

**MORAL INJURY IN SECURE MENTAL HEALTHCARE:  
CONCEPTUALISATION, CAUSES AND COGNITIONS**

**by**

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A thesis submitted in partial fulfilment for the requirements for the degree of Doctor of  
Philosophy at the University of Central Lancashire

**April 2024**

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## ABSTRACT

This PhD aimed to explore the conceptualisation of moral injury, and the sources leading to and increasing risk for the development of moral injury in healthcare staff working in secure mental health settings. The program of work also sought to explore a series of cognitive-emotional pathways linking exposure to a potentially morally injurious event (PMIE) with the development of moral injury, and subsequent psychological and somatic adversities.

In line with the first aim, a systematic literature review and meta-ethnography was firstly conducted. Thirty qualitative and quantitative papers identifying potential sources of moral injury for healthcare workers in forensic and mental health settings were identified. Meta-ethnographic synthesis of the findings across papers yielded three third-order factors reflecting a series of moral dichotomies; (i) 'between profession and system', (ii) 'between relations with patients and relations with others', and (iii) 'between principles and practices'. The line of argument that developed from the synthesis described the hierarchical relationships between such dichotomies, with discordance between values of the healthcare profession and features of the healthcare system primarily providing the conditions for PMIEs to occur.

Following this, the first study involved the recruitment of 46 experts to partake in a Delphi survey of sources of moral injury, over three successive rounds. A number of PMIEs were identified, which related to aspects of the healthcare system, the secure context, relational dynamics, and individual practices, behaviours and attitudes. Experts also identified and agreed on several items relating to the definition of a PMIE, the factors driving the occurrence of PMIEs, and the factors increasing risk for the subsequent development of moral injury.

In line with the second aim, a cross-sectional study of the risk factors and cognitive mechanisms implicated in the development of moral injury (study two) was conducted. Data was

collected from 545 healthcare professionals working in secure mental health settings. In the first instance, the results indicated high rates of exposure to moral transgressions and betrayals, and such events were experienced as impactful by participants. Furthermore, findings supported a developmental-cognitive pathway underlying moral injury. Specifically, a partially mediating serial effect of childhood trauma symptoms, early maladaptive schemas, and maladaptive metacognitions in the pathway between moral injury exposure and distress was found.

Finally, the contributions of moral injury to secondary psychological, somatic, physiological and functional sequelae, and the cognitive-emotional mechanisms linking these facets (study three) was explored. Analyses of data collected from 385 healthcare professionals working in secure mental healthcare organisations indicated moral injury symptoms to be a positive predictor of psychological distress, somatic symptoms, nightmare-related difficulties, and impairments in personality functioning, and contributed to the regression models beyond the effects of burnout. Additionally, findings indicated a mediating role for negative emotional schema in the pathways between moral injury and these adverse well-being outcomes.

This programme of research indicates that secure mental healthcare settings provide many of the conditions for moral injury to occur at an organisational, relational, and individual level. Additionally, the findings support the conceptualisation of moral injury through an integrated framework that considers developmental, cognitive, emotional and social processes. From the findings, a theoretical model that attempts to explain how moral injury occurs and leads to subsequent adverse well-being outcomes in secure mental healthcare staff is proposed.

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## **ACKNOWLEDGEMENTS**

Firstly, I would like to express my particular gratitude to my supervisors, Professor Jane Ireland and Dr Michael Lewis, for their invaluable support over the last three years and sparking the idea of a self-funded PhD. I have learnt so much from your wisdom over the course of this thesis, and will never underestimate the value of a great supervisor.

I would also like to extend my thanks to my line manager, Dr Deborah Morris, for all the encouragement, opportunities and trust you have given me since the beginning of my research career, and for enabling me the flexibility to balance my work and studies.

My appreciation also goes to my parents and sister for their continuous support and belief in me, both during my PhD, and in the years before. Special thanks also goes to my husband, Rhys, who has shown me such patience, encouragement and understanding.

Finally, I wish to thank all those who took the time to participate and made this research possible. I am particularly indebted to you.

## **DEDICATION**

This thesis is dedicated to my grandfather, who always showed such pride in my achievements.

## CHAPTER 1. SETTING THE SCENE

Improving the well-being of healthcare workers has been a prominent focus in research, policy and practice. This occupational group are at a disproportionately increased risk for several adverse health outcomes, including anxiety, mood disorders, post-traumatic stress disorder (Hill et al., 2022; Saragih et al., 2021), various physical health conditions (e.g., Kuo et al., 2015), and suicide (Awan et al., 2022; Dutheil et al., 2019). The emotionally demanding work undertaken by this occupational group has also been associated with high levels of work-related distress, namely burnout (De Hert, 2020) and compassion fatigue (Cavanagh et al., 2020).

In particular, poor well-being has been reported by staff working in psychiatric settings (see Johnson et al., 2018 for a review). In a study of 180 male and female nurses, Sahraian et al. (2008) found that those working on psychiatry wards reported significantly higher levels of depersonalisation and emotional exhaustion, compared to those working in other hospital departments. Similarly, poor psychological well-being contributes to a greater proportion of absenteeism in mental healthcare staff when compared to staff working in other healthcare sectors (Johnson et al., 2018). In the absence of any prospective and longitudinal research, it cannot be determined whether poorer well-being is wholly accounted for by the psychiatric environment and/or pre-existing vulnerabilities for poor well-being in individuals who seek employment in mental health services. Nevertheless, there are several environmental factors and ethical challenges unique to mental healthcare, which contribute to adverse well-being profiles among the workforce. In recognition of such external constraints, it appears timely to move solely beyond frameworks such as ‘burnout’, which locate the source of distress internally in a person’s ability to cope with stressors (Melamed et al., 1999), to also conceptualise distress through a moral injury lens.

Moral injury occurs when an individual ‘perpetrates, witnesses, fails to prevent or learns about acts that transgress deeply held moral beliefs’ (Litz et al., 2009, p. 700). Moral injury is arguably a pertinent issue for addressing in secure mental healthcare, given the potential implications on workforce well-being. Exposure to a Potentially Morally Injurious Event (PMIE) and the subsequent development of moral injury have been associated with a wealth of adverse psychopathological outcomes, including depression, anxiety and PTSD (Benatov et al., 2022; Saba et al., 2022; Williamson et al., 2018), as well as sleep disorders, social withdrawal, alcohol and substance use, and suicidal ideation (Boscarino et al., 2022; Dedert et al., 2019; Hall et al., 2022; Padmanathan et al., 2023; Williamson et al., 2021a). The effects of such outcomes are likely to be costly, both for the organisation, due to the resulting absenteeism and associated financial losses, and for patients, due to potential impacts on continuity and quality of care (Johnson et al., 2018). Thus, there is value in, and a need for strategies and interventions to address moral injury in healthcare, with benefits likely to permeate across the healthcare system.

Currently, understanding of the potential sources underlying moral injury is limited. One factor that may be linked with moral injury, which is particularly pertinent to the psychiatric environment, is exposure to aggression (Dickens et al., 2013a, 2013b; Odes et al., 2021). In 2019, 20.2% of NHS staff in mental health and intellectual disability services reported exposure to violence in the workplace, which is an increase on the figure of 14.5% reported across the general NHS workforce (NHS England, 2019). Incident rates of aggression are further elevated in secure mental health services than in general mental health settings (Bowers et al., 2011). Exposure to aggression is linked with several adverse outcomes in mental healthcare workers, including increased levels of anxiety, depression and burnout (d’Ettorre & Pellicani, 2017; de Loeff et al., 2018). A singular study conducted in a secure mental healthcare setting by the current author also

found significant associations between exposure to aggression and moral injury (Webb et al., 2023a); this relationship was significant in white female healthcare workers only, though the small number of participants representing other gendered ethnic groups may somewhat account for this finding. Other factors pertinent in the secure mental health environment that have been reported as sources of distress include the witnessing of self-harm and the heightened focus on safety management to the detriment of compassionate care (Matthews & Williamson, 2016). However, these experiences are yet to be explored within a moral injury framework.

Whilst not unique to the mental healthcare sector, workforce shortages and unmanageable caseloads are also a challenge faced by staff in psychiatric services, including those working in secure settings (British Medical Association, 2019). Importantly, such shortages and pressures may prevent staff from providing the care that they feel they should be giving (Suhaimi et al., 2021). The inability for healthcare workers to uphold the oath and principles of their profession – namely, to provide quality patient care – may lead them to question their morality, as both a professional and as a human being, which echoes the foundations for the development of ‘moral injury’. Thus, moral injury appears to be of relevance to describing the experiences of staff in secure mental healthcare settings, prompting the need for prevention and intervention strategies.

There exists several opportunities for the prevention, management and treatment of moral injury. Arguably, prevention strategies that intercede at the earliest stage to inhibit the initial occurrence of a PMIE, as the prerequisite for moral injury, may afford the most value (Gilbert-Ouimet et al., 2022). Accordingly, an understanding of the PMIEs faced by healthcare staff in secure mental health settings is a good foundation from which to consider the existence of moral injury in this occupational group. Nevertheless, examination of the sources of moral injury in healthcare has almost exclusively focused on COVID-related experiences of staff in physical



healthcare settings (see Riedel et al., 2022), with little consideration of the unique ethical tensions brought about in secure psychiatric care, beyond the pandemic. Furthermore, interventions that prevent the development of moral injury and further adverse outcomes following exposure are also likely to be of value, particularly where a morally injurious event cannot be avoided.

In recognition that exposure to a PMIE alone is not sufficient in wholly driving the development of moral injury, research has explored corresponding risk factors. However, studies in healthcare have primarily focused on demographic and COVID-19 factors (e.g., Dale et al., 2021; Hines et al., 2020), which are likely to be in part an artefact of greater exposure to PMIEs. Considering possible mechanisms underlying the development of moral injury, a role for cognitive appraisals has been hypothesised (Steinmetz & Gray, 2015) and targetted in proposed treatment models (e.g., Murray & Ehlers, 2021). Nevertheless, empirical examination of this mechanism in linking PMIE exposure and moral injury is absent. Furthermore, processes implemented in the pathways from PMIE exposure to moral injury, and from moral injury to additional health adversities, are likely to be multi-faceted and occurring within a network of mechanisms that is more complex than can be accounted for by cognitive appraisal styles alone.

In consideration of the limited exploration of moral injury in secure mental healthcare, namely the sources and underlying causal mechanisms, there is need for a comprehensive investigation of the events and factors promoting the development of moral injury, and the translation of this construct into other domains of well-being in the workforce. The next three chapters will provide a review and discussion of the available evidence relevant to the omissions considered here, drawing on theory to consider potential mechanisms.

## **CHAPTER 2. UNDERSTANDING DISTRESS IN HEALTHCARE WORKERS**

### **2.1. Structure of the Chapter**

This chapter commences with an overview of the dominant frameworks of occupational distress applied to healthcare workers, before introducing moral injury as an important alternative framework. The applications of this more contemporary framework to a healthcare context are then discussed, providing an overview of the state of the current evidence. Finally, the relevance of moral injury to describing the experiences of staff in secure mental healthcare settings will be discussed, with consideration of the situations and circumstances that may give rise to such a response in this occupational group.

### **2.2. Traditional conceptualisations of occupational distress**

Presentations of distress and poor well-being in healthcare staff have been conceptualised and understood through several theoretical frameworks. Historically, ‘burnout’ has held a dominant place in research and interventions for occupational distress. This term was first applied to forensic professionals by H.B. Bradley in 1969, and popularised by Herbert Freudenberger in 1974, who defined the term based on observations of behavioural and physical indicators in those in caring professions. In the absence of a standardised definition, the conceptualisation of burnout as a multi-faceted syndrome comprising emotional exhaustion, depersonalisation, and reduced personal efficacy (Maslach & Jackson, 1981; Maslach et al., 2001) has been widely adopted.

High rates of burnout have been reported in healthcare staff populations, based on thresholds proposed on the Maschler Burnout Inventory (Maslach et al., 1996). A meta-analysis of burnout in mental health professionals reported a high prevalence of emotional exhaustion (40%) and, to a lesser extent, depersonalisation (22%), with reasonable levels of personal

accomplishment retained (O'Connor et al., 2018). Rates of burnout have also been found to be higher in mental healthcare workers when compared to staff working in other healthcare sectors (Johnson et al., 2018), indicating burnout to be particularly relevant to this occupational group.

The validity and utility of burnout as a framework for treating occupational distress has been questioned in recent years, however. Primarily, questions about specificity have been raised due to the overlap in the nosology of burnout and depression (Bianchi et al., 2015), and use of burnout as a 'catchall' term (Oquendo et al., 2019). In his seminal work defining the construct, Freudenberger (1974) himself indicated behavioural expressions of depression to be indicative of burnout, suggesting that an individual suffering from burnout "looks, acts and seems depressed" (p. 161). This is also mirrored empirically. Studies utilising structural modelling and clustering methods have reported poor syndromal unity and discriminant validity, with depression and dimensions of burnout loading onto a common factor (Bianchi & Brisson, 2019; Bianchi & Schonfeld, 2018; Verkuilen et al., 2021). Furthermore, burnout rates reported may be overestimated due to differences in the criteria employed. Whilst burnout is conceptualised as involving both emotional exhaustion and depersonalisation, previous studies have determined burnout based on cut-off scores within just one domain (e.g., Acker et al., 2012; Shanafelt et al., 2015).

Another dominant framework, which has been applied to account for emotional and psychological distress in healthcare workers, is secondary traumatic stress. This term, which is often used interchangeably with 'vicarious trauma', describes a set of dysfunctional cognitive and emotional responses that may mimic those of Post-Traumatic Stress Disorder (PTSD). Unlike PTSD, however, the individual experiencing the symptoms has not experienced the trauma themselves, but rather has been exposed indirectly, such as via their work with trauma-exposed

populations. Given the high prevalence of trauma exposure in those accessing mental health services (e.g., Karatzias et al., 2019; Martin et al., 2021), mental health professionals have frequent contact with traumatised clients (see Baum, 2016), rendering them at particular risk for experiencing secondary trauma.

Studies exploring secondary trauma in mental healthcare staff have reported average scores that border or fall within the moderate range in both Eastern (Xie et al., 2020) and Western cultures (Ireland et al., 2021; Mangoulia et al., 2015; Singh & Hassard, 2021). However, further examination of scores suggest that a notable proportion of staff have scores of secondary trauma that fall within the high range. Specifically, 51% of participants from a study of 99 (n=23 male) UK allied mental healthcare professionals (Singh & Hassard, 2021) and 45% of participants from a study of 174 (n=52 male) Greek psychiatric nurses (Mangoulia et al., 2015) reported scores at or above the 'high' threshold on the Professional Quality of Life Scale (ProQOL; Stamm, 2005). Nevertheless, such studies utilised different cut-offs, preventing meaningful comparison.

Besides increased contact with traumatised individuals, staff working in secure psychiatric settings may also be particularly vulnerable to experiencing secondary traumatic stress as a result of their propensity to several factors that increase risk for this outcome. These include a personal trauma history (Buchanan et al., 2006; Yazıcı & Özdemir, 2022) and maladaptive emotion regulation strategies (Singh & Hassard, 2021). The relevance of these risk factors to mental healthcare personnel will be given detailed consideration in later chapters.

Despite the popularity of terms such as burnout and secondary traumatic stress in describing presentations of distress within the healthcare literature, their ability to account for the external constraints under which this occupational group operate has been called into question (Dean et al., 2019). Such terms locate distress as a product of individual failure to manage chronic

workplace stress and traumatic material, internalising the source of distress as residing within the individual. As such, interventions to treat such problems are typically focused on intrapersonal (Awa et al., 2010; Bercier & Maynard, 2015) and individually driven work-focused skills (see Edú-Valsania et al., 2022), such as resilience and time management. The protective role of individual factors and coping mechanisms in buffering against a wealth of adverse outcomes for healthcare workers has been empirically supported. For example, evidence has brought to light the significant effects of resilience-based interventions on a plethora of outcomes, including burnout and emotional distress, psychiatric symptoms, and emotion regulation skills in interdisciplinary healthcare staff samples (Bruschwein & Gettle, 2020; Janzarik et al., 2022). Nevertheless, suggestions such as ‘trying not to make difficult decisions at work’ (see Edú-Valsania et al., 2022) are arguably naïve and impracticable. Thus, the need for greater attention to contextual factors and interventions that target distress resulting from external constraints extending beyond an individual’s control is recognised (Molendijk et al., 2022).

### **2.3. Moral injury: An alternative theoretical framework**

The need to reframe distress in healthcare workers has been proposed (Dean et al., 2019). An alternative framework that has gained increasing traction for describing, exploring and treating psychological distress in this occupational population is ‘moral injury’. The conceptualisation of this term will now be discussed.

#### *Defining the aetiology and symptomology of moral injury*

The notion of moral injury was first forwarded by Shay (1994) to describe the impact of war-related experiences of trauma on an individual’s sense of meaning, belonging and integrity, and referred to as a ‘character wound’. Shay postulated that the conditions necessary for moral injury

could be defined via three criteria: (i) ‘a betrayal of what’s right’, (ii) by someone in a position of ‘legitimate authority’, (iii) in a ‘high-stakes situation’ (p. 183). In summary, he viewed moral injury as the result of exposure to morally harmful practice by leaders in situations that carry risk for harm to others.

The definition of moral injury and the necessary factors preceding its’ development has since evolved, with a growing body of definitions postulated. Perhaps the most widely adopted definition within contemporary literature is that postulated by Litz et al. (2009), who propose moral injury as a form of psychological distress resulting from the ‘perpetration, failure to prevent, witnessing of, or learning about acts that transgress deeply held moral beliefs’ (p. 700). This later definition proposed by Litz broadens the situations and circumstances under which moral injury can theoretically occur and removes focus on an authority figure as the sole catalyst of morally injurious events. Definitions that have since followed have also mirrored this broader definition of a morally injurious event, extending beyond Shay’s (2003) focus on betrayal by leaders in high-stakes situations, to also account for moral failures by the self or another (Brock & Letitini, 2012; Drescher et al., 2011; Kinghorn, 2012; Nash et al., 2010).

Besides the factors characterising an event as having the potential to result in a moral injury, attempt has been made to define the symptoms that characterise it. Moral injury has been both theoretically and empirically associated with a wealth of moral emotions, namely guilt and shame (Bryan et al., 2018; Litz et al., 2009, 2022), as well as a loss of trust in self and others, and spiritual and existential conflict (Jinkerson, 2016). Secondary symptoms of moral injury, which may develop as a consequence of primary symptoms, are reported to include anger, self-harming behaviours (e.g., substance abuse, suicidal ideation), and interpersonal difficulties (e.g., social isolation and withdrawal) (Barnes et al., 2019; Jinkerson, 2016). In consideration of the different

types of morally injurious events, as proposed in more contemporary definitions (e.g., Litz et al., 2009), the symptoms corresponding with acts of betrayal, self-transgressions<sup>1</sup>, and transgressions by others, individually, have been suggested to differ. Whereas betrayal-based events, which are typically interpersonal in nature and involve an erosion of trust (e.g., being exposed to harm as a result of a colleagues' failure to intervene suitably), are more commonly associated with externalising emotions, such as anger, perpetration-based events are more closely linked with internalising emotions, such as shame and guilt (Jordan et al., 2017).

Differences in the frequency and functional impacts of PMIEs have also been noted, with research suggesting self-transgressions to be associated with the greatest psychosocial impairments in healthcare workers, despite being reported as the least commonly endorsed class in this occupational group (Nieuwsma et al., 2022; Weber et al., 2022). Such findings suggest it may be important not only to attend to moral injury as a framework, but also the specific underlying sources, in healthcare workers. Strong correlations between PMIE types have been reported in healthcare professionals (Brennan et al., 2022), which does limit the ability to draw inferences about the independent effects of self-transgressions, other-transgressions and betrayal on functioning. Whilst not yet explored in the context of functioning, research in 286 healthcare staff and leaders (n=101 male) has shown cumulative exposure to differential PMIE types to be a key driver of burnout, secondary traumatic stress and compassion satisfaction, with many of the predictive effects for individual PMIE types becoming non-significant (Webb et al., 2023b).

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<sup>1</sup> Self-transgressions are acts that an individual themselves commits that go against their own moral values. Self-transgressions can be by action (a behaviour that the individual directly commits) or by omission (the failure of the individual to engage in a certain behaviour).

### *Distinguishing moral injury and PTSD*

It is important to consider the significant overlap between moral injury and Post-Traumatic Stress Disorder (PTSD), both in their conceptualisation and comorbidity. PTSD is categorised within diagnostic classification systems as an **anxiety disorder** that develops after exposure to a threatening event. Thus, both PTSD and moral injury are classified as forms of psychological distress resulting from a trauma. Associations between moral injury and PTSD symptomology have been reported in military and civilian samples (e.g., Amsalem et al., 2021; Levi-Belz et al., 2020), with one study also conducted in a broad sample of US healthcare workers (Fani et al., 2021). Nevertheless, such studies failed to distinguish between moral injury exposure and distress in their measurement of this construct. Accordingly, it cannot be established from this evidence alone whether PTSD and moral injury are in fact distinct concepts, including in secure psychiatric healthcare workers specifically.

Drawing on additional evidence, whilst both moral injury and PTSD can arise as responses to traumatic experiences, they can perhaps be distinguished in several ways. Given that much of the literature and resulting theory developed to account for differences in risk for moral injury have been drawn from empirical studies of PTSD, it is first important to consider such distinctions between the two. In the first instance, whilst overlap in their symptomology is apparent (Bryan et al., 2018; Koenig et al., 2020), including depression, anxiety, and insomnia (Battles et al., 2021), distinctions in the primary symptoms characterising the two can be made. Primarily, whereas PTSD is positioned as a fear-based disorder grounded in perceived threats to personal safety (Foa et al., 1989), moral injury is associated with a threatened sense of self and integrity, and a shattered belief system about the world (Hodgson & Carey, 2017); namely, the former results from mortal danger, whilst the latter results from moral danger (Battles et al., 2018). Studies utilising Structural



Equation Modelling (SEM) methods have identified distinct moral injury and PTSD profiles in military and police samples (Mensink et al., 2022; Smigelsky et al., 2018). For example, in a sample of 930 US National Guard personnel, Bryan et al. (2018) found PTSD was uniquely associated with memory loss, flashbacks, startled reflexes, nightmares and insomnia. In contrast, moral injury was uniquely associated with guilt, shame, anger, anhedonia, and social alienation. Furthermore, the functions of shared symptoms between moral injury and PTSD have also seemingly differed. For example, Farnsworth et al. (2017) suggest that avoidance behaviours in individuals with PTSD may stem from a fear for personal safety, whilst avoidance behaviours in moral injury may present as an attempt to evade feelings of shame resulting from a moral violation.

Another important distinction which can be drawn between PTSD and moral injury is the terminology and framing of such symptoms. As a clinical diagnosis, the conceptualisation of PTSD pathologises symptoms of guilt and shame as inherently disordered. Contrastingly, moral injury frames such symptoms as natural and somewhat healthy responses to situations in which one's moral values have been contravened. Resultantly, different approaches to reducing symptoms are arguably warranted within interventions.

An earlier review noted that it is not uncommon for veterans to continue to present with PTSD symptomology above the clinical threshold following completion of therapy, including cognitive processing therapy and prolonged exposure therapy (Steenkamp et al., 2015). Based on such findings, it has been suggested that some existing treatments may not be addressing the additional moral injury element that can accompany presentations of PTSD (Jones, 2020). The eradication of unresolved shame and guilt can be a goal of PTSD treatment, with clinical guidelines recommending the use of various cognitive-behavioural therapies that shift maladaptive thoughts

about the traumatic event<sup>2</sup> (National Institute for Health and Care Excellence [NICE], 2018). However, within moral injury research, there is a more generalised focus on guilt and shame, as opposed to a specific focus on ‘unresolved’ guilt and shame that is not serving any adaptive purpose for the individual. In cases of moral injury, such symptoms are suggested to be important to maintaining a perception of oneself as humane (Molendijk, 2021), and thus challenging guilt and shame-related emotions where these are perhaps warranted responses to a transgression may be more detrimental than beneficial (Finlay, 2015; Gray et al., 2017). Rather, the way in which an individual makes sense of and responds to such emotions may be a more appropriate target for treatment. This will be explored within the next chapter, **not before concept of moral injury is critiqued** and the applicability of this framework to healthcare is reviewed.

#### **2.4. Critique of the concept of moral injury**

The introduction of moral injury into modern discourse around occupational wellbeing is primarily attributed to the work of Jonathon Shay (1994), who applied the term to account for presentations of distress observed in soldiers returning from the Vietnam War who had been exposed to poor practice of leaders. The dominance of moral injury within research and clinical applications however relates more to contemporary conflicts, namely the Iraq and Afghanistan wars (Williamson et al., 2018). The introduction of moral injury into understandings of war syndromes shifted dominant thinking around the causes of distress seen in those serving in and returning from war from anxiety-based, person-focused psychological conceptualisations (e.g.,

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<sup>2</sup> It is noted that shifting maladaptive thoughts about the traumatic event is not the goal of all recommended PTSD treatments, such as Eye Movement Desensitisation and Reprocessing (EMDR) therapy.

Effort syndrome, Combat fatigue, Acute Stress reaction, Post-traumatic stress disorder) to a moral-based, system-focused perspective that recognised the role of the war itself (Shibaoka, 2024).

The shift in emphasis on the external environment and factors as underpinning distress is arguably a key strength of moral injury. This framework offers an alternative understanding that can be validating for individuals who have experienced traumatic events that do not fit within the conceptual and diagnostic boundaries of PTSD or burnout. The move away from implicating individual faults, such as a lack of resilience and coping skills, as the core targets for mitigating distress, reduces the sense of the self as being 'deficient' (Dean et al., 2019) and instead shifts focus on the culture and system within which such distress is experienced. Indeed, changes in working environments and systems have shown initial promise as an effective approach for improving well-being outcomes in healthcare staff (Aust et al., 2024), whilst individual-level interventions appear to have little, if any effect (Fleming, 2024).

The downfall of the inclusivity of the moral injury framework, however, is the risk for the dilution of this term to account for experiences and presentations that fall beyond intended applications. Indeed, Molendijk (2022) warn of the risk of 'concept creep' as a consequence of the lack of clear distinction of what defines moral injury. The absence of a standardised criteria for determining moral injury also creates challenges in establishing presence and prevalence within a population, with no standardised definition nor assessment measure currently in existence. Accordingly, the definite presence of a moral injury cannot be established in the same way that a psychological disorder can, and thus findings relating to the 'prevalence' of moral injury in a population must be interpreted cautiously with this in mind.

Perhaps the greatest concern surrounding the development of moral injury lies within the risk for pathologisation. Moral injury is not a diagnostic construct, and originated as an alternative approach to psychological war syndromes that could not be classified within models of psychiatric disorders. Debate has since emerged within the field, with some framing moral injury as a 'syndrome' comprised of a specific set of symptoms, in the absence of any formal diagnostic criteria (Jinkerson, 2016), and others cautioning against this (Farnsworth et al., 2017). Regardless, the language of moral 'injury' may inherently risk pathologizing expected human responses to transgressive experiences (Jones, 2020). A workforce with a strong moral conscience is arguably the foundation of a morally healthy organisation, and thus the medicalisation and stigmatisation of moral injury would likely only exacerbate the issue. It is important to note that moral injury is understood within the current thesis to be a normal response to an adverse occupational experience(s), and is not framed as a mental disorder; to do so would be at odds with the origins of this term.

The limitations and concerns surrounding moral injury are not suggestive of the lack of utility or value of the framework, but rather are cautions to be mindful of. Since the popularisation of moral injury within a military context, first by Shay (1994) and then Litz (2009), interest in moral injury for describing distress has proliferated, with consideration of its utility and relevance to wider sectors of society, including veterinarians (Williamson et al., 2022), teachers (Glazer, 2022), journalists (Feinstein et al., 2018), refugees (Hoffman & Nickerson, 2021), civilians (Fani et al., 2021) and public safety personnel (Lentz et al., 2021), including healthcare workers. The emergence of moral injury within the context of healthcare, and current understandings of the relevance of moral injury to this occupational group will now be discussed.

## 2.5. Moral injury in healthcare

Understandably, recent interest in moral injury in healthcare has been largely prompted by the COVID-19 pandemic that arose in 2020. During this time, healthcare workers found themselves operating under sparse and inadequate resources, including a lack of personal protective equipment (PPE) and staffing shortages, as well as being unable to provide the level of care required by their patients. Such conditions made them susceptible to committing and witnessing actions that counteract their professional and, perhaps, personal moral code (Rodríguez et al., 2021), reflecting the conditions necessary for moral injury to develop. In a survey of 1,900 UK doctors (n=592 male), over half (51.1%) agreed that moral injury resonated with their experience of working in healthcare during this period (British Medical Association, 2021). Furthermore, qualitative studies of healthcare workers' experiences of the COVID-19 pandemic have also captured several ethical and moral challenges faced by this occupational group, including isolation from patients and acting beyond the boundaries of one's professional role and training (e.g., Liberati et al., 2021; Song et al., 2021), which may be experienced as morally injurious by some.

Nevertheless, whilst examination of moral injury related to the COVID-19 pandemic appears both warranted and timely, the isolation of investigation to this context has stunted the advancement of knowledge about the sources of moral injury and potentially effective prevention strategies. There are likely many events and acts that healthcare workers are exposed to that may afford inconsistency between internal standards and outward behaviours, outside of a COVID-19 context, which meet the definitions of moral injury postulated by both Shay (1994) and Litz et al. (2009). Furthermore, an initial study of 237 intradisciplinary healthcare workers in a secure psychiatric setting (n=81 male) found no significant associations for self-ratings of the impact of

the pandemic on well-being with moral injury exposure and distress (Morris et al., 2022a). Thus, such findings propose preliminary suggestion that distressing events experienced in the context of the COVID-19 pandemic could not wholly account for levels of moral injury in healthcare populations. Indeed, recent findings suggest that many of the PMIEs identified in the context of the COVID-19 pandemic were exacerbated by existing systemic issues (Hegarty et al., 2022)<sup>3</sup>.

It is within the context of the COVID-19 pandemic that the prevalence of moral injury in healthcare workers has been explored with more interest (Riedel et al., 2022). Yet, the absence of any consensus definition makes establishing the prevalence of moral injury a challenge. Comparison of prevalence rates reported between studies is also hindered by the reliance on various tools for the assessment of moral injury. Most notably, many of the tools developed for the assessment of moral injury fail to distinguish between exposure and impact. The Moral Injury Events Scale (MIES; Nash et al., 2013) is one such example. The MIES encompasses sets of paired items, one of which measures exposure to a *type* of PMIE and the other of which assesses the *severity* of distress resulting from the exposure. Given that exposure to a PMIE does not guarantee the subsequent development of moral injury, it is perhaps unsurprising that scores on the MIES vary between studies. Interpretation and comparisons of scores on the MIES are also hindered by different approaches to scoring, with some studies collapsing response options and thus altering the possible range of scores, or reversing the tool's scoring criteria (e.g., Amsalem et al., 2021). Additionally, the absence of any thresholds or standardised scores on the MIES creates difficulty for interpretation. Nevertheless, mean total scores reported in healthcare

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<sup>3</sup> Systemic issues that may have exacerbated morally distressing and injurious experiences during the COVID-19 pandemic include a lack of support in reporting malpractice and mistreatment, management that is disconnected from the realities of frontline work, and being unable to provide patient-centred care due to chronic understaffing and underfunding.

workers (M=30.8, Ulusoy & Çelik, 2022; M=27.9, Morris et al., 2022a) appear comparable to, if not greater than, those reported in veteran and military samples (M=26.6, Forkus et al., 2019; M=26.9, McGuire et al., 2019), supporting the extension of moral injury in accounting for distress beyond army experiences.

Several other studies in healthcare workers have focused solely on the prevalence of moral injury symptoms. Specifically, studies utilising the Moral Injury Symptoms Scale – Healthcare Professional version<sup>4</sup> (MISS-HP; Mantri et al., 2020) have reported varying prevalence rates across Western and Eastern cultures. Studies conducted in multi-professional samples of healthcare workers in the US have reported prevalence rates of 32.4% (Rushton et al., 2022) and 69.4% (Akhtar et al., 2022) for clinically significant moral injury. Conversely, there is more consistency in studies of Eastern samples, with prevalence rates of 41% reported for healthcare professionals in large-scale studies conducted in Pakistan and China (Nelson et al., 2022; Wang et al., 2022a). Nevertheless, in the absence of the simultaneous assessment of PMIE exposure, it cannot be determined that such symptoms are the *result* of morally injurious experiences within the workplace, specifically. Use of tools that assess PMIE exposure *and* resulting impact, but do not collapse responses to a single score, are needed to draw more substantiative insights into the true prevalence of moral injury in healthcare staff.

Besides differences in healthcare systems (Popic & Schneider, 2018; Xu, 2006) and experiences of the pandemic (Miconi et al., 2020), divergence in the prevalence of moral injury symptoms between Eastern and Western cultures may, in part, be explained by demographic and occupational differences within the samples used in such studies. Research in healthcare samples

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<sup>4</sup> The MISS-HP defines scores of >35 as indicative of clinically significant moral injury.

has noted differential rates of moral injury symptoms dependent on gender, with higher rates of moral injury in female workers than in male workers (Akhtar et al., 2022). Furthermore, the severity of distress associated with types of PMIEs is also reported to differ based on gender, with self-transgressions noted to be more impactful for male healthcare workers and veterans, alike, than females (Maguen et al., 2020; Morris et al., 2022a; Nieuwsma et al., 2022). Being of a younger age has further been associated with greater moral injury symptoms in healthcare professionals (Mantri et al., 2021), although whether this is a product of less experience, which has too been identified as a risk factor for moral injury in this occupational group (Akhtar et al., 2022; Mantri et al., 2021), cannot be concluded.

The impact of professional role has also been a focus in the literature. In particular, research has primarily concentrated on the experiences of nursing staff in physical healthcare settings (Čartolovni et al., 2021), with evidence to suggest that this occupational group may be particularly susceptible to moral injury (Brady et al., 2022; Dale et al., 2021; Lamb et al., 2021; Zerach & Levi-Belz, 2021). Nevertheless, these studies utilised the MIES and thus the findings may reflect a greater propensity for nursing staff to experience PMIEs, rather than a direct risk factor for developing moral injury. When examining differences in rates of *symptoms* specifically, working in a psychiatric setting appears to be a risk factor (Akhtar et al., 2022), irrespective of job role (Webb et al., 2023a).

## **2.6. Positioning moral injury in psychiatric care**

The seemingly higher prevalence rates of moral injury symptoms in mental health settings position this sector as a priority for research and intervention. The existing literature on moral injury has primarily focused on the experiences of staff in physical healthcare settings, as an artefact of the COVID-19 context in which research has been grounded more recently (Riedel



et al., 2022). Nevertheless, moral injury is not, by definition, restricted to accounting for the experiences of healthcare staff working only in this context. In a pre-pandemic report of the state of the mental health workforce in England (British Medical Association, 2019), 52% of clinicians reported being unable to provide the care that they felt they should be giving, and 49% were troubled by this inability to fulfill their duties, as a healthcare professional. Accordingly, there appears a need to broaden the lens through which moral injury in healthcare is explored, going beyond the context of the pandemic and considering the experiences of staff working in psychiatric settings, in particular within the added dimension of secure care. The application of moral injury to the experiences of staff working in mental healthcare settings will next be considered, before further exploring the additional relevant contextual challenges brought about by working in secure services, more specifically.

Investigation of moral injury within healthcare, and particularly within a psychiatric context, has been predated by a wealth of literature on the morally *distressing* experiences of staff working in this occupational field. Yet, despite the interchangeable use of these terms, moral distress and moral injury are positioned as separate constructs. Moral distress and moral injury may arguably reflect individual points on a continuum (Litz & Kerig, 2019), with *cumulative* moral distress bearing the potential to accrue and present as moral injury (Čartolovni et al., 2021). From this perspective, it is possible that sources of moral distress may also be sources of moral injury, when occurring in tandem or pervasively. Nevertheless, this has not yet been empirically explored.

Litz and Kerig (2019) draw further distinction between moral distress and moral injury with regards to the nature of their underlying sources and symptomology, and their associated outcomes. In the first instance, they suggest that events that threaten personal integrity or loss of

life are more closely associated with moral injury, than with moral distress. Furthermore, they suggest moral injury to be characterised by enduring attributions about the self or others, mirroring the ‘negative self-concept’ cluster of complex PTSD. Contrastingly, in individuals presenting with moral distress, beliefs about the self and others are not thought defined by the transgressive experience. Finally, authors consider social rejection and ostracism characteristic of moral injury, but less so, of moral distress. As such, there is need for investigation of sources of moral injury, specifically.

Thus far, only two studies have considered sources of distress in mental healthcare professionals through a moral injury framework. In the first instance, Pérez-Toribio et al. (2022) conducted a qualitative investigation of ten Spanish mental health nurses (n=2 male) experiences of restraining patients in mental health settings. A theme of ‘moral injury’ emerged, based on nurses’ descriptions of feelings of guilt and a ‘bad conscience’. However, in the absence of the use of any standardised assessment measures, whether participants reporting such emotions were in fact experiencing the more complex and comprehensive symptomatic profile that characterises moral injury cannot be concluded. More recently, a study by the current author of 222 secure mental healthcare workers (n=76 male) indicated the potentially morally injurious nature of exposure to violence by service users for white female healthcare professionals (Webb et al., 2023a). Nevertheless, the cross-sectional design and use of the MIES in this study limited the ability to draw substantiative conclusions regarding the morally injurious nature of such events.

Thus, the clear lack of empirical investigation of the *range* of acts and events that precede the development of moral injury in mental healthcare reflects an important research gap. A more comprehensive understanding of the various PMIEs faced by this population, which are likely to be multifarious, is potentially critical to informing changes in policy and practice and offering

recommendations for policymakers and healthcare professionals at all levels, from leadership to the frontline.

### *The secure mental healthcare context*

An additional dimension in which moral injury must be considered, is that of *secure* mental healthcare. Currently, investigation and understanding of the PMIEs faced by staff working in the context of secure mental healthcare is rudimentary, though several potential sources can be proposed.

Staff working in secure mental health services operate within a particularly restrictive environment that necessitates balance between care and security, and comprises legal and ethical tensions (Bipeta, 2019). This occupational group care for people detained against their will who have typically committed serious crimes involving harm to another, and do so in a particularly restrictive environment that deprives patients of their liberties and freedoms. This includes the isolation of patients from loved ones, restrictions on ‘autonomy of movement’ including patients’ rights to leave the hospital or ward, and enhanced restrictions on the number and types of personal items that patients have access to (Tomlin et al., 2019). Such restrictions bring about inherent power imbalances, with staff often required to provide treatment that is at odds with the choice and wishes of patients, as passive recipients of, rather than active contributors to their own care. Secure mental healthcare staff may also face dual loyalty conflicts, in which their responsibilities to provide care to and uphold the rights of their patients as well as for public protection create incompatible ethical and moral obligations (Merkt et al., 2021). Staff may also find themselves engaging in practices that mirror or trigger early traumatic experiences frequent in people detained to secure mental healthcare services, such as the need to conduct intimate

body searches and the use of force during physical restraint (Hennessy et al., 2022). Examination of sources of moral injury in secure psychiatric healthcare workers may therefore identify important priorities for prevention and intervention that have bearing on the health of the workforce and the wider organisation, as well as the continuity and quality of care received by service users.

Whilst insight into the sources of moral injury in secure mental healthcare is limited, initial evidence indicates the relevance of moral injury in capturing the experiences of staff who work in this context. In the first instance, a study of 237 clinical staff from a secure mental healthcare organisation (Morris et al., 2022a) reported scores on the MIES that were in many instances elevated, if not comparable, to those reported in studies of healthcare staff outside of a secure psychiatric context (e.g., Hines et al., 2020; Litam & Balkin, 2021). Further examination of the frequency of participants who agreed with any of the exposure items on the MIES indicated that almost three quarters (72.7%) of clinical staff had experienced a transgression or betrayal to varying degrees (Webb et al., 2023b), 70.6% of whom reported exposure to multiple PMIE types (e.g., self-transgression and betrayal by others). Accordingly, exposure to events that pose as potential sources of moral injury appears to be the norm within staff working in a secure mental healthcare setting.

The relevance of moral injury in capturing the experiences of staff working within such a setting extends not only to nursing staff, but across the multidisciplinary team, with research highlighting equivalence in the levels of exposure to PMIEs and subsequent distress between nursing and non-nursing staff (Webb et al., 2023a). Within such environments, care is provided by multidisciplinary teams of healthcare workers from several professions, who collaborate to provide patient care within and outside a ward environment. Thus, whilst it can be hypothesised

that there may be differences in the types of PMIEs that staff of varying professional roles are exposed to, there are arguably also likely to be overlaps, and all have the capacity to develop moral injury. As such, identifying the possible sources of moral injury and their impact on staff of varying professions in secure mental healthcare settings is necessary to understand and effectively support the comprehensive well-being needs of the workforce.

## **2.6. Concluding comments**

Improving employee well-being remains a priority in the healthcare sector, with the potential for benefits at the patient, staff and organisational level (Adams, 2019). Initial research has established the relevance and prevalence of moral injury in healthcare personnel, including those working in secure mental healthcare settings (e.g. Morris et al., 2022a). However, insight into the events prompting the development of moral injury in this context remains notably limited, which hinders the development of supportive strategies. Existing research indicates disparities in risk for moral injury in healthcare workers based on demographic and occupational factors, albeit with no empirical attempt to understand the underlying mechanisms that may account for such discrepancies (e.g., Mantri et al., 2021; Nieuwsma et al., 2022; Williamson et al., 2023). There is a need to understand the mechanisms that may account for differential responses to PMIEs. Potential mechanisms linking PMIE exposure and subsequent symptoms, which may account for sociodemographic discrepancies in the prevalence of moral injury, are thus of particular relevance to account for and will be considered in the following chapter.

## **CHAPTER 3. RISK FACTORS FOR MORAL INJURY IN HEALTHCARE WORKERS: DEVELOPMENTAL AND COGNITIVE PATHWAYS**

### **3.1. Structure of the Chapter**

This chapter will consider a possible developmental-cognitive pathway to moral injury. The chapter will capture a role for early adverse experiences and several cognitive mechanisms in driving risk for moral injury, following exposure to a PMIE. Both lower order cognitive processes and higher order meta-cognitive influences will be explored. The chapter will also consider the role of other individual-level factors, namely demographic and social determinants, as well as systemic factors that may increase the likelihood for the development of moral injury in healthcare workers. Firstly, the potential role of early trauma in driving risk for moral injury will be discussed, drawing on theory and empirical evidence.

### **3.2. Early trauma**

Childhood trauma has long been linked to a wide range of adverse health outcomes across the life span, including depression, substance misuse, suicidal ideation, delays in cognitive development, sleep disturbances, PTSD, and various physical morbidities, to name a few (Oh et al., 2018; Petruccelli et al., 2019; Sahle et al., 2021). Initial evidence from a small study of 176 healthcare workers (n=17 males) in Canada indicates particularly elevated rates of exposure to adverse childhood experiences in this occupational group (66%; Maunder et al., 2010), which exceeds rates reported in Western community samples (e.g., 46.4%, Bellis et al., 2014; 52%, Felitti et al., 1998; 58.7%, Giano et al., 2020). Additionally, Choi et al. (2021) found that, in a sample of 53,323 female US nurses, sexual, physical and emotional abuse in childhood were reported by 15%, 45% and 60% of participants, respectively, exceeding rates reported for

adulthood trauma exposure (11%, 23% and 44%, respectively). It should be noted that differences in trauma assessment tools used inhibit accurate comparison. However, staff who have experienced a greater number of childhood adversities have been found to report higher levels of current psychological distress (median 17.0 vs 13.0) and are more likely to have been absent from work due to stress or illness in the previous four months (69% vs 38%) (Mauder et al., 2010). As such, early experiences of trauma may be an important factor contributing to the raised rates of psychological distress and moral injury in healthcare staff, inclusive of those working in secure mental health settings.

Preliminary studies examining the link between early trauma and moral injury have reported significant relationships between the two. Battaglia et al. (2019), Williamson et al. (2021b) and, most recently, Easterbrook et al. (2022) all found significant associations between exposure to childhood maltreatment and moral injury in military soldiers and veterans. Similarly, Fani et al. (2021) and Lathan et al. (2022) have found significant associations for exposure to childhood abuse with both the frequency of exposure to PMIEs and the severity of associated distress in small civilian samples. More recently, Roth et al., (2022) reported a significant association between exposure to adverse childhood experiences and moral injury symptoms in 294 public safety personnel (64% male), which included healthcare workers (n not reported).

Only one study to date (Plouffe et al., 2021) has failed to find an association between early trauma and moral injury, though this may be accounted for by the reliance on summative scores of childhood trauma exposure as opposed to examination of the effect of specific trauma types (Felitti et al., 1998). Thus, such findings offer tentative support for early trauma as a risk factor for the development of moral injury in later life, though suggest that specific types of early trauma may be more instrumental in driving vulnerability to moral injury than others. Nevertheless, given

that the experiences preceding the development of moral injury in secure mental healthcare workers are arguably phenomenologically different from those of both military and general population samples, they cannot be assumed to be mechanistically similar. Furthermore, whilst such studies indicate a role for childhood trauma as a risk factor for moral injury, they do not offer empirical insight into why or how early adversity increases such risk. For this, we must instead turn to theory.

Traumatic experiences occurring within the developmental period are known to shape several important processes that make an individual more susceptible to experiencing psychopathology in later life (Hughes et al., 2017; McKay et al., 2020), though the precise mechanisms implicated in this relationship are of ongoing debate. In recognition of the multifinality of outcomes succeeding exposure to adversity, developmental models (e.g., Pynoos et al., 1999) frame the effects of childhood stress on psychopathology as occurring through multiple pathways, including genetic dispositions, neurobiological alterations, and behavioural and cognitive factors. Whilst a broad range of processes have been identified and supported within the literature, developmental experiences and cognitive mechanisms are specifically addressed in this chapter, in line with the focus of this thesis.

A useful developmental theory to first consider is *Attachment Theory* (Bowlby, 1988). Here, experiences of relationships with caregivers in early life are considered to act as mental blueprints for an individual's representation of the self, as well as the world and others, referred to as an 'internal working model'. Attachment trauma describes the disruption to the establishment of a secure attachment, which often occurs as a result of an abusive or neglectful caregiver. Attachment trauma can manifest via several symptoms throughout the life course, some of which may make an individual more susceptible to moral injury. This includes a tendency towards feelings of shame



and guilt (Lopez et al., 1997), and hyperarousal and reactivity to threats and stressful events (Shaver & Mikulincer, 2007).

The hyperarousal and reactivity to potential or perceived threat often seen in individuals exposed to early relational traumas may have implications for the conceptualisation of moral injury. The *Looming Vulnerability Model* (Riskind, 1997) proposes hypervigilance to threat as a result of a ‘looming cognitive style’ in which an individual applies biased appraisals about potential threat across situations. This concept has been implicated as a vulnerability factor for PTSD (Bomyea et al., 2012; Elwood et al., 2009), with alterations in social and emotional processing empirically evidenced in trauma-exposed populations. For example, a small US study of 81 university students found that individuals who had been a victim of interpersonal trauma were more prone to overestimating the escalation of risk in ambiguous situations than non-victims (Elwood et al., 2007). Furthermore, heightened perceptual sensitivity and attentional orientation to expressions of threatening emotions (e.g., anger), but not non-threatening emotions (e.g., sadness), have been observed in children exposed to abuse and neglect (e.g., Pollak et al., 2000; Shackman et al., 2007). This hyper reactivity is shown to persist into adulthood (Gibb et al., 2009). The increases in hyperarousal and reactivity in trauma-exposed individuals can be accounted for by structural and functional alterations to brain regions implicated in threat processing, namely the ventromedial prefrontal cortex (vmPFC) and amygdala (Bryant et al., 2020; Kredlow et al., 2022). Increased activation of the amygdala and reduced activation of the prefrontal cortex inhibit the regulation and extinction of fear responses, resulting in increased hyperarousal and vigilance to threat.

Applying this notion to the context of this thesis, individuals who have experienced childhood trauma could be speculated to be at increased risk for moral injury due to alterations in perceptual and attentional biases to threat cues, which make them more attuned and vigilant to

experiences of betrayal and harm towards the self and others. In particular, it is thought that individuals may become more attuned to moral violations that mirror the trauma they have experienced themselves (Smetana et al., 1984); thus, relational traumas that involve betrayal by a trusted other, such as abuse in the context of an attachment relationship, may have a particularly pertinent influence.

An additional avenue for consideration are the impacts of early trauma on moral development itself. From a developmental perspective, morality is strongly driven by early developmental experiences, and thus traumatic experiences during this period may disrupt the normative trajectory of moral development. Within his *Two-Stage Theory of Moral Development*, Piaget (1932) proposes two forms of moral thinking. The first is ‘heteronomous morality’, which is characterised by the perception of rules as absolute and judgements of morality based on observable consequences, irrespective of intention or context. The second stage, ‘autonomous morality’, develops later, and is characterised by recognition of the intentions and circumstances in the making of moral judgements. Individuals exposed to childhood trauma may not progress onto this second stage, but rather remain ‘stuck’ in a stage of ‘moral realism’, whereby they rely on rules to guide actions and make judgements about their own and others’ behaviours based on their consequences, regardless of their intention. This notion aligns with Litz and colleagues’ (2009) conceptualisation of moral injury as resulting from an ‘inability to contextualise or justify personal actions or the actions of others’; individuals who demonstrate ‘heteronomous’ moral thinking may be more likely to develop moral injury due to a tendency to overlook contextual factors and intention and, resultantly perceive betrayals and transgressions as morally unjustified.

In line with this, research assessing moral reasoning in 47 women in Canada found that participants with PTSD resulting from prolonged exposure to childhood trauma were less likely

than healthy controls to engage in utilitarian action, a decision-making process that demands cognitive reasoning (Nazarov et al., 2016). Rather, these participants were more likely to engage in deontological actions, which are driven by adherence to rules with less consideration of the consequences. Such findings support a potential role for childhood trauma in impaired moral decision-making, which may influence an individual's propensity for moral injury through diminished cognitive capacities. Individuals who have experienced trauma may be more driven to comply with rules enforced upon them by others and wider society, irrespective of whether such actions are aligned with one's own moral code. In the absence of any further research beyond this small study of women exposed to chronic trauma, however, relationships between early trauma and moral functioning in healthcare staff cannot be assumed. Additionally, participants in this study were presented with a series of moral dilemmas not reflective of the conflicting real-world situations experienced by staff working in secure psychiatric care.

