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Veterinary professionals' experiences of moral injury: A qualitative study

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Abstract

Background: Exposure to potentially morally injurious events (PMIE) has been found to be associated with negative mental health outcomes. Veterinary professionals (VPs) often experience challenging workplace events, but whether they experience PMIEs and the impact of exposure on their wellbeing is poorly understood. The objective of the study was to explore UK VPs experiences of PMIEs, the impact of PMIEs on VPs' wellbeing and beliefs about factors that influence VPs' exposure to PMIEs.

Methods: Ten VPs were recruited. Semi-structured interviews were carried out, and data were analysed using thematic analysis.

Results: VPs were found to experience PMIEs, including transgressive acts of commission or omission (e.g., being involved in or witnessing convenience euthanasia) or betrayal by trusted colleagues (e.g., bullying). Experiences of PMIEs evoked considerable psychological distress, including guilt, shame and loss of confidence in one's abilities. Several risk factors for experiencing psychological distress following a PMIE were described.

Conclusions: This study provides some of the first evidence that VPs may be vulnerable to moral injury and illustrates the impact that PMIEs may have on VPs' wellbeing.

Limitations: Future studies are needed to design and evaluate effective pathways for the prevention of and intervention for VPs who experience moral injury.

KEYWORDS
animal, ethical challenge, moral injury, veterinarian, veterinary

INTRODUCTION

The potential for morally difficult experiences being encountered at work has gained increasing awareness over recent years, especially during the COVID-19 pandemic. Moral challenges can be experienced by professional groups including police officers, healthcare workers, and journalists to name but a few. Employees in these groups may experience exposure to potentially morally injurious events (PMIEs), which strongly clash with their moral or ethical code.[1–3] PMIEs typically include acts of omission (e.g., witnessing unethical behaviour of others and failing to intervene), commission (e.g., carrying out unethical behaviour oneself) or betrayal by trusted others (e.g., colleagues betraying ones trust).[1,4,5] Experiences of PMIEs can lead to maladaptive beliefs (e.g., 'I am a failure', 'I let down my team') as well as deep feelings of shame, guilt, anger, worthlessness and disgust.[4,6] This constellation of distress is defined as 'moral injury'.[6] While there is no agreed definition of moral injury, the most frequently cited is that of Litz et al.,[6] which states moral injury 'refers to the lasting emotional, psychological, social, behavioural, and spiritual impacts of actions that violate an individual's core moral values and behavioural expectations of self or others', although it is important to note that a moral injury is not itself a diagnosable mental disorder. It is these changes in beliefs and affect following PMIEs that are thought to lead to the development of moral injury-related mental health difficulties in some cases, including post-traumatic stress disorder (PTSD), depression and suicidality.[7,4]

The concepts of moral distress and moral injury can appear very similar.[8] Moral distress is thought to refer to psychological unease that arises when individuals identify an ethically correct action to take but are constrained in their ability to take that action,[9] whereas moral injury refers to experiences of sustained moral distress that impact functioning.[6] Although, it should

be noted that no agreed definition or conceptual framework of moral injury currently exists.

The majority of research on the impact of PMIEs has been carried out on military personnel and veterans.[10,11] However, while veterinarians are often exposed to morally challenging situations, there is a dearth of good research on the impact of PMIEs on veterinary professionals' (VPs) mental health. PMIEs for VPs can include being asked to perform medically unnecessary procedures (e.g., cosmetic tail docking [illegal in the UK]), performing procedures that put animals under stress or at risk of harm, convenience or objectional euthanasia (i.e., euthanasia which is not to relieve animal suffering), and being unable to care for animals as owners lack necessary resources (e.g., lack of financial resources, time, housing).[12–15] VPs may also be exposed to betrayal events, including perceived bullying and harassment from colleagues or clients.[16] An examination of moral injury in VPs is particularly warranted as this population has been found to have high rates of psychological difficulties and are significantly more likely to die by suicide compared to the general population.[17,18] To date, few studies have examined moral challenges in VPs. Crane et al.[19] examined moral stress in VPs and found that experiencing morally significant stressor events was significantly associated with adverse wellbeing outcomes in Australian VPs. As this study did not use a validated measure of moral injury, there remain large gaps in our knowledge about VPs' perceptions of moral injury. To date, no UK research has been conducted specifically to examine VPs' experiences of and responses to moral injury. It should also be noted that moral injury, given the associated affect and potential social/legal consequences of disclosure,[20] is a sensitive and difficult research area. Most of the research to date has examined experiences of moral injury in military personnel[21] and how and in what contexts moral injury may be experienced by non-military professionals, like VPs, is less clear.

