward violation of one's moral code. Rather, the moral conflict experienced can be complex, where multiple



value sets are in disagreement, consistent with previous research (Lifton, 2005; Molendijk, Kramer, & Verweij, 2018). Furthermore, this study found a number of veterans felt they were able to resolve the experience of moral conflict, either independently or following support from a mental health practitioner. These findings contribute preliminary evidence of how recovery following a moral injury may occur, and – once this process is better understood – could potentially inform the development of future treatment for PMIE. Independent resolution of moral dissonance was only described by veterans who had exposure to a PMIE rather than a ‘mixed’ event, and it is possible that this independent cognitive restructuring is more challenging when the PMIE is also traumatic or life-threatening and further exploration is needed (Ehlers, 2010). Despite this, as there is currently no validated treatment for moral injury-associated mental ill-health (Gray et al., 2012; Griffin et al., 2019; Maguen et al., 2010), the present findings may be beneficial in informing clinical practice by highlighting the conflict in values which may occur for veterans and how a resolution in some cases can be reached.

Our third central theme related to veteran’s cognitive appraisals and emotional responses following morally injurious and non-morally injurious events, which were broadly consistent with previous literature in trauma-exposed and morally injured samples (Bryan et al., 2016, 2014; Forbes et al., 2019). Following a PMIE, many participating veterans described primary symptoms of guilt, shame and worthlessness as well as secondary maladaptive responses such as poor self-care and risk-taking (Drescher et al., 2011; Frankfurt & Frazier, 2016; Williamson et al., 2019). Conversely, non-morally injured veterans described primary responses more consistent with typical PTSD presentations, including a sense of current threat, low mood and anxiety (DSM 5, 2013; Ehlers & Clark, 2000). Markedly, individuals who had experienced an event which was both morally injurious and threatening described primary symptoms of anxiety, re-experiencing and hypervigilance alongside reactions more typical of moral injury such as guilt and shame (Frankfurt & Frazier, 2016). Although it should be noted that, as that no validated screening measure for moral injury exposure currently exists, participant emotional responses (e.g. fear, guilt, shame) were considered by the research team when determining moral injury, ‘mixed’ or trauma group membership. Nonetheless, these findings may be relevant for clinical practice in highlighting the range of symptoms that can be experienced by veterans (Jinkerson, 2016) and is consistent with recent suggestions that standard exposure-based treatments for PTSD (e.g. prolonged exposure) alone may not adequately address all

negative sequelae present in those with moral injury (Maguen et al., 2010). Moreover, as it may be challenging for veterans to disclose PMIE due to concerns about the potential social and/or legal ramifications, it could be beneficial for clinicians to receive additional training and guidance on assessing the potential moral injury. More positively, some veterans across all three groups described experiences of post-traumatic growth, including a greater appreciation for life and improved connections with loved ones (Tedeschi & Calhoun, 2004). This experience of psychological growth is in line with previous research in morally injured Norwegian military personnel (Nordstrand et al., 2019). Veterans exposed to morally injurious or ‘mixed’ events also described a growth in their spirituality or faith following the event; however, this was not consistently observed, and PMIE exposed veterans also described a loss of spiritual beliefs. Such spiritual or existential concerns are consistent with US studies of veteran moral injury (Drescher et al., 2011; Purcell, Burkman, Keyser, Fucella, & Maguen, 2018) but contradict a recent UK study which found that clinicians did not consider spirituality to be a prominent issue for morally injured UK veterans (Williamson et al., 2019). While additional research exploring the impact of moral injury on spirituality in UK personnel/veterans is undoubtedly needed, the present findings suggest that it could be beneficial for clinicians to discuss and address the potential impact of moral injury on spirituality. These findings also indicate there may be a role for chaplains in supporting the wellbeing of morally injured personnel and veterans, in line with previous studies which found collaborative, informal support from military chaplains was linked to better mental health in service personnel (Seddon, Jones, & Greenberg, 2011).

In terms of risk and protective factors for experiencing distress following ethically challenging events, several elements including a lack of social support, event context and feeling unprepared were perceived by veterans to increase one’s vulnerability to distress. These findings are generally consistent with existing research; for example, a lack of social support has been found to be a risk factor for heightened distress following a variety of other military-related traumatic events (Zang et al., 2017). Whether perceived unawareness or unpreparedness about the potential emotional or psychological consequences of ethical decision-making is a risk factor for moral injury requires additional research. Some research suggests that an individual’s sense of controllability and predictability during a traumatic event is important for post-trauma outcomes (Başoğlu et al., 2005). Previous studies have also found that a pre-deployment briefing can be somewhat protective against later psychological distress during deployment (Mulligan et al.,

2010), and it is possible that a pre-deployment preparation about not only the ethically challenging decisions they may face during on tour but also how such decisions could make them feel may potentially be protective against mental ill-health. Further research to explore the potential utility of this intervention is needed.

This study has several strengths and weaknesses. Among the strengths was the inclusion of veterans who had experienced a wide range of morally injurious and/or traumatic events. Participation in the present study was anonymous and confidential, with interviews carried out by telephone, which may have facilitated disclosure of veteran experiences and associated distress (Greenfield, Midanik, & Rogers, 2000). Among the weaknesses is the convenience-sampling strategy, the limited diversity of the sample and the recruitment of only male participants. Future studies could include the perspectives of a wider demographic diversity. The assignment of participants to moral injury, 'mixed' or trauma groups was also determined by independent researcher ratings and future studies should utilize a screening measure once a validated tool for detecting moral injury is developed for use in the UK Armed Forces. Finally, it is possible that veterans may have also experienced other distressing events during their military service that were focused on in the interview (e.g. veterans in the moral injury group may have also experienced non-morally injurious traumatic events). For the purpose of the interview, veterans were asked to focus on the event which they found the most distressing and it possible that the potential psychological impact of other events may not have been fully captured.

Despite these limitations, our results contribute to the literature in several ways. First, this study expands on the limited research into the experience of moral injury on UK military veterans, detailing that events can simultaneously be morally injurious and traumatic or life-threatening – a nuance that has not often been discussed in the existing literature. This could be especially important as such events may not only contribute towards poor mental health but also adds a layer of complexity to treatment as morally injurious events may not be consistently asked about by clinicians and moral injury-related mental disorders could require a different treatment approach. Secondly, these findings highlight the process by which moral injury may occur in UK veterans, identifying veteran perceptions of the moral dissonance that arises following a clash between concurrently held value sets. Thirdly, these results illustrate how morally injurious experiences may differentially impact cognitions and emotional responses compared to traumatic, non-morally injurious events and what implications this may have for daily functioning. Finally, this research underscores the potential gaps

in the literature relating to possible risk and protective factors following moral injury and future studies are needed to examine effective pathways for prevention and intervention for veterans who have experienced a moral injurious event.

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### Ethics approval

King's College London Research Ethics Committee (RESCM-17/18-4002).

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