Furthermore, evidence suggests that individuals exposed to early trauma may be less likely to understand the intentions behind others actions, or to misperceive their intentions as purposely malignant (Neller & Fabian, 2006). Research in both clinical and non-clinical populations has documented poorer moral reasoning abilities and theory of mind in those exposed to early trauma (e.g., Nazarov et al., 2016; Turner et al., 2022), which are critical social cognitive skills for inferring the intention of others. Thus, the perception of other's actions as immoral, without cognitive inquiry about intent, may render individuals more vulnerable to developing moral injury when exposed to transgressions by others. Alterations in the ability to infer others emotions, thoughts and beliefs, as well disruptions to perceptions of emotional expression, have been evidenced in PTSD populations (see Couette et al., 2020 for a review). Yet, in the absence of any

investigation of their association with moral injury, such propositions about the mechanisms linking trauma exposure and moral injury remain speculative.

The mechanisms outlined so far may account for *why* individual's exposed to trauma in early life may be more vulnerable to experiencing a morally injurious event and the subsequent development of moral injury, but do not offer much premise for insight into precisely *how* this translation from exposure to symptoms occurs. One area of significant focus in the wider trauma literature with links to early life experiences is cognitive appraisal styles. The potential role of this mechanism and the underlying schemas in which appraisal styles are grounded in driving the development of moral injury will now be considered.

### **3.3. Cognitive appraisals and schemas**

The way in which an individual makes sense of experiences has been shown to occupy a more powerful position in driving the development of post-trauma symptoms than the traumatic experience itself. Unlike symptoms arising from a threat-related index event, which are primarily peritraumatic, symptoms characteristic of moral injury have been found to develop after the event, as a non-immediate response (Stein et al., 2012). Thus, cognitive appraisals following exposure to a PMIE may have a particularly prominent role in driving the development of moral injury symptoms.

Prominent cognitive theories of trauma, such as *Information Processing Theory* (e.g., Litz & Keane, 1989) and *Emotional Processing Theory* (Foa & Kozak, 1986), postulate that traumatic events are encoded and represented differently within the memory system, due to their significance and the associated violation of existing beliefs about security (Foa et al., 1989). If not processed appropriately, these cognitive representations of the event can disrupt information processing and lead to biases in the interpretation of new information (Horowitz, 1986). Such

theoretical accounts have received extensive empirical support, with strong links between maladaptive appraisals and PTSD symptom severity noted in military and general population samples (see Gómez de la Cuesta et al., 2019 for a review), though investigation is yet to be focused on healthcare populations, specifically.

Drawing on these accounts, Ehlers and Clark's (2000) *Cognitive Model of PTSD* postulates that early adverse experiences can make the negative appraisal of traumatic events more likely, due to the recrudescence of early trauma memories and subsequent negative interpretations of the current event. In support of this theory, an earlier US study of 230 women exposed to intimate partner assault in adulthood demonstrated that those who had experienced betrayal trauma in early childhood were more likely to demonstrate self-blame appraisals of the assault (Babcock & DePrince, 2012). Similar findings were reported in a community sample of 132 adolescents from Switzerland, with severity of childhood neglect significantly predicting a greater tendency for self-blame in response to a negative or traumatic event (Tanzer et al., 2020). Shame appraisals, which are of much relevance to moral injury, have also been linked with childhood abuse, with research demonstrating significant associations between the two in a US sample of 466 (n=141 male) university students (Barlow et al., 2017). In consideration of the initial evidence reporting an elevated rate of exposure to childhood adversity in healthcare staff (Choi et al., 2021; Maunder et al., 2010), self-blame and shame appraisals may be particularly present in this occupational group, increasing risk for morally injurious appraisals of workplace experiences.

Whilst a role for cognitive appraisals in the pathway between PMIE exposure and moral injury can be hypothesised, the links between appraisals and childhood trauma, and the position of cognitive appraisals within such a pathway is likely preceded by another mechanism.

According to Beck's (1976) *Cognitive Theory* and his later *Cognitive Therapy Model* (1983), cognitive biases in appraisals of events are driven by the activation of dysfunctional schemas. More specifically, this theory proposes that maladaptive core beliefs about the self, world and future (referred to as the negative cognitive triad) lead an individual to make dysfunctional assumptions about experiences and situations and trigger negative automatic thoughts that are activated involuntarily and habitually. Such negative core beliefs, which are proposed to be learnt in early life, are referred to as 'schemas', and their link with moral injury will now be considered.

The term 'schema' was first conceptualised by Piaget (1926) in his seminal theory of cognitive development and defines the cognitive frameworks that provide the foundations for the organisation and interpretation of information about the self, others and the world. Mirroring the notions proposed by Beck (1976, 1983), Young et al. (2003) proposed *Schema Theory*, to account for the development of psychological disorders. According to this theory, maladaptive schemas arise from unmet psychological needs during early life (e.g., secure attachment), which may occur as a result of child maltreatment. Indeed, associations between exposure to abuse and neglect, and maladaptive schemas in adolescence and adulthood have been empirically supported (May et al., 2022; Pilkington et al., 2020).

Early Maladaptive Schemas (EMSs) are defined as "*broad pervasive themes of patterns comprised of memories, emotions, cognitions and bodily sensations regarding oneself and one's relationships with others, developed during childhood or adolescence*" (Young et al., 2003, p.7). A number of EMSs have been proposed, many of which may render an individual more vulnerable to developing moral injury following exposure to a PMIE. Schemas that may be of particular relevance to moral injury are a self-punitiveness schema, due to the difficulty in

forgiving oneself or others, and a defectiveness and shame schema, which is characterised by the belief that one is inherently 'bad'. Equally, a mistrust and abuse schema may also increase vulnerability for moral injury, by way of increasing vigilance to displays of betrayal. The presence of such schemas in healthcare staff, including those in the secure mental health sector, has not yet been subject to empirical examination, though may account for the elevated levels of psychopathology (Johnson et al., 2018), including moral injury (Morris et al., 2022a), in this occupational population.

Expanding on this hypothesis, previous evidence has indicated that differences in the prevalence of common mental disorders between occupational groups cannot be wholly accounted for by adverse psychosocial work conditions, but may in part be explained by individual factors that lend people to occupying specific job roles (Stansfield et al., 2012). In accordance with this position, the *Schema-Focused Model of Occupational Stress and Work Dysfunction* (Bamber, 2006) proposes that EMSs predispose individuals towards occupations that mirror the maladaptive environments and relationships they experienced during early life. In line with this theoretical position, healthcare professionals, who are more frequently exposed to violence, abuse and neglect during childhood when compared to the general population (Choi et al., 2021; Maunder et al., 2010), frequently demonstrate a range of EMSs (Dang et al., 2019; Kaeding et al., 2017; Saddichha et al., 2012). Furthermore, EMSs have been linked with occupational well-being, with evidence for significant positive predictive effects of several EMS on burnout, depersonalisation, and workplace absenteeism (Bamber & McMahon, 2008; Kaeding et al., 2017). Such a link has not yet been explored in secure mental healthcare staff specifically.

There is a sizeable evidence base positioning schemas as a key mediator in the relationship between early childhood trauma and later psychopathologies (e.g., Meneguzzo et al.,

2021; Mertens et al., 2020; Rezaei et al., 2016). Such findings indicate that the way in which an individual perceives themselves and the world following a traumatic event plays a key role in the promotion and exacerbation of adverse psychological outcomes. Yet, despite the seeming relevance of maladaptive schemas to moral injury, their association with this construct has not been subject to empirical investigation.

Early maladaptive schemas and their relationships with early trauma and later psychopathologies in secure mental healthcare staff, specifically, have not been explored. However, in accordance with the Schema-Focused Model of Occupational Stress and Work Dysfunction, it can be hypothesised that exposure to early traumatic experiences and maladaptive schemas may be particularly pertinent in this occupational population, given the heightened levels of exposure to aggression and abuse in this setting. Thus, in the absence of any empirical evidence, early maladaptive schemas may be particularly pertinent to explore as a potential mechanism linking PMIE exposure and moral injury in secure mental healthcare workers.

Despite the potential relevance of Beck's (1976, 1983) Cognitive Therapy Model, and Young et al.'s (2003) Schema Theory to account for individual differences in vulnerability to moral injury, such theories simplify cognition to a single-level process, overlooking the multi-layered complexity of human cognition and concentrating solely on more automatic, lower-level cognitive processes. Additionally, in some instances, shame and guilt appraisals of situations may reflect rational and adaptive responses to situations in which an individual has transgressed their own moral values, particularly when such transgression was not committed under duress. Accordingly, considering the role of cognitions at a meta-level, namely how an individual



responds to shame and guilt appraisals, may be a more fruitful target in mitigating risk for moral injury.

### 3.4. Meta-cognition

Meta-cognition refers to the monitoring and appraisal of one's own thoughts, and the ability to reflect on internal thought processes to inform one's sense of self (Lysaker et al., 2018). The effect of meta-cognitions on psychological well-being can be understood through the *Self-Regulatory Executive Function (S-REF)* model (Wells & Matthews, 1996), as a more integrative cognitive model that gives eminence to higher order modulating processes. According to this model, maladaptive positive and negative meta-cognitions drive a series of psychological processes collectively defined as a 'cognitive attentional syndrome', which includes rumination, threat monitoring and maladaptive coping behaviours (e.g., avoidance). Prolonged activation of this cognitive attentional syndrome provokes and maintains distress, and further compounds difficulties in regulating and modifying cognitions.

The S-REF model has been applied to account for the development of stress responses following a traumatic event (Wells, 2000). According to this model, traumatic stress symptoms are an adaptive product of an automatic 'Reflexive Adaptation Process' (RAP), which serves the purpose of developing blueprints for coping with future threats and facilitating return to a normal state of cognitive processing. Metacognitive beliefs that foster thinking patterns and attention strategies characteristic of the cognitive attentional syndrome obstruct this process and, consequently, the natural alleviation of trauma symptomology.

In line with the *Metacognitive Model of PTSD* (Wells, 2000), endorsement of maladaptive metacognitive beliefs both prior to and succeeding a trauma experience has been linked with greater risk for onset of PTSD symptomology (e.g., Takarangi et al., 2017). In a

sample of 95 healthcare students, Bennett and Wells (2010) found that participants who had a greater tendency to perceive negative thoughts about a distressing event as uncontrollable and dangerous had greater levels of PTSD symptoms. Such findings indicate that the way in which an individual responds to thoughts about a distressing experience may therefore increase their risk for developing trauma symptomology.

Whilst the evidence base is primarily centred on PTSD, initial research also provides grounds to tentatively support a potential role for metacognition in the development of moral injury symptoms. Specifically, higher levels of cognitive self-consciousness, which is one facet of metacognition describing a maladaptive preoccupation with one's thoughts, has been linked to greater levels of self-blame in veterans, after controlling for PTSD severity (Davis et al., 2016). Given that self-condemnation is associated with higher levels of guilt and anger (Hoffman & Nickerson, 2022), and a symptom of moral injury in itself, a role for metacognitive beliefs in driving risk for moral injury can be hypothesised. Additionally, research has noted the importance of metacognitive capacities in reducing medical errors and improving clinical competency, through increased critical thinking, complex problem-solving and self-monitoring (Kosior et al., 2019; Medina et al., 2017). Thus, people with poorer metacognitive capacities may be at increased risk for moral injury by virtue of poorer clinical competency and the resulting potential harm caused to patients. In the absence of any empirical research considering the direct relationships between metacognition and moral injury, including in secure mental healthcare staff, this hypothesis remains speculative. The relationship of metacognitions with PMIE exposure and moral injury will therefore be empirically explored within this thesis.

Positioning metacognition within a developmental pathway to moral injury, the ability to monitor and control one's own thoughts is a critical stage in cognitive development shaped by

experiences in early life (Schneider, 2008). Individuals exposed to adversity during this critical period often show greater maladaptive metacognitive beliefs in adulthood (Mansueto et al., 2019). Reduced awareness of one's own cognitive states in trauma-exposed populations may reflect an attempt to protect against the emotional pain of reflectivity on traumatic experiences (Lysaker et al., 2011). Additionally, Myers and Wells (2015) suggest that a cognitive attentional syndrome, characterised by behaviours such as threat monitoring and persistent worry, may be effective for avoiding danger and coping with threat in an environment where this is prominent.

Besides the evidence linking metacognition with early adversity, research also supports a role for metacognitive dysfunction in driving trauma outcomes. Specifically, the mediating effect of metacognitive beliefs in the relationship between early trauma experiences and the later development of trauma symptoms (Hosseini Ramaghani et al., 2019; Scarpa et al., 2009), as well as various psychopathological disorders (Raes & Hermans, 2008; Østefjells et al., 2017), has been established in both clinical and non-clinical general population samples. This extends to healthcare workers also, with Demirdogen et al. (2022) reporting a mediating role for dysfunctional metacognitions in the pathways between childhood trauma and internalising symptoms in 290 (n=88 male) multidisciplinary healthcare workers.

Drawing on the literature base, there are grounds to hypothesise a role for metacognition in shaping the psychological outcome of a morally disruptive event. Yet, despite the seeming relevance of metacognitive processes in the pathway to moral injury, research is yet to consider a role for this concept. An integrative mechanistic model that considers the effects of metacognitive beliefs and strategies alongside other associated factors (e.g., early trauma, cognitive schemas and emotion regulation skills) may aid in the identification of individuals most vulnerable to moral injury and inform the development of efficacious prevention and

management strategies. Understanding the role of this developmentally-grounded cognitive mechanism in driving moral injury in secure mental healthcare workers appears of particular relevance, given the potentially heightened levels of exposure to early trauma in this occupational group and greater potential risk for self-transgressions (e.g., medical errors, reduced clinical competency) in those with poorer metacognitive capacity.

Metacognitive capacities relate not only to one's ability to think about their own thoughts, but to then implement strategies to modify thoughts, using cognitive emotion regulation skills. Thus, a potential role for emotion regulation in the pathway between PMIE exposure and moral injury symptoms will now be considered.

### **3.5. Cognitive emotion regulation: Antecedent-focused strategies**

Emotion regulation is a term used to describe a person's capacity to manage their emotional state, and to express such emotions through adaptive strategies. Both over- and under-regulation of emotions have been ascribed as features of a range of psychopathological disorders (Aldao et al., 2010). According to the *Process Model of Emotion* (Gross, 1998) emotion regulation strategies can be antecedent- or response-focused. Antecedent-focused strategies, which involve manipulation of the input prior to the establishment of the final emotional response, are of particular relevance to understanding the transition between PMIE exposure and moral injury development. One such emotion regulation strategy, which has been linked to early trauma experiences and may underlie the development of moral injury, is cognitive reappraisal. Through this adaptive antecedent-focused strategy, initial thoughts and interpretations of a situation are re-evaluated, to influence the subsequent emotional response. An initial research study in 81 healthcare workers (n=34 male) showed that lesser use of cognitive reappraisal, and greater emotional suppression, moderated the mental health outcomes of fear-based experiences

of the COVID-19 pandemic (Balogun et al., 2023). The role of emotion regulation in shaping responses to moral-based traumatic experiences in healthcare workers is yet to be considered.

Thus far, empirical evidence to support a role for emotion regulation strategies, including cognitive reappraisal, in the pathway to moral injury is limited to three studies. In a study examining the association between emotion regulation and moral injury in 73 military personnel and veterans (n= 62 males), no significant relationship was found (Protopopescu et al., 2021). This is in contrast to the findings from Spies et al. (2020), who found a significant association between difficulties in emotion regulation and moral injury in 72 male active and former military personnel. Nevertheless, there are several caveats that limit the ability to draw substantive conclusions from either study. Firstly, moral injury was assessed using the MIES<sup>5</sup>, pooling both exposure to PMIEs<sup>6</sup> and their subsequent impact via a single score. Thus, the lack of an association found by Protopopescu and colleagues may be an artefact of differences in levels of exposure to PMIEs, compared to Spies et al.'s sample. Additionally, the studies utilised military samples, limiting the generalisability of their findings to wider populations, including healthcare workers. A more recent study by Roth et al. (2022) in 294 public safety personnel<sup>7</sup> (64% male) found significant associations between difficulties in emotion regulation and moral injury symptoms. Furthermore, the authors noted a moderating effect of emotion dysregulation in the pathway between early trauma exposure and later moral injury. This finding indicates that the

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<sup>5</sup> The Moral Injury Events Scale (MIES) is a 9-item questionnaire used to assess the extent to which an individual has been exposed to and impacted by self-transgressions, transgressions by others and acts of betrayal.

<sup>6</sup> Potentially Morally Injurious Events (PMIEs) are events that, if exposed to, may trigger a person to develop moral injury symptoms.

<sup>7</sup> Public safety personnel are people working in professional roles that protect the well-being and/or safety of the public, and include police officers, firefighters, and healthcare professionals.

extent to which childhood trauma drives vulnerability to moral injury is influenced by an individual's ability to manage their emotions in adaptive ways.

The findings from Roth et al. (2022) are potentially considered of more value to the current thesis, given the exclusive assessment of moral injury symptoms and the more nuanced insight into the role of emotion dysregulation that it affords, as well as the use of a non-military sample inclusive of healthcare workers. Nevertheless, all three studies are limited by the assessment of emotion regulation as a singular construct. According to Gross' (1998) Process Model, antecedent-focused strategies may be of particular importance as a protective mechanism against moral injury as they precede and thus can potentially alter the generation of difficult emotions, such as shame and guilt. PTSD research has shown that cognitive reappraisal, but not thought suppression (which is a response-focused strategy) drives risk for this disorder following exposure to early trauma (Sistad et al., 2021). Thus, identification of the role of *specific* emotion regulation strategies in driving risk for moral injury appears an important priority for advancing knowledge.

In light of the limited evidence base for a direct association between cognitive reappraisal and moral injury, a proposed role for this emotional regulation strategy in shaping risk for moral injury can be grounded in a developmental pathway. Deficits in emotion regulation abilities are noted to be a consequence of early trauma (Heleniak et al., 2016), with lesser use of cognitive reappraisal observed in people exposed to childhood maltreatment (Lee et al., 2019). This population may instead select less cognitively demanding strategies, such as thought suppression (Purdon, 1999), which can paradoxically exacerbate distress and psychopathology (Petkus et al., 2012). Individuals who are able to re-evaluate their initial interpretations of a situation, and frequently employ this strategy, tend to make less intense judgements about the morality of given

situations (Feinberg et al., 2012; Li et al., 2017), based on deliberative rather than intuitive moral judgement. Drawing on the earlier chapter with respect to moral reasoning skills, implementation of a cognitive reappraisal strategy may provide an additional opportunity for perspective-taking and for the correction of any misperceptions of intentional malignance by others. Individuals exposed to early adversity may bypass this ‘buffer’, perhaps as a consequence of maladaptive cognitive schemas and poorer Theory of Mind<sup>8</sup>, making them more vulnerable to blame appraisals and, subsequently, moral injury. Nevertheless, in the absence of any empirical investigation, this hypothesis remains speculative. Thus, whether early trauma experiences and cognitive reappraisal abilities are associated with greater reporting of exposure to PMIEs, as well as greater levels of distress resulting from such experiences, is to be examined in this research.

Consideration of the role of emotion regulation strategies may be a particularly key mechanism to consider within a secure mental healthcare staff population. Firstly, the associations established between childhood trauma and poor emotion regulation skills (Lee et al., 2019) indicate that healthcare staff, who tend to report high levels of exposure to childhood trauma (Choi et al., 2021; Maunder et al., 2010), may be more likely to use maladaptive strategies, such as expressive suppression, and less likely to use adaptive strategies, such as cognitive reappraisal. The prevalence of childhood trauma has not been specifically established within secure mental healthcare workers. Nevertheless, drawing on the tenants of the *Schema-Focused Model of Occupational Stress and Work Dysfunction* (Bamber, 2006) as outlined previously, poor emotion regulation skills, by virtue of increased exposure to childhood trauma, may be particularly pertinent in staff who seek employment in environments with higher levels

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<sup>8</sup> Theory of mind can be defined as the capacity to make inferences about the mental states of the self and others (Beaudoin et al., 2020)

of violence. Furthermore, research in general healthcare samples has linked poor emotion regulation skills with a wide range of adverse psychological, somatic and behavioural outcomes noted to be particularly prevalent in secure mental healthcare staff, including anxiety and depression symptoms, somatic symptoms, sleep problems, social functioning and secondary traumatic stress (Balogun et al., 2023; Liang et al., 2022; Singh & Hassard, 2021). Accordingly, the potential role of maladaptive emotion regulation strategies in driving risk for moral injury warrants particular consideration in this occupational population.

Thus far, a number of individual cognitive mechanisms have been outlined as possible mechanisms implicated in the pathway between exposure to a PMIE and the subsequent development of moral injury. However, given that moral injury, as a framework, was developed to account for the external constraints placed on people, it is critical to also consider factors beyond the individual that may drive risk for moral injury. Therefore, possible systemic influences in the pathway between PMIE exposure and moral injury will now be discussed.

### **3.6. Organisational support**

Moral injury in the context of healthcare has primarily been conceptualised as resulting from an inability for staff to provide the care required by their patients, due to pitfalls in the organisation and wider system, such as insufficient resources and staffing (Rabin et al., 2023). From this perspective, systemic factors are positioned as providing the conditions for PMIEs to occur, in the first instance. Yet consideration of the role of the organisation and healthcare system in mitigating the development of moral injury, once a PMIE has occurred, has received less focus.

Drawing on the tenants of *Organisational Support Theory*, Eisenberger et al. (1986) perceived organisational support as fulfilling key socioemotional needs and fostering a sense of trust towards the organisation in employees. The way in which an organisation responds to the



distress of its workforce has been found to be of critical importance in driving staff well-being outcomes, as well as the subsequent quality of care delivered to their patients (Poghosyan et al., 2020). In a study of 219 (n=93 male) healthcare professionals working in physical healthcare settings during the COVID-19 pandemic (Hines et al., 2020), perceptions about workplace support were found to be significantly predictive of scores on the MIES. Specifically, a less supportive work environment was associated with increased scores on this measure. However, as with previous studies utilising the MIES as a measure of moral injury, whether such results are an artefact of greater PMIE exposure in less supportive organisations or greater moral injury symptoms following a PMIE cannot be concluded. Indeed, organisational support has been linked with perceptions of an ethical climate (Pauly, 2009), and thus it may be that staff working in less supportive organisations are at greater risk for moral injury symptoms, by virtue of greater exposure to a less morally aligned environment. Examination of the relationships between organisational support and PMIE exposure and moral injury symptoms, separately, is necessary to draw greater clarity on the precise role of this mechanism.

Beyond the research by Hines et al. (2020), the association between organisational support and moral injury has not been explored. Nevertheless, the impact of organisational responses on other facets of well-being and factors associated with moral injury is evident. Firstly, several studies in Eastern and Western healthcare settings have noted significant negative associations between levels of perceived organisational support and symptoms of burnout (Mai et al., 2021; Zhou et al., 2022), as well as depression, anxiety and PTSD (e.g., Chatzittofis et al., 2021; Cook et al., 2021; Cyr et al., 2021; Morgantini et al., 2020). Additionally, in a study of 337 critical care staff (gender not reported) exploring factors influencing moral distress during the COVID-19 pandemic (Thomas et al., 2021), several protective factors reflective of a supportive and

psychologically safe environment were reported, namely the provision of platforms to communicate concerns without fear of retribution and ethics consultations. Evidence has also indicated a significant positive association between levels of *moral resilience*, a protective factor against moral injury (Berdida, 2023; Rushton et al., 2022), and the level of support from one's employer and colleagues (Spilg et al., 2022).

The potential influence of organisational responses to PMIEs on the subsequent development of moral injury can be accounted for from a socio-interpersonal perspective. In their *Socio-Interpersonal Framework Model of PTSD*, Maercker and Horn (2012) posit that social interactions following a traumatic event influence the subsequent development of adverse symptoms by altering the structure of the trauma memory and reducing fear responses. It is also acknowledged within this model that social acknowledgement of traumatic experiences by an individual's wider systems can lead to a sense of the trauma being a shared, collective experience, and thus risk for ostracisation from peers is reduced. Drawing on this theory, it is hypothesised that organisational support may mitigate risk for moral injury by reducing individual blame and decreasing the likelihood of shame and guilt appraisals as a result; this will be empirically explored later within this thesis.

Whilst a role for organisational support in driving risk for moral injury symptoms following exposure to a PMIE can be proposed based on the wider staff well-being literature and theoretical PTSD models, it remains speculative until subject to empirical investigation. Of the literature linking organisational support with well-being outcomes, as outlined here, such studies have examined support in the context of the COVID-19 pandemic, drawing primarily on staff working in physical healthcare settings. Only one study conducted in a sample of 248 nurses (n=19 male)

examined the role of general, as well as COVID-related organisational support on risk for moral *distress*, noting a significant predictive effect of both (Latimer et al., 2022).

In consideration of the wide range of challenging and potentially morally conflicting aspects of secure psychiatric healthcare, understanding how organisational responses following such events influence the development of moral *injury* is needed. Additionally, consideration of how support outside of the workplace may also influence such risk is warranted. The potential role of personal social support in driving moral injury will now be considered.

### **3.7. Social support**

The absence of a social support network perhaps becomes a particularly important risk factor for moral injury, above other trauma presentations such as PTSD, due to the social withdrawal that can occur after a morally transgressive behaviour (Bryan et al., 2018), whether stemming from one's own sense of guilt and shame, or from being ostracised by others (Charuvastra & Cloitre, 2008). The social consequences of moral injury are not specific to self-transgressions but may also be outwardly directed as a result of transgressions and betrayal by others (Molendijk et al., 2018). Witnessing or learning about moral violations committed by others, and the moral emotions that follow (e.g., anger, blame) can lead to the breaking of social bonds, bearing consequences on the social connectedness of both the transgressor and the transgressed. Thus, the availability of a social support network both prior to and following the occurrence of a moral transgression, regardless of the perpetrator, becomes critical. Such support may reduce the likelihood and severity of social sanctioning by others, as well as isolation, social withdrawal, the erosion of social bonds and, ultimately, the impact of the PMIE (Litz et al., 2009). Theoretically, social support therefore appears to be a relevant mechanism to consider in the exploration of

pathways between PMIE exposure and moral injury; current empirical evidence linking social support and moral injury will be now discussed.

Initial evidence from qualitative studies with 60 veterans (Ferração & Oliveira, 2015) and 38 child protection workers (Haight et al., 2017) indicates a role for social support as a beneficial mechanism for coping with moral injury, once symptoms have developed. However, whilst more adverse psychological and physiological post-trauma outcomes in healthcare professionals without social support are noted (Ortiz-Calvo et al., 2022), including in secure mental health services (Morris et al., 2023), the impact of social support on the initial development of moral *injury*, following a PMIE, is yet to be examined in this occupational group. In a study of 286 veterans (68.5% male, n not reported), Currier et al. (2017) documented higher levels of moral injury in veterans with less social support. Similarly, Krautscheid et al. (2020) reported greater levels of moral distress in individuals with less social support, in a sample of 60 nursing students (n=9 male). Nevertheless, the absence of any corresponding assessment of PMIE exposure in such studies limits understanding of the precise role of social support in driving the development of moral injury. It cannot be determined whether the associations noted between social factors and moral injury were a direct result of the lack of a social network, or whether this discrepancy was simply an indirect result of greater PMIE exposure. An understanding of the precise role of social support in the link between PMIE exposure and the subsequent development of moral injury, including the mechanisms that can account for the protective effects of this factor, therefore remains a research need. Understanding the role of social support in driving moral injury risk has utility in informing required interventions and strategies to mitigate such risk, and may be particularly important in healthcare workers due to the reliance on international recruitment to meet staffing needs in this sector (Sumption & Strain-Fajth, 2023).

Considering the potential role of maladaptive schemas in driving moral injury, as discussed earlier in this chapter, the impact of social support in the link between PMIE exposure and moral injury may be grounded in this factor. Notably, schemas resulting from early traumatic experiences are characterised by a range of behaviours and cognitions, which may inhibit the formation of social bonds, such as mistrust, detachment, beliefs about defectiveness and social isolation itself. Social support has been shown to reduce the elevated threat-related information processing that often presents in those exposed to traumatic events in early life (Wymbs et al., 2020), and provides opportunities for corrective social experiences and alternative appraisals of a morally transgressive experience that foster self-forgiveness as opposed to self-blame (Cohen & Wills, 1985). Yet, whilst perceptions of reduced social support have been theoretically linked with factors that may increase risk for moral injury, such as exposure to early trauma (Lanctôt, 2020), and maladaptive schemas and appraisal styles (Hulbert et al., 2011), the effects of social support and underlying mechanisms in shaping risk for moral injury are yet to be tested within a singular integrated model. Whether social support has a direct effect on the development of moral injury, or rather is simply linked to other potential risk factors for moral injury, cannot be established based on such studies, which utilise cross-sectional data in conjunction with correlational analytic methods.

Establishing the effects of social support is a particular priority in secure mental healthcare workers. Whilst evidence is limited in scope, research conducted in a secure mental healthcare organisation indicates a lack of social support to be a particular problem in this occupational group. For example, a study of 223 clinical staff working in medium-secure, low-secure and specialist rehabilitation services found that 13.5% of participants reported no access to a personal social support network outside of the workplace (Webb et al., 2024), which is almost three times greater than the figure of 4.7% reported for the general UK population (Kantar Public, 2022). Furthermore,

evaluation of data for referrals to a trauma support service for staff working in a secure mental healthcare organisation indicated that 28% of those accessing support for a traumatic event did not have social support, highlighting the over-representation of staff without social support in referrals. Social support may thus play a key role in driving responses to traumas in this population. Given the elevated levels of social support needs in secure mental healthcare staff, understanding the impacts on moral injury risk is a priority in this occupational group.

### **3.8. Concluding comments**

Individuals exposed to early trauma may be more vulnerable to moral injury due to a greater vigilance towards transgressions and betrayals, and a cognitive vulnerability grounded in early maladaptive schemas. The research presented here has primarily been limited to general healthcare staff. Yet, for reasons outlined in this chapter, and in accordance with the *Schema-Focused Model of Occupational Stress and Work Dysfunction* (Bamber, 2006), the role of early trauma and cognitive mechanisms as drivers of moral injury warrant examination in secure mental health staff. Additionally, given the greater social support needs and inherent use of expressive suppression when working in such an environment, examination of social and emotional mechanisms as potential moderators also appears pertinent in this occupational group.

The identification of factors associated with the application of maladaptive appraisals, and the higher-order mechanisms by which such appraisals lead to moral injury, is critical to a more comprehensive understanding of the pathway between PMIE exposure and the subsequent development of moral injury. Additionally, there is need to expand investigation to the pathways *from* moral injury, to wider secondary adverse well-being and functioning outcomes that are pervasive in the healthcare workforce. The psychological, somatic and behavioural effects of moral injury and the mechanisms that may account for these is the focus of the next chapter.

## **CHAPTER 4. OUTCOMES OF MORAL INJURY: INDIVIDUAL AND SYSTEMIC MECHANISMS**

### **4.1. Structure of the Chapter**

This chapter begins with an overview of the health outcomes associated with moral injury, spanning psychological, somatic, physiological and functional domains. A number of cognitive-emotional mechanisms will then be outlined, drawing on theory and evidence to position such factors within the pathways between moral injury and associated outcomes. Specifically, the role of emotional schemas, emotion regulation and alexithymia, and the interacting nature of these constructs will be discussed.

### **4.2. Psychological, somatic, physiological and functional effects of moral injury**

There is clear consensus within the literature that moral injury can translate into a wealth of psychological adversities, though the impacts may also span across somatic, physiological and functional domains of well-being. The outcomes linked with moral injury in healthcare staff and wider populations will be summarised, beginning with psychological symptoms.

#### ***4.2.1. Psychological outcomes***

Somewhat paradoxically, the psychological well-being of staff working in mental healthcare services is a growing concern. High levels of probable mental disorders are reported in this occupational group (Lamb et al., 2021; Williamson et al., 2023), with recent research in 243 healthcare workers indicating that over one fifth (21.5%) met threshold for generalised anxiety disorder and/or depression, based on diagnostic interviews (Scott et al., 2023). A recent report of the mental health workforce in England indicated high and increasing rates of absence

related to mental ill-health (British Medical Association, 2019). Further data on sickness absence rates across NHS services suggest that levels of work absenteeism are particularly inflated in staff working in mental health and learning disability services, and that psychiatric illness was the most common cause of staff absenteeism, accounting for almost a quarter (23.3%) of sickness leave across healthcare groups (NHS Digital, 2023). The poor psychological well-being of those working in this particular healthcare sector has been attributed to factors such as emotional labour resulting from the emotionally charged work of mental healthcare, the greater risk for staff-directed violence and assault, and the underfunding of mental health services in the face of growing demand (Johnson et al., 2018).

There is a considerable evidence base to support an association between exposure to a morally injurious event and a range of adverse psychological symptoms. The majority of this support has stemmed from research in military and veteran populations (Hall et al., 2022; Williamson et al., 2018), though several recent studies have extended investigation into healthcare workers. In the first instance, studies of clinical and non-clinical healthcare staff have demonstrated significant positive associations between both PMIE exposure and moral injury symptoms with anxiety, depression, PTSD and CPTSD symptomology, as well as suicidal ideation (Amsalem et al., 2021; Mantri et al., 2020; Nieuwsma et al., 2022; Williamson et al., 2023; Zerach & Levi-Belz, 2021). Furthermore, a study of 265 US healthcare workers found that those who were exposed to and impacted by self and other-related PMIEs were more than twice as likely to meet the clinical cut off for depression (Dale et al., 2021). Additionally, the authors found that those exposed to and impacted by self-transgressions had almost four times the odds of meeting the clinical cut off for anxiety, and more than six times the odds of meeting the clinical cut off for PTSD. Research also indicates that moral injury symptoms uniquely



contribute to poor psychological outcomes above burnout. In a sample of 6,146 healthcare professionals, Liu et al. (2023) found a direct relationship between moral injury symptoms and suicidal and self-harm ideation, with evidence of a partial, but not full mediating effect for burnout. Thus, exposure to morally *impactful* transgressive experiences appear to increase risk for psychiatric symptomatology, including to a degree that is clinically significant. Research in secure mental healthcare specifically is, however, limited. An initial study of 237 secure mental healthcare staff (n=81 males) documented significant positive correlations for moral injury with burnout and secondary traumatic stress, and a significant negative correlation for moral injury with compassion satisfaction (Morris et al., 2022a). However, associations between moral injury and diagnostic constructs in this population are yet to be established.

The evidence presented thus far indicates moral injury as a potential risk factor for poor psychological health in healthcare workers, generally, although the precise role of moral injury cannot be established from the research. The studies outlined here suggest links between morally transgressive experiences and psychological outcomes, but do not provide insight into the mechanisms or the temporal nature of such relationships. There are several possible hypotheses to account for the associations between moral injury and wider facets of psychological health, however, which will now be considered.

In the first instance, it is possible that the development of psychological symptoms and pathologies in secure mental healthcare staff are driven by occupational and environmental factors that also give rise to moral transgressions, as shared risk factors. For example, the environmental and role-related factors that may account for the elevated levels of psychopathology in this occupational population, such as increased exposure to violence, restricted contact with patients and exposure to self-harm and suicide (Johnson et al., 2018), may

also provide foundations for the occurrence of morally transgressive experiences. It is also possible that dual appraisals of traumatic events lead to several outcomes. For example, whilst being victim to violence may lead to the development of PTSD symptoms in staff, moral injury may also develop if the incident was experienced as a transgression or betrayal (e.g., colleagues did not respond appropriately, the organisation did not put the necessary precautions in place to mitigate the incident from occurring).

The perspective of moral injury as occurring in parallel with, rather than as a cause of wider psychological syndromes and disorders, is echoed within network models of comorbidity. Such models position diagnostic disorders as clusters of ‘causally related’ symptoms that are connected through shared features, referred to as ‘bridge symptoms’ (see Cramer et al., 2010). Drawing on this perspective of comorbidity, individuals more likely to develop moral injury may also be at greater risk for a range of other psychological syndromes and disorders, as an artefact of shared symptoms that are directly related between disorders. Indeed, shame and guilt, as two core features of moral injury, are noted to be risk factors for a range of psychopathologies including anxiety disorder and depression (LeBlanc et al., 2020; Levinson et al., 2016). This hypothesis may account for the notable levels of psychological comorbidity noted in secure mental healthcare staff (Morris & Webb, 2023).

An alternative hypothesis is that the core symptoms of moral injury themselves drive the development of additional mental health sequelae, as secondary symptoms (Litz et al., 2009). For example, substance misuse may present as a strategy to cope with overwhelming feelings of shame and guilt, whilst depression symptoms may arise as a consequence of social isolation, which often occurs following a moral transgression (Bonson et al., 2023). There is some initial evidence to position a driving role for moral injury symptoms in the development of

psychopathology in general samples of healthcare staff. Both Zerach & Levi-Belz (2022) and Benatov et al. (2022) found that moral injury symptoms significantly mediated the association between PMIE exposure and depression and anxiety symptoms in individuals experiencing high levels of ‘thwarted belongingness’, which describes an unmet need for connection. Studies in military and veteran samples have also reported similar associations. For example, both Battles et al. (2018) and Zerach and Levi-Belz (2023) found a significant mediating effect of moral injury symptoms in the pathway between PMIE exposure and depression, anxiety and PTSD symptoms in combat and non-combat veterans. Additionally, Schwartz et al. (2021) identified a mediating effect of trauma-related shame, as a primary symptom of moral injury, in the link between PMIE exposure and suicidal ideation.

Such links between moral injury symptoms and wider facets of psychological well-being are yet to be established in secure mental healthcare staff, however, who may face differential sources of moral injury than those experienced in other healthcare sectors. Initial findings from a study of secure mental healthcare workers (Webb et al., 2023b) suggest a lower prevalence of betrayal-based PMIEs and a greater prevalence of self-transgressions for this occupational group compared to other healthcare populations (Nieuwsma et al., 2022; Weber et al., 2022). Given the research reported earlier illustrating differences in the predominant emotions associated with betrayal and perpetration-based events (Jordan et al., 2017), and potentially differential effects of PMIE types on psychological and functional outcomes (Webb et al., 2023b; Weber et al., 2022), the mediating effects documented thus far cannot be assumed generalisable to those working in secure mental healthcare. Thus, the relationship between moral injury and psychological outcomes in this niche occupational group must be subject to empirical investigation.

The notable associations between moral injury and other facets of psychological well-being positions the need for advanced insight into their connecting pathways as a priority for research. Such knowledge would aid in informing the development of effective strategies for mitigating the effect of moral injury symptoms, once established, on wider domains of psychological health. Despite the particularly elevated risk for adverse psychological outcomes noted in those working in the mental health field (Johnson et al., 2018), including in a secure context (Morris & Webb, 2023), levels of moral injury exposure and symptoms in secure mental healthcare workers, as reported by Morris et al. (2022a), are not dissimilar to figures reported in some studies utilising physical healthcare staff samples (Hines et al., 2020; Litam & Balkin, 2021). Thus, there is a need to consider the respective contributions of moral injury in accounting for the particularly poor psychological profiles of secure mental healthcare workers, and the mechanisms that may be driving this link.

#### ***4.2.2. Somatic outcomes***

In addition to improving the psychological well-being of staff working in the healthcare sector, somatic symptoms are also an important priority for addressing. Research has shown that the majority of healthcare professionals report impactful somatic concerns (Dyer et al., 2022), with longitudinal data from more than 13,000 healthcare workers showing increasing trends in somatic symptoms (Seys et al., 2022). When combined, somatic symptoms are the primary driver of absenteeism in the NHS workforce (NHS Digital, 2023). As such, they bear a significant cost, not just economically, but for staff functioning and, consequently, the quality and continuity of care. Mitigating the factors that underlie or exacerbate somatic symptoms in staff is therefore a key priority in the healthcare workforce, particularly within secure mental

healthcare services where psychological distress is noted to be especially pervasive (e.g., Rodrigues et al., 2021).

To date, research exploring relationships between moral injury and somatic outcomes is limited. Of the available evidence in military populations, findings have indicated associations for moral injury with chronic pain and physical disability (Koenig et al., 2018), as a broad construct, as well as an association between the ability to adaptively intergrate stressful events into one's broader life narrative and general physical functioning (Yan et al., 2016). Additionally, an initial study of 114 physicians (n=31 males) found that those exposed to more PMIEs reported a greater impact of the COVID-19 pandemic on their physical functioning (Maftai & Holman, 2021). Nevertheless, the use of a small, single-occupation sample, in the absence of any further data, limits the ability to draw any notable conclusions from this research, particularly in a post-pandemic context.

Despite the lack of available evidence, the effects of moral injury are unlikely to be contained to the psychological domain. In the first instance, somatic symptoms may be a direct response to a morally injurious event. It is widely recognised within practice and research that trauma responses encompass physical reactions. Indeed, current diagnostic criteria for PTSD (American Psychiatric Association [APA], 2013; World Health Organisation [WHO], 2019) reflects several physical reactions, such as hyperarousal and reactivity. Additionally, medically unexplained physical symptoms are recognised as a potential indicator of trauma exposure in clinical guidance for PTSD (NICE, 2018). The framing of moral injury as a purely psychological construct is therefore inconsistent with dominant understandings of traumatic stress responses.

Somatic symptoms may also reflect a secondary outcome of moral injury, stemming from its impacts on an individual's mental health. A bi-directional relationship between mental and

physical health has been established (e.g., Ohrnberger et al., 2017), with higher rates of physical problems reported in individuals experiencing serious mental illness (De Hert et al., 2011), and vice versa (Chou et al., 2013). Somatic symptoms are noted to be prevalent in healthcare workers (Theocharis et al., 2023), with studies in China reporting prevalence rates between 42.7% (Hong et al., 2021; n=4,738 nurses (144 males)) and 67.8% (Wang et al. 2021; n=187 healthcare workers (38 males)) on the Patient Health Questionnaire-15 (PHQ-15; Kroenke et al., 2002). Research is yet to establish the prevalence of somatic symptoms in UK healthcare workers, including those in secure and mental health settings. However, in consideration of recent research indicating that over a quarter of secure mental healthcare workers report clinically significant levels of depression and anxiety, as well as adjustment disorder (Morris, 2023), high rates of somatisation<sup>9</sup> can be hypothesised.

The hypothesised direct and indirect effects of moral injury on somatic outcomes remain purely suppositional, in the absence of sufficient empirical evidence. Further research is therefore necessary to delineate this relationship and inform the development of moral injury interventions that target multifaceted outcomes.

#### ***4.2.3. Sleep outcomes***

The adverse well-being profiles of healthcare workers extend beyond psychological and somatic concerns, to several physiological domains. One particular area of concern in this occupational group, which has gained attention in response to the COVID-19 pandemic, is sleep.

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<sup>9</sup> Somatisation can be defined as the physical expression and experiencing of psychological distress

Since 2020, a number of studies have explored sleep-related difficulties in healthcare workers. Dyer et al. (2022) found that, of 6,397 US healthcare professionals surveyed in 2020 (n=1,758 males), more than a third (39.8%) were experiencing poor sleep (e.g., insufficient number of hours per night). Furthermore, longitudinal research by Seys et al. (2022) illustrated an increasing trend of sleep difficulties in a large multidisciplinary sample of 13,308 healthcare workers. Specifically, over an 18-month period, the percentage of participants scoring above a cut-off indicative of sleep problems rose from approximately 30% in March 2020 to almost 50% by September 2021. Sleep-related difficulties experienced by healthcare workers may also be multifaceted. For example, in a sample of 303 clinical and non-clinical healthcare staff working in Nigeria (n=183 males), Olagunju et al. (2021) found that more than half reported problems in sleep duration, sleep latency and sleep disturbances and, by consequence, daytime dysfunction.

Differences in definitions, measures and cut-offs used in the assessment of sleep disturbances create difficulty in establishing the true prevalence and nature of sleep problems in healthcare workers (Power et al., 2022). Additionally, the use of mixed samples from several disciplines and setting types, in conjunction with the tendency to aggregate prevalence figures, limits the ability to draw insights into the pervasiveness and nature of sleep problems for secure mental healthcare staff, specifically. Nevertheless, the links established between trauma exposure and sleep suggest that problems in this domain may be particularly pertinent in staff working in psychiatric settings, by consequence of their increased risk for trauma both within and outside the workplace. Such links between trauma and sleep will now be outlined.

Sleep problems, and more specifically nightmares, are a common presentation in individuals exposed to traumatic events (Havens et al., 2018), and are recognised as a physiological reaction to adverse experiences. Nightmares, which are defined within the ICD-11

as ‘vivid and highly dysphoric dreams’ that usually involve a sense of threat and evoke anxiety (WHO, 2019), are encapsulated within the ‘re-experiencing’ criterion for PTSD, as a central symptom of this disorder (Maercker & Eberle, 2022). Nevertheless, whilst nightmares may indicate the presence of PTSD and are somewhat prevalent in this clinical population (e.g., 70.3%, Levrier et al., 2016), post-traumatic nightmares can also occur outside of PTSD presentations (Mäder et al., 2021), and may present following events that pose moral danger, as well as those involving mortal danger.

The relationship between sleep and moral injury, as a specific trauma response, has been less well established. Research utilising structural equation modelling methods in military samples has suggested nightmares to be more characteristic of PTSD than moral injury (Bryan et al., 2018). However, there is emerging evidence from military studies to support an association between the two. For example, a study of 189 combat-wounded veterans found significant correlations for sleep disturbance, as a global construct, with both self- and other-directed moral injury symptoms (Bravo et al., 2020). It has been suggested that disturbances in sleep can increase the salience of negative, threatening information, as an adaptive evolutionary response to ensuring prompt reaction to potential danger in the face of reduced cognitive performance (Palmer & Alfano, 2017). This perspective positions sleep disturbances as a precursor to moral injury symptoms and suggests that the greater levels of moral injury symptomology reported by individuals experiencing disruptions in sleep may reflect a greater vigilance towards morally transgressive experiences, in the first instance. This fits with previous PTSD research indicating sleep disturbances as an etiological factor underlying the development of this diagnostic construct (Koffel et al., 2013).



Besides reflecting a possible vulnerability factor preceding the development of moral injury, however, there also exists preliminary evidence to position disturbances in sleep as an outcome succeeding moral injury. Utilising data from a small sample of 50 veterans, Dedert et al. (2019) found a relationship between combat exposure and clinician-rated nightmare severity that was mediated by trauma-related guilt cognitions. The extent to which an individual perceived themselves to have committed behaviours, or to have had thoughts or feelings during combat that violated their own values, drove the severity of their nightmares. Such a link has yet to be explored in larger samples, and in the context of healthcare, including secure mental healthcare, however.

Greater continuity in sleep has been found to be associated with higher levels of moral resilience in a multidisciplinary sample of 962 (n=112 males) Canadian healthcare workers (Spilg et al., 2022). This finding may indicate that individuals who are less equipped to navigate morally aversive situations, and thus more likely to develop moral injury symptoms, are at greater risk for experiencing sleep disturbances. Given the cross-sectional design of such studies, however, it is not possible to determine the directional nature of the relationship between sleep and moral injury.

In the absence of any empirical investigation of the mechanisms linking moral injury with sleep disturbances, including in secure mental healthcare staff, such hypothesised relationships between the two remain speculative. In consideration of the high levels of sleep-related difficulties in healthcare workers, understanding the contributions of moral injury to this issue, and the mechanisms accounting for such a relationship is of importance in this occupational population. Possible mechanisms linking moral injury with sleep disturbances will

be outlined later in this chapter. However, one further domain of well-being with potential links to moral injury, namely personality functioning, will first be considered.

#### ***4.2.3. Personality functioning***

A domain that has been less well considered in healthcare staff, including in respect of a relationship with moral injury, though warrants consideration, is personality functioning.

Impairments in personality functioning are an important outcome with potential links to moral injury, and of considerable relevance to secure mental healthcare staff.

The DSM-5 (APA, 2013) Alternative Model of Personality Disorder (AMPD) considers impairments in interpersonal functioning (empathy and intimacy) and self-functioning (identity and self-direction) the hallmark functional elements of this diagnostic category. However, disturbances in self-functioning and relationships are also a feature shared amongst other psychopathological presentations, such as Complex Post-Traumatic Stress Disorder (CPTSD). In recognition that pervasive childhood trauma exposure is prevalent in those with personality disorders, with rates that exceed those reported in other clinical populations (Porter et al., 2019)<sup>10</sup>, there is debate around whether impairments in personality functioning may in fact reflect a trauma-response (Ford & Courtois, 2021; Frost et al., 2020). Irrespective of this debate, trauma exposure and personality functioning appear somewhat intertwined.

In Chapter 3, alterations in social cognitive functioning were identified as a possible causal factor linking early adversity with later risk for moral injury in adulthood. However, the

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<sup>10</sup> A meta-analysis by Porter et al. (2019) indicated that the odds of reporting childhood adversity by individuals with Borderline Personality Disorder is three times greater compared to those with mood disorders, those with psychosis and mixed psychiatric controls.

symptoms that characterise moral injury may directly trigger or exacerbate interpersonal difficulties. Drawing on evolutionary perspectives, social attractiveness is argued to be an innate human need (Gilbert, 1997) and one that serves our primitive drives for individual survival and reproductive success. As proposed by Fessler (2004), shame is thought to regulate social systems and discourage deviation from social norms within a group. Applying such perspectives to the context of this thesis, it has been theorised that moral injury may reflect an adaptive response to dissuade individuals from violating moral expectations of one's community and the subsequent risk for ostracism and 'social sanctioning' (Zefferman & Mathew, 2020). Based on this theoretical position, moral emotions of guilt and shame may lead to social withdrawal, for the purpose of avoiding expected negative evaluations by others. From this perspective, moral injury symptoms may bear consequences on an individual's interpersonal functioning.