Research studies on this topic face a number of hurdles. First, most measures of moral injury have largely been designed and developed with military samples[22] and thus often feature items irrelevant to civilians. Second, in an attempt to overcome this, several non-military focused studies have reported findings using non-validated measures,[19,23] which limit the generalisability of the results. Finally, the experience and impact of a moral or ethical violation is deeply personal and highly subjective. Just as trauma exposure does not always result in symptoms of PTSD, the same may be true for moral injury. One's interpretation of the PMIE is likely to determine the severity of moral distress, and some may experience positive psychological change (e.g., post-traumatic growth[10]) that may not be fully captured quantitatively. Therefore, using a qualitative methodological approach, especially as a first step in a research programme, may be particularly useful as it allows participants to describe their lived experiences of PMIEs using their own words.[24] Thus, an exploration of VPs' experiences of moral injury would add to our conceptual understanding of the development and maintenance of moral injury in a non-military context. This study aimed to qualitatively explore UK VPs' experiences of moral injury, the impact of moral injury on VPs' wellbeing and beliefs about institutional or organisational practices that influence exposure to and wellbeing outcomes following PMIEs.

METHODS

Participants

This qualitative study is nested in a larger study of VP wellbeing. Between December 2020 and May 2021, 10 participants were recruited to the study. The present study is experiential in focus, and because experiences of moral injury in this population are under-researched, we prioritised sample specificity when considering the 'informational power'[25] of our sampling approach. That is, we sought in-depth insights, rather than a broader range of VP perspectives. Participants were contacted by the research team if they provided their contact details and reported interest in taking part in an interview following completion of an online survey of VP moral injury (see Williamson et al.[3] for information about the online survey). Subjects joined the online study through adverts on social media and via veterinarian charity mailing lists. Of the 30 participants who provided their contact details, 10 were contacted and agreed to be interviewed. No VPs were excluded from this qualitative branch of the study, rather it was not possible for the research team to successfully make contact with the remaining 20 participants. The VPs were not known to the researchers prior to interview. Following the interview, participant contact details were destroyed.

Eligible participants had to be aged 18 years and above, registered to practice veterinary medicine or veterinary nursing in the UK, English speaking, had no speech or hearing difficulties, and were willing to self-report their experiences during veterinary practice. No limitations on eligibility according to demographic characteristics (e.g., gender, age, years of VP experience) were imposed. Veterinary surgeons and veterinary nurses were successfully recruited for interviews. We refer to participants as 'VPs' throughout for clarity. Individuals were screened for eligibility in line with study inclusion/exclusion criteria using self-report questions. Verbal informed consent for participation in the interviews was taken from all participants and audio-recorded.

Assessment

Interviews were carried out by VW (female, experienced in qualitative research) one-to-one by

telephone or online telecommunication platform (e.g., MS Teams). Interviews lasted an average of 64 minutes (range: 41–84 minutes). Prior to data collection, the interview schedule was piloted with two VPs to ensure the probes were appropriate and sensitive. The pilot interviews were not audio-recorded, and data were not included in analysis. The interview schedule was informed by the research questions, the broader moral injury literature and previous qualitative studies of occupational moral injury. Interviews focused on VPs' experiences of moral injury during their working life, the impact of PMIEs on VPs' daily functioning and wellbeing, and whether any factors may make VPs more (or less) vulnerable to psychological difficulties following PMIE exposure. Participants were not provided with a definition of moral injury or PMIEs prior to the interview. Rather, participants were asked whether they had experienced an event(s) during their work as a VP that 'challenged their view of who they are, the world they live in, or their sense of right and wrong'[10] and to provide a brief summary of the event. Interview questions were open-ended, encouraging participants to describe their lived experiences in their own words.[26,27] Interviews were audio-recorded and transcribed verbatim, with audio-recordings destroyed following transcription. Prior to the interview, participants were asked to provide basic demographic information.

Analysis

All transcripts were analysed using NVivo 12 (QSR International). Data were analysed using thematic analysis, following the steps recommended by Braun and Clark[28]: reading and rereading the data, generating codes, searching for and creating early themes, and revising and refining core themes. An inductive analytical approach was used with codes and themes initially proposed by the primary researcher (VW). Data collection and analysis took place at the same time to allow developing topics of interest to be investigated further in later interviews and to determine whether thematic saturation had been reached. Constant comparison was utilised in the creation of codes and themes, with each new transcript compared to the existing dataset in order to identify unanticipated themes.[29,30] Peer debriefing was regularly utilised, with discussion and feedback on themes and codes sought from co-authors, who have considerable experience of moral injury and qualitative methods (DM, NG). It was not possible to return transcripts or preliminary data analysis findings to participants as participation was anonymous and participant contact details were destroyed following the interview. In an effort to ensure reflexivity, a reflective journal was kept by the primary researcher (VW) to note the influence of their own experiences and assumptions to prevent premature or biased interpretation of the data.[31–33]

RESULTS

Demographic information

Of the 10 participants, eight were female (80.0%) and the mean age was 40.3 years (range: 28–58 years). Most were white British (80.0%) and 40.0% reported being married or in a long-term partnership. On average, participants had been working in veterinary medicine for 17.6 years (SD = 13.5); 60.0% were working in a full-time role at the time of the interview. Participants included both veterinary surgeons and nurses.

Qualitative findings

Four core themes were developed, reflecting (i) VPs' experiences of PMIEs, (ii) the psychological impact of PMIE exposure, (iii) the (maladaptive) coping strategies deployed following PMIEs, and (iv) potential risk factors for distress following PMIEs. Anonymised excerpts have been provided to illustrate our findings.

Experiences of PMIEs in veterinary medicine

Morally injurious experiences in veterinary practice were related to transgressive acts of omission or commission by themselves or others. Events included witnessing the actions of others, such as witnessing senior colleagues euthanise healthy animals at an owners request or carry out procedures beyond the practice's services/capabilities in order to bill clients, rather than referring the animal to a specialist hospital. Acts of commission by VPs themselves included experiences of culling during the 2001 UK foot-and-mouth outbreak. Six million UK livestock animals were culled during this epidemic, and VPs reported that having to make the difficult decision whether to cull entire herds of livestock and destroy farmers' livelihoods, as well as having to participate in culling a huge volume of animals themselves, was highly challenging.

> *VP003 (male): There was something deeply unpleasant about staying on a farm where you'd killed off all the livestock and all the dead stock were still there on the farm but dead and you were waiting for them to [be disposed of]…. The consequences are so severe if you decide it isn't foot-and-mouth and you allow people to move around then the disease will spread, not unlike corona, the parallels are immense. Whereas obviously if you get it wrong and you've killed everything that's a big loss to the farmer and it then has impacts on the neighbouring farms…. It was hard because you had to explain to some farmers why their animals had to be killed and others didn't ….*