The empirical evidence linking moral injury symptoms with interpersonal functioning is limited, though there is initial support for a causal effect of moral injury symptoms on social behaviours. In the first instance, a longitudinal study of social well-being outcomes in 9,566 (n=7,823 males) veterans separated from active duty found significant impacts of self- and other-directed moral injury reactions on social support, functioning, activity and satisfaction (Chestnut et al., 2020). Specifically, lower levels of all four social well-being outcomes at separation from duty, and greater declines in social functioning and satisfaction following separation, were noted in individuals with higher other-directed moral injury scores. Similarly, lower baseline levels of social functioning and steeper declines in social activity were found in individuals with higher self-directed moral injury scores. Such findings indicate prospective changes in interpersonal behaviours following the establishment of moral injury symptoms, though this is yet to be explored in healthcare personnel.

It is important to also consider the potential prosocial effects of shame, with research indicating that individuals may seek out social connection with others, as a means to repair threatened losses to one's social attractiveness (de Hooge et al., 2010, 2018). The factors that determine whether an individual engages in social approach or withdrawal behaviours in response to moral emotions have not been clearly established, though possible mechanisms linking moral injury symptoms with interpersonal dysfunction will be addressed in the next section.

The relationship between moral injury and self-functioning remains comparatively overlooked. A study conducted by Szabó et al. (2023) in 240 psychiatric inpatients (n=60 male) demonstrated significant positive weak to moderate associations between perceived moral betrayals and avoidant, borderline and paranoid personality disorder symptoms. Nevertheless, the correlational nature of the study and the failure to distinguish between PMIE exposure and moral injury symptoms inhibits the ability to draw conclusions about whether it is the act of being exposed to a betrayal, or the resulting symptoms that drive impairments in personality functioning. Within the same sample, Békés et al. (2023) found a mediating effect of shame in the relationship between childhood trauma and borderline personality disorder, implicating this moral injury symptom as a key driver for impairments in both self- and interpersonal functioning. Nevertheless, the study assessed trait shame, as opposed to shame specifically tied to a PMIE. Thus, in the absence of any further investigation, including in non-clinical and secure mental healthcare staff samples, conclusions about the effect of moral injury symptoms on personality functioning remain tentative.

From a theoretical perspective, self-functioning is intertwined with moral injury, as a core defining feature of this construct. Moral injury can be distinguished from constructs such as moral distress with respect to its impacts at an existential level, in which an individual experiences a state

of internal crisis and self-identity ruptures (Rosen et al., 2022). This is reflected in Shay's (1994) original conceptualisation, in which he referred to moral injury as the undoing of character. Dissonance between understanding of morally correct action (e.g., to provide the best care to a patient) and reality (e.g., compromising patient care due to a lack of resources) is proposed to lead to an 'identity crisis' in which an individual's sense of self is ruptured (Cahill, 2023). Thus, disruptions of self-identity are considered intrinsic to moral injury itself.

*Moral identity*, defined as the 'relational and narrative constitution of the self' (Cahill et al., 2023, p.225) is positioned to be of core importance to an individual's sense of self and personality (Blasi, 2004; Hitlin, 2011). It is conceptualised as interpersonally driven from an individual's relationships and interactions with others (Cahill et al., 2023). From this perspective, morally disruptive experiences committed by the self and also by others bear the potential to have a rupturing effect on one's sense of self (Rosen et al., 2022). Thus, as noted by Shay (1994), moral injury is conceptualised as a 'character wound' that impacts not only on how an individual relates to others, but also how they relate to their own self.

In summary, of the literature presented in this chapter thus far, empirically-supported and theory driven links between moral injury and a wide plethora of adverse health outcomes can be made. The research to date has primarily been conducted in military and general healthcare staff samples, with explicit investigation of staff working in secure mental health services largely absent in the current evidence base. In consideration of the high levels of moral injury and wider well-being adversities in this occupational group, as outlined earlier in this thesis, examination of the relationships between these constructs in secure mental healthcare staff is warranted. In addition to establishing the presence of relationships between moral injury and wider health and functioning outcomes in this population, an understanding of the mechanisms that underlie such

relationships is of much importance. Possible factors of relevance to secure mental healthcare workers that may be implicated in the translation of moral injury into wider well-being adversities will next be captured, namely emotional schema, emotion regulation and alexithymia.

### **4.3. Cognitive-emotion processing**

According to cognitive models of emotion processing, individuals differ in how they conceptualise and respond to their emotions, and it is these processes that modulate the link between emotions and psychopathology. As described in Chapter 4, cognitive theories of emotion such as the *Cognitive Appraisal Theory* (Lazarus, 1966) and the later *Cognitive Mediation Theory* (Lazarus, 1991) recognise emotion as an output of an individual's appraisal of an event. These have been applied to account for the development of trauma symptoms following an adverse experience. Such theories propose appraisals of events as an antecedent to emotion, and thus the former determines the latter. However, drawing on 'meta' theoretical perspectives, appraisals about emotions themselves may also occur following the establishment of an emotional response. Accordingly, these higher order cognitive theories of emotion may also be applied to account for the translation of trauma symptoms into wider aspects of ill-being. A role for various cognitive-emotional mechanisms in the pathway between moral injury and health and functioning outcomes will next be explored, namely emotional schema, emotion regulation, and alexithymia. Psychological outcomes will be of focus, as these have been most extensively explored within the existing literature base, though the associations of such mechanisms with somatic, sleep and functional outcomes will also be considered.

#### **4.3.1. Emotional schema**

In parallel to metacognitive theory, metaemotion theories have been proposed to describe the cognitive appraisal of *emotions*. This theoretical conceptualisation of emotions suggests that the way in which an individual thinks about their affective states drives secondary responses to such states. In contrast to meta-cognition, which may have a key role in driving the initial development of psychological distress, thoughts about one's emotions arguably have a more central influence on the pathways *following* the initial distress, once an emotional response has been established. Applying this notion to the context of this thesis, the way in which an individual responds to moral emotions, such as guilt and shame, may have consequences for the development of further adverse well-being outcomes.

In the same way that a person's thoughts about *cognitions* are grounded in their *cognitive* schemas, an individual's thoughts about *emotions* are thought to be grounded in *emotional* schemas. Drawing on Wells and Matthews' (1996) metacognitive model, Leahy (2002) proposed the *Emotional Schema Model*. According to this social-cognitive model, individuals hold core beliefs about emotions, which inform how they appraise and then regulate such emotions. In other words, emotional schemas inform an individual's response to affective states, and the strategies implemented to regulate these. This theory also proposes that differences in emotional schemas, which may include thoughts relating to duration, acceptability and controllability of emotions, account for individual differences in risk for psychopathology. Importantly, emotional schema are also noted to be driven by past emotional experiences (Edwards & Wupperman, 2019). Given the elevated rates of exposure to traumatic experiences documented in secure mental healthcare workers, as discussed in the previous chapters, emotional schemas may be a particularly relevant mechanism contributing to the frequent adverse health outcomes in this occupational population. Thus far, direct associations between moral injury and emotional

schema have not been explored. Nevertheless, drawing on wider theoretical and empirical works, a number of hypothetical pathways indicating beliefs about emotions as a core mechanism linking moral emotions with wider domains of health and functioning can be proposed.

Primarily, previous research supports beliefs about emotions as a key driver contributing to the development of several psychopathological disorders. For example, Edwards et al. (2022) found a positive association between endorsement of negative emotional schemas and personality disorder symptom severity, across different typologies in a large clinical outpatient sample. Similarly, Leahy et al. (2019) have noted significant correlations between maladaptive emotional schemas and symptoms of anxiety and depression in a psychiatric patient sample. Furthermore, emotional schema are noted to hold a mediating role in the relationship between early adverse experiences and borderline personality disorder symptoms (Westphal et al., 2016). The links between emotional schema, childhood trauma and psychological outcomes have not been explicitly explored within healthcare staff, including those in secure mental health settings; however, drawing on the available evidence presented here, emotional schemas appear a pertinent mechanism to consider in the context of this thesis, given the high rates of psychopathological symptoms and early trauma experiences in this occupational group.

The way in which an individual appraises their emotions has also been shown to hold links with factors that may increase risk for moral injury in the first instance. For example, metacognition and metaemotion are shown to be correlated, with maladaptive metacognitive styles and maladaptive beliefs about emotions frequently co-occurring (Leahy et al., 2019; Sardarzadeh et al., 2017). Such a relationship may partially explain the high co-occurrence between moral injury and forms of psychopathology, in that individuals who are more vulnerable to developing moral injury symptoms, as a result of negative beliefs about cognitive appraisals,



are also likely to be at greater risk for other adverse health and functioning outcomes, as a result of negative beliefs about emotions. As such, negative emotional schemas appear a pertinent mechanism to consider in the pathway between moral injury and secondary outcomes.

The literature outlined thus far offers tentative support to suggest a potential role for emotional schemas in the pathway between moral injury and wider psychological outcomes. Nevertheless, whilst associative relationships can be speculated, the specific nature of the role of beliefs about emotions in the pathway between moral injury and other psychological symptomatology is yet to be explored. Additionally, healthcare workers, including those working in secure mental healthcare have not been considered within the existing literature, which is a key omission given the elevated rates of psychopathology noted in this occupational group (e.g., Morris, 2023; Rodrigues et al., 2021). Furthermore, the role of emotional schemas in driving wider health and functioning outcomes, including somatic symptoms and sleep problems, is yet to be subject to investigation. Accordingly, more in-depth exploration of this potential mechanism that goes beyond establishing associations to examining a causal effect in the pathways from moral injury is warranted.

Central to the *Emotional Schema Model* is the perception of emotions as modifiable; a reluctance and/or inability to view emotions in this way, and to apply strategies to modify emotions, is considered a core tenant of psychological distress (Leahy, 2022). In line with this theoretical perspective, the effects of emotional schema on driving psychopathological symptoms may be exerted through the resulting use of maladaptive emotion regulation strategies. The potential role of emotion regulation in the pathway between moral injury and wider well-being outcomes will now be considered.

#### ***4.3.2. Emotion regulation: Response-focused strategies***

In the previous chapter, the role of antecedent-focused strategies in the pathway between PMIE exposure and moral injury was captured. Response-focused strategies, which are the second type of emotion regulation strategy outlined in Gross' (2015) Process Model of Emotion, may be of particular relevance to explaining the subsequent adverse health sequelae that can succeed moral injury. Unlike antecedent-focused strategies, which are implemented prior to the final emotional output, response-focused strategies are those that involve modification of the output, regulating the expression of the emotional response. One such strategy, which may be implicated in the pathway between moral injury and further adverse outcomes, is expressive suppression. The potential role of this mechanism in accounting for the relationships between moral injury and wider domains of well-being, and its relevance to secure mental healthcare workers, specifically, will now be discussed.

Expressive suppression is characterised by the intentional containing of emotional expression, resulting in an outward behaviour that does not correspond with an individual's internal affective experience (e.g., maintaining a neutral facial expression in situations that evoke fear). Use of expressive suppression as an emotion regulation strategy has been associated with less favourable health and social outcomes (Cutuli, 2014), and is reportedly more frequent in clinical samples than in healthy controls, with the former including those with substance use disorder (Stellern et al., 2022), social anxiety disorder (Dryman & Heimberg, 2018), borderline personality disorder (Beblo et al., 2013), and PTSD (Amstadter & Vernon, 2008).

Preliminary evidence supports a role for emotion regulation in the development of several psychopathologies in non-healthcare samples. Two studies have indicated a moderating effect of emotion regulation, as a broad construct, in the pathway between PMIE exposure and later psychological outcomes. First, Ray et al. (2021) noted a moderating effect of emotion

dysregulation on the pathways between PMIE exposure and depression symptoms via perceived burdensomeness in 147 (n=63 male) trauma-exposed individuals. Later, Levi-Belz et al. (2023) found a moderating effect for emotion regulation in the pathway between exposure to betrayal-based PMIEs and later suicide risk in 335 male combatants. Nevertheless, whether the role of emotion regulation and, more specifically, expressive suppression precedes or proceeds the development of moral injury symptoms remains unexplored. Consideration of the support for a hypothetical role of expressive suppression in driving the effects of moral injury on other facets of well-being therefore requires examination of the wider trauma literature. This will now be briefly reviewed.

Whilst the impact of expressive suppression on the onset of adverse health outcomes, as a consequence of moral injury *symptoms*, has not yet been explored, such a relationship can be hypothesised through a trauma pathway. As outlined in the previous chapter, childhood trauma has been associated with less use of a cognitive reappraisal strategy (Lee et al., 2019), with trauma-exposed populations tending to exhibit over-reliance on expressive suppression. Whilst avoidance may reflect an effective strategy for the temporary protection against negative affect states (Snow et al., 2022), such strategies prevent opportunities for learning to tolerate and work through difficult emotions and may lead to greater emotional distress in the long-term.

Evidence has documented a significant mediating role for expressive suppression as a transdiagnostic mechanism underlying the link between early trauma and later psychopathological symptoms. Studies in adolescent samples have noted a mediating role for this emotion regulation strategy on depression (Zhou & Zhen, 2022) and suicidal ideation (Kaplow et al., 2014), as outcomes of exposure to childhood trauma. Similarly, studies conducted in adult samples have reported a significant mediating effect of expressive

suppression on the link between trauma exposure and internalising mental health disorders (Moore et al., 2008), including PTSD, anxiety and depression (Pfluger et al., 2022). Only one study to date has been conducted in healthcare workers, finding a mediating role for emotion regulation in the pathway between trauma exposure and suicidal ideation in 473 (n=63 male) nursing students (Amazue et al., 2019). Nevertheless, emotion regulation capacities were assessed here as a global construct, without identification of the role of specific strategies.

Linking to the context of the current thesis, research has implicated expressive suppression as a mediator of the relationship between occupational stressors and psychological distress in healthcare workers, including PTSD, depression and anxiety symptoms (Kshtriya et al., 2022; Too & Butterworth, 2018). More recent research in healthcare workers also noted that the relationship between level of contact with COVID-19 patients and levels of perceived stress was mediated by greater use of expressive suppression (García-Batista et al., 2021). Whilst the current research seeks to expand investigation of the sources of moral injury and the promoting factors beyond the context of the pandemic, such findings provide tentative support to suggest that how an individual responds to their emotions when working under demanding conditions plays a pivotal role in shaping mental well-being outcomes.

Research examining the role of emotion regulation in the pathways between trauma exposure and health and functioning has largely focused on explaining psychological symptoms. However, evidence indicates emotion regulation to be a key mechanism shaping wider domains beyond psychopathology. For example, somatic symptoms appear to be driven by an individuals' use of expressive suppression. A study of a nationally representative sample of 1,607 (n=559 male) participants found significant associations between emotion regulation and self-reported physical health, whereby individuals who made greater use of expressive suppression strategies

to regulate emotions perceived their physical health to be poorer (Low et al., 2021). Emotion regulation has also been implicated as an important mechanism moderating the effects of stress on sleep (Vandekerckhove & Wang, 2018). The cognitive *Affect Network Dysfunction (AND) Model* (Levin & Nielsen, 2009) suggests that emotional expression is critical to the downregulation of negative emotional arousal. This model considers nightmares a consequence of ‘affect load’, which defines the impairing effects of accumulative exposure to negative emotional events on emotion regulation capacity. Thus, it is hypothesised that emotional expression may be an important mechanism in driving several well-being outcomes, inclusive of but also beyond psychopathologies.

The evidence outlined here implicates emotion regulation as a driver of psychological, somatic and physiological outcomes in a broad range of populations, not inclusive of secure mental healthcare workers. However, expressive suppression appears a particularly pertinent factor to consider in understanding the relationships between moral injury and wider well-being outcomes in this occupational population. The suppression of emotions is somewhat necessitated when working in secure mental healthcare services. As recognised within the *Emotional Labour Theory* (Hochschild, 1983), healthcare staff are required to manage and control their human emotional reactions to meet professional and organisational expectations. The added layers of forensic and mental health needs contribute to a particularly emotionally charged environment, in which staff are exposed to distressing events including incidents of aggression and the use of restrictive practices to manage risk in the face of visible distress by service users. The use of expressive suppression is exhorted in this context, with staff expected to maintain a neutral or restricted emotional response in the presence of patients. Accordingly, expressive suppression may be both prevalent and relevant to accounting for the high levels of moral injury and wider

well-being outcomes in secure mental health workers, as discussed previously. The potential role of expressive suppression in the pathway between moral injury and several well-being outcomes will therefore be examined in this programme of research.

#### ***4.3.3. Alexithymia***

An individual's ability to appraise and regulate their emotions is linked to their ability to recognise emotions. As such, the role of emotional schema and emotion regulation strategies in driving the adverse outcomes associated with moral injury may be dependent, to some extent, on a person's level of alexithymia. Alexithymia can be defined as the inability to identify and describe one's own feelings and, in its literal translation, means 'no words for emotions'. Whilst alexithymia is often prescribed to be a core feature of Autism Spectrum Disorder (see Kinnaird et al., 2019 for a review), a growing body of research also indicates high levels of alexithymia to be present in population-based samples, particularly in those exposed to trauma (Eichhorn et al., 2014), and plays a key role in shaping trauma-specific outcomes (Zorzella et al., 2020).

Raised levels of alexithymia have been identified as a risk factor for adverse psychosocial, physical and physiological outcomes. These include somatic complaints, anxiety, insomnia and poor sleep quality, social dysfunction and depression (Alimoradi et al., 2022; Li et al., 2015; Pandey et al., 2011). A study of 191 (n=39 male) healthcare professionals working in a psychiatric setting found that levels of mental distress, including depression, anxiety and insomnia, were higher in participants with greater levels of alexithymia (Zhao et al., 2022). Alexithymia has also been linked to the occupational well-being of staff working in physical health settings. Specifically, Caccamo et al. (2017), Masiero et al. (2018) and Riethof et al. (2020) all noted significant positive associations between alexithymia and burnout scores, albeit

in small samples. Nevertheless, the association between alexithymia and moral injury has not yet been subject to empirical investigation or theoretical consideration.

Perhaps the greatest potential influence of alexithymia in the pathway between moral injury and other health adversities lies in the relationship of this construct with facets of cognitive emotional processing. Drawing on the *Extended Process Model of Emotion* (Gross, 2015), the *Attention-Appraisal Model of Alexithymia* (Preece et al., 2017) proposes that the inability to identify one's own emotional experience reflects problems at the attention and appraisal stages of emotion regulation. Specifically, this model proposes that individuals with high levels of alexithymia are unable to focus their attention on emotions, and accurately evaluate and make sense of an emotional response. Evidence supports this theory, with preliminary research indicating associations between attention biases to emotions and alexithymia. For example, in a general population study of 52 adults, those with high levels of alexithymia, as defined by a score of 60 or greater on the Toronto Alexithymia Scale-20 (Taiwanese version; Lin & Chan, 2003), allocated less attention to anxiety-evoking stimuli than did individuals low in alexithymia (Lee & Lee, 2022). Similarly, differences in attentional biases towards specific negative emotions were not found in the high alexithymia group, indicating that these individuals were not attuned to the precise recognition of emotions.

Problems in attention to and appraisal of emotions are also proposed to be grounded in emotional schema (Luminet et al., 2021). Lane and Schwartz's (1987) *Cognitive-Developmental Theory of Emotional Awareness* suggests that problems in these stages of emotion processing are driven by underdeveloped and poorly integrated schemas about emotions, which prevent the guidance of attention to and interpretation of emotional responses at a more specific level. Initial, research in 208 adults drawn from the general population has shown significant positive

correlations between emotional schemas and alexithymia, whereby more maladaptive emotional schemas were present in individuals with higher levels of alexithymia (Hormozi et al., 2022). Alexithymia is also shown to be associated with use of maladaptive strategies for dealing with emotions, which is perhaps unsurprising given the relationship between emotion schema and regulation, as two facets of cognitive-emotion processing. Previous research in student samples has shown a tendency towards expressive suppression, and lesser use of cognitive reappraisal, in those with high levels of alexithymia (Swart et al., 2009). The limited state of the evidence, in conjunction with the use of small, non-representative samples, makes the proposed associations between alexithymia, emotional schema and expressive suppression, tentative, however, and this relationship is yet to be examined in healthcare personnel, inclusive of those working in secure mental health services.

The specific sequential relationship between alexithymia, emotion schema and expressive suppression is difficult to establish given the reliance on cross-sectional research, in the absence of any prospective investigation. Nevertheless, the evidence suggests that the influence of emotional schema and emotion dysregulation in the pathway between moral injury and further adverse outcomes may be grounded in an individual's level of alexithymia. Drawing on data from 133 college students and staff, Krvavac and Jansson (2021) explored the mediating effect of emotion dysregulation in the pathway between childhood trauma and psychopathology and found alexithymia to be a moderator of the association between emotion dysregulation and psychopathological symptoms. Such findings indicate that the strength of emotion processing as a driver of psychological outcomes is shaped by a person's capacity to identify their emotions. Similarly, Panayioutou et al. (2015), Pandey et al. (2011) and Preece et al. (2022) have indicated emotion regulation difficulties, shaped by an individual's level of alexithymia, to be the key



driver of health-related difficulties, rather than alexithymia itself. Thus, the evidence presented here suggests a potential indirect effect of alexithymia in the pathway between moral injury and other adverse outcomes, via associations with impaired emotion processing and regulation. In consideration of the hypothesised relevance of emotional schemas and expressive suppression as mechanisms accounting for the high prevalence and co-occurrence of moral injury and wider psychological adversities in secure mental healthcare staff, as noted earlier within this chapter, the underpinning role of alexithymia in shaping the influence of these mechanisms also warrants exploration in this specific population.

#### **4.4. Concluding comments**

The way in which an individual makes sense of and regulates their emotional experiences are shown to be critical factors driving the development of a range of health and functioning outcomes following a traumatic experience (e.g., Cutuli, 2014; Leahy et al., 2019; Levi-Belz et al., 2023). Whilst their position in the pathway between moral injury and secondary symptoms (e.g., depression, somatic symptoms, nightmares) is yet to be explored, the current evidence indicates that maladaptive emotional schema and expressive suppression may be key causal mechanisms, driven by alexithymia. The dominant omission of healthcare staff, including those working in secure mental health services, in the research conducted to date is recognised as a key limitation, given the potential utility of these mechanisms in accounting for the elevated rates of moral injury and psychopathology in this occupational group. Accordingly, this gap is recognised and reflected within the aims of this thesis, which will now be outlined in the succeeding chapter.

## **CHAPTER 5. ADDRESSING THE RESEARCH PROBLEM**

### **5.1. Structure of the Chapter**

This chapter describes how the omissions within the existing literature, as discussed thus far, will inform the aims and hypotheses of this thesis. The limited research concerning the mechanisms accounting for moral injury and the relationships of this construct with wider facets of well-being, and the need to draw on interdisciplinary theories and models are noted. The chapter will outline the aims and predictions of each study, and the methods utilised to address these.

### **5.2. Aims and predictions of the research**

As noted, interest in moral injury in the context of healthcare has grown over recent years, primarily in response to the COVID-19 pandemic (Riedel et al., 2022). Nevertheless, the focus on moral injury within this context has constrained our understanding of the circumstances within which moral injury may occur. In the context of a lack of consensus on definitions of PMIEs (ter Heide et al., 2023), the factors and circumstances that lead to the occurrence of moral injury remain overlooked. An understanding of the underlying sources of moral injury is central to the primary prevention of this outcome, and thus reflects an important area for investigation. In particular, the experiences of staff working in forensic and mental healthcare services, who face unique environmental factors and challenges, such as increased exposure to aggression (NHS England, 2019; Rodrigues et al., 2021), must be considered.

In response to the limited understanding of the events that may give rise to moral injury in secure mental health settings, this thesis first seeks to systematically review and synthesise the existing literature base on sources of moral injury for healthcare workers in forensic and psychiatric settings.

## **Systematic literature review of potential sources of moral injury for healthcare workers in forensic and psychiatric settings**

### *Aims*

1. To review the state of the current literature on sources of moral injury in forensic and psychiatric settings.
2. To identify the experiences of healthcare professionals working in such settings that may give rise to moral injury.
3. To synthesise the Potentially Morally Injurious Events (PMIEs) that emerge from the review to inform a model that illustrates the differential sources of moral injury for this occupational group.

Following the literature review, which draws on research conducted in forensic and psychiatric settings, separately, the thesis will seek to confirm the relevance of the PMIEs identified for staff working in secure mental healthcare, specifically, and to establish any additional PMIEs faced by this group. Moral injury can occur as a consequence of one's own actions, and thus decision-making processes about how to act precedes a self-transgression. As such, the motivating factors that increase the likelihood of behaving in a way that goes against one's moral values are important to understand. Furthermore, the dominant use of Litz et al.'s (2009) definition of PMIEs within the healthcare literature, in the presence of a range of other varying definitions (e.g., Shay, 1994), indicates the need to establish consensus on an appropriate definition that captures the unique experiences of staff working in secure psychiatric services. Accordingly, a Delphi study will be conducted to establish consensus amongst academics and

staff from several professions on sources of moral injury, their definition and driving factors for this occupational group.

### **Study 1: Delphi study of potentially morally injurious events, their definition and driving factors in secure mental healthcare**

#### ***Aims***

- 1.1. To develop and obtain consensus on a definition of PMIEs that suitably captures the range of morally injurious experiences of healthcare staff working in secure mental healthcare settings, across professions.
- 1.2. To identify and obtain consensus on potential sources of moral injury for staff working in secure mental healthcare settings, across professions.
- 1.3. To understand the factors that promote the occurrence of PMIEs in secure mental healthcare and increase risk for moral injury following PMIE exposure.

#### ***Predictions***

A Delphi method was utilised in consideration of the limited existing research on sources of moral injury in forensic and psychiatric settings. Consequently, only a limited number of predictions were made:

- 1.1. Experiences of betrayal will be considered important for inclusion in the definition of a PMIE, in line with Shay's (1994) conceptualisation of the term.

- 1.2. Experts will identify and reach consensus on several PMIEs committed by the self and others, as well as by authority figures, in line with Litz's (2009) conceptualisation of the term.
- 1.3. Experts will identify PMIEs that are unique or particularly pertinent to the secure psychiatric context (e.g., Matthews & Williamson, 2016).

Following the establishment of potential sources of moral injury, the thesis moves to consider the mechanisms that may link exposure to such experiences with the subsequent development of moral injury. As demonstrated within the earlier chapters, an understanding of the mechanisms that drive moral injury following exposure to a PMIE remains limited. Thus far, studies have primarily identified singular demographic and occupational risk factors for moral injury (e.g., Dale et al., 2021; Williamson et al., 2023), without further investigation of the accounting mechanisms that may explain *why* certain individuals are more vulnerable to experiencing this phenomena.

For example, early traumatic experiences, which are reported to be prevalent in healthcare staff populations (66%; Maunder et al., 2010), have been associated with moral injury. Drawing on Ehlers and Clark's (2000) Cognitive Model of PTSD, and subsequent empirical evidence (e.g., Babcock & DePrince, 2012), an individual's early life experiences are thought to shape later cognitive processes. Whilst cognitive models have shown much **promise** in accounting for individual differences in responses to traumatic events and later psychological outcomes, their application to moral injury is limited. In particular, there is need to consider cognitive processes that precede appraisals, as well as the cognitive factors and strategies that succeed appraisals, at a metacognitive level. Thus, this thesis seeks to draw on the tenants of

developmental, cognitive and meta-cognitive models of psychopathology within an integrative model to account for the development of moral injury symptoms in secure mental healthcare via the ensuing study.

**Study 2: Exploring the serial effects of early trauma and cognitive mechanisms in the pathway between PMIE exposure and moral injury.**

Utilising path analysis, this study examines the role of early trauma experiences and cognitive and metacognitive processes in the development of moral injury in secure mental healthcare staff. Factors that may moderate the effect of such mechanisms will also be explored. The factors selected will be informed by the risk factors identified by experts in the earlier Delphi, as well as the literature base.

***Aims:***

- 2.1. To establish the prevalence of staff exposed to and impacted by PMIEs.
- 2.2. To identify individual risk factors for greater PMIE exposure and moral injury symptoms.
- 2.3. To understand the mediating effects of childhood trauma symptoms, cognitive schemas and metacognitions in the pathway between PMIE exposure and moral injury symptoms.
- 2.4. To examine the effects of a) social support, b) organisational support, and c) cognitive reappraisal as potential moderators of the mediating effects of childhood trauma symptoms, cognitive schemas and metacognitions in the moral injury exposure-symptom pathway.

### *Predictions*

- 2.1. Betrayal-based PMIEs, characterised by an erosion of trust in an individual or organisation, will be most frequently reported due to their mirroring of early relational traumas (Smetana et al., 1984).
- 2.2. Childhood trauma, early maladaptive schemas and maladaptive meta-cognitions will have individual mediating effects in the pathway between PMIE exposure and moral injury symptoms (e.g., Demirdogen et al., 2022; Rezaei et al., 2016).
- 2.3. Childhood trauma symptoms, early maladaptive schemas and maladaptive meta-cognitions will sequentially mediate the pathway between PMIE exposure and moral injury symptoms (e.g., Mansueto et al., 2019; Pilkington et al., 2020).
- 2.4. This developmental-cognitive pathway will be moderated by greater social support (Wymbs et al., 2020), greater organisational support (Maercker & Horn, 2012) and greater use of cognitive reappraisal (Sistad et al., 2021).

Also warranting investigation are the mechanisms linking moral injury with additional well-being outcomes. As indicated within the previous chapter, empirical research has evidenced independent associations for emotional schema and emotion regulation with several psychological, somatic, sleep and functioning outcomes. Theoretical perspectives indicate that emotional schema and emotion regulation are mechanistically intertwined. Specifically, beliefs about emotions are positioned within the *Emotional Schema Model* (Leahy, 2002) as an antecedent to difficulties in emotion regulation. Research supports this notion, indicating a mediating effect of emotion regulation on the relationship between beliefs about emotions, and

depression, anxiety and fatigue (Deplancke et al., 2022). Specifically, individuals with more maladaptive emotional schemas are more likely to employ an avoidant emotion regulation strategy, which in turn drives their poorer health outcomes. Drawing on this evidence, and building on study two, a role for meta-level cognitive mechanisms and emotion regulation strategies will be explored in the pathways succeeding moral injury in the next study, to inform the development of a model that accounts for the relationships between PMIE exposure, moral injury, and wider well-being adversities. Specifically, a sequential effect of emotion schema and regulation in the pathway between moral injury and well-being outcomes will be examined.

**Study 3: Exploring the serial effects of emotional mechanisms in the pathway between moral injury and well-being outcomes**

This study explores the role of emotional schema and expressive suppression as mechanisms underlying the translation of moral injury into wider adverse well-being outcomes in secure mental healthcare staff. Initially, the associations of moral injury with psychological distress, somatic symptoms, nightmare-related difficulties and personality functioning impairments will be explored. The unique contribution of moral injury symptoms to these outcomes above burnout will also be explored, given the strong associations and overlap noted between these two frameworks (Linzer & Poplau, 2021). Secondly, path analysis will be used to model the effects of emotional schema and expressive suppression within sequential pathways linking moral injury symptoms and well-being outcomes. In consideration of the evidence positioning alexithymia as a moderator of the effects of emotional schema and regulation, the influence of this variable will also be considered.



### *Aims*

- 3.1. To explore the associations between moral injury symptoms with psychological and somatic symptoms, nightmare-related difficulties and personality functioning, and the contributions of this framework above that of burnout.
- 3.2. To explore the mediating effects of emotional schema and emotion regulation in sequential pathways linking moral injury symptoms with psychological and somatic symptoms, nightmare-related difficulties and personality functioning.
- 3.3. To explore a potential moderating effect of alexithymia on the role of emotional schema and expressive suppression in these pathways.

### *Predictions*

- 3.1. Moral injury will be associated with psychological distress (e.g., Mantri et al., 2020; Nieuwsma et al., 2022) somatic symptoms (e.g., Maftai & Holman, 2021; Yan et al., 2016), nightmare-related difficulties and impairments in personality functioning (e.g., Bravo et al., 2020; Chestnut et al., 2020).
- 3.2. Moral injury symptoms will have significant predictive effects for all well-being outcomes, and will contribute significantly to the models above the effects of burnout (Liu et al., 2023).
- 3.3. The pathways between moral injury symptoms and psychological distress, somatic symptoms, nightmare-related difficulties and impairments in personality functioning will be mediated by maladaptive emotional schemas and expressive suppression (e.g., Edwards et al., 2022); Levi-Belz et al., 2023; Ray et al., 2021).

3.4. The effects of emotional schema and expressive suppression in these pathways will be moderated by increased alexithymia (e.g., Hormozi et al., 2022; Krvavac & Jansson, 2021).

## **CHAPTER 6. POTENTIAL SOURCES OF MORAL INJURY FOR HEALTHCARE PROFESSIONALS IN FORENSIC AND PSYCHIATRIC SETTINGS: A SYSTEMATIC REVIEW AND META-ETHNOGRAPHY**

### **6.1. Structure of the Chapter**

The effective prevention and minimisation of risk for moral injury requires an understanding of the experiences preceding the development of this outcome. This chapter reports on a systematic literature review which aimed to explore sources of moral injury experienced by healthcare professionals working in forensic and/or mental healthcare settings. The chapter begins with an overview of the rationale and methodology employed. The results of the search and synthesis are then presented. The chapter closes with a discussion of the results and presentation of a conceptual model that illustrates the potential sources of moral injury for the population of focus, and the relationships between these. This systematic review has been published, with the reference provided at the end of the thesis.

### **6.2. Aims of the systematic literature review**

The aims of the current study were two-fold. Firstly, the study sought to systematically review the empirical research base identifying sources of moral injury in the context of forensic and mental healthcare. Secondly, the study sought to synthesise the articles yielded from the systematic review using a meta-ethnographic approach, to advance conceptual understanding of the potential sources of moral injury in this population. No such synthesis of morally injurious experiences within the context of forensic nor mental healthcare settings exists, at the time of this review. Yet, an understanding of potential sources is arguably the foundation to tackling the rising wave of moral injury and associated impacts in healthcare staff. Such knowledge may prove

valuable in informing important changes in policy and practice and offer recommendations accessible by policymakers and healthcare professionals at all levels, from leadership to the frontline.

The next section will provide an overview of the search strategy utilised to locate articles, including the terms used and databases searched, the inclusion and exclusion criteria employed, and procedures for screening and extracting data. The method of data synthesis utilised will also be described.

### **6.3. Search strategy**

A systematic literature review was conducted to retrieve articles that identified potential sources of moral injury for staff in forensic and/or mental healthcare settings, in adherence with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021). The eMERGe guidance for meta-ethnography conduct and reporting (France et al., 2019a) was also adhered to.

Articles were searched from PsycInfo, PsycArticles, Medline and CINAHL databases, as well as Google Scholar. The search was conducted between April and June 2021, and thus all relevant articles published up to the latter date were included in the review. Given that moral injury, as a term, is a relatively novel conceptualisation, and one used interchangeably within the literature (Čartolovni et al., 2021), articles which explored sources of moral distress, transgression or violation, without explicitly labelling this as ‘moral injury’, were included. The full search terms used are reported in Table 1. Furthermore, the reference lists of all included studies were examined for additional relevant articles.

Table 1. Systematic literature review search strategy

Database	Question Topic	Terms
PsycINFO, PsycARTICLES, Medline, CINAHL	Moral Injury	(“Moral* Injur*” OR “Moral* Distress*” OR “Moral Transgress*” OR “Moral Violat*”)
	Sources	<b>AND</b> (“Source*” OR “Event*” OR “Cause*” OR “Trigger*” OR “Experience*”)
	Forensic/Mental Healthcare	<b>AND</b> (“Forensic” OR “Secure” OR “Criminal Justice” OR “Prison” OR “Mental Health” OR “Psychiatric” OR “Healthcare”)
Google Scholar	Moral Injury	(“Moral Injury” OR “Morally Injurious” OR “Moral Distress” OR “Morally Distressing” OR “Moral Transgression” OR “Morally Transgressed” OR “Moral Violation” OR “Morally Violated”)
	Sources	<b>AND</b> (“Source” OR “Event” OR “Cause” OR “Trigger” OR “Experience”)
	Forensic/Mental Healthcare	<b>AND</b> (“Forensic” OR “Secure” OR “Criminal Justice” OR “Prison” OR “Mental Health” OR “Psychiatric” OR “Healthcare”)

*Notes.* \* symbolises truncation; truncation was not employed for searches conducted on google scholar due to incompatibility with this platform

#### **6.4. Inclusion and exclusion criteria.**

Articles were included in the review if they: (a) identified sources of moral distress in healthcare staff working in a forensic and/or mental health service, (b) were peer-reviewed, empirical research, (c) were available in English, and (d) were accessible in full-text. Articles that did not directly aim to explore sources of moral injury but identified morally distressing or ethically challenging aspects of practice in forensic or mental healthcare settings within their findings, were included in the review. Articles were excluded if they: (a) did not employ a forensic or mental healthcare staff population, (b) were non-empirical papers (e.g., reviews, commentaries) or grey literature (e.g., dissertations, conference proceedings, letters to the editor), (c) were not available in English, (d) were not accessible in full text, (e) were a duplicate, or (f) were a multiple publication from a singular dataset (in this instance, only the earliest relevant article was included). As the aim of the review was to provide a comprehensive synthesis of the range of PMIEs experienced by healthcare professionals in forensic and psychiatric settings, no specific parameters were set regarding the year of publication. Similarly, no restrictions regarding the country of origin were implemented. Whilst healthcare systems differ globally (Popic & Schneider, 2018; Xu, 2006), it was hypothesised that there would be similarities in the PMIEs experienced by healthcare professionals across cultures.

#### **6.5. Study selection and data extraction.**

All articles returned in the literature search were exported into a reference management software (Mendeley Desktop v.1.19.8; Mendeley Ltd., 2021). Screening and data extraction were completed by the primary reviewer. The titles and abstracts of all retrieved articles were initially screened to assess their relevance. Articles which met the inclusion criteria were then reviewed in

full. In cases where there was doubt about whether an article met inclusion criteria during the initial abstract screening, a scrupulous approach was taken; presuming that the article did not meet exclusion criteria, it was included for full-text screening.

Of articles which met inclusion criteria after full-text screening, data pertaining to the study aims, design and methodology, sample characteristics (size and demographics), measures of moral injury (quantitative studies only), and relevant findings were extracted for each article by the primary reviewer and tabulated for ease of synthesis. The current study utilised a meta-ethnographic approach to synthesise the findings across papers and so primary participant quotations and interpretations reported by the study authors, which related to sources of moral injury, were extracted from qualitative papers. Participant quotations and author interpretations were extracted verbatim to ensure that both language and contextual meaning were preserved. The range of key terms which describe the various types of ‘data’ used within the meta-ethnography are listed in Table 2 below. **Specific examples of each of these data types used in the current review are provided in Figure 1.**

Table 2. Key 'data' terms in the meta-ethnography

Term	Definition used in the current study	Example
Key concepts	A phrase summarising the source of moral distress expressed in a participant quotation and the article authors' interpretation of that quotation, developed to fit the focus of the review.	Failure to prevent patient distress due to powerlessness against senior staff members
<b>Category</b>	<b>A group of key concepts that relate to a similar area</b>	<b>Staff attitudes and behaviours</b>
Secondary key concepts	Overarching phrases which encapsulate multiple concepts to summarise sources of moral distress evident across studies	Powerlessness to act due to power in numbers or status

Third-order constructs	Interpretations of concepts and secondary key concepts, as made by the authors' of the meta-ethnography <sup>a</sup>	Between patients and others
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*Note.* <sup>a</sup>This definition differs from the original conceptualisation of a third-order construct, for reasons reported in section 6.7.

Meta-ethnography is still developing as a methodology, and was principally developed for application to qualitative studies, although it has since been utilised to synthesise both qualitative and quantitative papers (e.g., Barley et al., 2011; Feast et al., 2018; Jennings et al., 2018). In line with the approach utilised in the few mixed methods meta-ethnographies conducted, a coherent threshold, based on the purpose of the review, was implemented to ensure that data extraction for quantitative papers was systematic. Specifically, items on measures of morally distressing events for which the average sample score indicated a tendency towards moral distress were extracted. No specific score threshold was set, however, as various questionnaires with differing scale structures were used across the included quantitative articles.

## **6.6. Quality assessment.**

The quality of all qualitative studies included in the review were assessed using the National Institute for Health and Clinical Excellence ([NICE], 2012) Quality Appraisal Checklist – Qualitative Studies (3<sup>rd</sup> edition) tool. This checklist comprises 14 items that relate to the theoretical approach, study design, trustworthiness, data collection and analysis methods, study conclusions, and ethical considerations. A rating is given to each item from a choice of three responses – the wording of which differs between items - dependent on whether the item is met, not met, or there is inadequate information to make a judgement. An overall assessment of quality is then made by the reviewer, rating the study as either ‘good’, ‘fair’ or ‘poor’, based on the extent to which criteria have been fulfilled, and the potential impact of any unfulfilled criteria on the



conclusions drawn. This tool allows for a comprehensive appraisal of the dominant principles central to qualitative research and is versatile to the various ways in which qualitative research is conducted. The tool is also suitable for people with both a basic and advanced understanding of qualitative research, and includes guidelines for the assessment of items, to maximise reliability between reviewers.

Alternatively, the quality of quantitative studies was assessed using the AXIS appraisal tool for cross-sectional studies (Downes et al., 2016). This tool assesses the quality of design and reporting, as well as risk of bias, and comprises 20 items relating to study design, sampling, measurement validity, data handling and reporting, and ethical practice. Each item is rated as either present or absent, or 'unknown' in cases where there is insufficient information to determine whether the item has been met. An overall quality rating of 'good', 'moderate', or 'poor' is then made by the reviewer, based on a comprehensive assessment of the performance of the article on the tool. Where important information is absent, the assessor is encouraged to consider the impact of this omission on the reliability of the results when determining an overall quality rating.

Each of the articles included in the review was appraised against the appropriate checklist by two authors, independently, with discrepancies in quality ratings resolved through discussion.

## **6.7. Data synthesis**

Meta-ethnography (Noblit & Hare, 1988) was employed to synthesise the sources of moral injury identified in the included articles. Whilst originally developed as an approach for the synthesis of qualitative research, meta-ethnography has been supported and successfully applied as an approach to synthesising both qualitative and quantitative studies (Barley et al., 2011; Feast et al., 2018). This inductive, iterative seven-phase methodology involves selecting a topic and guiding research question (phase 1: 'getting started'), retrieving the primary studies (phase 2:

‘deciding what is relevant to the initial interest’), becoming familiar with the studies (phase 3: ‘reading the studies’), identifying the underlying concepts and how the studies link (phase 4: ‘determining how the studies are related’), comparing concepts between papers (phase 5: ‘translating the studies into one another’), bringing translations together to develop a higher order interpretation (phase 6: ‘synthesising translations’) and finally, reporting the findings and developing theory (phase 7: ‘expressing the synthesis’). A summary of each phase is described in Table 3 below. The processes involved in phases can overlap and may be carried out concomitantly (France et al., 2014).

Table 3. Summary of meta-ethnography process

Phase	Description
1 Getting started	In this initial stage, the focus of the synthesis is identified. The authors must consider if a qualitative synthesis of the identified topic is necessary, and if a meta-ethnographic approach to synthesis is appropriate to answering the research question.
2 Deciding what is relevant to the research interest	Next, studies which are relevant to the research question of interest are identified, through systematic review methods. At this stage, the authors must develop a search strategy which, when employed, will lead to the sufficient identification of relevant research.
3 Reading the studies	At the third phase, the authors must familiarise themselves with the studies and their themes through a process of repeated reading. Throughout this process, attention is paid to the themes and participant quotations apparent within each text.
4 Determining how the studies are related	Noblit and Hare (1988) suggest that the themes identified at the previous phase be set in a list and juxtaposed. No specific guidance on how to conduct this phase is set out, but an approach frequently adopted has been to group similar themes within over-arching categories, and to then explore for similarities and discrepancies in meaning between these, within each category.
5 Translating the studies	Translation involves the juxtaposition of themes across studies, in consideration of their context. Synthesis can i) be a <i>reciprocal</i> translation of accounts that are directly comparable, ii) be a <i>refutational</i> translation

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	of studies that oppose one another, or iii) develop a <i>line of argument</i> that presents a whole phenomenon as more than the sum of its parts <sup>11</sup> . Translation can involve more than one of these methods and is recommended to increase the impact of the synthesis (France et al., 2019b).
6 Synthesising translations	The translations developed at the previous stage must then be compared to come to a new interpretation that goes beyond, yet remains synonymous with, the data reported in the original texts, individually.
7 Expressing the synthesis	The synthesis should be presented in a way that is most appropriate to conveying the final output to the intended audience. This may include written word, as well as visual forms.

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As a relatively novel methodology, meta-ethnography is still evolving (Campbell et al., 2011), and the original philosophy as described by Noblit and Hare (1988) does not stipulate the completion of any specific mechanistic task, but rather provides a framework to guide synthesis. Indeed, the need to select and adapt methods when conducting a meta-ethnographic synthesis, dependent on the review aim and heterogeneity and number of studies, is recognised within the literature (France et al., 2019a). As such, whilst the synthesis was conducted in accordance with the seven phases proposed by Noblit and Hare and outlined above, alterations<sup>12</sup> were made to fit the purpose of the review, as has been done so in other studies utilising a meta-ethnographic

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<sup>11</sup> There is significant overlap in phases five and six of the meta-ethnographic process. Whereas some place reciprocal and refutational translation at phase five (e.g. France et al., 2019b), others have placed these processes as ones that occur at phase six (e.g. Sattar et al., 2021). In the current study, reciprocal translation was conducted at phase five, and the translations developed from this phase informed the line of argument synthesis established at phase six.

<sup>12</sup> Alterations made to the methodology were as follows. Firstly, **participant quotations and author interpretations** were re-interpreted to develop new '**key concepts**', relevant to the review aim, for utilization in phases four to six. Secondly, key concepts with shared meanings were grouped into **categories** to facilitate translation, as opposed to attempting to translate all key concepts across papers into one another. Thirdly, third-order constructs emerged from interpretation of **key concepts** and secondary key concepts, as opposed to **participant quotations and author interpretations**. Definitions of these terms are provided in Table 2. The rationale for these alterations are described in text.

approach (e.g., Atkins et al., 2008; Lindenmeyer et al., 2016; Sattar et al., 2021). Where adaptations were made, it was ensured that these remained in keeping with Noblit and Hare's original philosophy underlying the methodology. The meta-ethnography procedure employed here in the current study will now be outlined. In consideration of the alterations that were made to the data synthesis process, and the complex nature of the method, further description of the specific processes undertaken at phases 3-6 is provided in Figure 1 to exemplify the use and emergence of different types of data at each phase.

### ***6.7.1. Getting started***

The research question guiding the systematic review was 'What are the potentially morally injurious events (PMIEs) experienced by staff working in forensic and mental healthcare settings?'

### ***6.7.2. Deciding what is relevant to the research interest***

A description of the search strategy, including the databases searched and the inclusion and exclusion criteria employed, is detailed in section 6.3. The key terms used are listed in Table 1. A preliminary search highlighted the dearth of literature focusing on sources of moral injury, and in secure or forensic mental health settings, specifically. Thus, the scope of the search was widened to include terms similar to moral injury (e.g., moral distress) and studies utilising healthcare staff in a forensic non-psychiatric setting, secure/forensic psychiatric settings, or non-secure/non-forensic psychiatric settings were included.

### ***6.7.3. Reading the studies***

All included studies were read multiple times. Whilst Noblit and Hare (1988) suggest that the key 'metaphors, phrases, ideas or concepts' be extracted for juxtaposition at the next phase, it

is unclear exactly what these terms refer to, although much of the research employing a meta-ethnographic approach has utilised the themes developed by the paper authors at this stage (e.g., Sattar et al., 2021). However, for the current review, the themes reported by authors were often not relevant, by virtue of the fact that papers for which exploring PMIEs was not the primary aim were included in the synthesis. Therefore, it did not make sense to translate these themes into one another as each related to a different focus, and thus doing so would not inform a broader understanding of sources of moral injury. Therefore, the author interpretations and the primary participant data were instead reviewed and re-interpreted to develop new ‘key concepts’ relevant to the focus of the review. In line with the suggestion of Britten et al. (2002), where possible, the language used in interpretations and quotations was maintained in the concepts to ensure that meaning was preserved. These newly developed concepts were transferred into a ‘concepts’ table with the corresponding primary data to which they relate.

#### ***6.7.4. Determining how the studies are related***

Given the large amount of data for translation, and the variation in the aims and thus concepts emerging from articles included in the review, the translation of all studies into one another was not sufficiently manageable. Therefore, in line with the approach described elsewhere (e.g., Atkins et al., 2008; Sattar et al., 2021), an analysis of themes was firstly conducted, grouping concepts within over-arching categories. The categories identified through this process were descriptive labels developed to aid the following stages of synthesis and did not reflect higher third-order constructs. The twelve categories identified at this stage were as follows: staff attitudes and behaviours; relationships with colleagues; power and conflict between patients and caregivers; resources; culture and system factors; responsibilities of role and principles of profession; self-

competence and behaviours; environmental and contextual factors; restrictive practices; coercion; inappropriate treatment; and powerlessness and power.

An independent co-rater with no involvement in the study was provided with a list of the categories and an accompanying description and asked to allocate a random sample of 14 concepts (10%) into categories which they felt to be the best fit. In line with Kappa value thresholds proposed by Landis and Koch (1977), inter-rater reliability between the two raters indicated moderate agreement, Kappa = .53,  $p < .001$ , with raters placing 57% of concepts into the same categories. Once grouped, the relationships between **key** concepts were considered. To determine how the studies might be related, a key concept grid<sup>13</sup> was created for each category. This grid listed the **key** concepts, and the characteristics of the studies that they derived from, relevant to the selected category. Examination of the grids highlighted similarities in meanings across studies. Whilst differences in **key** concepts within a category were apparent, these did not appear to ‘refute’ each other, but described alternative perspectives of a shared phenomenon. Thus, a reciprocal approach was employed in the next phase.

#### ***6.7.5. Translating the studies***

In line with the approach taken by Franzel et al. (2013), **key concepts** within each category were translated into one another to develop ‘secondary key concepts’ that reflected PMIEs evident across studies. To facilitate this process, a primary data synthesis<sup>14</sup>, as described by Sattar et al. (2021), was developed for each of the categories identified in the previous phase. Primary data syntheses are a commentary of the similarities and differences in data between studies grouped

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<sup>13</sup> The concept grids developed at this stage are reported in Appendix A.