> *Other things that were difficult in that time [was] killing, when you are doing an awful lot of it …. There would be times you knew that the animals were not being killed in the best way possible because you had to get the job done quickly so you tended to pen them a bit too crushed together rather than doing them one by one …. If you take out the infected farm within 24 hours of diagnosis and take out the dangerous contacts within 48 hours any risk of spread is dramatically reduced. So there always was this [sense] we have got to really crack on and do this. You'd be stuck in instances where you were killing a farm and you realise actually that was the last farm in the area so the question was why did this one need to be culled out. That was a really difficult one … [this period] was referred to locally [as] the silent spring because there were no sounds of lambs in the fields.*

Notably, the majority of participating VPs described events involving betrayal by once trusted colleagues or supervisors. Experiences of betrayal included considerable bullying or harassment from other colleagues, as well as experiencing incidents of sexism or racial discrimination where other colleagues did not intervene. For example, one VP described their experience of being bullied by a colleague:

> *VP006 (female): I started off a new grad in a small practice because they say to me, 'oh you are going to be mentored one to one, it's going to be amazing for you'. Bulls**t … One of my colleagues … she said to me 'you are useless, nobody is going to go on you, nobody is going to hire you', that's from my ex-boss … I lost completely my confidence … as a vet, as a human, as a person. I completely thought that everything was my fault … I have spoken to a couple of [my new colleagues] but my old job has found out … and they're making accusations and threats, so I'm not speaking any more …. It's not like [my colleagues] care [about me], like each person here has their life like they don't care about what's happened with the rest. They say we're a big team, a big family, but really, they're full of bulls**t .*

In particular, many VPs described incidents where they were newly qualified and felt inadequately supported by senior colleagues, and were made to provide treatment beyond their skills or capabilities, which resulted in an animal dying or being in significant pain. One VP stated:

> *VP008 (female): I had an old boss when I was a new grad, it was just me and him in a very small practice …. I kept asking him for help and I just needed a second opinion but he never gave me a second opinion and then [a] cat then died under general anaesthetic. But then he made it out that it was my fault even though I did reach for help and I did try to ask so I didn't really trust him after…. I felt really guilty actually that I should push harder I think.*

Here, this VP describes how they struggled to receive adequate guidance and support from a senior colleague. In this context, they felt that they had sought out help when the case exceeded their clinical expertise and, not only was no help available, they were made to feel to blame for the lack of support they received and the outcome of the case.

The psychological impact of PMIE exposure

VPs reported that their experiences of PMIEs often stayed with them for many years after the event. The experience of PMIEs often evoked strong emotional responses in VPs, including considerable guilt, shame, anger and self-loathing. Especially in cases of betrayal events, VPs often reported feeling very angry and described strong feelings of disgust and distrust of others, which often negatively impacted relationships with clients and colleagues. Particularly, after experiences where they were newly qualified and inadequately supported, VPs described a significant loss of self-esteem and confidence in their own abilities, with several VPs describing themselves as useless and inadequate.

> *VP006 (female): I lost completely my confidence, my confidence as a vet, as a human, as a person. I completely thought that everything was my fault. So, when I changed jobs I took a job that I knew was underpaid for my skills … but then now at least I got trained and getting back my confidence and everything. But it's still every time that something happens, I'm always like it's my fault …. So yes, you are still thinking I'm not good enough with anything in my life, like this has affected my relationships … If somebody says 'you have done this wrong' I'm just like 'shit', that mistake follows me for months. So yes you know when people are talking about somebody who has f**ked it up, I'm always checking my cases thinking 'f**k that was me'. But yes, that's what the job made me.*

Experiencing PMIEs and associated feelings of guilt, shame and anger often had a significant impact on VPs' daily functioning. Many reported that they felt permanently changed following their experience and described themselves as more anxious, more distrustful of others as well as feeling unwanted. Several VPs

described having difficulties with self-care following the PMIE, often struggling to exercise (or exercising excessively) and drinking alcohol to excess to distract or suppress difficult feelings. VPs who experienced PMIEs when they were newly qualified and inadequately supported frequently felt they could no longer provide treatment unsupervised and/or described that they now took extensive clinical notes to be able to document all of their decisions if challenged.

> *VP007 (female): One thing I found quite hard is that I was trying to do … exercise every day, eat well every day, sleeping, doing everything that you would do to be mindful and healthy but yet I still ended up in a bit of a crisis …. I was trying to control everything and be good and have everything in order but actually that was becoming negative for me. So not allowing myself to sit down and relax because I was too busy trying to be organised … because that's the right thing to do. I was trying to look after myself but it became quite negative. I was walking and running but actually I was running to a point where my knees would swell up, I had blisters on my feet.*

> *VP008 (female): Now I'm extra cautious about writing all my notes correctly and telling [clients] if [the animal's] not better come back- just to cover my back …. I think my self-confidence is really low and I think a lot of the confidence comes from my job and I think it affected me as a person because I don't feel I'm good enough to be a vet and I felt like I miss things and I feel like these mistakes shouldn't happen. They should have been avoided or things like that so you do a lot of self-blaming for it.*

The (maladaptive) coping strategies utilised following PMIEs

In order to cope with their distress, VPs reported using a number of coping strategies. The majority of VPs described how, following the PMIE, they resigned from the practice or organisation as soon as possible. Subsequently, VPs reported how they actively sought other roles which offered more support or supervision, or they sought work in charitable or less prestigious practices where care standards were perceived to be less exacting and more achievable. Some VPs left clinical practice altogether. Several VPs also explained that they had accessed formal psychological support following the event(s), often at the recommendation of family members or close friends. Psychological treatment was thought to be especially helpful in providing a confidential place to discuss the challenges experienced at work, as well as supporting VPs to come to terms with their best being good enough and finding ways to be less harsh and self-critical.

> *VP010 (female): I got so stressed in my old job I went to see a therapist and it helped a lot …. I was just basically getting really, really anxious when I was on-call … and I was just hallucinating the phone ringing because I never knew what was going to be on the other end. It was literally every time I did the weekend on call I had to change my ring tone because every time I heard the ring tone it would be like terrifying to me. So yes that was what pushed me into [getting therapy]… the [main] message I took away from [therapy] was it's OK to be just fine and stuff and you don't have to be the best. And you can be fine with being adequate at everything.*

Several VPs described receiving social support from other VPs—usually from veterinary trained friends that they had studied with in university rather than current colleagues. Support from other VPs was especially helpful as, when discussing the event, less explanation about the PMIE context was required and other VPs could often emphasise having experienced similar events themselves. Support from other VPs was considered very beneficial and was a key component of why participants who accessed formal support from veterinary-specific organisations, such as Vetlife, experienced it as helpful.

> *VP002 (female): I've definitely talked about it and I think that that has helped because subsequently …. I've had a couple of other friends have difficult times at work … who have then been able to share with me what they've been going through and I think we've probably been able to help each other with that …. I do have some non-vet friends, I probably don't think I've ever really discussed [what happened] with non-vet friends to be honest …. It's about getting it, that's exactly what it is, it's about [my friend friends] getting it …. So we just get it, there's not really a single one of my vet friends who is sitting pretty thinking everything is perfect. None of them.*

Experiences of post-traumatic growth

Despite experiencing psychological difficulties, many VPs described experiences of post-traumatic growth following PMIEs. Experiences of post-traumatic growth included increased appreciation for supportive colleagues, perceived improvements in one's ability to emphasise with others, and the belief that

they had acquired the skills to cope better with subsequent adversity. Moreover, a small number of VPs with exposure to PMIEs described a growth in their religious beliefs or spirituality, which was a source of great comfort. A loss of spiritual/religious beliefs was not observed, and most VPs who reported that they had no such beliefs stated that this view had not changed following the PMIE.