<sup>14</sup> The primary data syntheses developed at this stage are reported in Appendix B.

under the same category. The key concept grids developed in the previous phase were drawn on during the development of the primary data syntheses to ensure that translations considered the context in which the various **key** concepts were grounded. The articles were ordered chronologically, and translation began by comparing the two most recent papers. This approach was taken as, theoretically, older papers should inform more recent research. Whilst an alternative approach is to begin with the highest quality paper, this was not employed due to the subjectivity of quality appraisals, particularly for qualitative papers. Whilst this process was structured in accordance with the categories identified in the previous phase, new meanings in data emerged as the translation occurred, and relationships between the constructs categorised together changed as the third-order constructs emerged during the synthesis, at the next phase.

#### ***6.7.6. Synthesising the translations***

The primary data syntheses developed in the previous phase guided the synthesis of translations. The translated secondary key concepts developed from the reciprocal translation at the previous phase, and their encompassed primary key concepts, were re-conceptualised to develop a 'line of argument'. This method of synthesis involves moving to a higher order interpretation of the data that makes inferences about the whole, which are more than that implied by the sum of the parts alone. In essence, the final synthesis should provide a comprehensive explanation of the phenomenon under investigation that would not otherwise be attainable through reading the included studies alone. Through the synthesis, three third-order constructs emerged. Traditionally, third-order constructs are identified through the interpretation of themes and phrases made by authors in the original articles included in the review. However, as the current study involved the initial re-interpretation of participant quotations and author interpretations to draw out 'key concepts' that related to sources of moral injury in line with the focus of the review, third-

order constructs instead emerged through interpretation of **key concepts** and secondary key concepts, in the current study. In consideration of this adaptation, the key concepts table developed at phase three was constantly referred back to at this stage, to ensure that third-order constructs were consistent with the original data.

#### ***6.7.7. Expressing the synthesis***

The eMERGE reporting guidance (France et al., 2019a) was followed in expressing the synthesis. To accompany the written word expression of the synthesis, a diagrammatic model was developed to visually convey the line of argument. As reported by Noblit & Hare, this form of expression can be preferable when the synthesis is intended to inform practitioners [and services].

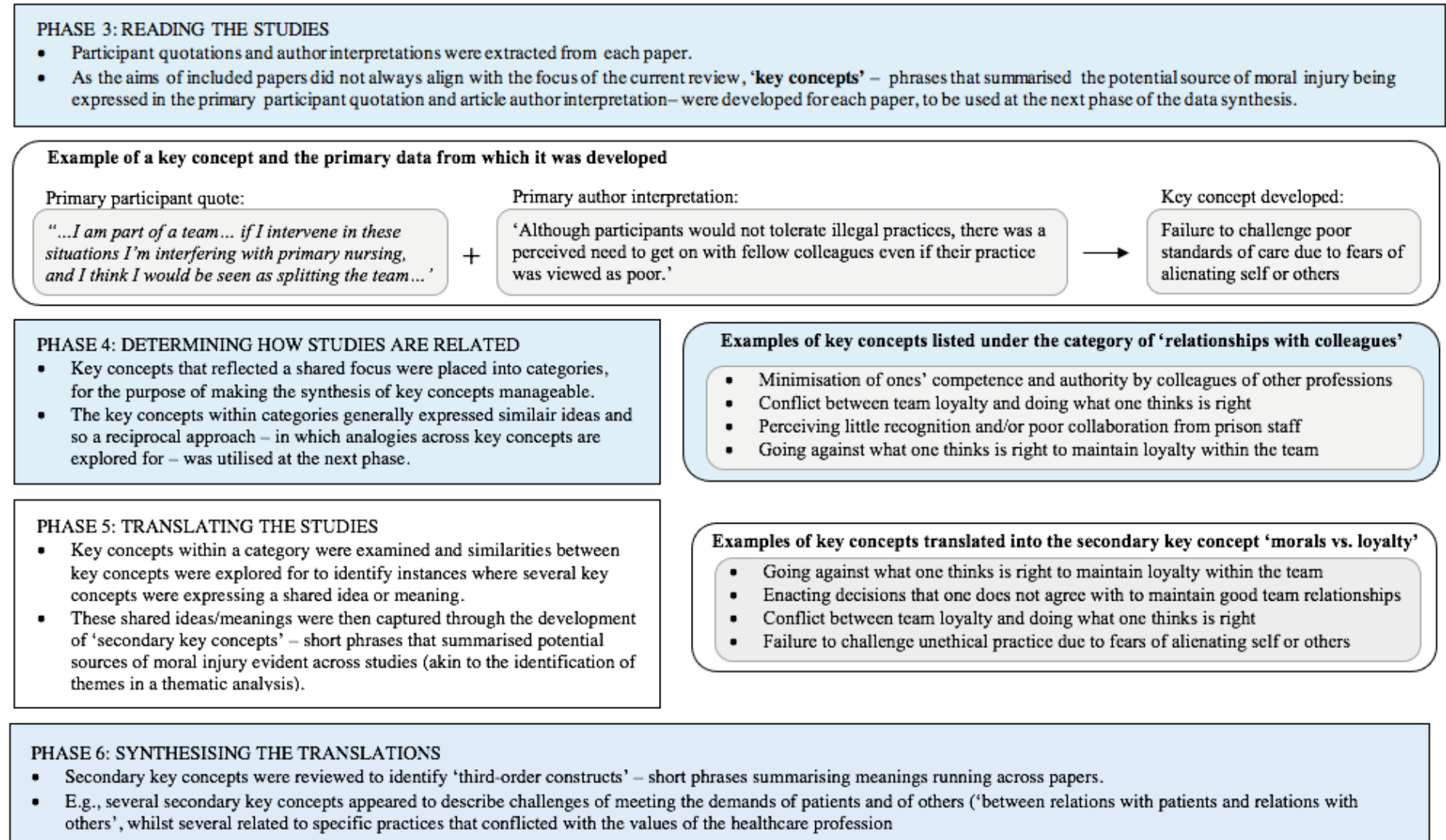
### **6.8. Rationale for using a meta-ethnographic approach**

Meta-ethnography was selected as a method of synthesis based on several considerations. Firstly, meta-ethnography represents a suitable approach for the development of theory and conceptual frameworks (France et al., 2016). This method fosters an exploratory and analytical interpretation of findings, transcending the identification and summarising of themes from individual studies to devise higher order constructs. This aligns with the purpose of the current systematic review, which forms part of a larger programme of research that seeks to advance theory and develop a conceptual model of moral injury. Additionally, there was heterogeneity in the aims of the included studies and thus the themes selected and reported by authors' within papers were not always relevant to the research question underlying the current systematic review. Unlike other qualitative approaches, meta-ethnography involves consideration of the interpretations made by the authors of a paper within the context of the primary participant data, thus allowing for the generation of new concepts relevant to the purpose of the systematic review, which were grounded in primary



data, as well as secondary interpretations. Finally, consideration of study context is emphasised across the different phases of meta-ethnography. Given that sources of moral injury may differ between professional roles and service types (e.g., forensic vs. non-forensic mental healthcare), it was important that similarities and differences between studies be considered in light of these factors. For these reasons, meta-ethnography was deemed the most appropriate approach.

Figure 1. Summary of processes undertaken in altered phases of the data synthesis



## 6.9. Results

### 6.9.1. Systematic literature search

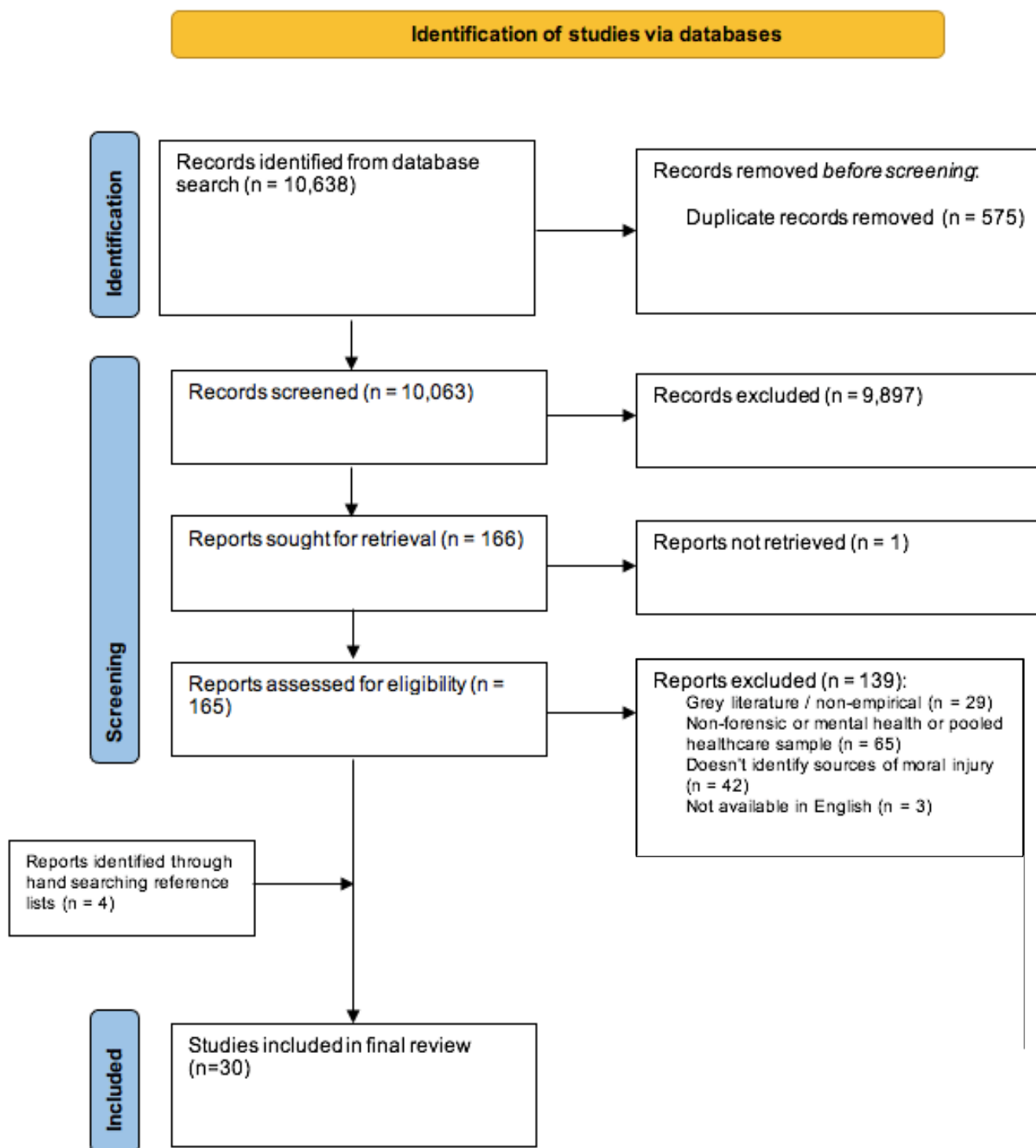
The initial search produced 10,638 articles. After removing duplicates, a total of 10,063 articles remained. The titles and abstracts of these articles were screened, from which 166 articles were yielded for full-text screening. Of these articles, one was not available to the researcher in full-text and 139 did not meet the inclusion criteria. As such, 26 relevant articles were identified for inclusion. The reference lists of these studies were hand-searched, and a further four relevant articles were identified, resulting in a total of 30 articles included in the review (see Figure 2).

### 6.9.2. Characteristics of included studies

A summary of included studies is presented in Tables 4 and 5. Studies were conducted between 1994 and 2021. Just one study specifically explored moral injury, with the majority of papers focusing on moral distress ( $k=20$ ) or ethical challenges ( $k=9$ ).

**Country.** Most studies ( $k=26$ ) were conducted in westernised countries, namely Canada ( $k=8$ ), the United Kingdom ( $k=7$ ), Norway ( $k=3$ ), Ireland ( $k=3$ ), Italy ( $k=3$ ), and Sweden ( $k=2$ ), with the remaining studies conducted in Israel ( $k=1$ ) Japan ( $k=2$ ), and Jordan ( $k=1$ ).

Figure 2. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram



**Sample population.** The included articles largely utilised a nurse-only sample ( $k=16$ ). Other studies employed single-profession samples of psychologists ( $k=2$ ), psychiatrists ( $k=1$ ) and healthcare assistants ( $k=1$ ). Remaining articles ( $k=9$ ) included staff from mixed professional populations, including nursing, psychiatry, psychology, social work, medicine, and occupational therapy. One study did not specify the professional roles of participants included in the sample.

Four articles failed to report on sample size. Of the papers which did report on this ( $k=26$ ), sample sizes ranged from 7 to 105 participants (median  $n=15$ ) for qualitative studies, and from 130 to 269 participants (median  $n=233$ ) for quantitative studies. Eleven studies did not report participants' gender, and the majority failed to report on ethnicity ( $k=28$ ). Of articles reporting on gender ( $k=19$ ), fourteen utilised a predominantly female sample, whilst two used a female-only sample, and three used a predominantly male sample. Of the two articles reporting on ethnicity, exclusively and predominantly (80%) White samples were utilised. Of articles reporting on age range ( $k=10$ ), participants were between 18 and 59 years across studies.

Table 4. Characteristics and quality appraisal ratings of included qualitative studies (n=26)

<b>Author (year)</b>	<b>Country</b>	<b>Study aim(s)</b>	<b>Data collection method(s)</b>	<b>Data analysis method</b>	<b>Sample</b>	<b>Quality rating<sup>15</sup></b>
[1] Austin, Bergum & Goldberg (2003)	Canada	Identify morally distressing events, describe experiences in resolving ethical concerns, and identify supports and obstacles to ethical practice in nurses	Interviews	Not reported	Nurses (n not reported) working in mental health settings. Gender, age and ethnicity not reported.	- Poor
[2] Austin, Kagan, Rankel & Bergum (2008)	Canada	Identify morally distressing events, describe experiences in resolving ethical concerns, and identify supports and obstacles to ethical practice in psychiatrists	Interviews	Not reported	Psychiatrists (n not reported) working in mental health settings. Gender, age and ethnicity not reported.	- Poor
[3] Austin, Rankel, Kagan, Bergum & Lemermeyer (2005)	Canada	Identify morally distressing events, describe experiences in resolving ethical concerns, and identify supports and obstacles to	Interviews	Not reported	Psychologists (n not reported) working in mental health settings. Gender, age and ethnicity not reported.	- Poor

<sup>15</sup> An explanation of the quality appraisal ratings made and the characteristics distinguishing poor, fair and good quality papers are described in section 6.9.2.

Author (year)	Country	Study aim(s)	Data collection method(s)	Data analysis method	Sample	Quality rating <sup>15</sup>
		ethical practice in psychologists				
[4] Bailey, Nawaz & Jackson (2020)	UK	Explore mental health nurses' experiences of forcibly touching service users during physical restraint	Semi-structured interviews	Not reported	Mental health nurses (n=14; 64.3% female) from five acute, one recovery and one intensive care ward in three NHS hospitals Age range 28-59 years (M=38.7 years). Ethnicity not reported.	++ Good
[5] Danda (2020)	Canada	Explore mental health nurses' experiences of using chemical restraint interventions for managing behavioural emergencies	Semi-structured interviews	Not reported	Mental health nurses (n=8; 100% female) working in adult acute mental health units. Age range 26-58 years (M not reported). Ethnicity not reported.	+ Fair
[6] Deady & McCarthy (2010)	Ireland	Explore psychiatric nurses' experiences of moral distress	Semi-structured interviews	Not reported	Psychiatric nurses (n=8; 37.5% female) working in acute care settings. Age not reported. Ethnicity not reported.	+ Fair
[7] Foster & Smedley (2019)	Ireland	Explore the nature of mental health nursing within a CAMHS PICU	Reflective work discussion group notes	Content analysis	Mental health nurses and healthcare assistants (n not reported) working in a CAMHS psychiatric intensive	+ Fair

<b>Author (year)</b>	<b>Country</b>	<b>Study aim(s)</b>	<b>Data collection method(s)</b>	<b>Data analysis method</b>	<b>Sample</b>	<b>Quality rating<sup>15</sup></b>
					care unit. Gender, age and ethnicity not reported.	
[8] Hem, Molewijk & Pedersen (2014)	Norway	Explore the ethical challenges related to coercion experienced by health care practitioners	Focus groups	Not reported	Psychiatrists, psychologists, residents, nurses, nursing assistants, social educators, team leaders and managers (n=65) working in various mental health services within three institutions. Gender, age and ethnicity not reported.	++ Good
[9] Jansen & Hanssen (2016)	Norway	Explore psychiatric nurses' experiences and perspectives regarding patient participation	Focus groups	Not reported	Trained healthcare workers (n=9) from a psychiatric subacute hospital unit. Gender, age and ethnicity not reported.	++ Good
[10] Jansen, Hem, Dambolt & Hanssen (2019)	Norway	Explore the sources and features of moral distress as experienced by acute psychiatric care nurses	Semi-structured interviews	Thematic analysis	Registered nurses (n=16; 81.25% female) from two mental health hospitals. Age and ethnicity not reported.	+ Fair
[11] Jones & Crossley (2012)	UK	Explore situations that provoke shame in people receiving mental health services and mental health professionals	Focus groups	Not reported	Psychiatrists, social workers, occupational therapists and mental health nurses (n=14; 57.14% female) working in an NHS trust. Age and ethnicity not reported.	+ Fair



<b>Author (year)</b>	<b>Country</b>	<b>Study aim(s)</b>	<b>Data collection method(s)</b>	<b>Data analysis method</b>	<b>Sample</b>	<b>Quality rating<sup>15</sup></b>
[12] Liberati, Richards, Willars, Scott, Boydell, Parker, Pinfold, Martin, Dixon-Woods & Jones (2021)	UK	Characterise the experiences of staff working in NHS mental health services during the first wave of the COVID-19 pandemic	Semi-structured interviews	Not reported	Psychiatrists, mental health nurses, psychotherapists, and clinical psychologists (n=35; 63.33% female, 80% White) working in inpatient and community mental health NHS services (secure forensic services, community mental health teams, psychosis services, crisis teams, and acute hospital wards). Age not reported.	++ Good
[13] Matthews & Williamson (2016)	UK	Explore how healthcare assistants construct and manage demanding situations in a secure mental health setting, and explore the effect of this environment on healthcare assistant's health and well-being	Diary entries; Semi-structured interviews	Interpretative phenomenological analysis	Healthcare assistants (n=10; 70% female) working in two secure female adolescent wards in a mental health hospital. Age range 21-43 years (M not reported). Ethnicity not reported.	+ Fair
[14] Moran, Cocoman, Scott, Matthews, Staniuliene & Valimaki (2009)	Ireland	Explore the emotions and feelings experienced by nurses in response to restraint and seclusion interventions	Focus groups	Not reported	Psychiatric nurses (n=23; 65.2% female) working in a psychiatric hospital. Age and ethnicity not reported.	+ Fair

<b>Author (year)</b>	<b>Country</b>	<b>Study aim(s)</b>	<b>Data collection method(s)</b>	<b>Data analysis method</b>	<b>Sample</b>	<b>Quality rating<sup>15</sup></b>
[15] Motta-Ochoa, Lencucha, Xu & Park (2021)	Canada	Explore emergent ethical tensions experienced by mental health practitioners during system re-organisation	Field notes; Focus groups; Semi-structured interviews	Not reported	Nurses, social workers, psychologists, psychiatrists, orderlies and occupational therapists (n=37) working in an in- and out-patient psychiatry department. Gender, age and ethnicity not reported.	++ Good
[16] Musto & Schreiber (2012)	Canada	Explore the situations that create moral distress, experiences of moral distress, amelioration strategies, and supports and barriers to resolving moral distress in mental health nurses who work with adolescents	Semi-structured interviews	Grounded Theory	General and psychiatric nurses (n=12; 66.66% female) working with adolescents in inpatient and community mental health services. Age range 26-56 years (M not reported). Ethnicity not reported.	+ Fair
[17] Musto, Schreiber & Rodney (2021)	Canada	Explore how healthcare providers in acute care mental health settings navigate ethically challenging situations, enact moral agency, practice in congruence with ethical standards, and mitigate moral distress	Semi-structured interviews; Observation; File review	Grounded Theory	Nurses, social workers, medics and occupational therapists (n=27; 70.37% female) working in acute inpatient mental health settings. Age range not reported (M=44 years). Ethnicity not reported.	+ Fair

<b>Author (year)</b>	<b>Country</b>	<b>Study aim(s)</b>	<b>Data collection method(s)</b>	<b>Data analysis method</b>	<b>Sample</b>	<b>Quality rating<sup>15</sup></b>
[18] Ohnishi, Stone, Yoshiike & Kitaoka (2020)	Japan	Report on the establishment of an Online Ethics Consultation and describe and evaluate its effectiveness	Emails to an online ethics consultation service	Not reported	Nurses and psychiatrists (n=7) working in mental healthcare. Gender, age and ethnicity not reported.	+ Fair
[19] Peltö-Piri, Engström & Engström (2012)	Sweden	Provide a qualitative description of situations and experiences that give rise to ethical problems and considerations as reported by staff on child and adolescent psychiatric wards	Diary entries	Content analysis	Healthcare assistants, nurses, doctors, psychologists, social workers and teachers (n=68) working in six child and adolescent inpatient psychiatric wards. Gender, age and ethnicity not reported.	+ Fair
[20] Peltö-Piri, Engström & Engström (2014)	Sweden	Provide a qualitative description of situations and experiences that staff members perceive as giving rise to ethical issues	Diary entries	Content analysis	Nurses, healthcare assistants, doctors, social workers and psychologists (n=105) working on inpatient psychiatric wards (general, forensic, and integrated addiction care). Gender, age and ethnicity not reported.	+ Fair
[21] Sasso, Delogu, Carrozzino, Aleo & Bagnasco (2018)	Italy	Describe the main factors that give rise to ethical issues experienced by correctional nurses in Liguria	Focus groups	Thematic analysis	Correctional nurses (n=31) working across seven prisons. Gender, age and ethnicity not reported.	++ Good

<b>Author (year)</b>	<b>Country</b>	<b>Study aim(s)</b>	<b>Data collection method(s)</b>	<b>Data analysis method</b>	<b>Sample</b>	<b>Quality rating<sup>15</sup></b>
[22] Sequeira & Halstead (2004)	UK	Examine the experiences of physical restraint procedures reported by nursing staff in a secure mental health service	Semi-structured interviews	Content analysis	Nurses and nursing assistants (n=17; 47.1% female) working across five wards in a secure psychiatric hospital. Age range 18-50 years (M not reported). Ethnicity not reported.	++ Good
[23] Shapira-Lishchinsky (2009)	Israel	Explore the ethical tensions and interactions involved in managing ethical dilemmas in nursing	Semi-structured interviews	Not reported	Nurses (n=52; 63.5% female) working on various wards, including psychiatric wards, in hospitals and health maintenance organisations. Age range 25-55 years (M not reported). Ethnicity not reported.	+ Fair
[24] Shingler, Sonnenberg & Needs (2020)	UK	Explore qualified psychologists' experiences of conducting risk assessments with indeterminate sentenced prisoners	Semi-structured interviews	Grounded Theory	Psychologists (n=11; 90.9% female, 100% White) working in prison settings. Age range 33-48 years (M not reported).	++ Good
[25] Smith & Herber (2015)	UK	Explore the ethical issues experienced by mental health nurses in the administration of antipsychotic depot and long-acting intramuscular injections	Semi-structured interviews; Field notes	Thematic analysis	Community mental health nurses (n=8; 75% female) based at two hospitals. Age and ethnicity not reported.	+ Fair

<b>Author (year)</b>	<b>Country</b>	<b>Study aim(s)</b>	<b>Data collection method(s)</b>	<b>Data analysis method</b>	<b>Sample</b>	<b>Quality rating<sup>15</sup></b>
[26] Wojtowicz, Hagen & Van Daleen-Smith (2014)	Canada	Explore nursing students' experiences of moral distress during clinical rotations on an inpatient psychiatric unit	Semi-structured interviews	Thematic analysis	Nursing students (n=7; 100% female) on clinical rotation on acute inpatient psychiatric wards Age range 21-38 years (M not reported). Ethnicity not reported.	+ Fair

Table 5. Characteristics and quality appraisal ratings of included quantitative studies (n=4)

Author (Year)	Country	Study Aim(s)	Data Collection Method	Measure	Sample	Quality Rating <sup>16</sup>
[27] Delfrate, Ferrara, Spotti, Terzoni, Lamiani, Canciani & Bonetti (2018)	Italy	Assess the presence of moral distress among mental health nurses in Italy and verify whether there is a relationship between moral distress and burnout	Self-report survey	Moral Distress Scale for Psychiatric Nurses Italian Revised (MDS-P <sup>itarev</sup> )	Nurses (n=228; 46.8% female) working in inpatient, outpatient and rehabilitation mental health settings. Age and ethnicity not reported.	++ Good
[28] Hamaideh (2014)	Jordan	Examine levels and predictors of moral distress and its relationship with job satisfaction, intention to leave the job, and burnout in Jordanian mental health nurses	Self-report survey	Moral Distress Scale for Psychiatric Nurses (MDS-P)	Mental health nurses (n=130; 56.9% female) working in a psychiatric hospital on acute and non-acute wards. Age range not reported (M=28.8 years). Ethnicity not reported.	++ Good
[29] Lazzari, Terzoni, Destrebecq, Meani, Bonetti & Ferrara (2019)	Italy	Explore the level of moral distress in Italian correctional nurses and validate the MDS-CN Italian version	Self-report survey	Moral Distress Scale for Correctional Nurses (MDS-CN)	Nurses (n=238; 53.4% female) working in correctional facilities. Age range 31-45 years (M=38 years). Ethnicity not reported.	+ Moderate

<sup>16</sup> An explanation of the quality appraisal ratings made and the characteristics distinguishing poor, fair and good quality papers are described in section 6.9.2.

<b>Author (Year)</b>	<b>Country</b>	<b>Study Aim(s)</b>	<b>Data Collection Method</b>	<b>Measure</b>	<b>Sample</b>	<b>Quality Rating<sup>16</sup></b>
[30] Ohnishi, Ohgushu, Nakano, Fujii, Tanaka, Kitaoka, Nakahara & Narita (2020)	Japan	Develop and evaluate a moral distress scale for psychiatric nurses, examine moral distress in Japanese psychiatric nurses, and explore the correlation between moral distress and burnout	Self-report survey	Moral Distress Scale for Psychiatric Nurses (MDS-P)	Psychiatric nurses (n=269; 73.1% female) working in national, public and private hospitals. Age range 27-50 years (M=39 years). Ethnicity not reported.	+ Moderate

**Study setting.** Three articles utilised staff working exclusively within a correctional forensic setting, with the remaining articles ( $k=27$ ) exploring the experiences of staff working within a range of mental health settings, including both inpatient and community services. Of these 27 articles, four included staff from secure mental health services, who were working in the context of both forensic and psychiatric care. Of the other 23 articles conducted in mental health settings, it was not clear whether settings included forensic and secure mental health units, or whether staff were sampled from non-forensic mental health services only.

**Data collection and analysis.** Most included articles ( $k=26$ ) utilised one method of data collection, with the remaining articles utilising two ( $k=2$ ) or three ( $k=2$ ) data sources. Of qualitative articles, interviews were the most frequently used data collection method ( $k=17$ ). Other qualitative methods included focus groups ( $k=6$ ), participant diaries ( $k=3$ ), analysis of field notes and other pre-existing materials ( $k=4$ ), and file review ( $k=1$ ). Self-report surveys were used as the data collection method in all four quantitative studies, specifically the Moral Distress Scale for Psychiatric Nurses ( $k=3$ ) and the Moral Distress Scale for Correctional Nurses ( $k=1$ ).

The majority of qualitative papers ( $k=14$ ) did not explicitly report a recognised data analysis methodology. However, exploration of the analysis processes described within articles indicated use of an inductive thematic approach. Of the 12 papers which did report on analysis methodology, the most commonly used approaches were content ( $k=4$ ) and thematic analysis ( $k=4$ ), followed by Grounded Theory ( $k=3$ ) and interpretative phenomenological analysis ( $k=1$ ).

**Quality Appraisal Rating.** The quality of quantitative articles was rated as moderate ( $k=2$ ) or good ( $k=2$ ) on the AXIS appraisal tool (Downes et al., 2012). Of the studies rated as 'moderate', one utilised a parametric statistical test to deal with non-parametric data and



provided limited information pertaining to the sample [29], whilst the other failed to recognise and address key limitations of the research [30]. None of the quantitative papers provided information about non-responders, nor undertook measures to address non-responders in data analysis. However, for studies rated as 'good' [26,27], this was somewhat balanced by the high response rate and representative sampling frame.

Qualitative papers included in the review were of either poor ( $k=3$ ), fair ( $k=15$ ), or good ( $k=8$ ) quality, as rated on the NICE (2012) Quality Appraisal Checklist. Articles with a 'fair' appraisal were limited in their reporting of methods utilised to ensure scientific rigor and reliability of analysis, or did not report on these at all, and failed to consider the role of the researcher with regards to bias. Studies rated as 'poor' were particularly limited in both depth and quality. As well as demonstrating the limitations apparent in papers of a 'fair' quality, papers appraised as being of poor quality lacked sufficient information pertaining to the context of the sample and setting, and data collection procedures, provided brief conclusions which failed to adequately draw on the findings of the current study and wider literature base, and gave little consideration to key limitations and implications of the research. Whilst inadequate reporting is not a definite indicator of poor study quality (Toye et al., 2013), the omission of this information within the articles impacted on the ability to assess the soundness of the interpretations made and the conclusions drawn by the authors. The ill-description of contexts also greatly impaired the richness of the data.

In line with Kappa value thresholds proposed by Landis and Koch (1977), agreement across papers can be considered substantial (weighted Kappa = .80,  $p<.001$ ), with reviewers giving the same rating for 87% of papers. For quantitative papers, agreement was moderate (weighted Kappa = .50,  $p<.05$ ). For qualitative papers, agreement was almost perfect (weighted Kappa = .88,  $p<.001$ ).

### 6.9.3. Synthesis

Using a meta-ethnographic framework, translation of the primary conceptual data within the studies led to the identification of 19 secondary key concepts. Through synthesis of the conceptual data, a series of dichotomous poles between which healthcare professionals found themselves working were identified. Specifically, three third-order constructs emerged, as follows: between profession and system; between relations with patients and relations with others; and between principles and practices. Such constructs reflect moral paradoxes within which moral transgressions and betrayals occurred, as a prerequisite for moral injury. The third-order constructs, and the secondary key concepts subsumed within them, reflecting PMIEs, will now be presented.

***Between profession and system.*** The first third-order construct that emerged through the translation and synthesis was ‘between profession and system’. This construct, which was apparent in 53% of papers, encompasses eight secondary key concepts relating to features of the healthcare system that misalign with the values of one’s profession, as follows: i) restrictive context of forensic and psychiatric care, ii) medicalised care, iii) depersonalised profession, iv) cultural attitude towards staff and patients, v) discordance in values, vi) caring for inappropriately placed patients, vii) lack of access to appropriate care, and viii) providing care in a physically inadequate environment.

The *restrictive context of forensic and psychiatric care* appeared to be a moral challenge in itself. For healthcare professionals in psychiatric settings, the restrictions placed on patients’ daily living were challenging, with moral distress resulting from the ‘prison-like’ rigidity and routines enforced on patients [11,20]. For nurses working in a prison setting, the restrictions on their interactions with patients, resulting from enhanced security needs, created moral distress [21].

These participants described the limited opportunities to engage in meaningful conversation with those in their care. Whereas staff in psychiatric settings were concerned about restrictions which likened the hospital ward to a prison setting, nurses working in a prison were concerned about the additional restrictions that differentiated the prison setting from a hospital ward. Regardless, in both instances, the limited opportunities and freedoms of patients opposed the moral ideals held by healthcare professionals. Despite there being no clear perpetrator, staff found themselves working in an environment that conflicted with their moral code.

*“It’s like a prison and the whole idea that you have to get up at certain times, and you have to eat what your told to eat and all of the routine that there is in every hospital ... people who go in a psychiatric inpatient ward might feel like it is prison.” [11]*

Working in a *medicalised system* in which there is a reliance on medication and emphasis on risk management presented as a challenge for those working in a nursing profession within psychiatric settings [6,13,26]. Ensuring the safety of patients and others had become the core focus of their role, at the cost of other principles of care. Similarly, working in a *depersonalised* profession was a source of moral distress emanating through papers, across multi-disciplinary groups. The focus on organisational tasks, and difficulties in demonstrating compassion due to the depersonalised context in which staff were working led them to feel as though they were ‘doing to’ rather than ‘being with’ patients [11,13], and interacting with patients for individualistic, rather than altruistic gain [13]. The failure to provide the desired quality of care reflects a potential self-transgression of one’s moral values, despite resulting from wider systemic and contextual factors.

*“The medicalisation approach of care for psychiatric patients has overlooked the principles of “care” in the context of nursing, and consequently the emphasis seems to have shifted more towards safety management and personal risk.” [13]*

Concepts relating to the *cultural attitude towards staff and patients* within organisations were also apparent across papers. For nurses in mental health settings, their dehumanisation, which occurred as a result of limited resources and low staffing, was a source of moral distress [27,28,30]. An organisational acceptance of bullying towards staff and patients was also an ethical challenge for staff working in mental healthcare across a variety of professions [17]. Besides the bullying itself, the organisational tolerance of such behaviours was morally distressing. In these instances, aspects of the system within which staff were working breached their expectations of the profession, exposing them to a culture which defied their moral values. **The inability or unwillingness to challenge such a culture** reflected an additional layer of distress across forensic and general mental health settings [20]; risk of moral injury from working within a morally conflicting culture, as a transgression occurring in the absence of any culpable individual, may be amplified when one fails or is unable to challenge such a culture, as a self-transgression.

*“I think that it has become so engrained and that's the language that people have heard in terms of the behaviour that they're seeing and that is bullying, but it's been labeled as strong personalities or “suck it up” or “that's how we do it here”.” [17]*

At the core of morally conflicting cultural attitudes was *discordance in values* between staff and their workplace. In four papers, participants discussed the challenges of working in an

organisation with values that digressed from their own [3,6,17,26]. For example, psychologists in mental health services discussed the difficulties emanating from working in an institution that prioritises reputation over patient welfare, whilst a culture of silence around patient's trauma histories was a source of moral distress for nursing students. Such lack of concordance created division between staff and the organisation for whom they were working. Additionally, discordance in values *within* the healthcare system was also apparent in one study, with nurses associating their distress with the inconsistencies in practices and values between services within an organisation, and the lack of a universal understanding of acceptable practice and behaviour within the system [16]. Again, in such instances, no transgressive 'act' nor culpable individual was apparent. Nevertheless, staff were faced with organisational philosophies that misaligned with their own moral philosophies, reflecting the potential for injury to one's moral conscience.

*“The overall goal is to preserve the reputation of the institution. The overall goal is not the health and welfare of the client, and sometimes we have to advocate for the client at risk of alienating the institution of which we are a member, because their priorities are slightly different than our priorities as health care providers.”* [3]

Two additional moral challenges that presented related to the accessibility of healthcare services. Staff working in mental health settings discussed the ethically difficult nature of *caring for inappropriately placed patients* who had been diverted away from appropriate services [17]. For nurses, the failure to subsequently contest inappropriate placements was a challenge in itself [30]. Moral distress was also linked to the patients that staff were not seeing; for healthcare professionals in mental health settings, the initial *inaccessibility of appropriate care*, in the context

of the COVID-19 pandemic, was a moral dilemma [12]. In such instances, the source of the distress was a consequence of problems in the healthcare system. Nevertheless, the act of caring or, in some instances, not caring for patients, in the knowledge that they are not receiving the care most appropriate to their needs, may be appraised as a self-perpetrated transgression of one's moral values and thus there is the potential for staff to develop moral injury, as a result.

*“To other services, for a very long time, we've been saying, if you even suspect psychosis, talk to us, you know, we want to know about it, liaise with us. And then at the moment, people are referring to us, and we're saying we won't even assess a lot of those referrals.”* [12]

Some participants also reported issues relating to the physical environment, discussing the challenges of *providing care in a physically inadequate environment*, as a consequence of the under-funded system. For nurses, the issues of the physical environment related to their size, lighting, sparsity, and the inadequacy of systems and operations within their service [1,5]. Such environmental flaws were not conducive to establishing a therapeutic atmosphere on the ward, and hindered patients from effectively managing feelings of agitation and avoiding aggression and provocation by others. Staff were helpless to improve the physical environment, and, as a consequence, resorted to medication to calm patients. For psychologists, working in a service in which the physical design hindered their ability to uphold confidentiality when conversing with patients was morally distressing [3]. Whilst the source of distress was again grounded as a contextual factor, participants were left having to operate in ways which were against the ethical code of their profession, as a result of their powerlessness to fix the environment.

*“I cannot imagine being in that area as a patient for more than a few days. The seclusion rooms are like prison cell blocks... So, there's a lot of medication given in there just because physically if they had a better set up, they would be able to calm themselves a little bit easier.”* [5]

***Between relations with patients and relations with others.*** The second third-order construct emerging from the translation and synthesis was ‘between relations with patients and relations with others’. This construct, which was apparent in 40% of papers, encompasses four concepts relating to the distress arising from working between multiple parties, including patients, colleagues, and carers, as follows: i) morals vs loyalty, ii) powerlessness to act due to power in status or numbers, iii) interprofessional conflict, and iv) power dynamics between patients and others.

Healthcare professionals in both forensic and non-forensic mental health settings reported the difficulties in acting in accordance with their moral values when it threatened their loyalty to the team (*morals vs. loyalty*) [2,6,19,20]. When professional relationships are at stake, maintaining one’s moral values becomes more difficult. Hierarchical relational structures also inhibited staff from acting on the behalf of their patient and in accordance with their moral values. Specifically, one’s powerlessness to challenge decisions related to both patient care and staff welfare (*powerlessness to act due to power in numbers or status*). Such power imbalances were described in terms of being outranked against senior colleagues [6,13,19,26] and being outnumbered by colleagues, irrespective of hierarchical status [17]. Whilst imbalances in power preventing them from acting were at the root of their distress, it was one’s own failure to act that participants identified as problematic, reflecting a self-transgression by omission.

*“When I expressed my concern over what seemed like a blatant error in diagnosis, my instructor . . . who I held in really high esteem . . . just said ‘Docs don’t misdiagnose . . . there’s no misdiagnosing here’, and I was thinking, ‘Are you kidding me? Like, isn’t that against everything we’ve ever learned about critical thinking and looking at the specifics...?’ [26]*

An additional source of distress experienced by nursing staff, specifically, was *interprofessional conflict* [21,27,29]. Nurses working in correctional and mental health settings often faced strained relationships with other colleagues. For nurses working in correctional settings, such interprofessional conflict often arose with non-healthcare staff (e.g., prison officers), due to differential priorities (care vs. security), which posed as an obstacle to the provision of best care. The minimisation of competence and authority by other colleagues was also problematic. The nursing role was reported to be not well understood by prison staff, with individuals working in this profession being minimised to ‘administrators of medication’ [21]. Nurses in both prison and mental health settings also indicated that minimisation by other healthcare professions, in non-nursing roles, occurred [27,29]. Reasons offered to account for this related to the culture within healthcare organisations and lack of specificity about the role of psychiatric nurses. Interpersonal conflict may lead to a perceived betrayal by a colleague (e.g., minimisation of one’s competence by a team member), or may lead one to question their own ability to provide the necessary care, as a self-transgression. Under either circumstance, there is the potential that moral injury will occur.

*“Prison officers are supposed to collaborate with you, but this spirit of collaboration is very difficult to see; sometimes we are united, instead on other occasions there is a wall between the prison officers and us... In the end all this makes it more difficult to provide proper care.” [21]*



The final key concept situated within this construct related to *power dynamics between patients and others*. Participants drew upon the imbalance in power between patients, healthcare professionals, and additional parties as a source of the moral distress that they experienced in their role. Healthcare professionals had greater or, in some cases, sole power over the care of patients [2,8,9]. The absence of the patient voice was exacerbated by staff's failure to advocate for collaborative decision-making, which reflected an additional layer to the distress. One paper also touched upon the inappropriate use of power over patients, to meet the preferences of colleagues, as a challenge in psychiatry [2]. The psychiatrist faced moral distress when they were pressured to use their power to prevent their patient from acting on a decision that others did not agree with. In the presence of differential power dynamics, the failure of the self or other colleagues to act in accordance with one's moral beliefs about patient advocacy and equality, as a self- or other-perpetrated transgression, may lead a healthcare professional to experience moral injury.

*“Even if you do not think about it, there is a tendency in our attitude that ‘I have and you have not, I can leave at 3 pm., you have to stay. I go to the mountains on Friday at 3 pm., ha-ha, you get pizza or porridge tomorrow. We are employees. We wear private clothes, but we also wear id-cards and alarms, we have keys, it is all visible, it is right there, all the time.’” [8]*

For staff working in adolescent services, the additional involvement of parents and guardians in care decisions, due to age-related legalities, brought further challenges relating to power dynamics [8]; both the inclusion of family members in care as advocates for patients, and the exclusion of family members in care decisions once patients were of age to consent, had the

potential to cause moral distress for healthcare practitioners. In such circumstances, staff are powerless to the age-related legalities that limit the autonomy of adolescents and carers. As such, they are unable to act in ways that align with their own moral code, whether that be to increase or reduce the involvement of the wider family network, and thus may be at risk of moral injury.

*“When the consent from the parents is valid, they are ‘inside’ and begin to influence what is going on. However... what are they actually influencing? How many parents have insight into what they are agreeing to when hospitalising their youth? It is not easy.” [8]*

***Between principles and practices.*** The final third-order construct that emerged was ‘between principles and practices’. This construct, which was apparent in 83% of papers, encompasses seven concepts relating to conflicts between the principles of healthcare and the practices of staff, as follows: i) balancing act between safety and ethical care, ii) restrictive practices and coercive care, iii) administration of inappropriate treatment, iv) inappropriately discharging patients, v) comprised care as a consequence of resource constraints, vi) perceived or actual incompetence, and vii) inadequate treatment of patients by colleagues.

One source of moral distress dominant across papers was the apparent discordance in the principles of the healthcare profession itself. Staff working in the context of forensic and/or mental health care face a *balancing act between safety and ethical care* [8,10,12,21,23,25]. Upholding one bioethical principle (e.g., patient autonomy) risks the potential violation of another (e.g., non-maleficence). When practices, which were intended to ensure patient safety and good care, caused unintentional harm (e.g., accidental injuries from the administration of medication), both safety and care were compromised. In spite of one’s well intentions to act in accordance with their moral

code, moral injury remains an imminent risk for healthcare professionals, even in circumstances where the transgression occurred as a consequence of upholding another moral value.

*“It is very difficult, it is the patients’ safety and the staff’s safety, while there is a continuous pressure to use as little coercion as possible – that is perhaps our greatest moral dilemma.”* [10]

A number of key concepts relating to difficulties surrounding *restrictive practices and coercive care* also emerged. Firstly, the problematic nature of restrictive practices [4,5,14,18,22], and the manipulative nature of coercion alone [8,10,20,26,28], were reported by some healthcare professionals, regardless of their justification. Staff in secure and general mental health settings discussed restrictive practices and coercion to be challenging, due to their conflict with the principles of care and the resulting patient distress. Despite acknowledging the necessity of such practices and the underlying caring intent, restraint and coercion led to feelings of shame and guilt, which are characteristic of moral injury. Alternatively, some staff attached specific conditions to which coercion and restrictive practices were experienced as morally distressing. For some healthcare professionals in mental health services, restrictive practices were a challenge only when used outside of the confines in which they are allowed or justified, such as by inappropriate staff or for non-medical reasons [6,12,18]. Similarly, some psychiatrists and nurses in mental healthcare settings reported coercive care to be a moral challenge only when used to deliver treatments that one does not agree with [10], or inappropriately [6,10,23], such as to attain consent from a patient with limited judgement capacity. Whilst the conditions under which restrictive practices and coercive care are experienced as morally problematic vary, the use of such practices bears the

potential to transgress one's own moral code, whether committed by the self or another, leading to guilt and shame as the key negative affective components definitive of moral injury.

*"It's not to be taken lightly when you put your hands on somebody. It's wrong really. It's like the opposite of therapeutic touch."* [4]

Another secondary key concept encompassed within this third-order construct was the *administration of inappropriate treatment* [2,21]. Nurses and psychiatrists working in mental health settings experienced difficulties when administering treatments that they felt were not appropriate or would not work, reflecting a self-transgression of one's moral values and thus a potential source of moral injury. Professionals gave a number of reasons for administering treatments against beliefs about their effectiveness or appropriateness, including a lack of alternatives and external pressures (e.g., legal orders and the views of other healthcare workers).

*"I'm not willing to necessarily give this woman who's in the final stages of her life ECT, to certify her, to make her psychiatric, to force treatment upon her."* [2]

Two further morally difficult practices that arose were linked to resource constraints within the healthcare system. *Inappropriately discharging patients*, either prematurely or into an unsuitable placement, was a moral challenge faced by healthcare staff in both forensic and non-forensic settings [12,15,20]. Staff faced pressure to discharge patients quickly as a result of a lack of beds, and were left to place 'plasters over wounds', discharging patients with unresolved mental health needs into unsuitable conditions and support. Consequently, these patients likely to re-enter

the system. Additionally, for patients who they were seeing, having to provide *compromised care as a consequence of resource constraints* was a source of moral distress for staff across correctional, forensic and non-forensic mental health services. It was the alterations in usual practice that healthcare professionals were forced to make [1,12,19,24,27,29], as well as the subsequent risks to safety [27,28,30] and consequences for staff engagement with patients [1,10,15,21,28,30] in which moral distress was grounded. Whilst such acts arose as a consequence of the wider, under-resourced system in which staff were working, participants linked the distress to their own behaviours. Thus, despite the underlying contextual factors leading them to commit such transgressions, the possibility for moral injury remains.

*“I think it's important to say that we had a suicide of a patient a month after he was discharged. ... I think it's tricky because you start kind of reviewing your decisions...it was a month after he was discharged so a lot of things could have happened, but you always question, ... were things in the community really ready for this kind of risk management.”* [12]

Besides specific practices, moral challenges faced by staff also related to their skills and capabilities. Specifically, *perceived or actual incompetence* of the self and others was a theme running through a number of papers. For nurses in correctional and mental health settings, working beyond the scope and responsibilities of their professional role to fulfill duties for which they did not possess the necessary skills or training for posed as a moral dilemma [27,29]. Additionally, staff in mental health services experienced moral distress when they perceived that they lacked the competence to be able to ensure the necessary care and safety of patients and colleagues [2,16,20]. Such incapacities were discussed in the context of personal inabilities, rather than as a result of

organisational constraints, and led staff to question whether they had fulfilled their primary duties. In such circumstances, staff themselves had acted in ways which transgressed their moral values.

*“That’s a safety issue, so there’s my responsibility, to keep the patient safe . . . so the distress for me was . . . did I put my patient and our unit at risk? ... it put me in distress because I doubted my practice, I doubted my decisions, I doubted what I had done with this patient.”* [16]

Beyond the self, moral distress also arose from the incompetency of colleagues. For nurses, working with colleagues who lacked professional competence or placed patients at risk was morally challenging [10,27]. For psychologists, witnessing the administration of tests by colleagues who lacked the required credentials posed as an ethical dilemma [2]. In these instances, the poor practice of colleagues, as a transgression committed by another, conflicted with participant’s own moral values as a healthcare professional. As such, incompetency of both the self and others may lead to moral injury, when an individual’s ability to fulfill their professional role is impaired, and the safety of others is threatened, as a result.

*“I knew that ethically I could not be a part of something that was knowingly not living up to the regulations. [But] I should never have said anything; it’s one of those times when you go, “Why did I know what I know, and why didn’t I just shut up? I am continually making choices between what I have been trained to do, what I feel confident to do, and what I think is best practices and what HE thinks is best practices based on his training and experience.”* [3]

The final secondary key concept within this construct also related to the behaviour of other staff. Witnessing the *inadequate treatment of patients by colleagues*, in a humane rather than a medical sense, was a prominent source of moral distress transcending across papers, even when justified in the context of resource constraints [1,17,20,26]. Healthcare professionals in both secure and general mental health settings discussed the difficulties of being exposed to directly abusive behaviours that compromised the respect and dignity of patients, as well as displays of neglect, in which colleagues had given up on caring for and engaging with patients. Staff were left to continue caring for their patients, in the face of their powerlessness to influence the resignation of their colleagues. In such cases, participant's moral codes were violated by the behaviours of others, reflecting an other-perpetrated transgression which may result in moral injury.

*“I run to another ward when we hear the assault alarm and find a half-naked woman lying on the floor. As I understand it, the patient has “moved into top gear” and will be given an injection. Two male nurses give the injection. I’m distressed about the woman lying there half naked (why didn’t anyone think of covering her with a blanket?)” [20]*

***Line of argument synthesis: A ‘funnel’ model of PMIEs.*** A line of argument brings together multiple ethnographies studying one aspect of a wider phenomenon, to offer a more comprehensive interpretation than that which can be implied by singular accounts. In recognition of this, a line of argument synthesis was conducted to develop a theoretical model of potential sources of moral injury for staff working in forensic and mental healthcare settings. As the third-order constructs emerged, the relationships between these constructs and their associated concepts also became apparent. The line of argument is theorised in Figure 3 as a ‘funnel’ model.

It is important to note that ‘funnel’ model is not a universally recognised technical term, but rather is a descriptor used for the purpose of capturing the appearance of the proposed model.

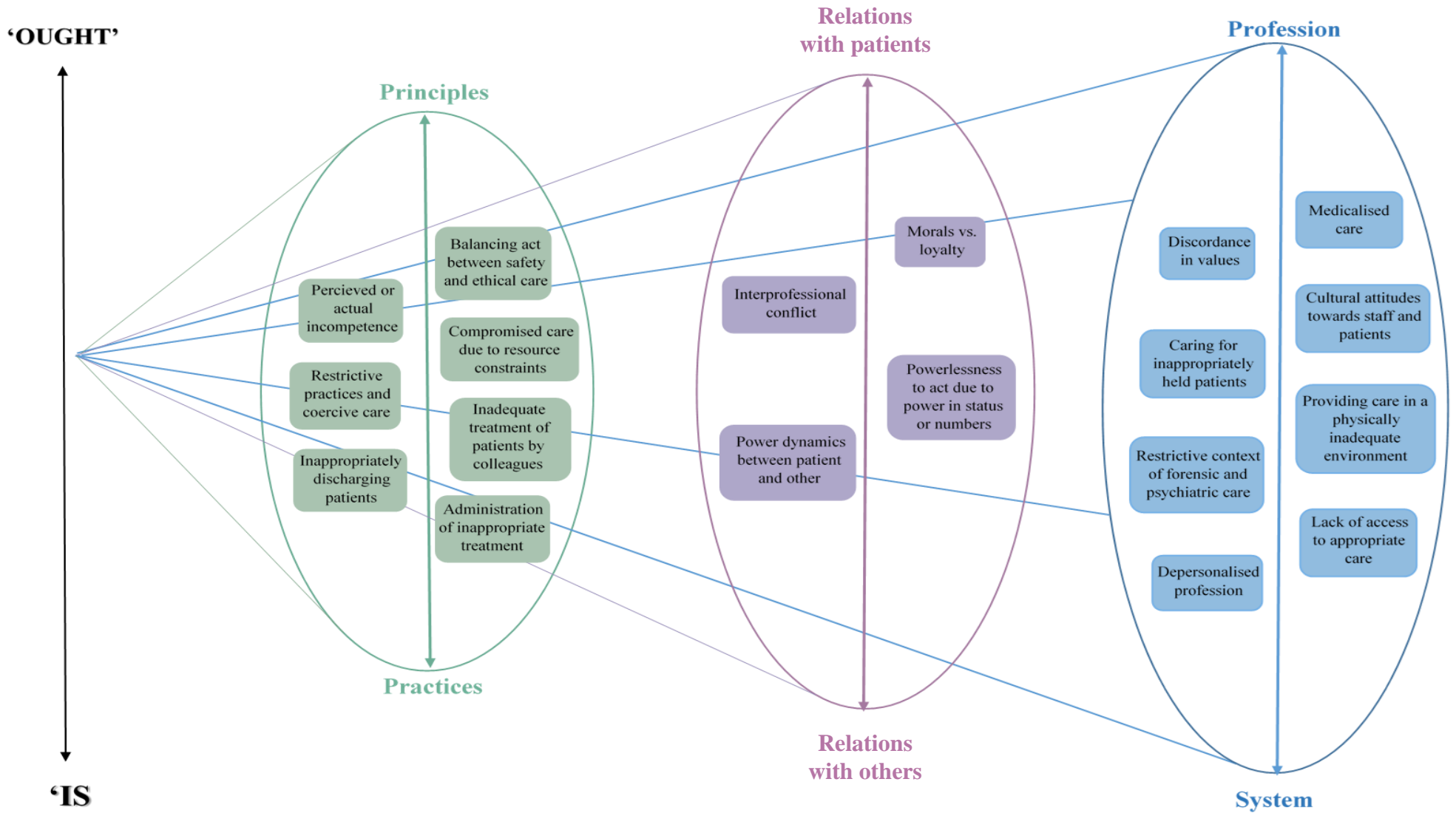
A pattern which emerged from the synthesis across all three third-order constructs was the discrepancy between ‘ought’ and ‘is’. Healthcare professionals described a series of ideals – the ‘ought’ – that reflected how things should be and discussed how these contrasted to the reality – the ‘is’ - of their experiences working in a forensic and/or mental health setting.

Whilst secondary key concepts were situated within a third-order construct, these constructs seemed to be interlinked in a hierarchical structure. Principally, ‘between profession and system’ appeared to be the overarching third-order construct, transcending through sources of moral distress situated within the lower-level third-order constructs of ‘between relations with patients and relations with others’ and ‘between principles and practices’. For example, the *power dynamics between patients and others* described by healthcare professionals, situated within the ‘between relations with patients and relations with others construct’, was largely grounded in system-level factors. Whilst staff recognised the importance of asymmetry in power for safeguarding and upholding patient dignity, the coercive culture existing in mental health settings challenged their ability to exercise power in a good way. The moral distress resulting from imbalances in power between healthcare professionals and patients was therefore problematic *because of* the cultural context in which power imbalances were existing. Similarly, *inappropriately discharging patients*, a concept situated within the ‘between principles and practices’ construct, occurred as a consequence of the strained state of the healthcare system. Healthcare professionals faced pressure to discharge patients quickly, to free up beds for new admissions.



At a secondary level, the conflicts between the principles of healthcare and actual practices employed by staff, represented in the ‘between principles and practices’ construct, also seemed to be somewhat rooted as a consequence of relational conflicts, as reflected in the ‘between relations with patients and relations with others’ construct. For example, the *administration of inappropriate treatment* as situated in the ‘between principles and practices’ construct, primarily occurred as a result of external pressures, which included the views of other healthcare professionals. Thus, staff engaged in practices which contrasted with the principles of their profession, as a consequence of their desire to avoid conflict in their relationships with colleagues.

Figure 3. A 'funnel' model of sources of moral distress for healthcare professionals in forensic and mental health settings



## 6.10. Discussion

Through a systematic literature review and meta-ethnographic synthesis, insights into the sources of moral or ethical distress and potentially, moral injury, emerged. Whilst several articles focused on moral issues of a specific practice, such as physical restraint, the results demonstrate that potential sources of moral injury extend far beyond this in forensic and/or mental health settings, and are located in features of the healthcare system, in relationships with patients, staff and carers, and in specific practices of the worker and colleagues, in a hierarchical structure.

At the core, results demonstrated that moral distress arose from a misalignment between the values of the healthcare profession and the actual healthcare system ('between profession and system'). Staff reported on the challenges of operating within a system at odds with the principles at the heart of their role as a healthcare professional. This construct, and the concepts encompassed within it, both support and contest the dominant PMIE definitions proposed by Shay (2003) and Litz et al. (2009), which conceptualise PMIEs as 'acts' of transgression and betrayal. The most frequently identified PMIEs in the review did reflect direct behaviours enacted by the self or others (e.g., use of coercion, administration of inappropriate treatment), present in 83% of articles. Yet, whereas direct displays of transgressive behaviours and betrayals involve a culpable act of perpetration by the self or another (e.g., inappropriately secluding a patient), the concepts situated within the 'between profession and system' construct involved no direct act of culpability by an individual. For example, staff discussed the moral challenge of working for an organisation whose values contrast with their own, and in a depersonalised profession. In these instances, participants did not identify any particular 'act', but rather situated their distress contextually.

Such instances reflect the notion of a 'moral paradox' in which no transgressive act has occurred but rather there is discordance in values or conflict in moral paradigms. Whether morally

paradoxical situations are PMIEs themselves or rather a pre-condition to experiencing sources of moral injury remains an area of debate (Fleming, 2021). However, the line of argument developed suggests that many of the contextual concepts identified within the ‘between profession and system’ construct (e.g., restrictive context of forensic and psychiatric care) may provide the conditions for PMIEs, as conceptualised by current definitions, to occur. Regardless, the findings of the systematic review indicate the need to widen the lens when seeking to address moral injury in the context of healthcare, considering contextual factors as well as direct actions or inactions, which largely occur interdependently.

Such systemic incompatibilities gave rise to relational conflicts, with staff having to operate between multiple parties and, by virtue, often acting against rather than in the best interests of those in their care (‘between relations with patients and relations with others’). Relationships with colleagues and managers has long been noted as a source of stress for nurses (e.g., Menzies Lyth, 1959; Tran et al., 2018), and emerged as a source of moral distress for other healthcare professionals, beyond nursing, within the current review. This is perhaps unsurprising, given the highly collaborative and interdisciplinary nature of mental healthcare. Unique to this study, however, was the additional relational dynamics brought about by the forensic context that prison-based nurses were working in, due to the obligation to abide by rules dictated by security demands. Whilst healthcare staff working in mental health settings also faced a balancing act between ethical care and safety needs, this was largely experienced as an inherent part of their role and the system in which they were working, rather than in the context of relational dynamics.

This discrepancy between prison and mental health settings may be explained by differences in the alignment of the principles and goals of the teams amongst which they were working. Social Identity Theory (Tajfel and Turner, 1979, 1986) and the evidence that has since

followed (e.g., Mayaki & Stewart, 2020; Thomson et al., 2015) supports the notion that categorising oneself as a member of a group, based on professional role, can lead to in-group favouritism in which members of the ‘outgroup’ (individuals outside of one’s professional role) are viewed less favourably. Related to this is Sherif’s (1966) Realistic Conflict Theory, which suggests that hostility between professional groups arises when their respective goals are interdependent. Staff working within mental health settings operate within teams comprised primarily of other healthcare professionals who share the common primary goal of patient care, whilst healthcare staff in prison settings function alongside the competing primary goal of security for non-healthcare personnel. Establishing shared goals and a multidisciplinary team identity may therefore be important strategies for reducing moral distress experienced in the context of inter-professional conflicts. The importance of a team-based approach to the delivery of quality patient care is also noted (e.g., Babiker et al., 2014; West & Lyubovnikova, 2013).

These two upper layers of PMIEs, positioned at a systemic- and relational-level, created the conditions for staff to engage in practices that contrasted the principles of their profession (‘between principles and practices’). It can be argued from the current findings that moral injury is an inherent aspect of the healthcare profession, with the principles of the profession presenting as a moral paradox in themselves. Several professions battled with the seemingly impossible task of ensuring the safety of patients, staff and public whilst simultaneously providing ethical care. They reported engaging in practices which were necessary to prevent harm to patients and others yet conflicted with what they felt to be at the core of their profession as a healthcare worker. In these instances, upholding one moral principle (e.g., ensuring patient and public safety) came at the cost of violating another (e.g., maximising patient autonomy).

Kramer's Reality Shock Theory (1974) can be applied to the current findings. This theory suggests that a stage of moral distress is inherent to newly qualified nurses entering the profession, as they come to realise the inconsistencies in their expectations about the role and their actual day-to-day practices. Nevertheless, within the current review, the moral challenges reported by Wojtowicz et al. (2014), who utilised a sample of nursing students, thematically aligned with those reported in other articles utilising samples of qualified professionals in a range of roles, with varying levels of experience. Additionally, Kramer (1974) proposes the 'reality shock' phase as temporary, and one through which an individual will eventually transition as they move into the 'recovery' and 'resolution' phase. Nevertheless, to move into such phases requires the acceptance of the realities of the job. Indeed, the acceptance of moral pain can be a prosocial response to situations in which one's core values have been violated, and the applications of acceptance and commitment therapy in reducing an individual's moral suffering have been identified (Borges et al., 2020; Nieuwsma et al., 2015). However, acceptance of morally harmful aspects of the healthcare system simply enables staff to temporarily continue to work within a fragmented and incongruous system. Such an approach also fails to provide any long-term solution for tackling the problems of staff retention that dominate in healthcare (Buchan et al., 2019), but rather contributes to the staffing crisis, which reflects a key factor underlying the PMIEs experienced by healthcare professionals (Stovall et al., 2020). Thus, the findings of the current systematic review reinforce the importance of applying a systemic focus in the development of solutions to mitigate moral injury in the secure mental healthcare workforce.

A common feature connecting the three third-order constructs and their encompassed concepts is the discordance between one's expected reality of healthcare (the 'ought') and the actual reality of healthcare (the 'is'). This finding is not novel to this research but has been

extensively discussed within the nursing literature for decades, coined as the ‘theory-practice gap’ (e.g., Bendall, 2006; Maben et al., 2006; Rolfe, 1993). Nevertheless, the findings of the current study serve to widen the applicability and relevance of this notion to other professions. Alike Kramer’s Reality Shock Theory, much of the research exploring strategies to bridge the ‘theory-practice’ gap has focused on strategies to adapt professional’s *expectations* of healthcare, such as through training programmes (e.g., Guzys, 2021; Monteverde, 2014) to align these with the *reality* of the job. Whilst the education and training of healthcare professionals may be an important strategy for upskilling nurses, so they are better able to challenge and negotiate practices and operations within the healthcare setting that impinge on their professional moral values (Akram, 2021), the findings of this review point towards the critical need for changes in the *reality* of healthcare, moving this to more closely align with the expectations and oaths of healthcare professionals. Moral injury occurs, not because an individual has been unsure of the correct action to take, but because they are prevented from taking the correct course of action (Corley, 2002; Dean et al., 2019).

The multi-layered dimensions within which PMIEs appeared to occur map closely onto the various systems proposed within Bronfenbrenner’s (1974) Ecological Systems Theory (EST) and can be conceptualised in accordance with this model. According to the EST model, and in the context of this study, factors located within the outer ‘macrosystem’, which relate to norms and ideologies of the wider culture (e.g., policies, legal frameworks and the economic environment), influence factors within the inner layers, which relate to the hospital environment (‘exosystem’), relational dynamics between the ward team (‘mesosystem’), the individual staff member (‘microsystem’) and, at the core of the model, the patient. In the current study, the consequences of PMIEs on the care of patients were at the centre of staff’s distress in many cases.

Conceptually, the findings of this review challenge the dominant understanding of moral injury appraisal profiles and their relationship with the nature of a PMIE. Current tools developed to assess PMIE exposure, such as the MIES (Nash et al., 2013), and papers validating their factor structure (e.g., Bryan et al., 2015; Papazoglou et al., 2019; Richardson et al., 2020) distinguish between self- and other-transgressions. Nevertheless, drawing on the findings of the synthesis, the two may not be entirely independent, with many of the concepts emanating from the meta-ethnography highlighting overlap in ‘self’ and ‘other’ appraisals. For example, working with staff who bullied patients and colleagues was a moral challenge for healthcare professionals, reflecting a transgression of one’s moral values as committed by another. However, the personal failure to challenge such behaviours created an additional layer of distress, reflecting a transgression committed by the self. Such a finding supports those of Hoffman et al. (2019) who identified three moral injury appraisal profiles, including a ‘Moral Injury Other and Self’ subgroup, in a sample of refugees and asylum seekers. As such, ‘self’ and ‘other’ appraisals may not be mutually exclusive.

It is important to note that many of the concepts identified were not universally experienced as morally distressing or injurious by all. Whilst many of the concepts encapsulated the experiences of healthcare staff working in a variety of professional roles and settings, differences in the circumstances under which an experience was considered to be morally distressing and, potentially, morally injurious were apparent. For example, whilst the physical environment was evidenced as a source of moral distress for both nurses and psychologists, nurses discussed the issues primarily in terms of insufficient size and space, whilst psychologists linked their distress to a lack of privacy and confidentiality for patients. Moral sensitivity, which refers to the ability to recognise a situation as morally problematic, has been suggested to play an important role in shaping one’s propensity to experiencing a situation as morally distressing (Escolar-Chua, 2018;



Nejadsarvari et al., 2015). Mares (2016) suggests that moral distress is not an automatic response, but rather the output of appraising a situation as morally problematic. Nevertheless, whilst recognising a situation as conflicting with one's moral values may create distress, it is arguably not sufficient in explaining the development of the more complex psychological, behavioural, social and spiritual sequelae that characterises moral *injury*. Cognitive mechanisms and structures, such as early maladaptive schemas, may be more pertinent in determining an individual's susceptibility to developing moral injury, and would also account for the susceptibility of some to appraise transgressions committed by others in light of the self, as was evident from the synthesis. Indeed, cognitive theories have been applied to conceptualise moral injury (Murray & Ehlers, 2021), though there remains a lack of empirical investigation into this field. Accordingly, the role of appraisals and other cognitive mechanisms in the pathway from PMIE exposure to moral injury is an important area for understanding and will be explored in study 2 (see Chapter 8).

### **6.11. Limitations**

There are important caveats to the current study that warrant consideration. Meta-ethnography, as a methodology, involves the translation of primary participant quotations reported in papers as key data within the synthesis process. Indeed, the inclusion of primary participant data is arguably a strength of the meta-ethnographic approach, in that it does not solely rely on author interpretations. Nevertheless, such data is still a product of author selection, to some degree. As such, synthesis using this approach remains subject to potential biases.

A primary aspect of the philosophy underlying the meta-ethnographic approach is the continual consideration of the context of data throughout the synthesis process. Whilst the concepts emerging through the translation are discussed in respect to the setting from which the data was

collected, it was not possible to comparatively analyse ethnic nor cultural differences in sources of moral injury, due to the fact that very few studies reported on the ethnic backgrounds of participants, and that included papers were almost exclusively conducted in westernised countries. Given that healthcare systems differ both between and within Eastern and Western cultures (Popic & Schneider, 2018; Xu, 2006), the findings may reflect a western-centric model of sources of moral injury and be of less relevance to non-western cultures.

The inability to conduct comparative analyses also extends to gender and professional groups. Almost a third of studies utilised a mixed sample of healthcare staff from a range of varying professions and, where reported, almost all papers included a mixed gender sample. Nevertheless, such papers failed to aggregate the findings by gender. Additionally, staff working in leadership roles, as opposed to on the frontline, were absent in the retrieved articles. As a result, it was not always possible to determine whether sources of moral injury emerging through the synthesis were a universal experience for healthcare professionals, or an experience specific to one demographic group. This reflects an important limitation, given that gendered differences in emotional responses to practices such as restraint have been evidenced (*e.g.*, Cusack et al., 2018), and that there is divergence in the principles, level of responsibility and power, and legal frameworks under which staff operate, dependent upon their professional role.

Thirdly, the current review was limited by the lack of distinction between the terms of ‘moral distress’ and ‘moral injury’ within the field. As noted in a scoping review of the literature on moral injury in healthcare, terminologies greatly vary in this field (Čartolovni et al., 2021), and the process of systematically reviewing the evidence base highlighted the limited exploration of ‘moral injury’, specifically, within this context. Nevertheless, a wealth of sources of moral distress, and moral and ethical dilemmas were evident in the literature. Whilst multiple terms are utilised

throughout this discussion, it is important to note that moral injury and moral distress are not interchangeable but reflect distinct constructs. As such, whilst the current review offers preliminary insight into *potential* sources of moral injury, research into the associations between the concepts identified here and moral injury symptomology is needed.

Finally, it is important to acknowledge the inclusion of studies conducted in prisons and non-secure mental healthcare settings in the review. Whilst a broadened scope was necessary due to the lack of available literature focused on the experiences of secure mental healthcare staff, specifically, it cannot be assumed that the PMIEs identified in this review would be endorsed by staff working in this context, specifically. Furthermore, there may be additional moral challenges experienced by staff working at the intersection of both forensic and mental health care that were not captured in this review. Accordingly, the relevance of the PMIEs identified in this review and the potential additional unique moral challenges experienced by staff working in secure mental healthcare services, specifically, will be established in the next chapter.

## **6.12. Concluding comments**

The findings emanating from this review add to current conceptual insights into the potential sources of moral injury for staff working in the context of forensic and mental health care. Through a meta-ethnographic approach, the multiple layers across which PMIEs can occur in such settings became apparent, with three overarching dichotomous dimensions emerging: ‘between profession and system’, ‘between relations with patients and relations with others’, and ‘between principles and practices’. The findings indicate that PMIEs faced by healthcare professionals in forensic and mental health settings, which appear to occur in the context of wider contextual facilitators, may not be sufficiently understood through current conceptualisations of PMIEs. Going forward,

further research is necessary to enhance conceptual clarity of the term, and to explore the utility of widening the scope of current definitions to account for morally paradoxical experiences.

The PMIEs identified in the current review largely emanated from articles that identified sources of moral distress or ethical challenges across several forensic and non-forensic mental health services, and prison settings. As such, the next chapter will build upon these findings, seeking expert opinion on the potential sources of moral *injury* for healthcare staff working in secure mental health settings, specifically.

## **CHAPTER 7. SOURCES OF MORAL INJURY FOR HEALTHCARE PROFESSIONALS IN SECURE PSYCHIATRIC SETTINGS: A DELPHI SURVEY**

### **7.1. Structure of the Chapter**

The findings from the systematic review outlined in the previous chapter highlighted a significant scarcity of research into sources of moral *injury*, specifically, within the context of secure psychiatric healthcare. As such, gathering the thoughts' and perspectives of individual's with expertise in the area was thought to be an important preliminary step in developing understanding of the sources of moral injury faced by healthcare professionals working in such environments. This chapter reports on an expert Delphi study conducted to obtain consensus on the PMIEs for healthcare staff working in secure mental healthcare. Experts participated in a total of three rounds. The methods used and results obtained at each round will be presented accordingly.

### **7.2. Rationale for using a Delphi methodology**

The Delphi method is an iterative structured communication technique used to seek individual viewpoints on a central phenomenon (Dalkey & Helmer, 1963). Through this process, the opinions of experts are repeatedly sought over several rounds, for the purpose of reaching consensus on a given topic (Hsu & Sandford, 2007). The approach involves an initial exploratory 'idea generation' round, featuring open-ended questions to gather experts thoughts on the phenomenon of interest. Responses are used to develop a survey utilised in a subsequent 'consensus-seeking' round, in which ideas generated by individuals are evaluated by the whole panel. The final 'evaluation' round allows participants to reconfirm or amend their own opinion, based on the broader group response at the previous round.

In parallel with meta-ethnography, the Delphi method is grounded in the philosophy that the ‘whole is more than the sum of its parts’ (Gupta & Clarke, 1996; Scheele, 2002). The intergration of independent thought and group decision-making processes allows for perspectives from multi-disciplinary groups to be integrated at each round and overcomes the problem of individual dominance. The earlier systematic review (see Chapter 6) highlighted the dominance of the nursing voice within literature on moral challenges in healthcare. This study sought to identify PMIEs faced by secure mental health staff, across disciplines, necessitating a holistic sample.

The Delphi methodology can also be a particularly valuable method of enquiry into areas where there lacks a sufficiently established evidence base (Hsu & Sandford, 2007). As uncovered through the earlier systematic review (see Chapter 6), exploration of sources of *moral injury* in the context of secure mental healthcare, specifically, is sparse. Thus, a Delphi methodology was favourable in addressing the research question.

### **7.3. Expert panel recruitment**

Healthcare staff with at least six months experience working in secure mental healthcare in a clinical, patient-facing role, and academics who had previously published in the field of moral injury or distress in the context of healthcare were invited to participate. This included authors of articles identified in the earlier systematic review (see Chapter 6). Research indicates that establishing a group where there is a diversity in the expertise brought by members can improve the quality of outcomes and decisions made through group consensus methods (Page, 2007).

Experts were purposively recruited via email, advertisement on professional networking platforms, and through existing professional networks during a four-week recruitment period. During this period, experts were provided with a link through which they could access an electronic

version of the participant information sheet<sup>17</sup>, indicate their consent to participate, and provide an email address to receive the link for each survey. In total, 113 experts were approached via email, ResearchGate and LinkedIn. Experts were also recruited via snowball sampling, whereby Experts who expressed willingness to participate were encouraged to share the study with other individuals known to them who fit the eligibility criteria, as defined previously.

There are no established guidelines pertaining to sample size requirements for a Delphi study, with minimum samples as low as ten recommended (Okoli & Pawlowski, 2004). Rather, emphasis is placed on the dynamics and expertise of experts in reaching consensus (Powell, 2003; Vogel et al., 2019). As the study sought to explore PMIEs for clinical staff working across professional roles, and that a high consensus threshold (80%) was selected, a minimum sample of 40 participants, comprising at least 20 healthcare workers, was sought.

#### **7.4. Ethical Considerations**

Ethical approval was obtained from the University of Central Lancashire (UCLan) Science Ethics Committee as well as the Research and Innovation Centre at St. Andrew's Healthcare, as a recruitment site for some of the experts. During the preliminary recruitment period, potential participants were provided with an electronic version of the participant information sheet and consent form. The participant information sheet detailed the aims of the study, what participation would involve, data use, handling and storage processes, confidentiality processes, rights to withdraw, and the contact details of the research team. Informed consent was attained from those

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<sup>17</sup> A copy of the information sheet presented to participants is provided in Appendix C.

indicating an interest in participating at this stage<sup>18</sup>. A brief statement re-confirming consent was also included at each round of the Delphi, prior to completion of the survey. The debrief sheet<sup>19</sup>, which included details of support resources available, was presented to experts at the end of each round, or at the point of withdrawal for those who indicated that they wished to terminate their participation prior to survey completion at a given round.

## **7.5. Delphi survey round one**

The aim of the first round was to gather experts' opinions on the conceptualisation and potential sources of moral injury for staff working in secure psychiatric settings, through an idea generation round. A qualitative design was utilised, and the responses attained in this round were extracted and analysed to develop the survey presented to experts in later rounds.

### ***7.5.1. Round one: Participants***

Of the 113 experts who were directly contacted, 60 (53.1%) expressed an interest in participating and provided a contact email address. Of these individuals, 46 (76.7%) went on to complete round one, yielding an overall response rate of 40.7%. Of the 46 experts participating in the first round, thirty-two (69.6%) were healthcare professionals, nine (19.6%) were academics who had previously published in the field, and five (10.9%) had both clinical experience and academic knowledge. Of those with experience working in secure mental healthcare, experts worked across psychology (n=15), nursing (n=13), psychiatry (n=4), speech and language therapy (n=3), dietetics (n=1) and other professions (n=1). Most experts were working in the United

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<sup>18</sup> A copy of the consent form used during the recruitment period is provided in Appendix C.

<sup>19</sup> A copy of the debrief presented at the end of each Delphi round is provided in Appendix C.



Kingdom (n=35), though were also recruited from the United States of America (n=4), Canada (n=2), Croatia (n=1), Japan (n=1), Norway (n=1), Sweden (n=1), and Switzerland (n=1).

### 7.5.2. Round one: Survey development

The survey utilised at round one featured eleven open-ended questions designed to capture experts' thoughts on the definition and types of PMIEs experienced by secure mental health staff. Questions relating to the factors driving the initial occurrence of PMIEs were also included, as such information was considered important for informing primary prevention strategies. A summary of the core questions included at this round is provided in Table 6 below<sup>20</sup>.

Table 6. Summary of questions included in the round one survey

Domain	Question
[Definition displayed to experts throughout the survey]: ' <i>Potentially morally injurious events</i> ' (PMIEs) are defined as situations in which an individual has ' <i>perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations</i> ' (Litz et al., 2009). ' <i>Moral injury</i> ' is the <i>psychological distress arising from exposure to such situations</i> .	
Definition of PMIEs	<ol style="list-style-type: none"> <li>1. How well does this definition describe the experiences of, and situations faced by, healthcare professionals working in secure psychiatric settings?</li> <li>2. What else, if anything, should be included in the definition of a PMIE?</li> </ol>
Sources of moral injury	<ol style="list-style-type: none"> <li>3. What are the sources of moral injury most commonly faced by healthcare professionals working in secure psychiatric settings?</li> <li>4. Are there any factors unique to the secure psychiatric healthcare setting that may cause moral injury, which aren't faced by staff working in general (non-secure) psychiatric healthcare settings?</li> <li>5. Are there any aspects of a healthcare professional's role within a secure psychiatric setting that might be a source of moral injury (i.e. responsibilities, practices)?<sup>a</sup></li> <li>6. Moral injury can result from witnessing the actions [or inactions] of others, as well as one's own behaviours. What behaviours of colleagues may lead to a moral injury for healthcare staff working in secure psychiatric settings?</li> </ol>

<sup>20</sup> A full copy of the survey utilised at round one is presented in Appendix C.

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	7. Are there any sources of moral injury specifically linked to COVID-19, which were not likely to have been experienced by staff in secure psychiatric settings prior to the pandemic?
	8. Please describe any other situations or factors that you believe to be a source of moral injury for healthcare professionals working in secure psychiatric settings:
PMIE driving factors	9. Healthcare professionals work with multiple parties, including patients, families and carers, and colleagues. How might these relationships lead to a moral injury for staff? <sup>a</sup>
	10. Are there any ways in which the healthcare system promotes moral injury? Please describe the features which you feel contribute to or create the necessary conditions for staff to develop a moral injury. <sup>a</sup>
	11. For what reasons might a healthcare professional feel obligated to act against their moral beliefs and values?

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*Note.* <sup>a</sup>Indicates items informed by themes from the systematic review and meta-ethnography

### **7.5.3. Round one: Procedure**

Following the four-week recruitment period, the link to the first questionnaire was sent to all experts who had provided an email address and indicated their consent to participate. Participants had three weeks to complete the questionnaire, and an email reminder was sent to all participant's one week prior to the deadline. The survey was hosted on the online survey platform Qualtrics.

### **7.5.4. Round one: Data analysis**

Reflexive Thematic Analysis (RTA; Braun & Clarke, 2006, 2021) was utilised to analyse experts' responses on the survey at this round. This method involves a six-stage process for identifying and interpreting recurring patterns within a dataset, as follows: i) becoming familiar with the data, ii) generating initial codes, iii) collating codes into themes, iv) reviewing the themes identified, v) defining and naming the themes, and vi) producing the report. In RTA, an inductive approach is taken, in which codes and themes emerge from the data; this distinguishes this method from other forms of thematic analysis (e.g., codebook thematic analysis), in which predetermined codes are applied to the data, deductively. Accordingly, themes are not 'found' within the data,

but rather develop as ‘analytic outputs’ from codes that are grounded in the researchers’ subjective interpretation of data (Braun & Clarke, 2021).

Coding can occur at different levels and be semantic or latent. Whilst semantic codes describe the explicit data, and do not go beyond what is stated within the text, latent coding draws out the underlying meanings and is thus a much more interpretative process. By coding purely at the level of words and phrases, much of the richness of the data and the meaning being conveyed would have been lost. As such, in line with the suggestion of Braun and Clarke (2006) both semantic and latent coding was conducted to capture both the explicit and implicit meanings expressed in experts’ responses.

#### ***7.5.5. Round one: Results***

In total, twelve primary themes were extracted from the survey at round one. Responses attained on the survey at round one extended beyond identifying *sources* of moral injury, but also the conceptualisation of PMIEs, and factors underlying or driving the occurrence of PMIEs and subsequent development of moral injury; as such, themes were categorised accordingly under wider superordinate themes, based on the focus to which they related. The primary themes and associated subthemes encompassed within each superordinate theme are reported in Table 7<sup>21</sup>.

To assess the reliability of the primary themes yielded from round one of the survey, a co-rater was utilised at this stage to allow for the calculation of inter-rater reliability. A list of the primary themes and a short description of each was provided, and the co-rater was asked to place qualitative responses provided by participants in the survey into themes. In consideration of the

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<sup>21</sup> A detailed description of each of the primary themes yielded, and their respective subthemes, is provided in Appendix D.

large amount of data yielded in the first round, 10% of responses were examined and placed into themes by the co-rater. In line with Kappa value thresholds proposed by Landis and Koch (1977), overall inter-rater reliability between the two raters indicated substantial agreement,  $Kappa = .72$ ,  $p < .001$ , with raters placing 73.9% of responses into the same themes. When calculating inter-rater reliability for each superordinate theme, separately, perfect agreement was apparent for responses relating to the definition of PMIEs,  $Kappa = 1.00$ ,  $p < .01$ , with raters placing all responses into the same themes. Secondly, moderate agreement was yielded for responses relating to sources of moral injury,  $Kappa = .58$ ,  $p < .001$ , with raters placing 65.2% of responses into the same theme. Finally, for responses relating to driving and risk factors, inter-rater reliability indicated substantial agreement,  $Kappa = .67$ ,  $p < .001$ , with raters placing 75% of responses into the same themes.

Table 7. Themes developed from responses at round one of the Delphi survey (n=46)

<b>Super-ordinate theme</b>	<b>Primary theme</b>	<b>Subtheme</b>	<b>Example of comment</b>
Defining PMIEs	Type of PMIE	Experiences of authoritative betrayal	“Other definitions include being betrayed by a leader/superior and this seems important to distinguish moral injury and distress”
		Non-action transgressions	“Witnessing decisions that are not always in the interests of patients”
	Context of PMIE	Inescapability	“Not being able to get away from it”
		High risk for harm or suffering Systemic root	“[Occurs] in a high stakes situation” “I don’t think you can ignore structural issues”
Sources of Moral Injury	Immoral aspects of the healthcare system	Restrictive context of secure psychiatric settings	“The environment of locked doors/restrictions”
		Harmful cultural climate Lack of consequences for aggression by patients in the system	“A unit culture of coercion” “Failure of the police and CPS to proceed against patients when they commit a crime because they are in hospital”
	Past and present harm	Harm to others during admission	“Physical attacks on staff/patients by patients”
		Harm to self [patient] during admission Patients’ pre-admission histories of harm to and from others	“Observing acts of self-harm” “Reading case files of patients histories or hearing what has happened to them/what they have done in the past”
Challenging practices of profession		Restrictive practices	“Excessive use of restraint/control measures over patients”
		Coercive care	“Medications against will (meaning the nurse must medicate despite the patient nor wanting the medication)”
		Detention and discharge practices	“Making recommendations to tribunal panels to uphold section”
Inadequate standards of care delivered		Incompetency of self and colleagues	“Work with staff with not enough knowledge or expertise”
		Colleagues’ harmful attitudes towards patients and care	“Staff disconnected from understanding service users as people first”
		Harmful actions of colleagues	“Witnessing a colleague engage in dubious or abusive practices”
		Inaction by self and colleagues	“When I couldn’t, or didn’t, object other healthcare professionals whose attitudes are inhumane, I felt I was morally injured”

Relational factors	Challenging team dynamics	“Intolerances of indifference to the extent that if a staff member disagrees with practice, [they] are ostracised from the team”
	Hierarchy and power challenges	“...they [healthcare professionals] are also being placed in a position of mutual power over another human being”
	Balancing competing needs of patients and others	“Conflict with patients’ needs and the requests from relatives”
	Working between harmful relationships	“If family/carers have been involved in events that caused the patient trauma”
COVID-19 related factors	Organisational failure to ensure protection	“Not receiving PPE in a timely manner”
	Negative impacts of COVID-19 restrictions and regulations	“Restricting leave because wards need to go into lockdown”
Driving and risk factors	Systemic conditions	A culture ‘out of touch’ with principles
	Minimisation of staff and patient voice	“Culture of blame, a sense of toughen up and shut up”
	Costs over care	“Lack of listening to staff on the frontlines”
	Insufficient resources	“Corporatization/commoditization of healthcare”
Relational drivers	Insufficient investment in staff	“Underfunding these settings so that care is frequently missed...”
	Maintaining relationships	“Not really caring about employee’s well-being”
	Pressure from different parties	“If you have a good relationship with an individual and do not want to jeopardise that”
Poor staff well-being	Challenging interprofessional dynamics	“Pressure from the hospital/team to utilise MAPA <sup>22</sup> in situations where it may not be necessary”
	-	“Lack of clarity in the different roles within the staff [team]”
Duties of role	-	“Burnout – short fuse or fatigue contributing to stress, irritability, leniencies with practices”
		“Not being able to get away physically – e.g., having to run towards the PMIEs due to the duty of care”

<sup>22</sup> MAPA (Management of Actual or Potential Aggression) is an accredited training program delivered to staff in some healthcare settings to provide them with skills in de-escalating and managing challenging behaviour.

## **7.6. Delphi survey round two**

The second round of the Delphi sought to develop consensus on the items generated from experts' responses at round one.

### ***7.6.1. Round two: Participants***

Of the 46 respondents at round one, 33 (71.7%) participated in round two. The majority (69.7%) of experts at round two were healthcare professionals, with a further 15.2% representing academics published within the field, and another 15.2% having both academic expertise and clinical experience. Thus, 84.9% of experts had clinical experience, and 30.4% of experts had academic knowledge of moral injury. As in round one, experts with clinical experience in secure mental healthcare services were working in dietetics (n=1), nursing (n=10), psychology (n=10), psychiatry (n=4), speech and language therapy (n=2), or another profession (n=1).

### ***7.6.2. Round two: Survey development***

Sixty-four survey items were formulated from experts' responses at round one and presented at round two<sup>23</sup>. Due to the large number of codes developed in round one, many of the items encompassed multiple codes that shared similarity in meaning. Items were grouped in accordance with the superordinate themes developed at round one (see Table 8).

### ***7.6.3. Round two: Procedure***

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<sup>23</sup> A copy of the round two survey is provided in Appendix C.

The procedure utilised at round two mirrored that of round one. Experts were emailed with a link to the survey, and had three weeks to submit their response. At this round, participants were instructed to indicate the extent to which they agreed or disagreed with each survey item, on a 4-point Likert scale ranging from ‘strongly disagree’ to ‘strongly agree’.

#### ***7.6.4. Round two: Data analysis***

For each survey item, the percentage of agreement and disagreement across the sample was calculated. The consensus threshold was set at 80%. Whilst the consensus threshold used within Delphi studies tends to be lower than this figure (Diamond et al., 2021), a consensus level of 80% was chosen to ensure that only items on which there was high agreement were retained upon completion of the final round. The consensus threshold was set a priori to avoid research bias (Holey et al., 2007).

#### ***7.6.5. Round two: Results***

Table 8 illustrates the percentage of agreement and disagreement on items. The percentage of agreement reflects the proportion of participants who either ‘slightly agreed’ or ‘strongly agreed’ with an item, whilst the percentage of disagreement reflects the proportion of participants who either ‘slightly disagreed’ or ‘strongly disagreed’ on an item. An agreement level of  $\geq 80\%$  was achieved on 36 (56.3%) items at this round. No items surpassed the 80% consensus threshold on disagreement. Items on which consensus was achieved related to the definition of a PMIE, sources of moral injury, factors driving the occurrence of PMIEs, and risk factors for the development of moral injury following a PMIE.



## **7.7. Delphi survey round three**

The third round of the Delphi sought to confirm consensus on survey items, through a final checking round. All items were presented in the final round, including those which did not reach the 80% consensus threshold at round two.

### ***7.7.1. Round three: Participants***

Of the 33 experts who engaged in round two, 30 (90.9%) participated in the final round. The majority (73.3%) of experts at round three were healthcare workers, with a further 16.7% representing academics published in the field, and 10% having both academic expertise and clinical experience. As per previous rounds, experts with clinical experience were working in dietetics (n=1), nursing (n=8), psychology (n=8), psychiatry (n=4), speech and language therapy (n=2), or another profession (n=1).

### ***7.7.2. Round three: Materials***

The 64-item survey utilised in round two was re-presented at round three. The percentage of agreement and disagreement achieved on each item at round two was fed back to experts at round three. As round three was a checking round, a binary rating scale was utilised, with participants indicating whether they 'agreed' or 'disagreed' with each item.

### ***7.7.3. Round three: Procedure***

As per the first two rounds, a link to the round three survey was distributed to participants via email, and experts had three weeks to submit their response.

### ***7.7.4. Round three: Data analysis***

As per round two, the percentage of agreement and disagreement across the sample was calculated for each survey item. The consensus threshold remained at 80%. The change in agreement percentage between round two and three was also calculated for each item.

#### ***7.7.5. Round three: Results***

Table 8 illustrates the percentage of agreement and disagreement on each survey item at round three, as well as the change in percentage of agreement from the previous round. Item 5 ('a PMIE is an unavoidable event in which an individual has had no personal choice in the course of action taken'), item 41 ('having greater autonomy than patients and carers over care decisions') and item 42 ('renewing or extending the detention of a patient under the MHA') reached the threshold to be discarded, with over 80% of experts disagreeing with these statements. Of the remaining 61 items, agreement was achieved on 44 (72.1%) items from each of the four subsections (definition, sources, driving factors and risk factors).

Table 8. Rates of consensus achieved at rounds two and three and change in agree ratings

Item	Theme	Round 2		Round 3		Change in agree ratings (%)
		'Agree' ratings (%)	'Disagree' ratings (%)	'Agree' ratings (%)	'Disagree' ratings (%)	
<i>Defining PMIEs</i>						
1. Experiences of betrayal by individuals in a position of authority or trust should be included in the definition of PMIEs	Type of PMIE	<b>84.9</b>	15.1	<b>93.3</b>	6.7	+8.4
2. The definition of PMIEs should include non-events (i.e., witnessing a decision being made, or learning about an attitude held by a colleague) as well as events and behaviours	Type of PMIE	<b>81.8</b>	18.2	<b>83.3</b>	16.7	+1.5
3. PMIEs occur in the context of wider structural and systemic issues	Context of PMIE	<b>97.0</b>	3.0	<b>100.0</b>	0.0	+3.0
4. A PMIE is an event which occurs in a high stakes situation, where there is imminent risk for harm and suffering	Context of PMIE	72.7	27.3	<b>80.0</b>	20.0	+7.3
5. A PMIE is an unavoidable event in which an individual has had no personal choice in the course of action	Context of PMIE	24.2	75.8	3.3	<b>96.7</b>	-20.9
<i>Sources of Moral Injury</i>						
6. Displays of poor professional practice by colleagues (i.e., unlawfully breaching patient confidentiality)	Inadequate standards of care delivered	<b>90.9</b>	9.1	<b>100.0</b>	0.0	+9.1
7. Use of restrictive practices when inappropriate, or when alternative solutions were available	Challenging practices of profession	<b>93.9</b>	6.1	<b>100.0</b>	0.0	+6.1
8. Inappropriately detaining a patient (i.e., due to a lack of alternative, appropriate placements)	Challenging practices of profession	<b>97.0</b>	3.0	<b>96.7</b>	3.3	-0.3

9. Working in a non-therapeutic culture (i.e., a system which re-traumatizes patients)	Immoral aspects of the healthcare system	<b>93.9</b>	6.1	<b>96.7</b>	3.3	+2.8
10. Working with colleagues who act in ways that demoralise or demean patients	Inadequate standards of care delivered	<b>93.9</b>	6.1	<b>96.7</b>	3.3	+2.8
11. Failing to ensure the safety of patients and/or colleagues	Past and present harm	<b>87.9</b>	12.1	<b>96.7</b>	3.3	+8.8
12. Inappropriate administration of assessments and treatments (i.e., without informed consent)	Challenging practices of profession	<b>93.9</b>	6.1	<b>96.7</b>	3.3	-0.3
13. Caring for patients in a physically inadequate environment <sup>a</sup>	Additional items	<b>93.9</b>	6.1	<b>93.3</b>	6.7	-0.6
14. Being unable to meet a patients' care needs	Inadequate standards of care delivered	<b>93.9</b>	6.1	<b>93.3</b>	6.7	-0.6
15. Inappropriately discharging a patient (i.e., prematurely to free up beds)	Challenging practices of profession	<b>93.9</b>	6.1	<b>90.0</b>	10.0	-3.9
16. Witnessing the distress of colleagues when placed into situations that cause them fear (i.e., observing highly aggressive patients)	Past and present harm	<b>84.9</b>	15.1	<b>90.0</b>	10.0	+5.1
17. Failing to challenge the immoral behaviours of others	Inadequate standards of care delivered	<b>84.9</b>	15.1	<b>90.0</b>	10.0	+5.1
18. Use of coercive measures to provide care and treatment to patients against their will	Challenging practices of profession	<b>90.9</b>	9.1	<b>86.7</b>	13.3	-4.2
19. Working with colleagues who demonstrate demoralised attitudes towards patients and care	Inadequate standards of care delivered	<b>90.9</b>	9.1	<b>86.7</b>	13.3	-4.2
20. Compromising or failing to provide the necessary care, due to restrictions imposed as a result of COVID-19	COVID-19 factors	<b>90.9</b>	9.1	<b>86.7</b>	13.3	-4.2
21. Silenced patient voice in decision-making processes	Relational factors	<b>87.9</b>	12.1	<b>86.7</b>	13.3	-1.2
22. Restrictions placed on patients contact with family members, carers and friends	Immoral aspects of the healthcare system	<b>81.8</b>	18.2	<b>83.3</b>	16.7	+1.5

23. Restricted interaction and engagement with patients, due to time constraints or to maintain personal safety <sup>a</sup>	Additional items	<b>87.9</b>	12.1	<b>83.3</b>	16.7	-4.6
24. Being exposed to physical or verbal aggression from patients	COVID-19 factors	75.8	24.2	<b>93.3</b>	6.7	+17.5
25. Witnessing a patient commit harm to themselves (i.e., self-harm, suicide attempts)	Past and present harm	72.7	27.3	<b>86.7</b>	13.3	+14.0
26. Working in a system that focuses on risk management and security, rather than healthcare needs <sup>a</sup>	Past and present harm	75.8	24.2	<b>86.7</b>	13.3	+10.9
27. Detention of patients against their will	Additional items	69.7	30.3	<b>83.3</b>	16.7	+13.6
28. Lack of guidance and/or resources to effectively manage during the COVID-19 pandemic	Immoral aspects of the healthcare system	<b>81.8</b>	18.2	73.3	26.7	-8.5
29. Experiencing acts of betrayal towards the team by colleagues (i.e., having a colleague abandon the ward when short-staffed)	Inadequate standards of care delivered	78.8	21.2	73.3	26.7	-5.5
30. Restrictions and rigidities placed on patients activities, access to items, and/or freedoms	Immoral aspects of the healthcare system	69.7	30.3	73.3	26.7	+3.6
31. Working with colleagues who lack the skills or capacity to provide quality care	Inadequate standards of care delivered	78.8	21.2	73.3	26.7	-5.5
32. Lack of consequences for acts of aggression committed by patients whilst detained in hospital (i.e., failure for police to proceed against assaults)	Immoral aspects of the healthcare system	72.7	27.3	70.0	30.0	-2.7
33. Placing others at risk of COVID-19 (i.e., patients, own family members)	COVID-19 factors	69.7	30.3	66.7	33.3	-3.0
34. Learning about the traumatic histories of patients in one's care	Past and present harm	57.6	42.4	60.0	40.0	+2.4
35. Having to report a colleague for unethical behaviour	Relational factors	66.7	33.3	60.0	40.0	-6.7

36. Use of restrictive practices (in the context of appropriate and necessary use)	Challenging practices of profession	60.6	39.4	46.7	53.3	-13.9
37. Working amongst non-therapeutic relationships (i.e., with families who have contributed to the patient's admission)	Relational factors	63.6	36.4	46.7	53.3	-16.9
38. Witnessing or experiencing conflict between/with colleagues	Relational factors	63.6	36.4	43.3	56.7	-20.3
39. Caring for people who have committed serious criminal offences	Past and present harm	42.4	57.6	36.7	63.3	-5.7
40. Working with multiple parties who have conflicting needs, wants and/or opinions	Relational factors	57.6	42.4	23.3	76.7	-34.3
41. Having greater autonomy than patients and carers over care decisions	Relational factors	48.5	51.5	16.7	<b>83.3</b>	-31.8
42. Renewing or extending the detention of a patient under the MHA	Challenging practices of profession	39.4	60.6	6.7	<b>93.3</b>	-32.7
<b><i>Driving Factors</i></b>						
43. Working in a system where there is a depersonalised approach to care can promote the occurrence of PMIEs	Systemic conditions	<b>97.0</b>	3.0	<b>100.0</b>	0.0	+3.0
44. A negative workplace culture (i.e., high levels of manipulation and blame, closed culture) can normalise and promote the occurrence of PMIEs	Systemic conditions	<b>97.0</b>	3.0	<b>100.0</b>	0.0	+3.0
45. Dismissal of the opinions and concerns of patients and staff by the organisation may promote the occurrence of PMIEs	Systemic conditions	<b>93.9</b>	6.1	<b>100.0</b>	0.0	+6.1
46. Being overworked and burnt out may lead a healthcare professional to act against their moral values	Poor staff-wellbeing	<b>93.9</b>	6.1	<b>100.0</b>	0.0	+6.1

47. Lack of resources (i.e., material, financial, staffing, time) may promote the occurrence of PMIEs	Systemic conditions	<b>97.0</b>	3.0	<b>96.7</b>	3.3	-0.3
48. Prioritization of costs over care by the organisation/system may promote the occurrence of PMIEs	Systemic conditions	<b>90.9</b>	9.1	<b>96.7</b>	3.3	+5.8
49. Policies and legal frameworks may necessitate staff to engage in morally injurious actions	Systemic conditions	<b>81.8</b>	18.2	<b>83.3</b>	16.7	+1.5
50. Pressure from regulatory bodies or leaders may lead a healthcare professional to act against their moral values	Relational factors	75.8	24.2	<b>96.7</b>	3.3	+20.9
51. Pressure from colleagues or carers may lead a healthcare professional to act against their moral values	Relational factors	75.8	24.2	<b>93.3</b>	6.7	+17.5
52. A healthcare professional may act against their moral values in order to ensure the safety of patients, the self, and/or others	Duties of role	78.8	21.2	<b>93.3</b>	6.7	+14.5
53. Having to follow the orders of colleagues with greater authority may promote the occurrence of PMIEs	Relational factors	72.7	27.3	<b>80.0</b>	20.0	+7.3
54. A lack of clarity or understanding of the roles of different professions within a team can promote the occurrence of PMIEs	Relational factors	72.7	27.3	76.7	23.3	+4.0
55. Engaging in, or being exposed to morally injurious events are inherent to the role of a healthcare professional	Duties of role	72.7	27.3	73.3	26.7	+0.6
56. A desire to maintain good relationships with a patient or colleague may lead a healthcare professional to act in ways that go against their moral values	Relational factors	72.7	27.3	66.7	33.3	-6.0
<b>Risk Factors</b>						
57. Ignorance of staff well-being by the organisation can make it more likely for a	Systemic conditions	<b>97.0</b>	3.0	<b>100.0</b>	0.0	+3.0

healthcare professional to develop moral injury after experiencing a PMIE						
58. Lack of opportunity for a debrief within the workplace, following a PMIE, can make it more likely for a person to develop moral injury	Systemic conditions	<b>97.0</b>	3.0	<b>100.0</b>	0.0	+3.0
59. Lack of training and support within the workplace in dealing with PMIEs can make it more likely for a person to develop moral injury after experiencing a PMIE	Systemic conditions	<b>97.0</b>	3.0	<b>100.0</b>	0.0	+3.0
60. Lack of time to process immoral experiences can make it more likely for a person to develop moral injury	Systemic conditions	<b>93.9</b>	6.1	<b>100.0</b>	0.0	+6.1
61. Having no means to deal with exposure to immoral experiences occurring in the workplace can make it more likely for a person to develop moral injury	Systemic conditions	<b>93.9</b>	6.1	<b>100.0</b>	0.0	+6.1
62. Lack of coping strategies and support outside of the workplace can make it more likely for a person to develop moral injury after experiencing a PMIE	Poor staff well-being	<b>93.9</b>	6.1	<b>100.0</b>	0.0	+6.1
63. Having to hide one's emotional response to immoral events within the workplace can make a healthcare professional more likely to develop moral injury	Poor staff well-being	<b>91.9</b>	9.1	<b>89.7</b>	10.3	-1.2
64. Having pre-existing personal mental health difficulties can make a healthcare professional more likely to develop moral injury after experiencing a PMIE	Poor staff well-being	75.8	24.2	70.0	30.0	-5.8

*Note.* \* indicates items which were included based on PMIEs identified through the earlier systematic review rather than in the Delphi; agreement values at or above the consensus threshold (80%) are marked in bold.