> *VP004 (female): It made me draw closer to God … you have to turn to God. I'm not the kind of person who turns away from him by saying you've failed. In my feeling we're the ones who fail him because it's our choices quite often but I get tremendous comfort from him I really do. So it's brought me closer. It also brought friends around from my church in my area when we were there closer. It brought my husband and myself closer and realising there are certain people in your life that you need to form lasting relationships with and then there are others who no matter what you do if you try to be a shining light to them they just won't take it on. So one of the things that [helped was], I prayed a lot, I prayed a lot about the situation.*

> *VP007 (female): I think I've learnt a lot about myself …. I've always been like I don't really get depression. And then to realise and to do an assessment and I come out as depressed at the end of that assessment I was like what happened, why is this? So I've learnt a lot about myself and I think I've become a lot more aware of little signs in other people and tried to advocate taking time out …. Just trying to look out for your colleagues, not that I didn't before but really I'm here for you, you know I've not been OK before and now I think it is like talk to me or if you don't want to talk to me talk to someone else.*

Perceived risk factors for experiencing a moral injury

All participating VPs were asked for their views on what could be a potential risk and/or protective factors to experiencing distress following a workplace event that challenges one's moral or ethical code. Factors relating to the event's context, their formal training, other people's reactions, and individual circumstances were described as possible contributing factors. In terms of context, VPs described that distress may be highly likely if the event received public attention, such as events that occurred in high-profile settings or small, insular towns. The reactions of other people at the time, including a perceived lack of support from senior colleagues or practice managers, as well as having inadequate social support (e.g., one's friends also have a close relationship with the perpetrator) were thought to worsen distress. Feeling unprepared or untrained for their VP role, including feeling inadequately trained to manage difficult clients and not receiving mentoring early in their career, were also considered a risk factor. Finally, individual factors such as experiencing other significant concurrent stressors (e.g., serious illness, divorce) and experiencing concerns about mental health-related stigma, which prevented help-seeking were viewed as possible risk factors for greater distress following PMIEs.

> *VP010 (female): I never really got taught how to receive feedback or maybe that's just something you should know. Every time we did something like, we'd do consultation training and we'd have mock consultations with actors and stuff but because we'd only do it once and then if you didn't get good feedback on it I would just be like oh well OK I'm terrible with people. So I guess just a bit more [training in] everything …. I don't know if it's necessarily at University that is the problem I think it's those first few years in practice. If you are a junior doctor I think you are supervised a lot more than a new graduate vet. They're trying to change it, they're trying to have a lot more supervision built into being new graduate vets, which I think would be good.*

DISCUSSION

This study aimed to explore UK VPs' experiences of moral injury, the impact of moral injury on VPs' wellbeing and beliefs about factors that influence wellbeing outcomes following PMIEs. We identified four key themes: experiences of types of PMIEs, the implications of PMIE exposure on wellbeing, the coping strategies utilised, and perceptions of potential risk factors for distress following PMIEs.

VPs were found to experience moral injury following a range of events, including acts of omission, commission, including being involved in potentially inhumane or unnecessary euthanasia, and acts of betrayal by trusted colleagues (e.g., bullying). This presentation and index of events is broadly consistent with previous, UK and US, studies of moral injury of military personnel.[10,11,21,34] The current study suggests that moral injury can also be experienced by those working in veterinary medicine as a result of ethically challenging workplace events. Moreover, we found that participating VPs reported exposure to transgressive events involving acts of omission, commission and betrayal, which is consistent with the current theoretical understanding of how moral injury

may develop.[6,35] This highlights the need for a validated measure of PMIE exposure suitable for civilian samples to allow for the experiences of moral injury in VPs to be further explored.