The final list of items for which agreement was achieved at the  $\geq 80\%$  consensus threshold is presented in Table 9. Consensus amongst experts on the need to adopt a broader definition of PMIEs, and to acknowledge the systemic and structural issues that give rise to such experiences, was maintained from round two. In line with Shay's (2003) definition, a 'high-stakes' element, in which there is an imminent risk of harm, reached the threshold to be considered a feature of a morally injurious event at this round.

Furthermore, as per round two, PMIEs most frequently reaching consensus were those related to specific practices (*practices of profession*) and care quality (*standards of care delivered*), as well as instances where harm had occurred, either to or by patients, colleagues, others, or oneself (*past and present harm*). With regards to driving and risk factors, consensus on relational factors increased from the previous round, with experts agreeing that pressure from various parties (regulatory bodies and leaders, colleagues, carers) can drive a healthcare professional to engage in a morally injurious behaviour. As per round two, with the exception of personal mental health difficulties, agreement was reached on all other risk factors relating to *staff well-being* and *system-created conditions*.

Table 9. Final list of items reaching consensus at round three

Superordinate theme	Theme	Item
Defining PMIEs	Type of PMIE	Experiences of betrayal by individuals in a position of authority or trust should be included in the definition of PMIEs The definition of PMIEs should include non-events (i.e., witnessing a decision being made, or learning about an attitude held by a colleague) as well as events and behaviours
	Context of PMIEs	PMIEs occur in the context of wider structural and systemic issues

		A PMIE is an event which occurs in a high stakes situation, where this is an imminent risk for harm and suffering
Sources of Moral Injury	Immoral aspects of the healthcare system	Working in a non-therapeutic culture (i.e., a system which re-traumatises patients) Restrictions placed on patients contact with family members, carers and friends Detention of patients against their will
	Past and present harm	Failing to ensure the safety of patients and/or colleagues Witnessing the distress of colleagues when placed into situations that cause them fear (i.e., observing highly aggressive patients) Being exposed to physical or verbal aggression from patients Witnessing a patient commit harm to themselves (i.e., self-harm, suicide attempts)
	Challenging practices of profession	Use of restrictive practices when inappropriate, or when alternative solutions were available Inappropriately detaining a patient (i.e., due to a lack of alternative, appropriate placements) Inappropriate administration of assessments and treatments (i.e., without informed consent) Inappropriately discharging a patient (i.e., prematurely to free up beds) Use of coercive measures to provide care and treatment to patients against their will Failing to challenge the immoral behaviours of others
	Inadequate standards of care delivered	Displays of poor professional practice by colleagues (i.e., unlawfully breaching patient confidentiality) Working with colleagues who act in ways that demoralise or demean patients Being unable to meet a patients' care needs Working with colleagues who demonstrate demoralised attitudes towards patients and care
	Relational factors	Silenced patient voice in decision-making processes
	COVID-19 related factors	Compromising or failing to provide the necessary care, due to restrictions imposed as a result of COVID-19
	Additional items	Caring for patients in a physically inadequate environment Restricted interaction and engagement with patients, due to time constraints or to maintain personal safety Working in a system that focuses on risk management and security, rather than healthcare needs
Driving Factors	Systemic conditions	Working in a system where there is a depersonalised approach to care can promote the occurrence of PMIEs

		<p>A negative workplace culture (i.e., high levels of manipulation and blame, closed culture) can normalise and promote the occurrence of PMIEs</p> <p>Dismissal of the opinions and concerns of patients and staff by the organisation may promote the occurrence of PMIEs</p> <p>Lack of resources (i.e., material, financial, staffing, time) may promote the occurrence of PMIEs</p> <p>Prioritization of costs over care by the organisation/system may promote the occurrence of PMIEs</p> <p>Policies and legal frameworks may necessitate staff to engage in morally injurious actions</p>
	Poor staff well-being Relational factors	<p>Being overworked and burnt out may lead a healthcare professional to act against their moral values</p> <p>Pressure from regulatory bodies or leaders may lead a healthcare professional to act against their moral values</p> <p>Pressure from colleagues or carers may lead a healthcare professional to act against their moral values</p> <p>Having to follow the orders of colleagues with greater authority may promote the occurrence of PMIEs</p>
	Duties of role	<p>A healthcare professional may act against their moral values in order to ensure the safety of patients, the self, and/or others</p>
Risk Factors	Systemic conditions	<p>Lack of time to process immoral experiences can make it more likely for a person to develop moral injury</p> <p>Ignorance of staff well-being by the organisation can make it more likely for a healthcare professional to develop moral injury after experiencing a PMIE</p> <p>Lack of opportunity for a debrief within the workplace, following a PMIE, can make it more likely for a person to develop moral injury</p> <p>Lack of training and support within the workplace in dealing with PMIEs can make it more likely for a person to develop moral injury after experiencing a PMIE</p> <p>Having no means to deal with exposure to immoral experiences occurring in the workplace can make it more likely for a person to develop moral injury</p>
	Poor staff well-being	<p>Lack of coping strategies and support outside of the workplace can make it more likely for a person to develop moral injury after experiencing a PMIE</p> <p>Having to hide one's emotional response to immoral events within the workplace can make a healthcare professional more likely to develop moral injury</p>

## 7.8. Discussion

Using the Delphi method, agreement amongst experts on PMIEs occurring within secure psychiatric settings was achieved. Additionally, consensus was reached on items relating to the definition of a PMIE, the factors driving their occurrence, and risk factors for the subsequent development of moral injury. The findings expand on those reported in the earlier systematic review and meta-ethnography (see Chapter 6).

In line with Shay's (2003) definition of a morally injurious event, a 'high-stakes' element was identified by the majority of experts as a defining feature of a PMIE. Contrastingly, however, many of the proposed sources of moral injury on which consensus was reached at round three did not reflect situations in which an imminent risk of harm was apparent (e.g., *'working in a system that focuses on risk management and security, rather than healthcare needs'*). Thus, it appears that this may be a characteristic of some, but not all morally injurious experiences. Furthermore, in line with the first study prediction (1.1) hypothesising that experiences of betrayal would be considered important for inclusion in the PMIE definition and Shay's (2003) conceptualisation of the term, experts agreed that experiences of betrayal by trusted others should be captured. Thus, the findings echo the importance of including betrayal-based experiences in the conceptualisation and assessment of moral injury in healthcare workers, as noted by Shay (2003, 2014) and others (e.g., Hodgson & Carey, 2017).

Experts also agreed that the definition of PMIEs should acknowledge systemic and structural issues as an important contextual feature of moral injury. Indeed, when examining results for factors driving the occurrence of PMIEs and the subsequent development of moral injury, the highest levels of consensus were obtained on items describing systemic factors. In line with the 'funnel' model proposed in the earlier systematic review of PMIEs in forensic and

psychiatric settings, several systemic conditions were identified, which likely provided the foundations for many of the identified PMIEs to occur. For example, experts agreed that prematurely discharging patients to free up beds reflected a potential source of moral injury, which was a consequence of an under-funded healthcare system. This mirrors the ideas expressed by several papers included in the earlier systematic review (see Chapter 6) that working in an organisation for which the cultural attitudes towards staff and patients are experienced as morally transgressive can facilitate the occurrence of distressing and potentially morally injurious experiences (Delfrate et al., 2018; Hamaideh, 2014; Musto et al., 2021; Ohnishi et al., 2020).

Despite recognition of the systemic factors that underlie morally injurious acts at rounds two and three, experts opposed the conceptualisation of PMIEs as unavoidable events in which actions taken were outside of one's choice. Thus, healthcare professionals may maintain a sense of personal responsibility for morally injurious situations, regardless of the rationale for their actions. This aligns with Litz et al.'s (2009) conceptualisation of moral injury as an 'inability to contextualise or justify personal actions or the actions of others' (pg. 705).

Organisations were also positioned as having a potential role in shaping risk for moral injury following PMIE exposure, indicating the potential value of systemic solutions in both the primary and secondary prevention of moral injury. Specifically, insufficient training, a lack of organisational investment in staff well-being, and lack of opportunities to process and seek support for morally harmful experiences, from within the organisation, were considered to increase the likelihood of moral injury occurring. Additionally, having to suppress one's emotional response to distressing events, which mirrors the concept of 'emotional labour' (Hochschild, 1983) and is an inherent expectation of staff within secure mental healthcare, was

also agreed to be a risk factor for moral injury. Thus, the provision of training and education on managing morally harmful experiences, as well as the prioritisation and implementation of strategies to foster the well-being of staff and provide opportunities for support following a PMIE (e.g., debriefs, ethical consultation groups, trauma support services), may be important protective mechanisms for mitigating against moral injury in healthcare professionals. The potential role of emotional labour as a risk factor for moral injury will be empirically tested in the next study.

Consensus was also obtained on several ‘relational factors’, predominantly as drivers of PMIEs in secure mental healthcare. Experts agreed that pressure from authority figures, as well as colleagues and carers may motivate staff to engage in moral transgressions. This finding mirrors the ‘morals vs. loyalty’ and ‘powerlessness to act due to power in status or numbers’ concepts that emerged from the meta-ethnography, though, in the current study, such factors were identified as promoters for the occurrence of PMIEs, as opposed to PMIEs themselves. Interestingly, the desire to maintain good relationships alone was not considered enough of a motivator, however. In accordance with the Conservation of Resources theory (Hobfoll, 1989), the immoral aspects of the healthcare profession and system may lead staff to respond to pressures from others in order to cope with the loss of self-integrity that may result from working within an immoral system, and to avoid any other threatened losses that may arise as a consequence of resisting pressures.

The potential protective effects of relationships was also evident in the findings however. The absence of a social support network outside of the workplace (e.g., family, friends) and personal coping strategies were identified as risk factors for moral injury. This finding is in line with extensive evidence noting a protective role of social support in mitigating against PTSD

(Ferrajão & Oliveira, 2014; Kilpatrick et al., 2007; Ozer et al., 2003) following a traumatic experience. The role of social support in mitigating against the development of moral injury, specifically, has not yet been subject to empirical investigation. Nevertheless, drawing on the Stress-Buffering Hypothesis (Cohen & Wills, 1985), it can be hypothesised that access to a social support network may reduce risk for moral injury via the provision of alternative appraisals of events from others, and this will be examined in a later study (see Chapter 7).

Besides the driving factors for PMIEs and moral injury, several PMIEs themselves were also identified that both mirror and extend on those identified in the moral distress literature. Primarily, several items on which consensus was obtained described features of the healthcare *system* and secure psychiatric *environment*. Some of the identified features were inherent to the secure healthcare context, such as the tensions between risk management and healthcare needs and the nature of detaining individuals against their will in a secure environment, reinforcing the notion that the nature of secure psychiatric care may be an intrinsic source of moral tension. This finding echoes claims that the healthcare profession may be an inherent moral paradox (Hine, 2007; Hofmann, 2001). The inherently morally conflicting nature of healthcare may be particularly amplified in secure mental health settings, where there is a heightened need for prevention of harm that extends to a duty for public protection, as well as one of patient safety.

Other features were extrinsic to secure psychiatric healthcare, however, such as a non-therapeutic culture and physically inadequate ward environments; this latter item has been noted previously in the moral distress literature (Austin et al., 2003, 2005; Danda, 2020). Thus, there appears need to go beyond solely framing systemic factors as contributors to distressing experiences, but also as direct sources of moral distress and, potentially, moral injury. This lends support to experts suggestion that ‘non-action transgressions’ in which morals have been

transgressed but no direct culpable ‘act’ by an individual or individuals has occurred, should be incorporated within the PMIE definition.

In line with the traditional conceptualisation of PMIEs, however, several sources reaching consensus reflected individual culpable actions by the self or others. This supports the second study prediction (1.2) made, hypothesising that consensus would be obtained on PMIEs reflecting both self- and other-transgressions. Additionally, the prediction that PMIEs unique or particularly pertinent to the secure mental health context (1.3) would be identified was also supported. Consensus was obtained on practices such as coercion, restraint and seclusion, which have been previously identified as ethical challenges for staff working in mental healthcare (e.g., Hem et al., 2014; Moran et al., 2009). Unique to this study, however, was the identification of PMIEs related to threatened or actual harm by patients towards themselves or others within the secure mental health setting. In situations where harm has been directly experienced or witnessed, the conditions necessary for moral responsibility – that is, that the individual had a degree of control over the situation (control condition) and had awareness and knowledge of their actions (epistemic condition) – are likely to be met, making self-transgression appraisals of such incidents more probable. Items relating to harm caused in the past (e.g., caring for the people with serious criminal offence histories) did not reach consensus; in situations of harm occurring prior to a patient’s admission, the conditions for moral responsibility are not met and thus the appraisal of such events as a self-transgression may be less likely to occur.

Several PMIEs reaching consensus at round three also related to the standards of care delivered to patients by the self and others, paralleling the ‘inadequate treatment of patients by colleagues’ and ‘perceived or actual incompetence’ concepts that emerged in the earlier meta-ethnography (see Chapter 6). In line with the **‘funnel’** model proposed in the previous chapter



(see Figure 3 in Chapter 6), many of the practices that experts considered to bear the potential to result in moral injury were necessitated by the wider systemic context in which they were working. For example, a lack of engagement with patients, often as a consequence of time constraints and job demands, was considered to have the potential to lead to moral injury. Similarly, prematurely discharging patients to free up beds, resulting from an under-funded healthcare system, reached consensus to be considered a PMIE.

### **7.9. Limitations**

The findings of this study should be considered in light of several important caveats. Firstly, the study utilised a panel of experts almost exclusively from westernised societies and, in particular, the UK. Healthcare systems and policies differ across cultures (Popic & Schneider, 2018; Xu, 2006) and thus generalising the findings risks drawing ethnocentric conclusions about the experience of morally injurious events for healthcare professionals working outside of westernised countries. Additionally, whilst the panel at each round was comprised of healthcare workers from a range of professions, experts were predominantly from psychology and nursing disciplines. Thus, the experiences of staff in roles outside of these professions may not be wholly reflected in the results.

Furthermore, whilst an 80% consensus threshold was selected as the closing criteria for the study, a priori to the collection of data, stability in responses is suggested to be a more appropriate closing criterion (Nasa et al., 2021). The notable change in percentage of agreement between rounds two and three for several items indicates that there may have been value in conducting a fourth round. Considering potential explanations for such changes in consensus, these were unlikely to be wholly a result of changes in the expert panel at each round; whilst the number of registered nurses and psychologists participating in the study decreased slightly

between rounds two and three, the characteristics of the sample remained largely comparable. As shifts in consensus on items were primarily towards the majority group opinion, such changes are likely to be the result of the provision of feedback at round three. This is in line with previous research, which has demonstrated feedback to have a greater influence on opinion change between rounds than sociodemographic or professional characteristics in psychiatric healthcare workers (Barrios et al., 2021).

### **7.10. Concluding comments**

Within the field, concerns have been raised over widening the definition and application of moral injury, for fear of diluting the construct. Nevertheless, failing to capture the breadth of experiences prompting moral dissonance and the context in which they occur is arguably likely to have much greater repercussions for both theoretical understandings and advancement of the framework, and the resulting models, treatments and wider systemic strategies implemented to address moral injury. Experts within the current study identified a broad range of PMIEs pertinent to the secure mental healthcare setting, framing systemic factors as not only a contributor to the occurrence of PMIEs, but also as primary sources of moral injury.

Several risk factors for the development of moral injury following exposure to PMIEs were also identified and agreed upon by experts, including emotional labour, and personal and organisational support. A potential moderating effect of these variables on a series of mediating mechanisms linking PMIE exposure and moral injury symptoms will be explored in the next study.

## **CHAPTER 8. PATHWAYS TO MORAL INJURY: IDENTIFYING RISK FACTORS AND EXPLORING A DEVELOPMENTAL-COGNITIVE PATHWAY**

### **8.1. Structure of the Chapter**

The focus of the previous chapters was on establishing the conditions and experiences underlying the development of moral injury for staff in secure psychiatric settings. Many of the sources identified were common experiences for this occupational group, and discrepancies in the events experienced as morally injurious were noted. In order to understand differences in vulnerability for and experiences of moral injury, there is need to explore the mechanisms that drive the development of moral injury following a transgression or betrayal. Drawing on developmental and cognitive models of psychopathology, the current chapter primarily explores a role for childhood trauma, cognitive schemas and metacognitions in the pathway to moral injury. The chapter begins with a recap of the aims of the study, followed by an overview of the sample and methods utilised in the collection and analysis of the data, before presenting and discussing the results.

### **8.2. Study aims**

The specific aims of the current study were as follows:

- a. To establish the prevalence of staff exposed to and impacted by PMIEs.
- b. To identify individual risk factors for greater PMIE exposure and moral injury symptoms.
- c. To understand the mediating effects of childhood trauma symptoms, cognitive schemas and metacognitions in the pathway between PMIE exposure and moral injury symptoms.

- d. To examine the effects of social support, organisational support and cognitive reappraisal as potential moderators of the mediating effects of childhood trauma symptoms, cognitive schemas and metacognitions in the moral injury exposure-symptom pathway.

### **8.3. Participants**

A voluntary sample of clinical and non-clinical healthcare workers working in secure psychiatric settings were recruited for the study between July and December 2022. Individuals with at least 6 months of experience working in such a setting at the time of data collection were eligible to participate. Overall, 848 participants provided consent to participate in the study. Of these, 271 participants did not submit a completed response, and 15 participants had less than 6 months experience working in a secure psychiatric setting. A further three participants did not disclose their length of experience in secure psychiatric healthcare, and thus it could not be confirmed that they met eligibility criteria. Following exclusion of these cases, data screening was conducted on the remaining 559 participants.

### **8.4. Materials<sup>24</sup>**

#### ***8.4.1. Demographic factors***

A series of questions relating to age, gender, professional role, and length of experience in secure mental healthcare were included in the survey to capture the characteristics of respondents and identify potential demographic risk factors for moral injury.

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<sup>24</sup> A copy of the questionnaires used in this study are provided in Appendix E.

#### 8.4.2. Moral injury

##### *Moral Injury Exposure and Symptom Scale – Civilian (MIESS-C; Fani et al., 2021).*

The MIESS-C is a 10-item self-report measure assessing PMIE ‘exposure’ (5 items), and moral injury ‘distress’ (5 items). Items are scored on a 6-point Likert scale, from 1 (‘strongly disagree’) to 6 (‘strongly agree’), with higher scores indicative of greater exposure and/or distress. A binary exposure variable was also created, whereby participants’ who ‘agreed’ with at least one exposure item were categorised in the ‘exposed’ group, and participants who did not ‘agree’ to any exposure items were categorised as ‘not exposed’. Good internal consistency (Cronbach’s  $\alpha=.82$ ) has been reported in a non-clinical trauma-exposed sample (Fani et al., 2021).

#### 8.4.3. Mediating variables

*Primary Care PTSD Screen for DSM-5 (PC-PTSD-5; Prins et al., 2016).* The PC-PTSD-5 is a 6-item self-report measure of trauma exposure and symptoms. The PC-PTSD-5 features an initial screening item to assess exposure to a traumatic event, such as a serious accident or fire, or physical or sexual abuse, in line with Criterion A, as well as five ‘symptom’ items assessing experiences of intrusions and re-experiencing, avoidance, and negative alterations in cognitions, mood, arousal and reactivity in the past month. Responses are given on a dichotomous ‘Yes/No’ scale, with a value of ‘1’ assigned to endorsed symptoms. Higher total scores are indicative of more trauma symptoms. Acceptable internal consistency (Cronbach’s  $\alpha=.73$ ) has been evidenced in healthcare staff (Amsalem et al., 2021). As the current study was focused on the role of early traumatic events, an additional question was presented to those who indicated that they had experienced a trauma, asking them to specify whether the event(s) occurred in childhood (first 18 years of life), in adulthood (occurring after the age of 18), or both.

**Brief Core Schema Scales (BCSS; Fowler et al., 2006).** The BCSS is a 24-item measure of core beliefs about oneself and others. Respondents are required to indicate whether they hold each belief ('yes' or 'no') and, for any endorsed beliefs, to indicate the degree of belief conviction on a 4-point Likert scale ranging from 1 ('believe it slightly') to 4 ('believe it totally'). Items pertain to one of four subscales, each comprising six items; negative self (e.g., 'I am weak'), positive self (e.g. 'I am valuable'), negative other (e.g. 'other people are hostile') and positive other (e.g. 'other people are supportive'). Higher scores are indicative of more positive and negative schemas, respectively. In the current study, only negative self and other subscales were utilised. Good internal consistency has been demonstrated in clinical and non-clinical samples (Cronbach's  $\alpha = .86-.88$ ; Fowler et al., 2006).

**Metacognitions Questionnaire-30 (MCQ-30; Wells & Cartwright-Hatton, 2004).** The MCQ-30 is a 30-item measure of metacognitive beliefs over five six-item subscales: lack of cognitive confidence (e.g. 'my memory can mislead me at times'), positive beliefs about worry (e.g. 'worrying helps me to avoid problems in the future'), cognitive self-consciousness (e.g. 'I monitor my thoughts'), negative beliefs about uncontrollability and danger (e.g. 'my worrying thoughts persist, no matter how I try to stop them'), and need to control thoughts (e.g. 'not being able to control my thoughts is a sign of weakness'). Items are rated on a 4-point Likert scale from 1 ('do not agree') to 4 ('agree very much'), with higher scores indicative of more maladaptive metacognitions. The internal consistency of subscales range from acceptable to good (Cronbach's  $\alpha = .72-.93$ ) in the general population (Wells & Cartwright-Hatton, 2004).

#### **8.4.4. Moderating variables**

**Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988).** The MSPSS is a 12-item self-report measure of perceived social support from 'family' (4 items, e.g.

‘I get the emotional help and support I need from my family), ‘friends’ (4 items, e.g. ‘I can count on my friends when things go wrong’), and a ‘significant other’ (4 items, e.g. ‘I have a special person who is a real source of comfort to me’). Items are scored on a 7-point Likert scale from 1 (‘very strongly disagree’) to 7 (‘very strongly agree’), with higher scores indicating greater perceived social support. Good internal consistency (Cronbach’s  $\alpha=.88$ ) has been reported in students (Zimet et al., 1988).

***Survey of Perceived Organisational Support (SPOS; Eisenberger et al., 1986).*** The SPOS assesses perceived organisational support, defined as the extent to which an employee believes that their organisation is concerned about their well-being and values their contributions (Eisenberger et al., 1986). Eight items are rated on a 7-point Likert scale ranging from 0 (‘strongly disagree’) to 6 (‘strongly agree’). Such items include ‘the organisation values my contribution to its well-being’ and ‘the organisation cares about my general satisfaction at work’. Higher scores are indicative of greater perceived organisational support. Acceptable internal consistency (Cronbach’s  $\alpha=.74$ ) has been reported in nurses (Robaee et al., 2018).

***Emotional Labour Scale (ELS; Brotheridge & Lee, 2003).*** The ELS is a 15-item self-report measure of emotional expression at work. For this study, only surface acting (3 items) and deep acting (3 items) subscales, as the two regulation strategies that define emotional labour (Hochschild, 1983), were used. ‘Surface acting’ items assess the extent to which an individual suppresses their true emotions to display emotions required by their job (e.g. ‘I pretend to have emotions that I don’t really have’). ‘Deep acting’ items assess the extent to which an individual attempts to modify their emotions to match those required at work (e.g. ‘I make an effort to actually feel the emotions that I need to display to others’). The frequency of behaviours are rated on a 5-point Likert scale ranging from 1 (‘never’) to 5 (‘always’), with higher scores

indicating greater use of the associated strategy. Acceptable and good internal consistency has been reported for surface acting (Cronbach's  $\alpha=.72$ ) and deep acting (Cronbach's  $\alpha=.85$ ) subscales, in healthcare workers (Yeh et al., 2020).

***Emotion Regulation Questionnaire (ERQ; Gross & John, 2003)***. The ERQ is a 10-item measure assessing two emotion regulation strategies: cognitive reappraisal (6 items, e.g., 'When I want to feel less negative emotion, I change the way I'm thinking about the situation') and expressive suppression (4 items, e.g., 'I control my emotions by not expressing them'). Only items relating to cognitive reappraisal were utilised in this study. Items are scored on a 7-point Likert scale ranging from 1 ('strongly disagree') to 7 ('strongly agree'), with a higher score indicating a greater tendency to utilise cognitive reappraisal. Good internal consistency (Cronbach's  $\alpha\geq.89$ ) has been reported in general community samples (Preece et al., 2020).

## **8.5. Ethical considerations**

Ethical approval was obtained from the University of Central Lancashire (UCLan) Science Ethics Committee and the Research and Innovation Centre at St Andrew's Healthcare, as a recruitment site. Prior to displaying the online survey, the participant information sheet<sup>25</sup> was presented, which detailed the purpose of the study and what participation would involve, data use, handling and storage processes, confidentiality and withdrawal procedures, and contact details for the research team. A consent form was then presented<sup>26</sup>, and individuals were asked to indicate whether they consent to participate. A debrief sheet was presented upon completion of

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<sup>25</sup> A copy of the participant information sheet for this study is provided in Appendix E.

<sup>26</sup> A copy of the consent form used in this study is provided in Appendix E.



the survey, or at the point of withdrawal for those who terminated their participation prior to this<sup>27</sup>. As participants were asked to reflect on traumatic and morally harmful experiences, contact details for support resources were provided in the debrief sheet. Participants were able to withdraw from the study at any point prior to submitting their response.

## 8.6. Procedure

The current study employed a cross-sectional survey design. The study was advertised on professional networking platforms (e.g. LinkedIn), as well as the social media accounts of the secure psychiatric organisation in which the primary researcher was based, at the time of the study. Participants were also recruited via email communication and word of mouth.

The survey was hosted on the online survey platform Qualtrics. Following presentation of the information sheet and completion of the consent form, participants who indicated consent to participate were then presented with the questionnaires, and directed to a debrief screen upon completion of the study. Those who did not consent to participate were automatically directed to the debrief screen, and questionnaires were not presented to these individuals.

## 8.7. Statistical analysis plan

The data was first examined for entry errors and missing values. Nine hundred and forty-four values (1.34%) were missing. Little's MCAR test indicated that data was not missing at random ( $\chi^2 = 8113.95$ ,  $df = 7245$ ,  $p < .001$ ). Thus, imputation methods were not utilised, and

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<sup>27</sup> A copy of the debrief sheet presented to participants in this study is provided in Appendix E.

missing cases were excluded from analyses involving that measure. The number of participants with complete data on each measure is presented in Table 10.

Based on Mahalanobis' distance values, multivariate outliers were indicated, with a significance value of  $p < .001$  yielded for 14 cases (2.5%). These participants were excluded from the database, resulting in a final sample of 545 participants. Following exclusion of these cases, univariate outliers remained. To limit the effect of extreme values, these were modified to be one unit lower or higher than the next most extreme value, depending on the direction of scoring. In cases where the next extreme value was already one unit higher/lower, the outlier was modified by half a unit. The Kolmogorov Smirnov test indicated that data did not follow a normal distribution on any of the measures (all  $p < .001$ ), and thus non-parametric tests and adjustments were utilised.

Participant demographics and scoring profiles on measures were firstly explored. Cronbach's alpha was calculated as a measure of internal consistency. The Kuder-Richardson 20 test was conducted to assess the internal consistency of scores on the PC-PTSD-5, as a dichotomous measure. Following this, the prevalence of participants exposed to each PMIE type, and the prevalence of exposed participants who were subsequently impacted by each PMIE type was calculated; prevalence estimates were calculated as the sum of participants who provided a response of 'slightly agree', 'moderately agree' or 'strongly agree' on the relevant item.

Associations and differences in exposure and symptom scores on the MIESS-C between demographic groups were then conducted to identify any potential demographic risk factors. In consideration of the non-normality of the data, Mann-Whitney U tests, Fisher's Exact tests and Spearman's bivariate correlations were conducted.

In accordance with the criteria proposed by Hayes (2013), mediation modelling requires the independent variables to be significantly correlated with mediator and outcome variables. Thus, further Spearman's bivariate correlations were conducted to establish the associations of PMIE exposure with developmental-cognitive mechanisms and moral injury<sup>28</sup>. The associations between developmental-cognitive factors were also explored to determine whether it was appropriate to include these variables as serial mediators within a singular indirect pathway.

Serial mediation modelling was then conducted to test the direct and indirect effects of childhood trauma exposure and cognitive variables in the pathway between PMIE exposure and moral injury. This technique assumes a specified direction of cause, and thus the mediators were entered into the model in accordance with the hypothesised pathway (childhood trauma symptoms → negative schemas → maladaptive metacognitions). Two serial mediation models were conducted to examine the effect of negative self and other-schemas, independently. As data was not normally distributed, bootstrapping methods were applied. Analyses were conducted in R using model 6 of Hayes' PROCESS macro version 4.2 (Hayes, 2022), with 1000 bootstrapped re-samples<sup>29</sup>. Statistical significance was determined based on the bootstrapped confidence intervals for path coefficients; specifically, confidence intervals which did not include 0 within the range between the lower and upper value was considered indicative of statistical significance at the .05 level.

Finally, using model 89 of Hayes' PROCESS macro version 4.2 (Hayes, 2022) for SPSS with 1000 bootstrap samples, the moderating effects of social support, organisational support,

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<sup>28</sup> Associations between all variables measured are presented in Appendix F.

<sup>29</sup> The code developed to test the proposed models in R are provided in Appendix G.

emotional labour and cognitive reappraisal on the conditional direct effect of PMIE exposure and the indirect effects of the mediating variables were examined<sup>30</sup>. As per the serial mediation analysis, significance was determined based on bootstrapped confidence intervals. Moderating variables were mean-centred to reduce multicollinearity (Frazer, 2004).

The database was prepared in IBM SPSS Statistics Version 28 (IBM Corp, 2021). Basic statistical analyses and moderated mediation analyses were conducted using this software. Serial mediation analyses were conducted in R v.4.2.1 (R Core Team, 2022).

## 8.8. Results

### 8.8.1. Sample characteristics

The demographic characteristics of the final sample are presented in Table 10.

Table 10. Sample characteristics (N=545)

	N	%	Median	IQR	Min	Max
Age (years)	524	96.1%	37.0	27-49	19	74
Length of experience (months)	545	100.0%	48.0	24-132	6	600
Gender	544	99.8%				
Female	385	70.8%				
Male	158	29.0%				
Non-Binary	1	0.2%				
Professional Role	544	99.8%				
Clinical	434	79.8%				
Nursing (Unregistered)	153	28.1%				
Psychology	138	25.4%				
Nursing (Registered)	76	14.0%				

<sup>30</sup> The conceptual moderated mediation models constructed and tested are presented in Appendix H.

Social Work	17	3.1%
Occupational Therapy	15	2.8%
Psychological Therapist	6	1.1%
Medicine	5	0.9%
Psychiatry	5	0.9%
Dietetics & Nutrition	4	0.7%
Speech and Language Therapy	4	0.7%
Other <sup>a</sup>	9	1.7%
Non-Clinical	110	20.2%
Administrator	28	5.1%
Human Resources	16	2.9%
Education	10	1.8%
Finance	5	0.9%
IT	5	0.9%
Maintenance	5	0.9%
Security	5	0.9%
Research and Audit	4	0.7%
Leadership	4	0.7%
Other <sup>a</sup>	28	5.1%

*Notes.* Percentages reported are calculated exclusive of missing cases; <sup>a</sup>Professional roles with fewer than four cases are grouped within the ‘other’ category to preserve anonymity.

### 8.8.2. Measure score profiles

Descriptive statistics and internal consistency coefficients for included measures are presented in Table 11. The internal consistency exceeded .70 on all measures, indicating at least acceptable reliability. Thus, all measures were retained for inclusion in further analyses.

Table 11. Profiles of scores on measures and internal reliability coefficients

Measure (possible score range)	n	Median	IQR	Min	Max	Internal consistency ( $\alpha$ )
<b>SPOS</b>						
Total (0-48)	545	27.0	19-36	0	48	.92
<b>MSPSS</b>						

Total (12-84)	539	69.0	59-75	14	84	.91
Significant other (4-28)	542	21.0	18-22	4.5	27	.91
Family (4-28)	541	23.0	20-26	4.5	28	.91
Friends (4-28)	540	22.0	19-23	4.5	27	.94
<b>ELS</b>						
Surface acting (3-15)	543	8.0	7-10	3	14.5	.72
Deep acting (3-15)	543	10.0	8-12	3	15	.73
<b>PC-PTSD</b>						
Trauma exposure	536					
<i>In childhood</i>	51 (9.5%)					
<i>In adulthood</i>	176 (32.8%)					
<i>In both childhood and adulthood</i>	105 (19.6%)					
<i>No exposure</i>	204 (38.1%)					
Childhood trauma symptoms (1-5)						
<i>Whole sample</i>	536	0.0	0-0	0	5	.84*
<i>Childhood-exposed participants only</i>	156	2.0	1-4	0	5	.77*
<b>BCSS</b>						
Negative self (0-24)	535	0.0	0-3	0	13	.72
Negative other (0-24)	516	4.0	0-9	0	23.5	.91
<b>MCQ-30</b>						
Total (30-120)	536	53.0	45-64	30	103	.91
Lack of cognitive confidence (6-24)	540	9.0	7-12	6	23.5	.87
Positive beliefs about worry (6-24)	539	9.0	6-12	6	23.5	.89
Cognitive self-consciousness (6-24)	540	15.0	12-18	6	24	.81
Negative beliefs about danger (6-24)	541	10.0	8-15	6	24	.89
Need to control thoughts (6-24)	541	9.0	7-11.5	6	21.5	.74
<b>ERQ</b>						
Cognitive Reappraisal (6-42)	540	30.0	25-34	6.5	42	.90
<b>MISS-C</b>						
Exposure (5-30)	542	14.0	10-19	5	29	.78
Symptoms (5-30)	542	13.0	8-18	0	30	.82

*Notes.* Percentages and descriptive values reported are calculated exclusive of missing cases;  $\alpha$  = Cronbach's alpha; \*indicates where the Kuder-Richardson 20 test was used to measure internal consistency of variables measured based on dichotomous scale items.

### **8.8.3. Prevalence of exposure to PMIEs**

Most participants (n=442, 81.4%) reported exposure to at least one type of PMIE. Participants most commonly reported being exposed to transgressions and betrayal (68.7% and 53.4%, respectively), including betrayal by other people (41.3%) and betrayal by institutions (48.8%). A smaller proportion of the sample reported exposure to self-transgressions resulting directly from one's own behaviours (19.6%), or indirectly from one's failure to act (23.6%), though exposure to such events were still somewhat prevalent.

Of participants who reported exposure to each type of PMIE, the greatest proportion reported being troubled, to some extent, by instances of betrayal by institutions (86%) and people (82.6%), as well as transgressions by the self (80.2%). Self-transgressions resulting from a failure to act and transgressions by others were also troubling for the majority of participants that had been exposed to such events (78.9% and 73.2%, respectively).

### **8.8.4. Demographic risk factors for PMIE exposure and moral injury symptoms**

The results of a Mann-Whitney U test indicated a significant difference in age based on PMIE exposure ((U=24157.50,  $p=.004$ ); specifically, those who had been exposed to a PMIE were of a significantly younger age than those who did not report exposure to a PMIE (median=36.0 vs. 43.0). Further analyses indicated significant albeit weak negative correlations between age and MIESS-C exposure score ( $r_s(521)=-.14$ ,  $p=.002$ ) and between age and MIESS-C symptom score ( $r_s(521)=-.09$   $p=.049$ ), indicating greater exposure and impact of PMIEs in younger staff.

A Fisher's Exact test indicated a significant association between profession type and PMIE exposure status ( $p=.002$ ); staff working in a clinical role had twice the odds of being

exposed to a PMIE than did staff working in a non-clinical role (OR 2.19, 95% CI: 1.33-3.51). Further analyses indicated significant differences in exposure score on the MIESS-C between these groups ( $U=17797.50$ ,  $p<.001$ ), with clinical staff reporting greater levels of PMIE exposure (median=15.0 vs. 12.0). Similarly, significant differences were apparent in symptom scores on this measure ( $U=17885.50$ ,  $p<.001$ ), with clinical staff reporting greater impact of PMIEs than non-clinical staff (median=14.0 vs. 11.0). No significant differences nor associations were found for gender nor length of experience in secure psychiatric healthcare.

#### ***8.8.5. Associations between developmental-cognitive factors, PMIE exposure, and moral injury symptomology***

A series of Spearman's bivariate correlations<sup>31</sup> revealed significant weak positive associations for PMIE exposure scores with childhood trauma symptoms ( $r(536)=.19$ ,  $p<.001$ ), negative self-schemas ( $r(534)=.27$ ,  $p<.001$ ), negative other schemas ( $r(515)=.14$ ,  $p=.002$ ) and maladaptive metacognitions ( $r(535)=.23$ ,  $p<.001$ ). Furthermore, a strong positive correlation was found between exposure and symptom scores on the MIESS-C ( $r(538)=.92$ ,  $p<.001$ ).

Significant associations between developmental-cognitive factors were also evident. Specifically, childhood trauma symptoms held significant weak positive correlations with negative self-schemas ( $r(538)=.23$ ,  $p<.001$ ), negative other schemas ( $r(481)=.19$ ,  $p<.001$ ) and maladaptive metacognitions ( $r(484)=.22$ ,  $p<.001$ ), indicating greater negative schemas about the self and others and greater maladaptive metacognitions in individuals with greater trauma symptomology. Furthermore, maladaptive metacognitions held a significant moderate positive

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<sup>31</sup> Spearman correlation coefficients were interpreted based on the thresholds proposed by Dancey and Reidy (2004)



correlation with negative self schemas ( $r(529)=.43, p<.001$ ) and a significant weak positive correlation with negative other schemas ( $r(511)=.30, p<.001$ ), indicating greater maladaptive metacognitions in individuals with more negative schemas relating to themselves and others. Thus, all four variables were retained for inclusion in a serial mediation model.

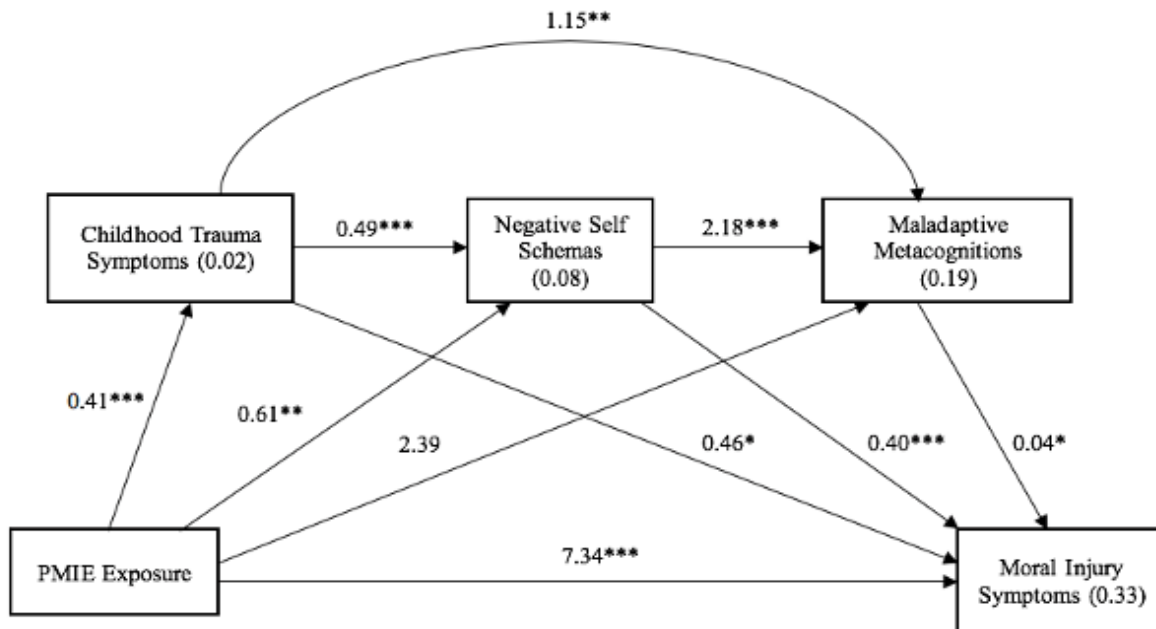
#### ***8.8.6. Serial mediation modelling.***

##### **Mediation Model 1: Negative Self.**

***Research Question.*** The research question driving mediation model 1 was ‘is the path between PMIE exposure and moral injury mediated by childhood trauma symptoms, negative self schemas, and/or maladaptive metacognitions?’.

***Findings.*** Twenty-one participants had missing data on one or more variables included in the model, and thus were excluded from analyses. The model was therefore tested on 524 cases with complete for all variables. As indicated in Figure 4, with the exception of the path between PMIE exposure and maladaptive metacognitions, all other parameter estimates were significant. Bootstrapped standard error estimates were also acceptable, ranging from 0.02 to 1.29.

Figure 4. Mediation model 1 of the paths between PMIE exposure and moral injury, with negative self schemas.



Notes. PMIE = potentially morally injurious event; R-squared values are reported in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; coefficients represent the predictive effect of individual hypothesised paths between two variables.

Table 12 summarises the direct and indirect effects of PMIE exposure on moral injury symptoms. In the first instance, the direct effect of moral injury exposure on moral injury symptoms was significant. The simple indirect effects of moral injury exposure on moral injury symptoms through childhood trauma and negative self schemas, but not maladaptive metacognitions, were statistically significant. Finally, all serial mediating pathways explored were significant, indicating indirect effects through all combinations of the mediator variables.

Table 12. Total, direct, and indirect effects of pathways between moral injury exposure and symptoms

	<i>b</i>	SE	LLCI	ULCI	
Total effect	8.04*	0.58	6.88	9.19	
Direct effect	7.34*	0.57	6.22	8.47	
<i>Partially standardised indirect effects</i>					
	<i>b</i>	<i>Boot SE</i>	<i>Boot LLCI</i>	<i>Boot ULCI</i>	
Total indirect effect	0.11*	0.03	0.06	0.17	
M1	PMIE Exposure → Childhood Trauma Symptoms → Moral Injury Symptoms	0.03*	0.02	0.00	0.07
M2	PMIE Exposure → Negative Self Schemas → Moral Injury Symptoms	0.04*	0.02	0.01	0.08
M3	PMIE Exposure → Maladaptive Metacognitions → Moral Injury Symptoms	0.02	0.01	-0.00	0.04
M12	PMIE Exposure → Childhood Trauma Symptoms → Negative Self Schemas → Moral Injury Symptoms	0.01*	0.01	0.00	0.03
M13	PMIE Exposure → Childhood Trauma Symptoms → Maladaptive Metacognitions → Moral Injury Symptoms	0.003*	0.002	0.00	0.01
M23	PMIE Exposure → Negative Self Schemas → Maladaptive Metacognitions → Moral Injury Symptoms	0.01*	0.01	0.00	0.02
M123	PMIE Exposure → Childhood Trauma Symptoms → Negative Self Schemas → Maladaptive Metacognitions → Moral Injury Symptoms	0.003*	0.002	0.00	0.01

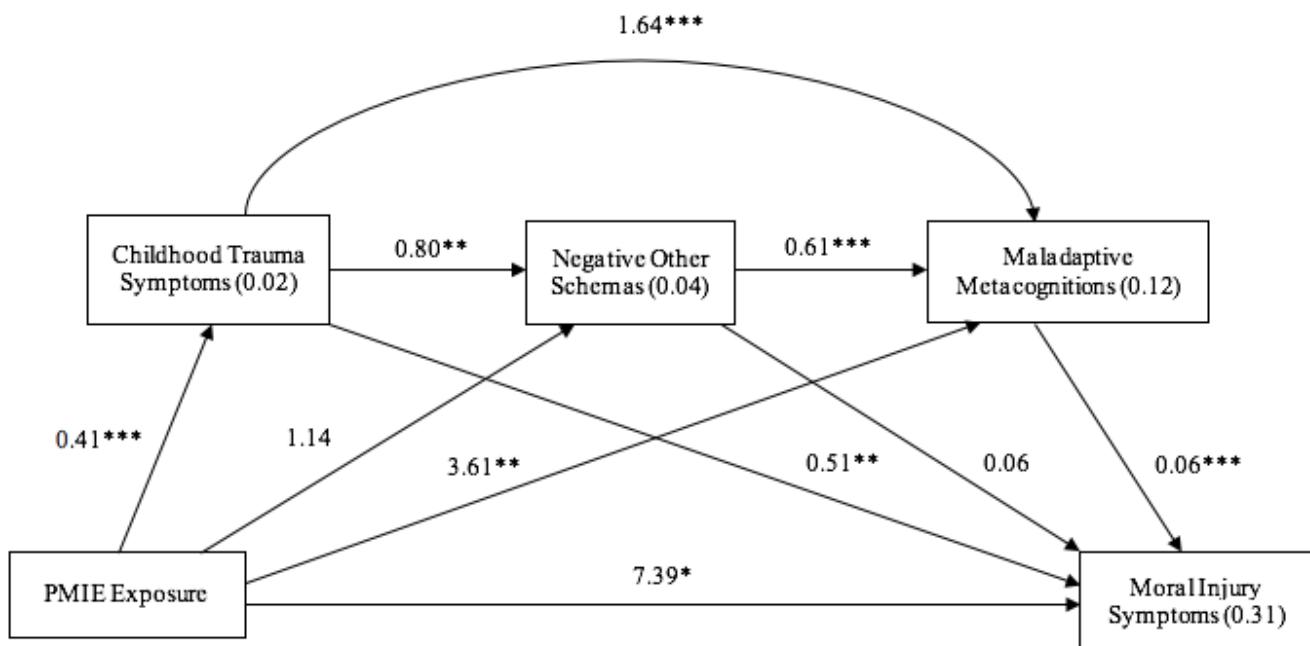
*Notes.* *b* = unstandardised regression coefficient; SE = standard error; LLCI = lower level 95% confidence interval; ULCI = upper level 95% confidence interval; Number of bootstrap samples = 1000; \*  $p < .05$ ; PMIE = Potentially Morally Injurious Event; Regression coefficients for indirect effects reflect the predictive effect of the hypothesised mediated pathway when adjusted for all other proposed mediator pathways.

### Mediation Model 2: Negative Other.

**Research Question.** The research question driving mediation model 2 was ‘is the path between PMIE exposure and moral injury mediated by childhood trauma symptoms, negative other schemas, and/or maladaptive metacognitions?’.

**Findings.** Thirty-nine participants had missing data on one or more variables. The model was therefore tested on 506 cases with complete data. As indicated in Figure 5, with the exception of the paths between PMIE exposure, negative other schemas and moral injury, all other parameter estimates were significant. Bootstrapped standard errors were acceptable for all parameter estimates, ranging from 0.01 to 0.17. As the paths for negative other schemas with the predictor and outcome variable were non-significant, serial mediating effects were not explored.

Figure 5. Mediation model 2 of the paths between PMIE exposure and moral injury, with negative other schemas.



Notes. PMIE = potentially morally injurious event; R-squared values are reported in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; coefficients represent the predictive effect of individual hypothesised paths between two variables.

### 8.8.7. Moderated Mediation Modelling.

As the indirect effect of negative other schemas on moral injury symptoms was found to be non-significant in the mediation analysis, moderated mediation analyses was not conducted for this variable. Thus, moderated mediation analyses were conducted on the negative self-schema model (see Figure 4) only. Whilst the path from PMIE exposure to maladaptive metacognitions and the indirect effect of this latter variable was non-significant in this model, the parameter estimate for the path from maladaptive metacognitions to moral injury was significant, and serial pathways including maladaptive metacognitions were significant. Thus, this variable was retained in the moderated mediation analyses. The deep acting subscale of the ELS was not significantly associated with moral injury symptoms and thus was not included as a moderator in the model.

#### **Moderated Mediation Model 1: Social Support.**

**Research Questions.** The research questions driving moderated mediation model 1 were as follows:

- a. Direct effect: 'Is the path between PMIE exposure and moral injury moderated by social support?'
- b. Simple indirect effects: 'Are the simple indirect paths between PMIE exposure and moral injury via each individual mediator variable (e.g., PMIE exposure → childhood trauma symptoms → moral injury) moderated by social support?'

- c. Serial indirect effects: ‘Are the serial indirect paths between PMIE exposure and moral injury via multiple mediator variables (e.g., PMIE exposure → childhood trauma symptoms → negative self schemas → moral injury) moderated by social support?’

*Findings.* Twenty-two participants had missing data on one or more variables included in the model; thus, the model was tested on the remaining 523 cases with complete data for all variables.

*Direct effect.* The direct effect of PMIE exposure on moral injury was not moderated by social support,  $b = -.04$ ,  $p = .46$ ,  $R^2\Delta < .001$ .

*Simple indirect effects.* A significant interaction was evident between social support and negative self-schemas,  $b = .02$ ,  $p = .02$ ,  $R^2\Delta = .007$ . The interaction between social support and childhood trauma symptoms bordered significance,  $b = -.03$ ,  $p = .05$ ,  $R^2\Delta = .005$ . No interactions were found between social support and maladaptive metacognitions,  $b = .002$ ,  $p = .18$ ,  $R^2\Delta = .002$ . The index of moderated mediation was significant for the the indirect effect of childhood trauma symptoms and negative self-schemas on moral injury (see Table 13). The conditional indirect effect of childhood trauma symptoms was significant at low levels of social support only. The conditional indirect effect of negative self-schemas on moral injury was significant at all levels of social support, though was strongest at high levels of the moderator. The index of moderated mediation was non-significant for the indirect effect of maladaptive metacognitions.

*Serial indirect effects.* The index of moderated mediation for the serial indirect effect of childhood trauma symptoms and negative self-schemas was significant (see Table 13). The

conditional indirect effect of this serial mediation pathway was significant all levels of social support, though was strongest at high levels (+1 SD) of the moderator. The index of moderated mediation was non-significant for all other serial indirect effects.

### **Moderated Mediation Model 2: Organisational Support.**

**Research Questions.** The research questions driving moderated mediation model 2 were as follows:

- a. Direct effect: ‘Is the direct path between PMIE exposure and moral injury moderated by organisational support?’
- b. Simple indirect effects: ‘Are the simple indirect paths between PMIE exposure and moral injury via each individual mediator variable (e.g., PMIE exposure → childhood trauma symptoms → moral injury) moderated by organisational support?’
- c. Serial indirect effects: ‘Are the serial indirect paths between PMIE exposure and moral injury via multiple mediator variables (e.g., PMIE exposure → childhood trauma symptoms → negative self schemas → moral injury) moderated by organisational support?’

**Findings.** Twenty-one participants had missing data on one or more variables included in the model; thus, the model was tested on the 524 cases with complete data for all variables.

*Direct effect.* The direct effect of PMIE exposure on moral injury symptoms was not moderated by organisational support,  $b = -.06$ ,  $p = .28$ ,  $R^2 \Delta = .001$ .

*Simple indirect effects.* A significant interaction was evident between organisational support and childhood trauma symptoms,  $b = -.04$ ,  $p = .02$ ,  $R^2\Delta = .006$ , but not negative self-schemas,  $b = -.001$ ,  $p = .92$ ,  $R^2\Delta < .001$ , nor maladaptive metacognitions,  $b = -.001$ ,  $p = .55$ ,  $R^2\Delta < .001$ . As indicated in Table 13, the index of moderated mediation was significant for the indirect effect of childhood trauma symptoms **on moral injury**. The conditional indirect effect of childhood trauma symptoms was significant at low levels of organisational support only. The index of moderated mediation was non-significant for all other serial indirect effects.

*Serial indirect effects.* The index of moderated mediation was non-significant for all serial indirect effects.

### **Moderated Mediation Model 3: Surface Acting.**

**Research Questions.** The research questions driving moderated mediation model 3 were as follows:

- a. Direct effect: 'Is the path between PMIE exposure and moral injury moderated by surface acting?'
- b. Simple indirect effects: 'Are the simple indirect paths between PMIE exposure and moral injury via each individual mediator variable (e.g., PMIE exposure → childhood trauma symptoms → moral injury) moderated by surface acting?'
- c. Serial indirect effects: 'Are the serial indirect paths between PMIE exposure and moral injury via multiple mediator variables (e.g., PMIE exposure → childhood trauma symptoms → negative self schemas → moral injury) moderated by surface acting?'



**Findings.** Twenty-two participants had missing data on one or more variables included in the model; thus, the model was tested on the 523 cases with complete data for all variables.

*Direct effect.* The direct effect of PMIE exposure on moral injury symptoms was not moderated by surface acting,  $b=.11$ ,  $p=.70$ ,  $R^2\Delta < .001$ .

*Simple indirect effects.* No significant interactions were evident between surface acting and childhood trauma symptoms,  $b=.08$ ,  $p=.42$ ,  $R^2\Delta = .001$ , negative self-schemas,  $b=-.03$ ,  $p=.44$ ,  $R^2\Delta = .001$ , nor maladaptive metacognitions,  $b=-.002$ ,  $p=.71$ ,  $R^2\Delta < .001$ . As indicated in Table 13, the index of moderated mediation was not significant for any of the simple indirect effects.

*Serial indirect effects.* The index of moderated mediation was non-significant for all serial indirect effects.

#### **Moderated Mediation Model 4: Cognitive Reappraisal.**

**Research Questions.** The research questions driving moderated mediation model 4 were as follows:

- a. Direct effect: ‘Is the path between PMIE exposure and moral injury moderated by cognitive reappraisal?’
- b. Simple indirect effects: ‘Are the simple indirect paths between PMIE exposure and moral injury via each individual mediator variable (e.g., PMIE exposure → childhood trauma symptoms → moral injury) moderated by cognitive reappraisal?’
- c. Serial indirect effects: ‘Are the serial indirect paths between PMIE exposure and moral injury via multiple mediator variables (e.g., PMIE exposure → childhood trauma

symptoms → negative self schemas → moral injury) moderated by cognitive reappraisal?'

**Findings.** Twenty-two participants had missing data on one or more variables included in the model; thus, the model was tested on the 523 cases with complete data for all variables.

*Direct effect.* The direct effect of PMIE exposure on moral injury symptoms was not moderated by cognitive reappraisal,  $b=.04$ ,  $p=.54$ ,  $R^2\Delta = .001$ .

*Simple indirect effects.* No significant interactions were evident between cognitive reappraisal and childhood trauma symptoms,  $b=-.03$ ,  $p=.28$ ,  $R^2\Delta = .002$ , negative self-schemas,  $b=.02$ ,  $p=.12$ ,  $R^2\Delta = .003$ , nor maladaptive metacognitions,  $b=.000$ ,  $p=.85$ ,  $R^2\Delta < .001$ . The index of moderated mediation was not significant for any of the simple indirect effects (see Table 13).

*Serial indirect effects.* The index of moderated mediation was non-significant for all serial indirect effects.

Table 13. Indexes and conditional indirect effects of moderated serial mediation pathways

Moderator	Path	Index of moderated mediation			Conditional indirect effect				
		<i>b</i>	<i>Boot SE</i>	<i>Bootstrap 95% CI</i>	Condition	<i>b</i>	<i>Boot SE</i>	<i>Bootstrap 95% CI</i>	
Social support	M1	PMIE Exposure → CT Symptoms → MI	<b>-.01*</b>	<b>.01</b>	<b>[-.03, -.00]</b>	<b>Low (-1 SD)</b>	<b>.28*</b>	<b>.12</b>	<b> [.07, .54]</b>
					Moderate (M)	.14	.10	[-.04, .37]	
					High (+1 SD)	.01	.13	[-.27, .28]	
	M2	PMIE Exposure → NSS → MI	<b>.01*</b>	<b>.01</b>	<b>[.00, .02]</b>	<b>Low (-1 SD)</b>	<b>.19*</b>	<b>.11</b>	<b> [.02, .45]</b>
					Moderate (M)	<b>.33*</b>	<b>.14</b>	<b> [.10, .62]</b>	
					High (+1 SD)	<b>.48*</b>	<b>.20</b>	<b> [.14, .93]</b>	
	M3	PMIE Exposure → MM → MI	.00	.00	[-.00, .02]				
	M12	PMIE Exposure → CT Symptoms → NSS → MI	<b>.00*</b>	<b>.00</b>	<b>[.00, .01]</b>	<b>Low (-1 SD)</b>	<b>.06*</b>	<b>.03</b>	<b> [.01, .14]</b>
					Moderate (M)	<b>.10*</b>	<b>.04</b>	<b> [.03, .20]</b>	
					High (+1 SD)	<b>.15*</b>	<b>.06</b>	<b> [.05, .28]</b>	
Organisation support	M13	PMIE Exposure → CT Symptoms → MM → MI	.00	.00	[-.00, .00]				
	M23	PMIE Exposure → NSS → MM → MI	.00	.00	[-.00, .01]				
	M123	PMIE Exposure → CT Symptoms → NSS → MM → MI Symptoms	.00	.00	[-.00, .00]				
	M1	PMIE Exposure → CT Symptoms → MI	<b>-.02*</b>	<b>.01</b>	<b>[-.04, -.00]</b>	<b>Low (-1 SD)</b>	<b>.27*</b>	<b>.12</b>	<b> [.06, .53]</b>
					Moderate (M)	.10	.09	[-.08, .30]	
					High (+1 SD)	-.07	.15	[-.40, .21]	
	M2	PMIE Exposure → NSS → MI	-.00	.01	[-.01, .01]				
	M3	PMIE Exposure → MM → MI	-.00	.00	[-.01, .01]				
	M12	PMIE Exposure → CT Symptoms → NSS → MI	-.00	.00	[-.00, .00]				
	M13	PMIE Exposure → CT Symptoms → MM → MI	-.00	.00	[-.00, .00]				

	M23	PMIE Exposure → NSS → MM → MI	-.00	.00	[-.01, .00]
	M123	PMIE Exposure → CT Symptoms → NSS → MM → MI	-.00	.00	[-.00, .00]
Surface acting	M1	PMIE Exposure → CT Symptoms → MI	.03	.05	[-.05, .13]
	M2	PMIE Exposure → NSS → MI	-.02	.03	[-.09, .03]
	M3	PMIE Exposure → MM → MI	-.01	.02	[-.05, .03]
	M12	PMIE Exposure → CT Symptoms → NSS → MI	-.01	.01	[-.03, .01]
	M13	PMIE Exposure → CT Symptoms → MM → MI	-.00	.00	[-.01, .01]
	M23	PMIE Exposure → NSS → MM → MI	-.00	.01	[-.03, .02]
	M123	PMIE Exposure → CT Symptoms → NSS → MM → MI	-.00	.00	[-.01, .00]
Cognitive reappraisal	M1	PMIE Exposure → CT Symptoms → MI	-.01	.01	[-.03, .01]
	M2	PMIE Exposure → NSS → MI	.01	.01	[-.01, .04]
	M3	PMIE Exposure → MM → MI	.00	.01	[-.01, .02]
	M12	PMIE Exposure → CT Symptoms → NSS → MI	.00	.00	[-.00, .01]
	M13	PMIE Exposure → CT Symptoms → MM → MI	.00	.00	[-.00, .00]
	M23	PMIE Exposure → NSS → MM → MI	.00	.00	[-.01, .01]
	M123	PMIE Exposure → CT Symptoms → NSS → MM → MI	.00	.00	[-.00, .00]

*Notes.* PMIE = Potentially morally injurious event; CT = Childhood trauma; NSS = Negative self-schemas; MM = Maladaptive metacognitions; MI = Moral injury; b = standardised regression coefficient; SE = standard error; LLCI = lower level 95% confidence interval; ULCI = upper level 95% confidence interval; \*p<.05; \*\*\*p<.001; significant effects indicated in bold; Regression coefficients for indirect effects represent the predictive effect of the hypothesised moderated mediational pathway when adjusted for all other proposed mediator pathways.

## 8.9. Discussion

In the first instance, the findings illustrate frequent endorsement of PMIE exposure in secure mental healthcare staff, in line with previous studies of this population (Morris et al., 2022a; Webb et al., 2023a). Specifically, more than three quarters of participants reported exposure to at least one PMIE type. In contrast to the first prediction (2.1) hypothesising that betrayal PMIEs would be most frequently endorsed, transgressions by others were most frequently reported. However, it remains that PMIEs enacted by external sources were more prevalent than transgressions committed by oneself, which still mirrors the findings of an earlier study of secure mental healthcare workers (Morris et al., 2022a). In consideration of responses on the BCSS, which indicated greater prevalence of negative other schemas compared to negative schemas about the self, this finding may be the result of greater vigilance to acts of betrayal and moral transgression by others. Nevertheless, findings indicated similarity in the level of distress associated with each PMIE type, highlighting the need for strategies that minimise the occurrence of PMIEs enacted by both the self and others.

The study next sought to identify the demographic groups most frequently exposed to PMIEs and their subsequent impact. In line with and building upon previous research in healthcare workers (Mantri et al., 2021), being of a younger age was significantly associated with greater PMIE exposure and moral injury symptomology. This was not a product of lesser experience, in contrast with previous findings in physical healthcare settings (Akhtar et al., 2022; Mantri et al., 2021). Greater symptom scores on the MIESS-C were observed in clinical staff, although this is likely an artefact of greater corresponding PMIE exposure in this group, as evident in the current research and wider healthcare studies (e.g., Padmanathan et al., 2023).

The second prediction (2.2) that childhood trauma symptoms, early maladaptive schemas and maladaptive meta-cognitions would mediate the pathway between PMIE exposure and moral injury symptomology was partially supported. In the first instance, the findings position childhood trauma as a risk factor for PMIE exposure, with higher exposure scores apparent in those with greater levels of childhood trauma symptomology. Additionally, childhood trauma symptoms mediated the pathway between PMIE exposure and moral injury symptomology, implicating childhood trauma as a risk factor for moral injury, following PMIE exposure. Whilst individuals exposed to early adversity may be more prone to experiencing a PMIE, perhaps due to hypervigilance towards betrayal, the mediating effect of childhood trauma symptoms found here indicates that they may also present with an increased vulnerability for negative moral emotions such as guilt and shame resulting from attachment trauma (Gross & Hansen, 2000; Lopez et al., 1997).

A significant mediating effect was also apparent for negative self-schemas, indicating that the development of moral injury symptoms following exposure to a PMIE is driven by maladaptive patterns of beliefs about oneself, in line with the second prediction. This finding expands on a wealth of previous literature evidencing the significant role of early maladaptive schemas in driving a range of psychopathologies such as depression (Rezaei et al., 2016), and occupational syndromes such as burnout (Kaeding et al., 2017).

In contrast to the second study prediction, however, was the finding that negative other schemas did not mediate the pathway between PMIE exposure and moral injury symptoms. This finding is of interest, given that participants generally held more negative schemas about others than they did themselves and more frequently reported exposure to transgressions and betrayal by others than by the self. This finding may be accounted for by the presence of a 'negative

expectancy bias', which describes the tendency of individuals exposed to trauma to overestimate negative outcomes of future events (e.g., Kimble et al., 2018). Applying this to the current study, participants with more negative schemas about others may have been more expectant of morally harmful acts by these individuals; thus, when such acts were committed, they caused less disruption to an individual's existing existential beliefs about the world and others. This hypothesis is also supported by the finding that transgressions committed by others were, on average, rated as less impactful by participants than direct (perpetration) and indirect (failure to act) transgressions by the self, despite being more frequently reported.

Similarly, the second study prediction that maladaptive metacognitions would also have a mediating effect in the pathway between PMIE exposure and moral injury symptomology was not supported. Nevertheless, this variable was a significant predictor of symptom scores on the MIESS-C, suggesting that whilst it may not mediate the development of moral injury symptoms following PMIE exposure, alone, it may still have a role in shaping vulnerability for moral injury in secure mental healthcare workers.

Following examination of the simple indirect effects of mediators, serial mediating pathways were then tested. The third study prediction (2.3) that childhood trauma symptoms, maladaptive schemas and maladaptive metacognitions would sequentially mediate the pathway between PMIE exposure and moral injury symptoms was supported. In the first instance, the serial mediating effects of child trauma symptomology and negative self-schemas, and their predictive relationships with one another indicate a sequential effect of early adversity and cognitive schemas, in which the role of negative schemas on moral injury development is grounded in early traumatic events that remainmentalis impactful. Specifically, the findings suggest that individuals exposed to early adverse experiences may be more at risk for developing

moral injury following PMIE exposure due to a greater tendency to apply negative self-schemas in the appraisal of moral-based traumas. This is in line with the tenants of Bowlby's (1988) Attachment Theory and Young et al.'s (2003) Schema Theory, positioning schemas as a product of early developmental experiences that shape an individual's internal working model.

The additional significant effect of metacognitions when placed within a serial pathway with childhood trauma symptoms and negative self-schemas is of interest given that no significant mediating effect was found for this variable, independently. Such findings indicate that whilst metacognitions alone do not underpin the development of moral injury symptoms following a transgression, they may play a role in exacerbating or reducing the mediating effects of trauma symptoms and negative self-schemas. This finding, taken with the significant correlations noted between scores on the MCQ-30 and MIESS-C, is therefore not wholly in contrast to the PTSD literature, which documents maladaptive metacognition beliefs as a risk factor for this post-traumatic stress symptomology (Bennett & Wells, 2010; Takarangi et al., 2017). Thus, extending beyond their current application to the treatment of PTSD, metacognitive therapies may also have utility in addressing risk for and the development of moral injury symptoms in individuals with histories of eagenrly trauma, and with maladaptive self-directed schemas.

Following the mediation analyses, the moderating effects of several mechanisms were examined. The final prediction (2.4) that the mediating pathways would be moderated by greater social support, greater organisational support and greater use of cognitive reappraisal was partially supported. In the first instance, no moderating effect of social support on the direct relationship between PMIE exposure and moral injury was found. Whilst this study is the first to consider the role of social support on the development of moral injury symptoms, a significant moderating



effect of this variable has been documented in an earlier study of the pathway between PMIE exposure and suicidal ideation (Levi-Belz et al., 2020). One possibility for the lack of such a finding in the current study is that social support is a *mediator* of the pathway between moral injury exposure and symptomology, as opposed to a moderator. Drawing on the Stress-Buffering Hypothesis (Cohen & Wills, 1985), the presence and absence of social support is postulated to shape appraisals of stressful events. Broadening this to transgressive experiences, a social support network can provide opportunities for the challenging of negative cognitive appraisals, as a key cognitive mechanism implicated in the development of moral injury symptoms (Hoffman & Nickerson, 2020, 2022; Murray & Ehlers, 2021; Nickerson et al., 2018), in the aftermath of a PMIE. Thus far, social support has been implicated as a mediator of the relationship between PMIE exposure and substance use (Feingold et al., 2019), though broadening investigation of mediating effects to other psychological outcomes, including moral injury, is warranted.

Despite the lack of a role for social support in the direct pathway between PMIE exposure and moral injury, social support was found to moderate the simple and serial indirect effects of PMIE exposure via childhood trauma symptoms and negative self-schemas. The mediating effect of trauma symptomology was significant at low levels of social support. This finding indicates that the mediating effect of childhood trauma symptoms on moral injury may be an artefact of the relational impacts of early adversity, and is in line with previous research documenting a moderating effect of social support on the pathway between childhood trauma and later psychopathological symptoms (e.g., Evans et al., 2013; Sperry et al., 2013).

The moderating effect of social support on the mediating trauma and schema pathways can be interpreted in line with the key tenants of Attachment Theory (Bowlby, 1988), which postulates that early experiences of adversity such as abuse and neglect shape an individual's

attachment model on which relationships are formed, including those in adulthood. Previous research has supported a sequential effect of trauma and schemas on maladaptive interpersonal styles in adulthood (Tezel et al., 2015), including social isolation and patterns of relational conflict (Messman-Moore & Coates, 2007). Thus, strategies that foster adaptive interpersonal behaviours and social support seeking have potential benefit in the alleviation of moral injury symptoms, particularly in individuals with early trauma histories and negative self-directed schemas.

In contrast was the finding that the mediating effect of negative self-schemas, whilst significant at all levels of social support, was strongest at high levels of this moderator. Such a finding indicates that negative self-schemas are a particularly strong driver of moral injury in individuals who have a more established social support network. This may reflect a greater perception of social support as undeserved in those with more negative self-schemas, exacerbating feelings of guilt and shame. Whilst there is extensive evidence for social support as a protective factor against the psychological effects of trauma and stress (see Labrague, 2021), research has also indicated the potential for negative effects of social support when unwanted (Palant & Himmel, 2019).

Next, examination of the effects of organisational support indicated a moderating role for this variable on the simple indirect effect of childhood trauma symptoms. Specifically, the mediating effect of trauma symptomology was significant at low levels of organisational support only. Expanding on previous research from Hines et al. (2020), who indicated workplace support to be a predictor of scores on the MIES, the current study suggests that a supportive workplace does not directly mitigate the development of moral injury symptoms, but rather does so indirectly by buffering the mediating impact of trauma symptomology. Working in an

organisation that does not value or demonstrate concern for the well-being of its employees may exacerbate feelings of self-blame and guilt for previous traumas, which are then mirrored in perceptions of morally injurious events, or reduce perceptions of coping self-efficacy (Caesens & Stinglhamber, 2014) and increases vigilance towards threats (Benight & Bandura, 2004). Thus, increased perceptions of support from an organisation may mitigate the impact of childhood trauma symptoms on moral injury through reduced hypervigilance and increased perceptions of control over threats. This is a hypothesis that warrants exploration in future research. The lack of a moderating effect for organisational support on the mediating effects of negative self-schema indicates that the effect of this former variable precedes the activation of early maladaptive schemas.

In contrast to the final study prediction, however, surface acting yielded no moderating effects on any of the simple or serial pathways between PMIE exposure and moral injury symptomology. Thus, the effects of childhood trauma symptoms, negative self-schemas and maladaptive metacognitions were not influenced by the extent to which an individual engaged in surface acting. This finding contrasts the *Ventilation Hypothesis* (see Leahy, 2002), which states that true emotional expression leads to better outcomes. The lack of a moderating effect of surface acting may be an artefact of the population in which the study was conducted. The suppression of true emotions is somewhat inherent to working in secure psychiatric services. Staff are expected to provide compassionate care to people who have engaged in serious crimes, and are required to maintain professionalism in distressing and risky situations (Jacob et al., 2009). Whilst surface acting scores on the ELS occupied almost the full range across the sample, the interquartile range was small, indicating similarity in scores for the majority of participants. In consideration to the moderating role found for organisational support on the development of

moral injury, the provision of strategies to mitigate the effects of emotional labour (e.g. regular supervision and appropriate use of debriefing), rather than the emotional labour itself, may be the key factor shaping the effects of trauma symptoms and cognitive mechanisms on moral injury risk.

Finally, no moderating effect was apparent for cognitive reappraisal in any of the pathways examined. The initial bivariate correlations indicated no significant correlations between expressive suppression and moral injury exposure and symptoms. This finding is in line with those reported by Protopopescu et al. (2021) in a military sample, though contrasts the significant associations reported between emotion dysregulation and moral injury by Spies et al. (2020) and Roth et al. (2022) in military and public safety personnel. Additionally, cognitive reappraisal was not found to be significantly correlated with childhood trauma symptoms, also contrasting findings from Roth et al. (2022) and Lee et al. (2019) reporting a relationship between exposure to childhood adversity and emotion dysregulation. However, the current study examined the role of cognitive reappraisal specifically, as opposed to emotion dysregulation as a general construct. Accordingly, the findings may suggest that other types of emotion regulation strategies are implicated. In Gross' (2015) Process Model of Emotion Regulation, cognitive reappraisal is one type of antecedent-focused strategy that occurs in the emotion generation process, and is preceded by three other stages, namely situation selection, situation modification, and attentional deployment. Going forward, use of a broader measure, such as the Cognitive Emotion Regulation Questionnaire (Garnefski et al., 2001) would be of value in understanding whether other regulation strategies may instead have a significant moderating effect, informing potential targets for intervention.

## 8.10. Limitations

It is important that the findings presented here be considered in the context of a number of caveats. Firstly, the study utilised a cross-sectional design that limits the ability to draw any substantive conclusions about the sequential effects of the mediators implicated in the model. Whilst a serial indirect effect of all three variables was established, the mediating effects of longitudinal processes can be misrepresented when modelled using cross-sectional data (O’Laughlin et al., 2018). Thus, the findings generated from the current study provide tentative support for hypotheses that warrant further testing using a more robust research design.

Several limitations pertaining to the measures utilised must also be considered. Primarily, the study utilised a general measure of trauma exposure. Whilst the research is grounded in a hypothesised role of interpersonal traumas, these were not explicitly assessed in the current study. The PC-PTSD-5 is a generic trauma measure with no specified definition of what constitutes a traumatic event, which also creates difficulty in drawing comparisons of exposure rates with the wider literature. For example, whilst rates of childhood trauma exposure reported in the current study were lower in comparison to those reported in previous studies of healthcare staff (Maunder et al., 2010) and general population samples (e.g., Bellis et al., 2014; Felitti et al., 1998; Giano et al., 2020), this discrepancy may be largely attributable to differences in trauma measures used. The ACE framework as utilised in previous research considers experiences such as parental separation and mental illness, which are commonplace in the general population. Childhood traumas are not, however, explicitly defined in the PC-PTSD-5, and thus scores are dependent on an individual’s perception of an event as traumatic.

Similarly, the study utilised a generic measure of cognitive schemas. The BCSS was selected due to its shorter nature than alternative measures, which was important given the range

of questionnaires included in the wider survey. Nevertheless, this tool does not allow for the assessment of specific schemas types, but rather provides a general score for 'negative' schemas related to the self and others. An insight into the specific schemas implicated in the pathway to moral injury would be of benefit in informing key areas of focus and strategies to employ within cognitive interventions. Going forward, there is a need for the proposed model to be subject to research that addresses the limitations identified here, and in wider populations.

Additionally, both PMIE exposure and moral injury, as two variables included in the tested models, were assessed using the MIESS-C. The use of a singular measure to assess the predictor and outcome variable at the same time introduces common method bias, in which the association between two variables is inflated as a result of a shared measurement method (Podsakoff & Organ, 1986). The relationship between PMIE exposure and the subsequent development of moral injury is temporal in nature. Accordingly, temporal separation, in which PMIE exposure and moral injury are assessed at different timepoints through use of a longitudinal research design, would be an appropriate method for mitigating the issue of common method bias in future testing of the model.

Furthermore, the representativeness of the sample cannot be established. Data was collected from a voluntary sample of healthcare workers, introducing a self-selection bias. Previous research has found discrepancies in participation dependent on mental health status, with some evidence indicating greater participation in those with fewer mental health problems (e.g., Cheung et al., 2017), and other studies finding greater levels of psychopathology in responders to psychological research (Kaźmierczak et al., 2023). Additionally, the true response rate could not be calculated as the study was advertised online.

Also relating to the sample was the disproportionate representation of clinical and non-clinical staff, with the latter group reflecting only a fifth of the sample. In consideration of the differential experiences and responsibilities of staff working outside of patient-facing roles, the utility of including this subgroup within the current study is unclear. Whilst the initial results indicated that PMIEs were endorsed by staff working in non-clinical positions, further investigation of the applicability of the proposed model to this group of staff is warranted.

Discrepancies within the sample also related to professional groups, with nurses and psychologists comprising the majority of participants, and other key professional groups being under-represented. Whilst nursing staff do make up a sizeable proportion of the workforce in secure mental health settings, further testing of the model in samples more inclusive of other key professional groups is necessary to establish the applicability of the model across the workforce.

Furthermore, several statistical limitations must be noted. Primarily, in consideration of the complexity of the models developed and tested, and in the absence of an a-priori power calculation, the mediation and moderated mediation analyses were likely to have been underpowered. Additionally, in consideration of the large number of paths tested within the models, several of the findings may have arisen by chance. To reduce the likelihood of type 1 error, and to be able to draw any substantiative conclusions from the analyses, the proposed models must be subject to further investigation in a larger sample.

Finally, given the centrality of the occupational environment and context to understanding and addressing moral injury, the limited inclusion of organisational factors within the models must be recognised. Further analyses were beyond the scope of the current study, though multi-level mediational modelling would offer a valuable approach to understanding the overarching influence of organisational factors on the individual-focused mechanisms proposed.

### 8.11. Concluding comments

The current study conceptualises moral injury as grounded in a series of developmental-cognitive processes that precede and extend beyond the appraisal of a transgressive experience. Specifically, the findings support a mediating role for early adverse experiences and negative self-schemas, as well as a potential buffering effect of maladaptive meta-cognitions in the translation of moral injury symptomology following exposure to a PMIE. Furthermore, the study highlights the dual role of social support in both mitigating and exacerbating the mediating effects of early trauma and negative self-schemas in this pathway, which should be considered by organisations when implementing and delivering social support strategies. Finally, the findings indicate the importance of establishing a supportive working environment in buffering risk for moral injury in staff experiencing early-trauma related symptomology, particularly given that exposure to childhood adversity was relatively frequent in the sample.

The supported model draws on previously proposed models (Kidwell & Kerig, 2021), to intergrate developmental, cognitive and emotional theories in the understanding of moral injury. Building on the findings of this study, cognitive and emotional theories will also be applied in the next study exploring the relationship between moral injury and other domains of well-being, and the potential mechanisms underpinning such pathways.



## CHAPTER 9. PATHWAYS FROM MORAL INJURY: EXPLORING ASSOCIATED WELL-BEING OUTCOMES AND THE UNDERLYING COGNITIVE-EMOTIONAL MECHANISMS

### 9.1. Structure of the Chapter

The previous chapter indicated the role of early childhood trauma and associated cognitive mechanisms in driving the development of moral injury following exposure to a transgressive experience. Expanding on this conceptual model tested, the present study explores a potential role for several cognitive-emotional mechanisms that may underlie the development of wider adverse health outcomes pertinent to staff working in secure mental healthcare settings. This chapter begins with a recap of the study aims, followed by a description of the sample and methods employed, before presenting and discussing the results.

### 9.2. Study aims

The aims of the current study were as follows:

- a. To explore the associations between moral injury symptoms with psychological and somatic symptoms, nightmare-related difficulties and personality functioning, and the contributions of this framework above that of burnout.
- b. To explore the mediating effects of emotional schema and emotion regulation in sequential pathways linking moral injury symptoms with psychological and somatic symptoms, nightmare-related difficulties and personality functioning.
- c. To explore a potential moderating effect of alexithymia on the role of emotional schema and expressive suppression in these pathways.

### 9.3. Participants

A voluntary sample of clinical and non-clinical healthcare workers working in secure psychiatric settings were recruited for the study between July and October 2023. Individuals with at least 6 months of experience working in such a setting at the time of data collection were eligible to participate. Overall, 720 participants provided consent to participate in the study. Of these, 320 participants did not submit a response and ten participants had less than 6 months experience working in a secure psychiatric setting. A further two participants did not disclose their length of experience in secure psychiatric healthcare, and thus it could not be confirmed that they met eligibility criteria. Finally, one respondent did not complete any of the questionnaires. Following exclusion of these cases, data screening was conducted on the remaining 389 participants.

### 9.4. Materials<sup>32</sup>

#### 9.4.1. *Moral Injury*

**Occupational Moral Injury Scale (OMIS; Thomas et al. 2023).** The OMIS is a 21-item questionnaire assessing moral injury symptoms (guilt, shame, anger, existential conflict and loss of trust) stemming from exposure to several PMIE types, namely organisational betrayal (3 items), commission with agency (5 items), commission under duress (4 items), act of omission (4 items), and witnessing (4 items). Items are scored from 1 (“strongly disagree”) to 7 (“strongly agree”), with higher scores indicative of greater moral injury symptoms. Good to excellent

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<sup>32</sup> The questionnaires presented to participants in this study are presented in Appendix I.

internal consistency has been reported for total (Cronbach's  $\alpha = .95$ ) and subscale scores (Cronbach's  $\alpha \geq .87$ ) in healthcare workers and first responders.

#### **9.4.2. Outcome variables**

**Kessler Psychological Distress Scale (K10; Kessler et al., 2003).** The K10 is a 10-item measure of global psychological distress, assessing symptoms of anxiety and depression (e.g., “During the last 30 days, about how often did you feel hopeless?”). Each symptom is rated for its frequency over the past 30 days from 1 (“none of the time”) to 5 (“all of the time”), with higher scores indicating greater psychological distress. Excellent internal consistency has been reported for the K-10 in psychiatric staff (e.g., Cronbach's  $\alpha = .93$ , Wang et al., 2022b)

**Symptom Checklist-90 (SCL-90; Derogatis et al., 1973).** The SCL-90 is a 90-item questionnaire assessing psychological problems over ten subscales. In the current study, only the ‘somatisation’ subscale was utilised, which encompasses twelve items relating to physical manifestations of psychological distress (e.g., headaches, pains in heart or chest). Each item is rated for frequency in the past week from 0 (“not at all”) to 4 (“extremely”), with higher scores indicating greater frequency of somatic symptoms. Excellent internal consistency has previously been reported for this subscale in healthcare staff (Cronbach's  $\alpha = .91$ , Zhang et al., 2022)

**Level of Personality Functioning Scale – Brief Form 2.0 (LPFS-BF 2.0; Weekers et al., 2019).** The LPFS-BF 2.0 assesses the severity of impairment in two domains of personality functioning, in accordance with the DSM-5 Alternative Model of Personality Disorders: ‘self’ (e.g., “I often make unrealistic demands on myself”) and ‘interpersonal’ (e.g., “I often feel very vulnerable when relations become more personal”). Twelve statements are rated in accordance with how true they are for the respondent, from 1 (“completely untrue”) to 4 (“completely true”).

Higher scores indicate greater impairment in personality functioning. Excellent internal consistency has been reported in general population samples (e.g., McDonald's  $\omega=.90$ , Weekers et al., 2022).

**Nightmare Assessment Scale (NAS; Havens et al., 2018).** The NAS is a 7-item measure of the effect of nightmares before, during and after sleep (e.g., “How often have you avoided going to sleep because you feared having nightmares?”). Each item is rated for its frequency over the last week, from 0 (“not at all”) to 4 (“frequently”), with higher scores indicating more frequent nightmare-related difficulties. Adequate internal consistency (Cronbach's  $\alpha > .7$ ) has been reported in a UK veteran sample (Havens et al., 2018).

#### ***9.4.3. Mediating variables***

**Leahy Emotional Schema Scale II (LESS-II; Leahy, 2012).** The LESS-II is a 28-item measure of beliefs about emotions, across fourteen dimensions: validation, comprehensibility, guilt, simplistic view of emotions, higher values, control, numbness, rational, duration, consensus, acceptance of feelings, rumination, expression, and blame. Items are rated from 1 (‘very untrue of me’) to 6 (‘very true of me’), with a higher score indicating more maladaptive beliefs about emotions. Previous studies in student samples have reported good internal consistency for total scores on this measure (Cronbach's  $\alpha=.84$ ; Edwards et al., 2021).

**Emotion Regulation Questionnaire (ERQ; Gross & John, 2003).** The ERQ, as described in the previous chapter, was also utilised in the current study. The four items relating to expressive suppression were used (e.g. “I control my emotions by not expressing them”). Items are rated from 1 (‘strongly disagree’) to 7 (‘strongly agree’), with a higher score indicating greater use of this emotion regulation strategy.

#### **9.4.4. Moderator variable**

**Toronto Alexithymia Scale (TAS; Bagby et al., 1994).** The TAS assesses the extent to which an individual has difficulty in identifying (7 items, e.g., ‘I am often confused about what emotion I am feeling’) and describing emotions (5 items, e.g., ‘I find it hard to describe how I feel about people’), and demonstrates externally orientated thinking (8 items, e.g., ‘I prefer to just let things happen rather than to understand why they turned out that way’). Items are rated from 1 (‘strongly disagree’) to 5 (‘strongly agree’), with a higher score indicating greater alexithymia. Previous studies in healthcare workers have reported good internal consistency for total scores on the TAS (Cronbach’s  $\alpha=.86$ ; Warchol-Biedermann et al., 2022).

#### **9.4.5. Control variable**

**Oldenburg Burnout Inventory (Demerouti et al., 2003).** The OLBI assesses two dimensions of burnout: exhaustion (8 items) and disengagement from work (8 items). Items are rated from 1 (‘strongly agree’) to 4 (‘strongly disagree’), with a higher score indicating greater burnout. Satisfactory and good internal consistency have been reported for the disengagement (Cronbach’s  $\alpha=.84$ ) and exhaustion (Cronbach’s  $\alpha=.79$ ) subscales in nurses (Stefanovska-Petkovska et al. 2021).

### **9.5. Ethical considerations**

The University of Central Lancashire (UCLan) Science Ethics Committee provided ethical approval for the study. Permission to undertake the study was also provided by the Research and Innovation Centre at St Andrew’s Healthcare, as a recruitment site. Upon following the link to the online survey, participants were first provided with a copy of the study

information sheet<sup>33</sup>, of a similar structure to that utilised in the previous study. Participants were then required to indicate whether or not they consented to take part in the study, via an electronic consent form<sup>34</sup>. A debrief screen was shown upon completion of the study, or at the point of withdrawal if a participant terminated their involvement in the study prior to completion of all measures<sup>35</sup>. In recognition of the potentially distressing nature of some of the questionnaires included in the survey, contact details for relevant support resources were provided in the debrief. Participants were able to withdraw from the study at any point prior to submitting their response, and any data collected from incomplete responses was not used.

## **9.6. Procedure**

The study utilised a cross-sectional survey design. Participants were recruited via advertisement on social networking sites (e.g. LinkedIn), and via word of mouth and email within the secure hospital at which the primary researcher was based. The online Qualtrics platform was used to host the electronic survey. A link to the survey was provided in study adverts and emails, which first directed participants to the information sheet and consent form. Participants who indicated consent to participate were then presented with the survey, followed by a debrief screen. Participants who indicated that they did not consent to participate in the study were automatically directed to the debrief screen, and the survey was not shown.

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<sup>33</sup> A copy of the participant information sheet for this study is provided in Appendix I.

<sup>34</sup> A copy of the consent form used in this study is provided in Appendix I.

<sup>35</sup> A copy of the debrief sheet presented to participants in this study is provided in Appendix I.

## 9.7. Statistical analysis plan

The data was first examined for errors in entry and missing values. Overall, 374 values (0.75%) were identified as missing. Little's MCAR test indicated that data was not missing at random ( $\chi^2=11080.98$ ,  $df=10606$ ,  $p=.001$ ). Thus, imputation methods were not utilised, and missing cases were excluded from analyses involving that measure. The number of participants with complete data on each measure is presented in Table 14. Based on Mahalanobis' distance values, multivariate outliers were indicated, with a significance value of  $p<.001$  yielded for four cases (1.03%). These participants were excluded, resulting in a final sample of 385 participants. Univariate outliers remained. To limit the effect of extreme values, outliers were modified to be one unit higher or lower than the next most extreme value for the associated variable.

Normality was determined based on the results of the Kolmogorov Smirnov test, which indicated that data was not normally distributed on any of the measures (all  $p<.01$ ). Therefore, non-parametric analyses and adjustments were utilised.

Participant demographics and scoring profiles on measures were first explored. Cronbach's alpha was calculated as a measure of internal consistency. Following this, hierarchical regression analyses were conducted to explore the predictive effect of moral injury on psychological distress, somatic symptoms, nightmare-related difficulties and personality functioning impairments were explored whilst controlling for burnout.

Next, a series of Spearman's bivariate correlations were conducted to establish the presence of an association between variables included in the conceptual models, as a prerequisite to path analysis. Following this, serial mediation modelling exploring the direct and indirect effects of emotional schema and expressive suppression in the pathway between moral injury symptoms and well-being outcomes was conducted. As data was not normally distributed,

bootstrapping methods were applied. Analyses were conducted in R using model 6 of Hayes' PROCESS macro version 4.2 (Hayes, 2022), with 1000 bootstrapped re-samples<sup>36</sup>. Statistical significance was determined based on bootstrapped confidence intervals for path coefficients; confidence intervals which did not include 0 within the lower and upper value range was indicative of statistical significance at the .05 level.

Finally, using models 15 and 89 of Hayes' PROCESS macro version 4.2 (Hayes, 2022) for SPSS with 1000 bootstrap samples, the moderating effect of alexithymia on indirect effects of moral injury via mediating variables were examined<sup>37</sup>. Significance of moderating effects was determined based on bootstrapped confidence intervals; lower and upper values that did not include zero within their range was indicative of a significant effect. Moderating variables were mean-centred to reduce multicollinearity (Frazer, 2004).

Data preparation, basic analyses and moderated mediation were conducted in IBM SPSS Statistics Version 29 (IBM Corp, 2023). Serial mediation analyses were conducted in R v.4.2.1 (R Core Team, 2022).

## 9.8. Results

### 9.8.1. *Sample characteristics*

Table 14 describes the demographic characteristics of the final sample. The majority of participants were female, and were working in a nursing or psychology role.

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<sup>36</sup> The code developed to test the proposed models in R is provided in Appendix L.

<sup>37</sup> The conceptual moderated mediation models constructed and tested are presented in Appendix M.



Table 14. Sample characteristics (n=385)

	N	%	Median	IQR	Min	Max
Age (years)	375	97.4%	37.0	28-51	20	75
Length of experience in secure psychiatric care (months)	385	100%	60.0	24-144	6	456
Gender	385	100%				
<i>Female</i>	238	61.8%				
<i>Male</i>	144	37.4%				
<i>Other</i>	3	0.8%				
Professional Role	385	100%				
<i>Clinical</i>	299	77.7%				
<i>Nursing</i>	152	39.5%				
<i>Psychology</i>	86	22.3%				
<i>Occupational Therapy</i>	15	3.9%				
<i>Medicine</i>	9	2.3%				
<i>Social Work</i>	7	1.8%				
<i>Psychological Therapist</i>	5	1.3%				
<i>Psychiatry</i>	4	1.0%				
<i>Other<sup>a</sup></i>	19	4.9%				
<i>Non-Clinical</i>	86	22.3%				
<i>Administrator</i>	21	5.5%				
<i>Education</i>	8	2.1%				
<i>Training &amp; Development</i>	8	2.1%				
<i>Human Resources</i>	7	1.8%				
<i>Housekeeping</i>	6	1.6%				
<i>Finance</i>	5	1.3%				
<i>Maintenance</i>	5	1.3%				
<i>Security</i>	4	1.0%				
<i>Other<sup>a</sup></i>	24	6.2%				

Notes. Percentages reported are calculated exclusive of missing cases; <sup>a</sup>Professional roles with fewer than four cases are grouped within the 'other' category to preserve anonymity

### 9.8.2. Profiles of scores on measures

Descriptive statistics and internal consistency coefficients for included measures are provided in Table 15. The overall internal consistency exceeded .70 on all measures, indicating

that reliability was acceptable. Poor internal consistency was found for the ‘externally orientated thinking’ subscale of the TAS; however, total scores on this measure were reliable, and thus the TAS was retained for inclusion in analyses.

Table 15. Descriptive statistics and internal consistency coefficients for study measures

<i>Measure</i>	<i>n</i>	<i>Median</i>	<i>IQR</i>	<i>Min</i>	<i>Max</i>	<u><b>Internal consistency</b></u> <i>(<math>\alpha</math>)</i>
<b>OMIS</b>						
<i>Total (20-140)</i>	353	63	36-86	20	130	.96
<i>Commission with agency (5-35)</i>	370	15	6-21	5	34	.93
<i>Commission under duress (4-28)</i>	366	10	4-17	4	28	.94
<i>Act of omission (4-28)</i>	370	10	4-17	4	28	.92
<i>Witnessing (4-28)</i>	378	16	7.75-20	4	28	.91
<i>Betrayal (3-21)</i>	381	11	7-16	3	21	.89
<b>K10</b>						
<i>Total (10-50)</i>	374	19	15-26	10	49	.93
<b>SCL-90</b>						
<i>Total (0-48)</i>	362	7	3-13	0	35	.88
<b>LPFS-BF 2.0</b>						
<i>Total (12-48)</i>	377	21	15-27	12	44	.88
<i>Self-functioning (6-24)</i>	383	11	8-15	6	24	.87
<i>Interpersonal functioning (6-24)</i>	378	10	7-12	6	22	.78
<b>NAS</b>						
<i>Total (0-28)</i>	380	3	1-8	0	24	.87
<b>LESS-II</b>						
<i>Total (28-168)</i>	347	81	69-95	42	135	.84
<b>ERQ</b>						
<i>Expressive suppression (4-28)</i>	381	14	10-18	4	28	.77
<b>TAS</b>						

<i>Total (20-100)</i>	363	43	36-52	22	81	.87
<i>Difficulties in identifying (7-35)</i>	372	13	9-18	7	34	.89
<i>Difficulties in describing (5-25)</i>	380	12	9-15	5	24	.79
<i>Externally orientated thinking (8-40)</i>	377	18	15-21	8	31	.54
<b>OLBI</b>						
<i>Total (16-64)</i>	373	37	33-42	20	59	.89
<i>Exhaustion (8-32)</i>	376	20	17-23	9	32	.85
<i>Disengagement from work (8-32)</i>	382	18	16-21	8	31	.77

*Notes.* Values reported are calculated exclusive of missing cases;  $\alpha$  = Cronbach's alpha.

### 9.8.3. Hierarchical regressions

A series of hierarchical regressions were conducted to establish the unique contribution of moral injury symptomology on well-being outcomes after controlling for burnout, as an associated framework of occupational distress<sup>38</sup>. When entered at step 1, burnout was a significant predictor of psychological distress, accounting for 39.8% of variance in this outcome. At step 2, moral injury contributed significantly to the model above burnout, accounting for an additional 1.1% of variance in psychological distress,  $F_{\text{change}}(1,334)=6.26, p=.01$ . Secondly, at step 1, burnout was a significant predictor of somatic symptoms, accounting for 28.6% of variance in this outcome. At step 2, moral injury contributed significantly to the model above burnout, accounting for an additional 1.4% of variance in somatic symptoms,  $F_{\text{change}}(1,322)=6.37, p=.01$ . Thirdly, at step 1, burnout was a significant predictor of nightmare difficulties, accounting for 6.6% of variance in this outcome. At step 2, moral injury contributed significantly to the model above burnout, accounting for an additional 8.1% of variance in nightmare difficulties,  $F_{\text{change}}(1,335)=5.18, p=.02$ .

<sup>38</sup> Tables summarising the hierarchical regression analyses are presented in Appendix J.

Fourthly, at step 1, burnout was a significant predictor of self-functioning impairment, accounting for 27.9% of variance in this outcome. At step 2, moral injury contributed significantly to the model above burnout, accounting for an additional 1.2% of variance in self-functioning impairment,  $F_{\text{change}}(1,337)=5.47, p=.02$ . Finally, at step 1, burnout was a significant predictor of interpersonal functioning impairment, accounting for 16.8% of variance in this outcome. At step 2, moral injury contributed significantly to the model above burnout, accounting for an additional 1.6% of variance in interpersonal functioning impairment,  $F_{\text{change}}(1,335)=6.63, p=.01$ . In summary, moral injury symptoms had unique positive predictive effects for all outcome variables above those of burnout.

#### ***9.8.4. Associations between moral injury, cognitive-emotional mechanisms, and well-being outcomes***

A series of Spearman's bivariate correlations<sup>39</sup> indicated several significant associations between moral injury, cognitive-emotional mechanisms and well-being outcomes<sup>40</sup>. Specifically, moral injury held a strong positive association with maladaptive emotional schemas ( $r(326)=.47, p<.001$ ), a weak positive association with expressive suppression ( $r(348)=.20, p<.001$ ) and a moderate positive association with alexithymia ( $r(334)=.35, p<.001$ ). Furthermore, moral injury held a strong positive association with psychological distress ( $r(346)=.40, p<.001$ ), moderate positive associations with somatic symptoms ( $r(333)=.33,$

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<sup>39</sup> Spearman correlation coefficients were interpreted based on the thresholds proposed by Dancy and Reidy (2004)

<sup>40</sup> Associations between all variables measured are presented in Appendix K.

$p < .001$ ), self- (rs(350)=.34,  $p < .001$ ) and interpersonal functioning impairment (rs(348)=.31,  $p < .001$ ) and a weak positive association with nightmares (rs(348)=.23,  $p < .001$ ).

The association between emotional schemas and expression suppression was also significant, with a strong positive association evident (rs(342)=.47,  $p < .001$ ). Thus, both variables were retained for inclusion in a serial mediation model.

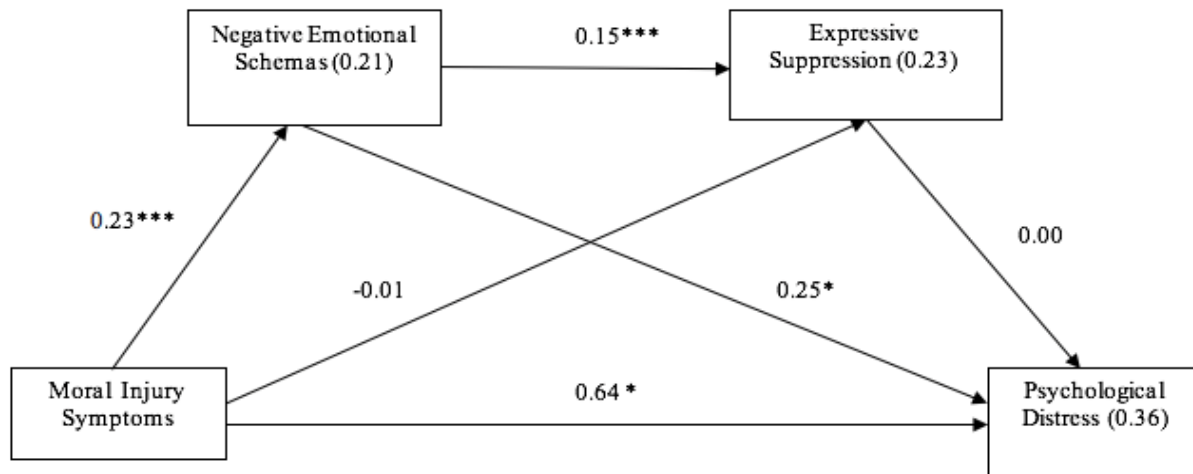
#### **9.8.5. Serial mediation modelling.**

##### **Mediation Model 1: Psychological Distress.**

**Research Question.** The research question driving mediation model 1 was ‘is the path between moral injury and psychological distress mediated by negative emotional schemas and/or expressive suppression?’.

**Findings.** Sixty-two participants had missing data on one or more included variables. Thus, the model was tested on 323 cases with complete data. As indicated in Figure 6, the direct effect of moral injury on psychological distress was significant. Additionally, with the exception of the path between moral injury and expressive suppression, and the path between expressive suppression and psychological distress, all other parameter estimates were significant. Bootstrapped standard error estimates were acceptable, ranging from 0.02 to 0.08.

Figure 6. Mediation model 1 of the paths between moral injury and psychological distress



Notes. R-squared values are reported in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; coefficients represent the predictive effect of individual hypothesised paths between two variables.

Table 16 summarises the direct and indirect effects of moral injury on psychological distress. The indirect effect of moral injury on psychological distress via negative emotional schemas was statistically significant. However, the indirect effect via expressive suppression, and serially via negative emotional schemas and expressive suppression were not significant.