The qualitative approach used in this study allowed for an in-depth examination of VPs' appraisals and emotional responses following PMIE exposure. VPs reported experiencing substantial distress, including symptoms of shame, guilt, anger and low self-worth. VPs also reported secondary responses, including difficulties with self-care. These primary symptoms are consistent with research carried out in previous studies of both military and non-military morally injured samples,[4,8,19,36] suggesting that the psychological responses to PMIEs are similar across different occupational groups. These findings may therefore have implications for clinical practice, particularly for organisations aiming to specifically support those in veterinary medicine, by highlighting the range of symptoms that can be experienced by VPs. Importantly, our results show that despite the adversities faced, VPs exposed to PMIEs also described positive outcomes following their experience, including a growth in spirituality and a greater appreciation for supportive relationships. This experience of post-traumatic growth following PMIEs is consistent with findings from military studies.[10,37] We suggest that future studies of moral injury should holistically assess the impact of PMIE exposure to identify positive, as well as negative, outcomes.

We identified a number of perceived potential risk factors for experiencing distress following PMIE exposure. Such factors included a perceived lack of support from colleagues or social networks and feeling inadequately trained or mentored. Importantly, we note that social support has been widely found to be associated with more adaptive adjustment following a range of traumatic events,[38,39] and it is thus unsurprising that VPs in the present study reported finding it especially valuable to receive support from those also working in veterinary medicine. Moreover, previous studies have indicated that feeling psychologically unprepared for PMIE exposure may heighten distress.[10,40,41] We note that military studies have found that a pre-deployment briefing can serve a protective function against later psychological distress during deployment.[42] We suggest, therefore, that it may be beneficial for VPs to be frankly prepared—perhaps during university training—for the difficult tasks they may be asked to carry out during the course of their careers. It is also possible that training potential VPs about the types of events they may experience, and associated psychological reactions, alongside more supportive mentoring for early career VPs, may potentially be protective.[43] However, it was beyond the scope of this study to determine what preparation or training may be beneficial in preventing moral injury-related distress among VPs and further research about the effectiveness of such prevention efforts is needed.

STRENGTHS AND LIMITATIONS

This study has several strengths and limitations. Among the strengths is the use of qualitative methods, which allowed for in-depth exploration of VPs' subjective experiences, and the small sample size, which allowed for detailed analysis of the data. Participation in this study was conducted remotely (e.g., telephone, online) as well as being anonymous and confidential, which may have helped VPs to feel able to disclose their lived experiences.[44] Among the limitations is the opportunity sampling strategy used and the limited demographic diversity of the sample (e.g., most participants were female and white British). Given the qualitative nature of this study, a large-scale international investigation would be useful in determining the generalisability of the findings and how they compare across VP settings internationally. Finally, it was beyond the scope of this study to examine whether VPs perceived that there were differences in PMIE exposures across different VP roles (e.g., nurse, veterinary surgeon, etc.) and this warrants further investigation.

Despite these limitations, the present study contributes towards the literature in several relevant ways. First, these findings expand the existing literature of moral injury in civilian samples, highlighting that VPs may be vulnerable to PMIEs while carrying out their role. Second, our results illustrate the impact that PMIE exposure is perceived to have on VPs' wellbeing and daily functioning. This may allow for organisations and clinical care teams who support VPs to provide more targeted guidance and support where needed. Finally, this study provides early evidence of potential risk factors for experiencing distress following PMIEs in a veterinary context. Future studies are needed to design and evaluate effective pathways for the prevention of and intervention for VPs who experience moral injury.

AUTHOR CONTRIBUTIONS

Victoria Williamson, Neil Greenberg and Dominic Murphy were all involved in shaping the study design, conducting data collection and data analysis, and drafting the manuscript for publication. The manuscript has been read and approved by all authors.

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CONFLICTS OF INTEREST

No financial relationships with any organisation that might have an interest in the submitted work in the previous 3 years. No other relationships or activities that could appear to have influenced the submitted work.

ETHICS STATEMENT

This study was reviewed and received ethical approval from King's College London Research Ethics Committee (HR-20/21-18272).

DATA AVAILABILITY STATEMENT

No additional data are available.

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