Table 16. Total, direct, and indirect effects for psychological distress

	<i>b</i>	SE	LLCI	ULCI
Total effect	0.10***	0.01	0.08	0.13
Direct effect	0.03**	0.01	0.01	0.06
<b>Standardised indirect effects<sup>1</sup></b>				
Total indirect effect	0.25*	0.03	0.19	0.31
M1 MI Symptoms → Negative Emotional Schemas → Psychological Distress	0.25*	0.03	0.19	0.32
M2 MI Symptoms → Expressive Suppression → Psychological Distress	-0.00	0.00	-0.01	0.01
M12 MI Symptoms → Negative Emotional Schemas → Expressive Suppression → Psychological Distress	0.00	0.01	-0.02	0.02

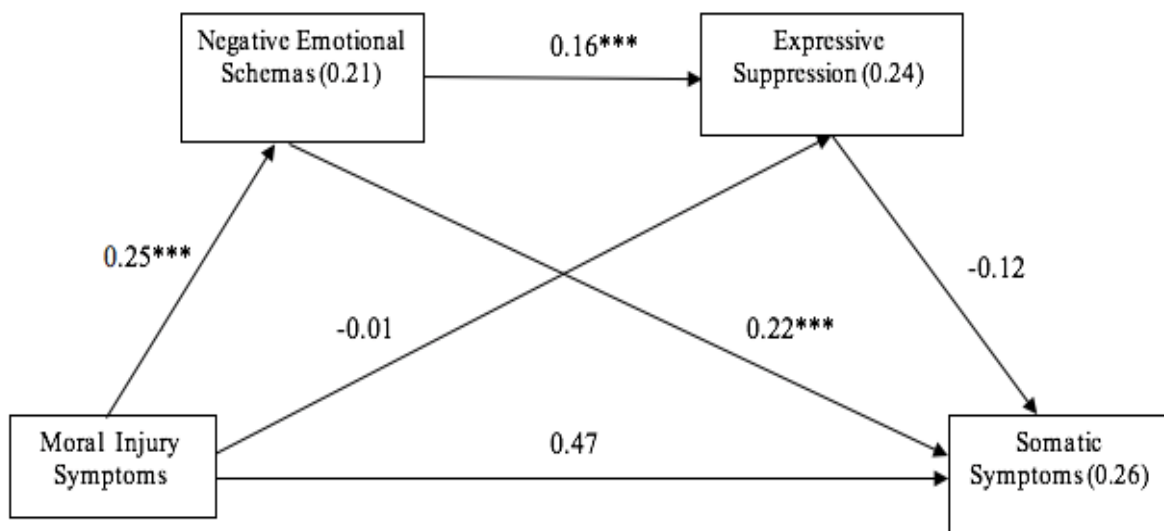
Notes. <sup>1</sup>Bootstrapped standard error and confidence interval values are reported; MI = Moral injury; *b* = standardised regression coefficient; SE = standard error; LLCI = lower level 95% confidence interval; ULCI = upper level 95% confidence interval; \*  $p < .05$ ; \*\*\*  $p < .001$ ; Exact p-values were provided for the total and direct effect; Regression coefficients for indirect effects reflect the predictive effect of the hypothesised mediated pathway when adjusted for all other proposed mediator pathways.

### Mediation Model 2: Somatic symptoms.

**Research Question.** The research question driving mediation model 2 was ‘is the path between moral injury and somatic symptoms mediated by negative emotional schemas and/or expressive suppression?’.

**Findings.** Seventy-five participants had missing data on one or more included variables. Thus, the model was tested on 310 cases with complete data. As indicated in Figure 7, the direct effect of moral injury on somatic symptoms was not significant. Significant parameter estimates were found for the paths between moral injury, negative emotional schemas and somatic symptoms. However, the paths between moral injury, expressive suppression and somatic symptoms were non-significant. Bootstrapped standard error estimates were also acceptable, ranging from 0.01 to 0.09.

Figure 7. Mediation model 2 of the paths between moral injury and somatic symptoms



Notes. R-squared values are reported in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; coefficients represent the predictive effect of individual hypothesised paths between two variables.

Table 17 summarises the direct and indirect effects of moral injury on somatic symptoms. The indirect effect of moral injury via negative emotional schemas was significant. However, indirect effects via expressive suppression, and serially through negative emotional schemas and expressive suppression were not significant.

Table 17. Total direct and indirect effects for somatic symptoms

	<i>b</i>	SE	LLCI	ULCI
Total effect	0.09***	0.01	0.06	0.11
Direct effect	0.02	0.02	-0.00	0.06
<b>Standardised indirect effects<sup>1</sup></b>				
Total indirect effect	0.21*	0.03	0.15	0.28
M1 MI → Negative Emotional Schemas → Somatic Symptoms	0.23*	0.04	0.16	0.30
M2 MI → Expressive Suppression → Somatic Symptoms	0.01	0.01	-0.00	0.02
M12 MI → Negative Emotional Schemas → Expressive Suppression → Somatic Symptoms	-0.02	0.01	-0.05	0.01

Notes. <sup>1</sup>Bootstrapped standard error and confidence interval values are reported; MI = Moral injury; *b* = standardised regression coefficient; SE = standard error; LLCI = lower level 95% confidence interval; ULCI = upper level 95% confidence interval; \**p*<.05; \*\*\**p*<.001; Exact *p*-values were provided for the total and direct effect; Regression coefficients for indirect effects reflect the predictive effect of the hypothesised mediated pathway when adjusted for all other proposed mediator pathways.

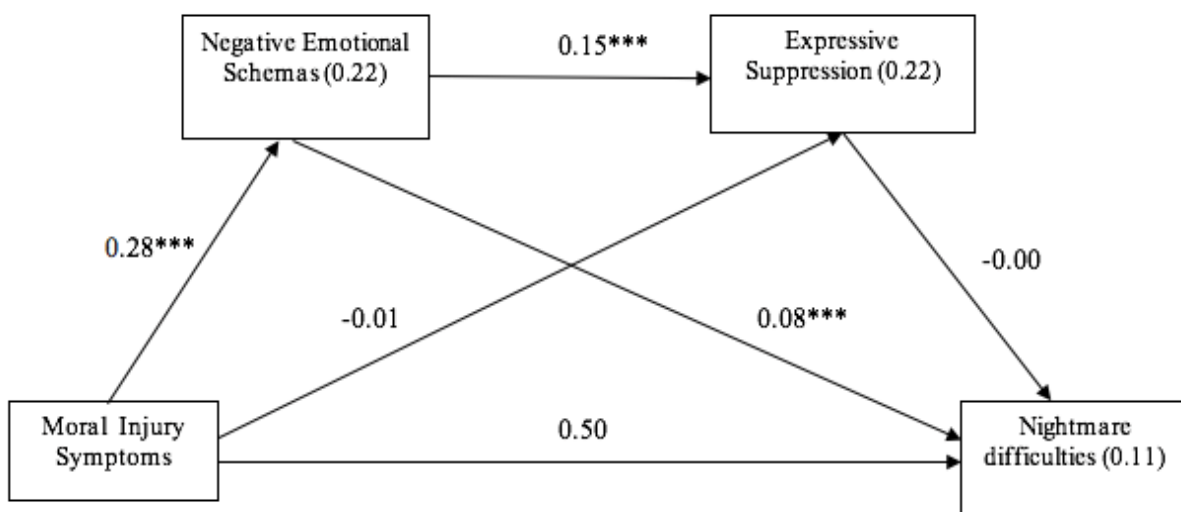
### Mediation Model 3: Nightmares.

**Research Question.** The research question driving mediation model 3 was ‘is the path between moral injury and nightmare-related difficulties mediated by negative emotional schemas and/or expressive suppression?’.



**Findings.** Sixty-two participants had missing data on one or more variables included in the model. Thus, the model was tested on the 323 cases with complete data for all variables. As indicated in Figure 8, the direct effect of moral injury on nightmare difficulties was not significant. Significant parameter estimates were found for the paths between moral injury, negative emotional schemas and nightmare difficulties. However, the paths between moral injury, expressive suppression and nightmare difficulties were non-significant. Bootstrapped standard error estimates were acceptable, ranging from 0.01 to 0.37.

Figure 8. Mediation model 3 of the paths between moral injury and nightmare difficulties



*Notes.* R-squared values are reported in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; coefficients represent the predictive effect of individual hypothesised paths between two variables.

Table 18 summarises the direct and indirect effects of moral injury on nightmare difficulties. The indirect effect of moral injury on nightmare difficulties through negative emotional schemas, but not expressive suppression, was statistically significant. Serial indirect effects were also not significant.

Table 18. Total, direct, and indirect effects for nightmare difficulties

	<i>b</i>	SE	LLCI	ULCI
Total effect	0.04***	0.01	0.02	0.05
Direct effect	0.01	0.01	-0.01	0.03
<b>Standardised indirect effects<sup>1</sup></b>				
Total indirect effect	0.14*	0.03	0.07	0.21
M1 MI Symptoms → Negative Emotional Schemas → Nightmare Difficulties	0.14*	0.04	0.06	0.21
M2 MI Symptoms → Expressive Suppression → Nightmare Difficulties	0.00	0.01	-0.01	0.01
M12 MI Symptoms → Negative Emotional Schemas → Expressive Suppression → Nightmare Difficulties	-0.00	0.01	-0.03	0.03

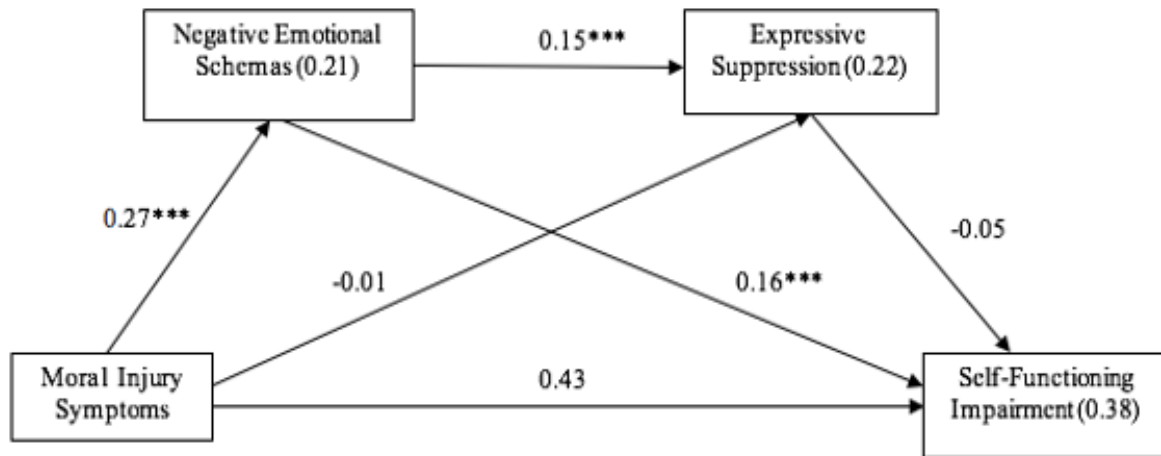
Notes. <sup>1</sup>Bootstrapped standard error and confidence interval values are reported; MI = Moral injury; *b* = standardised regression coefficient; SE = standard error; LLCI = lower level 95% confidence interval; ULCI = upper level 95% confidence interval; \**p*<.05; \*\*\**p*<.001; Exact *p*-values were provided for the total and direct effect; Regression coefficients for indirect effects reflect the predictive effect of the hypothesised mediated pathway when adjusted for all other proposed mediator pathways.

#### Mediation Model 4: Self-functioning.

**Research Question.** The research question driving mediation model 4 was ‘is the path between moral injury and self-functioning impairment mediated by negative emotional schemas and/or expressive suppression?’.

**Findings.** Sixty-one participants had missing data on one or more of the variables included in the model. The model was therefore tested on the remaining 324 cases with complete data for all variables. As indicated in Figure 9, the direct effect of moral injury on self-functioning impairment was not significant. Significant parameter estimates were found for the paths between moral injury, negative emotional schemas and self-functioning impairment. However, the paths between moral injury, expressive suppression and self-functioning impairments were non-significant. Bootstrapped standard error estimates were acceptable, ranging from 0.01 to 0.53.

Figure 9. Mediation model 4 of the paths between moral injury and self-functioning impairment



Notes. R-squared values are reported in parentheses; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; coefficients represent the predictive effect of individual hypothesised paths between two variables.

Table 19 summarises the direct and indirect effects of moral injury on self-functioning impairment. The indirect effect of moral injury via negative emotional schemas, but not expressive suppression, was significant. Serial indirect effects were also not significant.

Table 19. Total, direct, and indirect effects for self-functioning impairment

	<i>b</i>	SE	LLCI	ULCI
Total effect	0.05***	0.01	0.03	0.06
Direct effect	0.01	0.01	-0.01	0.02
<b>Standardised indirect effects<sup>1</sup></b>				
Total indirect effect	0.28*	0.03	0.21	0.35
M1 MI Symptoms → Negative Emotional Schemas → Self-Functioning Impairment	0.29*	0.04	0.22	0.36
M2 Moral Injury Symptoms → Expressive Suppression → Self-Functioning Impairment	0.00	0.01	-0.00	0.02
M12 MI Symptoms → Negative Emotional Schemas → Expressive Suppression → Self-Functioning Impairment	-0.01	0.01	-0.04	0.01

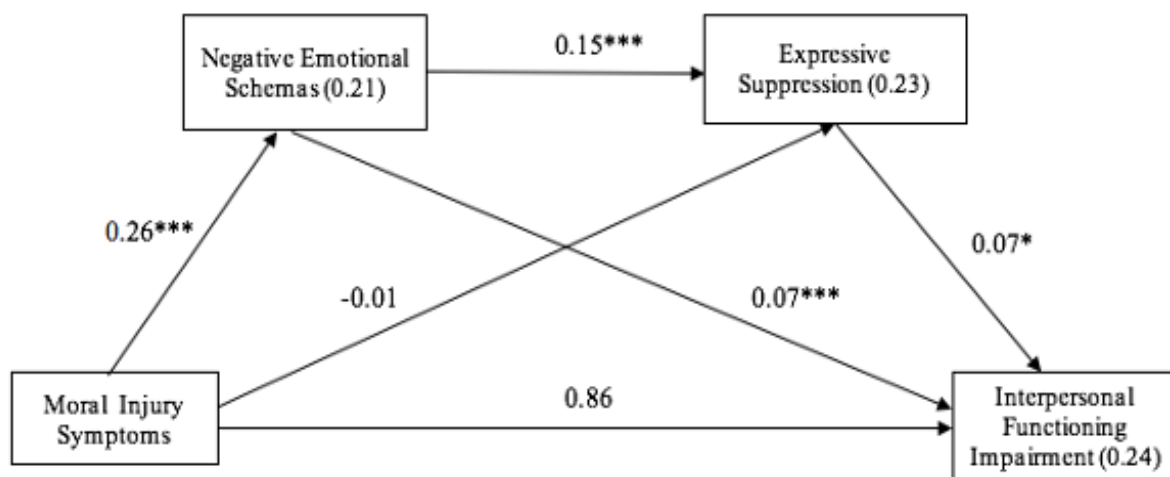
Notes. <sup>1</sup>Bootstrapped standard error and confidence interval values are reported; MI = Moral injury; *b* = standardised regression coefficient; SE = standard error; LLCI = lower level 95% confidence interval; ULCI = upper level 95% confidence interval; \*  $p < .05$ ; \*\*\*  $p < .001$ ; Exact p-values were provided for the total and direct effect; Regression coefficients for indirect effects reflect the predictive effect of the hypothesised mediated pathway when adjusted for all other proposed mediator pathways.

### Mediation Model 5: Interpersonal functioning.

**Research Question.** The research question driving mediation model 5 was ‘is the path between moral injury and interpersonal functioning impairment mediated by negative emotional schemas and/or expressive suppression?’.

**Findings.** Sixty-three participants had missing data on one or more included variables. The model was therefore tested on 322 cases with complete data. As indicated in Figure 10, the direct effect of moral injury on interpersonal functioning impairment was not significant. Significant parameter estimates were found for the paths between moral injury, negative emotional schemas and interpersonal functioning impairment. The path between moral injury and expressive suppression was non-significant, though the parameter estimate for the path between expressive suppression and interpersonal functioning impairment was significant. Bootstrapped standard error estimates were acceptable, ranging from 0.01 to 0.63.

Figure 10. Mediation model 5 of the paths between moral injury and interpersonal functioning impairment



Notes. R-squared values are reported in parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; coefficients represent the predictive effect of individual hypothesised paths between two variables.

Table 20 summarises the direct and indirect effects of moral injury on interpersonal functioning impairment. The indirect effect of moral injury through negative emotional schemas, but not expressive suppressive suppression, was statistically significant. The serial pathway from moral injury to interpersonal functioning impairment via both negative emotional schemas and expressive suppression was significant, however.

Table 20. Total, direct, and indirect effects for interpersonal functioning impairment

	<i>b</i>	SE	LLCI	ULCI
Total effect	0.03***	0.01	0.02	0.04
Direct effect	0.01	0.01	-0.00	0.02
<b>Standardised indirect effects<sup>1</sup></b>				
Total indirect effect	0.20*	0.03	0.14	0.27
M1 MI Symptoms → Negative Emotional Schemas → Interpersonal Functioning Impairment	0.18*	0.03	0.12	0.25
M2 MI Symptoms → Expressive Suppression → Interpersonal Functioning Impairment	-0.01	0.01	-0.03	0.01
M12 MI Symptoms → Negative Emotional Schemas → Expressive Suppression → Interpersonal Functioning Impairment	0.03*	0.01	0.00	0.06

Notes. <sup>1</sup>Bootstrapped standard error and confidence interval values are reported; MI = Moral injury; *b* = standardised regression coefficient; SE = standard error; LLCI = lower level 95% confidence interval; ULCI = upper level 95% confidence interval; \**p*<.05; \*\*\**p*<.001; Exact *p*-values were provided for the total and direct effect; Regression coefficients for indirect effects reflect the predictive effect of the hypothesised mediated pathway when adjusted for all other proposed mediator pathways.

### 9.7.6. Moderated Mediation Modelling.

As the indirect singular and serial effects of expressive suppression on psychological distress, somatic symptoms, nightmare difficulties and self-functioning impairment were non-significant, this variable was removed from moderated mediation models for these outcomes. However, expressive suppression was retained in the moderated mediation model for interpersonal functioning impairment, as the path between these variables and the serial pathway

through negative emotional schemas and expressive suppression was significant (see Figure 10). The moderating effects of alexithymia on the direct effect of moral injury was also explored for psychological distress, as the c path was significant for this outcome in the mediation analysis.

### **Moderated Mediation Model 1: Psychological Distress.**

**Research Questions.** The research questions driving moderated mediation model 1 were as follows:

- a. Direct effect: 'Is the direct path between moral injury and psychological distress moderated by alexithymia?'
- b. Simple indirect effect: 'Is the indirect path between moral injury and psychological distress via negative emotional schemas (moral injury → negative emotional schema → psychological distress) moderated by alexithymia?'

**Findings.** Seventy-five participants had missing data on one or more variables included in the model; thus, the model was tested on the remaining 310 cases with complete data for all variables.

*Direct effect.* The direct effect of moral injury symptoms on psychological distress was not moderated by alexithymia,  $b = -.001$ ,  $p = .39$ ,  $R^2\Delta = .001$ .

*Simple indirect effects.* A significant interaction was evident between alexithymia and negative emotional schemas,  $b = .003$ ,  $p = .04$ ,  $R^2\Delta = .008$ . The index of moderated mediation was significant for the indirect effect of negative emotional schemas (see Table 21). The conditional indirect effect of negative emotional schemas was significant at all levels of alexithymia, though was strongest at high levels of this moderator.

### **Moderated Mediation Model 2: Somatic Symptoms.**

**Research Question.** The research question driving moderated mediation model 2 was:

- a. Simple indirect effect: ‘Is the indirect path between moral injury and somatic symptoms via negative emotional schemas (moral injury → negative emotional schema → somatic symptoms) moderated by alexithymia?’

**Findings.** Eighty-six participants had missing data on one or more variables included in the model; thus, the model was tested on 299 cases with complete data for all variables.

*Simple indirect effects.* The interaction between alexithymia and negative emotional schemas was not significant,  $b=.001$ ,  $p=.79$ ,  $R^2\Delta = .000$ . The index of moderated mediation was not significant for the indirect effect of negative emotional schema on somatic symptoms.

### **Moderated Mediation Model 3: Nightmare Difficulties.**

**Research Question.** The research question driving moderated mediation model 3 was:

- a. Simple indirect effect: ‘Is the indirect path between moral injury and nightmare difficulties via negative emotional schemas (moral injury → negative emotional schema → nightmare difficulties) moderated by alexithymia?’

**Findings.** Seventy-five participants had missing data on one or more variables included in the model; thus, the model was tested on the remaining 310 cases with complete data for all variables.

*Simple indirect effects.* The interaction between alexithymia and negative emotional schemas was not significant,  $b=.002$ ,  $p=.10$ ,  $R^2\Delta=.008$ . The index of moderated mediation was not significant for the indirect effect of negative emotional schema on nightmare difficulties.

#### **Moderated Mediation Model 4: Self-Functioning Impairment.**

**Research Question.** The research question driving moderated mediation model 4 was:

- a. Simple indirect effect: ‘Is the indirect path between moral injury and self-functioning impairment via negative emotional schemas (moral injury → negative emotional schema → self-functioning impairment) moderated by alexithymia?’

*Findings.* Seventy-four participants had missing data on one or more variables included in the model; thus, the model was tested on the remaining 311 cases with complete data for all variables.

*Simple indirect effects.* The interaction between alexithymia and negative emotional schemas was significant,  $b=.003$ ,  $p=.007$ ,  $R^2\Delta = .013$ . The index of moderated mediation was significant for the indirect effect of negative emotional schema (see Table 21). The conditional indirect effect of negative emotional schemas was significant at all levels of alexithymia, though was strongest at high levels of this moderator.

#### **Moderated Mediation Model 5: Interpersonal Functioning Impairment.**

**Research Questions.** The research questions driving moderated mediation model 5 were as follows:



- a. Simple indirect effects: ‘Are the simple indirect paths between moral injury and interpersonal functioning impairment via negative emotional schema and expressive suppression, individually (e.g., moral injury → expressive suppression → interpersonal functioning impairment) moderated by alexithymia?’
- b. Serial indirect effects: ‘Is the serial indirect path between moral injury and interpersonal functioning impairment via negative emotional schemas and expressive suppression, sequentially (moral injury → negative emotional schema → expressive suppression → interpersonal functioning impairment) moderated by alexithymia?’

**Findings.** Seventy-eight participants had missing data on one or more variables included in the model; thus, the model was tested on the remaining 307 cases with complete data for all variables.

*Simple indirect effects.* The interaction effect of alexithymia and negative emotional schemas on interpersonal functioning impairment was not significant,  $b = -.001$ ,  $p = .32$ ,  $R^2\Delta = .002$ . Similarly, the interaction effect of alexithymia and expressive suppression on interpersonal functioning impairment was not significant,  $b = .003$ ,  $p = .25$ ,  $R^2\Delta = .003$ . The index of moderated mediation was not significant for the indirect effect of negative emotional schema nor expressive suppression on interpersonal functioning impairment.

*Serial indirect effects.* The index of moderated mediation was non-significant for the serial indirect effect of negative emotional schema and expressive suppression on interpersonal functioning impairment.

Table 21. Indexes and conditional indirect effects of moderated serial mediation pathways

Outcome	Path	Index of moderated mediation			Conditional indirect effect				
		<i>b</i>	<i>Boot SE</i>	<i>Bootstrap 95% CI</i>	Condition	<i>b</i>	<i>Boot SE</i>	<i>Bootstrap 95% CI</i>	
Psychological Distress	M1	MI Symptoms → Negative Emotional Schemas → Psychological Distress	<b>.00*</b>	<b>.00</b>	<b> [.000, .002]</b>	<b>Low (-1 SD)</b>	<b>.03*</b>	<b>.01</b>	<b> [.01, .06]</b>
						<b>Moderate (M)</b>	<b>.05*</b>	<b>.01</b>	<b> [.03, .07]</b>
						<b>High (+1 SD)</b>	<b>.06*</b>	<b>.01</b>	<b> [.04, .09]</b>
Somatic Symptoms	M1	MI Symptoms → Negative Emotional Schemas → Psychological Distress	.00	.00	[-.00, .00]				
Nightmare Difficulties	M1	MI Symptoms → Negative Emotional Schemas → Nightmare Difficulties	.00	.00	[-.00, .00]				
Self-Functioning Impairment	M1	MI Symptoms → Negative Emotional Schemas → Self-Functioning Impairments	<b>.001*</b>	<b>.00</b>	<b> [.000, .002]</b>	<b>Low (-1 SD)</b>	<b>.02*</b>	<b>.01</b>	<b> [.01, .03]</b>
						<b>Moderate (M)</b>	<b>.03*</b>	<b>.01</b>	<b> [.02, .04]</b>
						<b>High (+1 SD)</b>	<b>.04*</b>	<b>.01</b>	<b> [.02, .06]</b>
Interpersonal Functioning Impairment	M1	MI Symptoms → Negative Emotional Schemas → Interpersonal Functioning Impairment	-.00	.00	[-.00, .00]				
	M2	MI Symptoms → Expressive Suppression → Interpersonal Functioning Impairment	.00	.00	[-.00, .00]				
	M12	MI Symptoms → Negative Emotional Schemas → Expressive Suppression → Interpersonal Functioning Impairment	.00	.00	[-.00, .00]				

*Notes.* MI = Moral injury; *b* = standardised regression coefficient; SE = standard error; LLCI = lower level 95% confidence interval; ULCI = upper level 95% confidence interval; \**p*<.05; \*\*\**p*<.001; Regression coefficients for indirect effects reflect the predictive effect of the hypothesised moderated mediational pathway when adjusted for all other proposed mediator pathways.

## 9.9. Discussion

Findings indicate relationships between moral injury and several facets of well-being that are in part **likely** driven by cognitive mechanisms. The first prediction (3.1) that moral injury would be associated with adverse well-being outcomes was supported, with significant positive associations found between moral injury symptoms and psychological, somatic, sleep and personality functioning outcomes. Specifically, participants reporting greater moral injury symptoms also tended to report greater psychological distress, somatic symptoms, impairments in self- and interpersonal functioning and, to a lesser extent, nightmare-related difficulties. The associations of moral injury symptoms with psychological distress and somatic symptoms support previous associations reported in general healthcare staff (Mantri et al., 2020; Maftai & Holman, 2021). Such findings also mirror associations found between moral injury and self- and interpersonal-functioning outcomes in veterans (Chestnut et al., 2020) and psychiatric inpatients (Békés et al., 2023; Szabó et al., 2023).

The significant but weak correlation found for nightmare difficulties is in contrast to the findings of quantitative studies exploring moral injury and sleep outcomes in veteran and military healthcare samples (Boscarino et al., 2022; Bravo et al. 2020). Nevertheless, such studies assessed sleep disturbance as a global construct, as opposed to specific problems. Nightmares, as was explored in the current study, have been found uniquely associated with PTSD, but not moral injury, in US National Guard personnel (Bryan et al., 2018). Thus, it may be that other domains of sleep disturbances not measured in the current study are more closely associated with moral injury.

The second study prediction (3.2) that moral injury symptoms would be a significant predictor of all adverse well-being outcomes, above the effect of burnout, was supported. Results showed that moral injury symptoms held significant unique positive predictive effects for psychological distress, somatic symptoms, nightmare-related difficulties and personality

functioning impairments after controlling for burnout. It should be noted that the percentage of unique variance in these outcomes that could be accounted for by moral injury symptoms alone was low, ranging from 1.1% for psychological distress to 8.1% for nightmare difficulties. Nevertheless, despite the strong co-occurrence and overlap of moral injury and burnout (Parry, 2021), moral injury symptoms contributed significantly to the models, suggesting that burnout cannot wholly account for poor well-being in secure mental healthcare workers. This finding is in line with and extends on previous studies showing a partial but not full mediating effect for burnout in the relationship between moral injury symptoms and adverse psychological outcomes (Liu et al., 2023).

The third prediction (3.3) that maladaptive emotional schemas and expressive suppression would mediate the pathways between moral injury symptoms and adverse well-being outcomes was partially supported. In the first instance, the current study found maladaptive emotional schemas to have a partial mediating effect in the pathway between moral injury symptoms and psychological distress, with the direct effect of moral injury symptoms on this outcome remaining significant in the presence of the mediator. The partial mediating effect of emotional schema indicates that this variable may explain some, but not all of the relationship between moral injury symptoms and psychological distress. Indeed, other modulators have been implicated in the relationship between emotional schema and psychological distress, including resilience, cognitive flexibility, and self-compassion (Faustino et al., 2020; Mohammadkhani et al., 2022).

Furthermore, findings from this cross-sectional survey suggest that maladaptive emotional schemas may have a mediating effect in the pathway between moral injury symptoms and somatic symptoms, nightmare-related difficulties, and impairments in self- and interpersonal functioning, with the direct effect of moral injury symptoms on these outcomes becoming non-significant once emotional schema had been added to the model and

controlled for. This finding supports the central tenant of *Emotional Schema Theory* that thoughts about emotions influence risk for psychopathology, but also widens the **potential application of this notion** to physical health, personality functioning and sleep outcomes. In the absence of any wider and prospective investigation of the role of beliefs about emotional states in the moral injury literature, however, further research is needed. In particular, attention to the role of specific emotional schemas, which have differential associations with psychological disorders (Leahy, 2022), is needed. An understanding of the role of specific schemas in driving the impacts of moral injury on holistic domains of well-being would be of greater utility in informing tailored interventions, going forward.

When examining the role of expressive suppression in the pathways between moral injury symptoms and adverse well-being outcomes, no significant path parameters were found however, in contrast to the third prediction. Such findings contrast previous research documenting a critical role for expressive suppression in driving psychological outcomes, including depression and anxiety symptoms (Kshtriya et al., 2022; Too & Butterworth, 2018). Furthermore, no serial mediating effect of emotional schema and expressive suppression was apparent in the psychological distress, somatic symptoms, nightmare-related difficulties and self-functioning models. The *Emotional Schema Model* (Leahy, 2002) positions thoughts about emotions as an antecedent to difficulties in emotion regulation, and previous research from general population and university samples has shown a pathway from maladaptive emotional schemas to poor psychological well-being outcomes via emotion suppression (Deplancke et al., 2022; Faustino and Vasco, 2021), supporting this theory. However, a serial effect of these emotional mechanisms in linking moral injury symptoms with adverse well-being outcomes was not found in the current study.

The lack of individual or serial mediating effects found for expressive suppression may somewhat be a result of the use of the ERQ, as a broad and limited measure of

expressive suppression, in the current research. The suppression of positive and negative emotions are reflected in just one item each on the ERQ, and total scores on this measure were used in the current study, as opposed to exploring the effect of negative and positive emotion suppression, which may have differential effects on well-being (Yu et al., 2023) separately.

A serial mediating effect of emotional schemas and expressive suppression was found for the interpersonal functioning model, despite the lack of an independent mediating effect of expressive suppression. Such a finding indicates that the relationship between moral injury and relational outcomes **may be** driven by maladaptive thoughts about emotions and, in turn, the suppression of emotions. This **potential** role of expressive suppression in driving interpersonal functioning is in line with previous research documenting interpersonal consequences of failing to express emotions. For example, habitual use of expressive suppression has been found to be linked with greater relational avoidance and lower peer-rated closeness of relationships (Gross & John, 2003). This finding may be understood in line with hypotheses proposed by Gross (2002), namely that suppression of emotions masks social signals and cues important for relationship development, and that the maintenance of attention on emotional expression monitoring inhibits the individual's responsiveness to cues of others.

Furthermore, the fourth prediction (3.4) that the effect of emotional schema and expressive suppression would be moderated by increased alexithymia was partially supported. In line with the core tenets of the Attention-Appraisal Model of Alexithymia (Preece et al., 2017), the mediating effects of emotional schema in the psychological distress and self-functioning models **appeared** to be moderated by alexithymia, providing partial support for the final study prediction. Specifically, in line with earlier research showing positive correlations between maladaptive emotional schema and alexithymia (Hormozi et

al., 2022), the **potential** mediating role of emotional schemas in these pathways was greatest in individuals with high levels of alexithymia. These results indicate that the strength of beliefs about emotions as a driver of psychological and self-functioning outcomes associated with moral injury **may be** influenced by capacities in emotion recognition.

The **potential** mediating effect of emotional schema on somatic symptoms, nightmares and interpersonal-functioning impairments did not **appear to** vary as a function of alexithymia, however. Correlational analyses indicated significant strong positive correlations between alexithymia and psychological distress, somatic symptoms and personality functioning, as well as a significant weak positive correlation with nightmare-related difficulties; these findings echo and build on previous findings reported in healthcare and non-healthcare samples linking alexithymia with anxiety and depression symptoms, somatic complaints, sleep problems and impaired social functioning (Alimoradi et al., 2022; Li et al., 2015; Pandey et al., 2011; Zhao et al., 2022). Nevertheless, the **indicated** mediating effect of maladaptive thoughts about emotions in the pathways between moral injury and somatic complaints, nightmare difficulties and interpersonal problems was not found to be dependent on the level of alexithymia. Such findings therefore position beliefs about emotions as **likely a** core driver of the physical, sleep and functional impacts of moral injury.

The lack of moderating effects for alexithymia in these models may be explained in part by the measurement of this variable. The TAS-20 is a self-report measure that requires an individual to make accurate evaluations about their own capacities to identify and manage emotions (Lane et al., 2015). Whilst good internal consistency was found for total scores on this measure in the current sample, the validity of the TAS-20 as a measure of alexithymia in the study sample cannot be confirmed. Additionally, alexithymia was included as a global construct within the model, though different facets of alexithymia may have different moderating effects, as found in research exploring the relationship between shame and

psychological distress (Siedler et al., 2022). Further investigation of alexithymia and the role of this construct as a moderator of emotional schema is needed to better understand the findings.

### **9.10. Limitations**

There are several limitations to note. Firstly, as per the previous study presented in Chapter 8, path analysis was conducted on cross-sectional data, limiting the conclusions that can be made about the temporal order of mediational effects and the direction of the relationships between moral injury and well-being outcomes. Going forward, prospective and longitudinal studies are needed to confirm the pathways indicated in the current study.

Secondly, whilst a reasonable sample size was obtained, the representability of the sample is not clear. Profiles of scores on the measures used in the study and interquartile ranges fell at the lower end of the scales for most variables, including psychological distress, moral injury symptoms and nightmares. In the absence of other studies utilising such measures within a similar population, it cannot be established whether such scores are typical of staff working in secure mental health settings. It is possible that the voluntary sampling method may have introduced a bias, with those experiencing higher levels of distress and poorer emotional functioning refraining from participating. Further investigation is needed to establish this.

Thirdly, the current study was reliant on self-report measures for all variables. As noted earlier, and particularly in regards to the assessment of alexithymia, participants were required to make evaluations about emotional processing skills that they may have been deficient in, which is argued to be paradoxical (Waller & Scheidt, 2004). Whilst self-report measures can be an appropriate method for assessing an individual's own emotional



experiences, such as moral injury symptoms, additional assessment methods may be of value when assessing constructs such as alexithymia (Meganck et al., 2008).

Furthermore, the sample limitations identified in the previous chapter also relate to the current study. Namely, the voluntary sample and subsequent self-selection bias limits the ability to establish the representativeness of the sample, and the use of online advertisement to recruit participants to the study prevents the calculation of a true response rate. Additionally, clinical staff, primarily those working in a nursing and psychology role, were over-represented in the sample, with non-clinical staff and those working in other clinical professions representing the minority of participants. Accordingly, the models proposed in the current study must be subject to further investigation in samples more representative of the diverse configuration of the workforce in secure mental healthcare services.

Additionally, the statistical limitations identified in the previous study also apply to the current study. Specifically, in consideration of the complexity of the models tested, in the absence of an a-priori power calculation, it is likely that the mediation and moderated mediation analyses were underpowered. The risk of type 1 error and the likelihood that several of the significant findings arose by chance remain relevant concerns in the current study; thus, the proposed models warrant testing in larger samples in future studies in order to assure greater confidence in the findings and suggested implications.

Finally, organisational factors were not assessed within the current study. As discussed in the previous chapter, the theoretical framework underpinning the concept of moral injury positions organisational context as being the core driver of such distress. Whilst the current study was focused on establishing the role of selected cognitive-emotional mechanisms, the influence of such mechanisms should be considered within the wider organisational context in which moral injury occurs.

### **9.11. Concluding comments**

Tentatively, the findings presented here suggest that negative emotional beliefs may be a key target for reducing the negative sequelae of moral injury. The lack of moderating effects of alexithymia for three of the well-being outcomes explored, taken together with the finding that emotional schema was a significant mediator for psychological distress and self-functioning impairments at low, moderate and high levels of alexithymia, suggest that improving emotional schemas may reduce an individual's risk for experiencing wider adverse well-being effects, irrespective of their emotion recognition capacity. Drawing on these findings, and those yielded in study 2 of this thesis, a conceptual model linking PMIE exposure, moral injury symptoms and wider well-being outcomes will be outlined in the next chapter, with consideration to the clinical and research implications.

## CHAPTER 10: GENERAL DISCUSSION

### 10.1. Overall findings

The findings from this thesis provide tentative support for a developmental-cognitive model linking PMIE exposure, moral injury and wider well-being outcomes. Less support was obtained for emotion regulation mechanisms, with no moderating effects of cognitive appraisal and limited moderating effects for expressive suppression found in the latter two studies. Significant correlations were evident between cognitive schema and cognitive reappraisal, and between emotion schema and expressive suppression. This is in line with theory (e.g., Emotional Schema Theory (Leahy, 2002)) and previous research indicating that cognitive processes drive emotion regulation and functioning (Edwards et al., 2021; Sakakibara & Endo, 2016). However, the role of emotion regulation processes in driving well-being outcomes are positioned by the current findings as primarily an artefact of their relationship with schema and appraisal styles. Accordingly, cognitive processes are implicated as the primary target for interventions addressing moral injury and wider associated outcomes. This finding aligns with *Cognitive Appraisal Theory* (Lazarus, 1966) in which cognitive evaluations about situations, thoughts and emotions are positioned as the key drivers of emotional outputs.

The role of meta-level cognitive processes was also evident from the research. Specifically, the findings suggest that cognitions about cognitions (metacognitions) and cognitions about emotions (metaemotions) may contribute to risk for the development of moral injury and additional adverse well-being outcomes. The effects of metacognition in the pathway between PMIE exposure and moral injury may be accounted for by problems in mentalisation. According to the *Interactive Mentalising Theory* (Wu et al., 2020), insight into one's own thought processes sets the foundations for mentalisation processes in which a

person reflects on and integrates knowledge about the mental states of the self and others to understand behaviour. Mentalisation capacities are suggested to develop in the context of secure attachment relationships (Liotti & Gilbert, 2011), and problems in this domain have been ascribed as a core feature of clinical populations frequently exposed to early adversity, namely people with complex PTSD and dissociative disorders (Mitchell & Steele, 2021). In the context of the current thesis, people exposed to early traumatic experiences may be less able to make inferences about the intentions and cognitive and emotional experiences of others who engage in morally transgressive behaviours, and accordingly are more at risk for applying morally injurious appraisals following exposure to transgressions and betrayals. This fits with the finding that metacognition was not directly associated with heightened PMIE exposure, indicating that the role of metacognitive processes is not purely a product of the greater exposure to transgressions and betrayals in those exposed to childhood trauma. Nevertheless, in the absence of any direct assessment of mentalisation in the current thesis, such theories remain hypothetical.

Furthermore, the role of meta-level cognitive processes, namely thoughts about emotions, in the subsequent development of psychological, somatic, sleep and functional outcomes supports the application of Emotional Schema Theory to understanding the associations of moral injury with wider domains of well-being. It is hypothesised that differential negative emotional schemas may be implicated in the pathways between moral injury and the psychological, somatic, sleep and functional outcomes examined in the constructed models (Leahy, 2022), though further research is necessary to confirm this.

The importance of recognising systemic influences in the conceptualisation, prevention and management of moral injury pervaded across the studies. The initial systematic review and Delphi study both supported a key role for systemic factors (e.g., organisational culture and policies) in providing the conditions for the occurrence of PMIEs

and increasing risk for moral injury. This was echoed within the findings of study two, in which organisational support moderated the effect of childhood trauma in the pathway between PMIE exposure and moral injury. Such findings position an important role for systemic-based solutions to minimising the occurrence of PMIEs and moral injury. In consideration of the general agreement obtained within the Delphi that PMIEs are not necessarily avoidable, and that many of the PMIEs identified in the systematic review and Delphi were inherent to the secure mental health setting (e.g., the detention of patients against their will), organisational responses following the occurrence of a PMIE, as secondary prevention strategies, are arguably of equal importance to primary prevention responses. In line with the ideas proposed in the Socio-Interpersonal Framework Model of PTSD (Maercker & Horn, 2012), working in an organisation that actively seeks to support staff following moral challenges, such as through the provision of non-judgemental ethical consultation panels and appropriate but non-punitive approaches to investigations, may aid in removing individually directed blame and reducing risk for ostracisation by colleagues. Additionally, drawing on the *Social Cognitive Theory of Posttraumatic Recovery* (Benight & Bandura, 2004), the provision of resources to support adaptive coping strategies is suggested to reduce threat-based appraisals of events. Applying such PTSD theories to the focus of the current thesis, the protective effects of organisational support may relate not only to perceived *mortal* threat, but also perceived *moral* threat, whereby supportive organisational responses mitigate the activation of negative schema pervasive in those exposed to early adversity and, in turn, morally injurious appraisals.

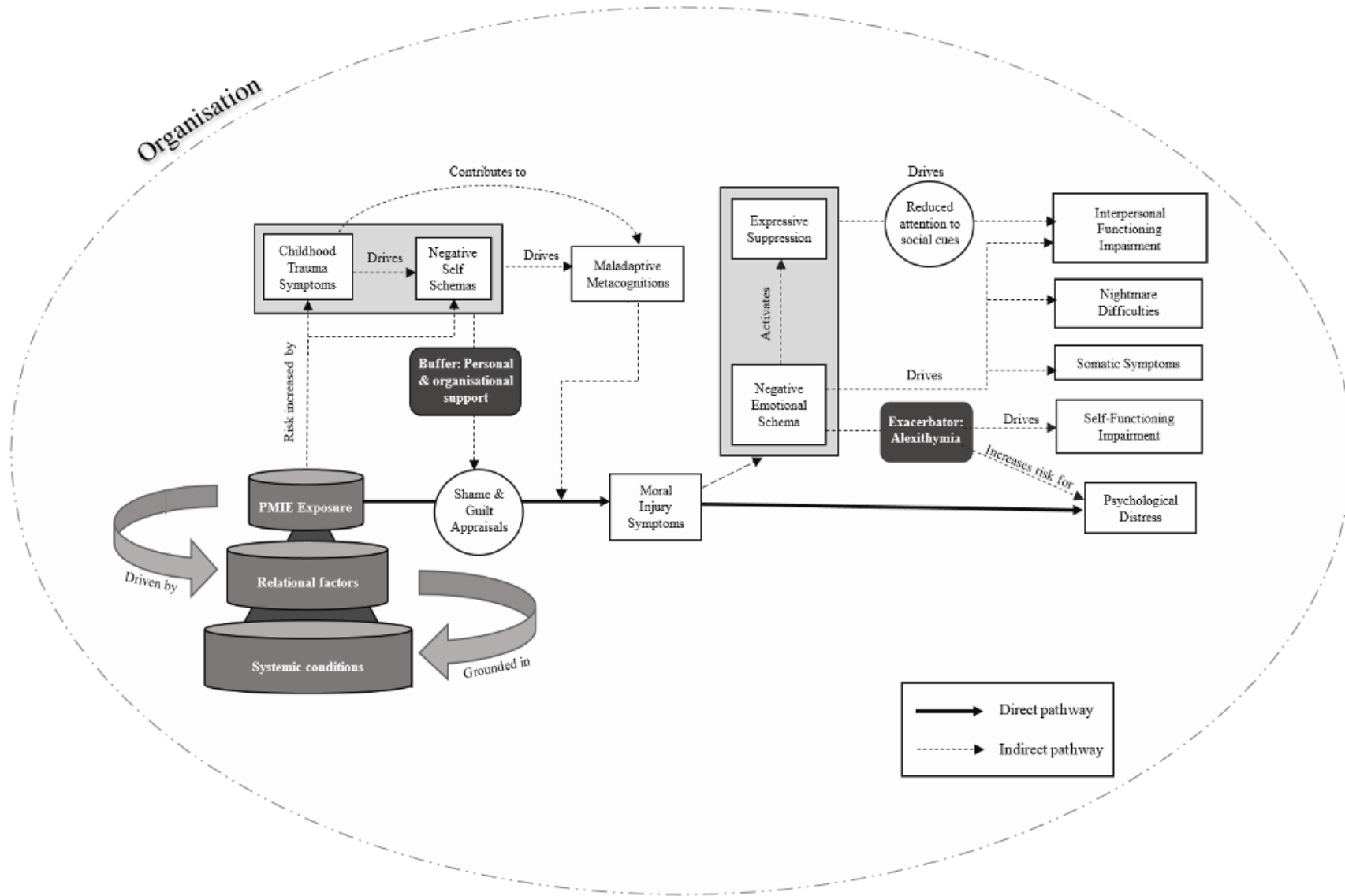
Relational factors were also implicated across the studies as important mechanisms underlying and driving the development of moral injury. It was suggested by experts within the Delphi study that the absence of a personal social support network may increase risk for moral injury, following PMIE exposure, and the potential buffering effects of social support

systems was supported in study two. Specifically, personal and organisational support were found to affect the strength of the mediating effects of childhood trauma symptoms and negative self-schemas in the pathway between PMIE exposure and moral injury. This finding supports the Socio-Interpersonal Framework Model of PTSD (Maercker & Horn, 2012), which posits that positive social interactions following a traumatic event can inhibit the development of subsequent adverse symptoms by altering the structure of the trauma memory. In consideration of the notably low levels of social support in secure mental healthcare staff noted previously (Webb et al., 2024), healthcare organisations have an important role in providing support to staff, not just within the workplace, but also in the development of social skills that could facilitate the building of relationships and establishing of a support network outside of working life.

## 10.2. Proposed conceptual model

Drawing on the findings and theoretical groundings of the current research, a novel model, titled the 'Integrated Pathway Model of Moral Injury (IPM-MI)' is proposed (see Figure 11). Integrating the findings from all four studies presented, this new model captures the mechanisms that underlie the occurrence of PMIEs, and that facilitate and drive the development of moral injury and wider well-being adversities. The IPM-MI draws on several existing developmental, cognitive and social models of trauma and psychopathology, as discussed, and integrates these to describe the pathways to moral injury and associated well-being outcomes. It should be noted that, whilst appraisal styles were not explicitly assessed, the proposed model is primarily orientated in cognitive theories and models that position appraisal as the core factor linking trauma exposure with symptomatology and by which the influence of mechanisms, such as cognitive schemas, are exerted.

Figure 11. Integrated Pathway Model of Moral Injury (IPM-MI)



A core tenant of the IPM-MI is the grounding of the model in a systemic context. Whilst several individual-level mechanisms are implicated in the pathways succeeding PMIE exposure, the environment in which staff are working is positioned as the preliminary root of the model, driving the initial occurrence of PMIEs. The model also visualises the role of individual cognitive mechanistic pathways to moral injury within the context of the organisational culture and values in which PMIEs occur. The role of the organisation in driving risk for moral injury is additionally captured in the pathway between PMIE exposure and moral injury, in which organisational responses following exposure to distressing events can buffer the effects of trauma symptoms stemming from childhood adversity.

Drawing on the findings of study two and their theoretical underpinnings, namely Cognitive Theory (Beck, 1976), Schema Theory (Young et al., 2003) and the Metacognitive Model of PTSD (Wells, 2000), the IPM-MI implicates childhood trauma symptoms, cognitive schemas and maladaptive beliefs about cognitions as key mechanisms that indirectly facilitate the development of moral injury symptoms in response to exposure to a PMIE. The model recognises the dual role for childhood trauma symptoms in driving risk for moral injury, both in increasing risk for PMIE exposure as a result of vigilance to betrayal, but also via its associations with cognitive structures that increase vulnerability to moral injury itself. However, the model also captures the significant path between PMIE exposure and negative self-schemas as was apparent in study two, indicating that whilst maladaptive cognitions about the self are commonly the product of early adverse experiences, they remain a risk factor for increased PMIE exposure in those not experiencing childhood trauma-related symptoms.

Considering the findings of study three and drawing on the principles of Emotional Schema Theory (Leahy, 2002), negative cognitions about emotional states are implicated as the primary mechanism linking moral injury with psychological distress, somatic symptoms,



nightmare-related difficulties and functioning impairments in the IPM-MI. The significant direct pathway evident between moral injury symptoms and psychological distress after adding emotional schema into the model is also presented in the IPM-MI, which may be accounted for by the weaker syndromal unity of moral injury with depressive and anxiety symptoms.

The sequential mediating effect of expressive suppression found on interpersonal functioning impairment is presented in the model as a function of reduced attention to social cues. Previous studies have indicated expressive suppression to have adverse impacts on various domains of interpersonal functioning (see Chervonsky & Hunt, 2017), formulated as a consequence of the fixation of attention to the self required to suppress own emotional states (Gross, 2015; Sun & Lau, 2019). Drawing on the tenants of the *Emotions as Social Information (EASI) model* (van Kleef, 2009), it is hypothesised within the IPM-MI that this attentional bias towards the self inhibits cognitive capacity to attend to social and emotional cues from others that may facilitate the development of relationships. Additionally, emotions act as social cues that influence the behaviours of observers (e.g., colleagues, friends, family members); accordingly, the suppression of emotional states inhibits opportunities for others to respond to emotional needs, which facilitate relationship building.

### 10.3. Practice implications

The proposed model seeks to conceptualise the cognitive mechanisms that facilitate the translation of exposure to morally transgressive experience into moral injury and wider trauma-related outcomes. Whilst the purpose of the research was not to develop treatment recommendations, the proposed model indicates several tentative suggestions that may aid in mitigating risk for moral injury and associated adversities in secure mental health staff.

In the first instance, the findings indicate the need for systemic-based approaches to addressing moral injury. Dominant transactional theories of workplace distress, such as the Job Demands Resources Model (Demerouti et al., 2001), implicate the individual's ability to function within the workplace and meet the demands of their role as the problem. However, in consideration of the primary role of the healthcare system and organisational culture as a prerequisite to the occurrence of PMIEs, as supported in the systematic review and Delphi study, addressing the context in which moral transgressions occur is implicated as a primary preventative approach. System-based approaches may also afford secondary preventative effects once a PMIE has occurred as noted in study two, preventing the activation and application of negative self-schema to inform appraisals of PMIEs.

Secondly, in consideration of the findings indicating that inherent features of the secure mental healthcare may be experienced as morally injurious, transparency in recruitment processes is arguably warranted, to ensure staff entering employment in secure care services are aware of the innate, unavoidable challenges that such an environment can pose. Training and education may aid in inoculating staff against moral injury, to some extent, through equipping them with skills to manage the moral challenges they may inevitably experience when working in such an environment.

Thirdly, as several of the PMIEs identified in the systematic review and Delphi were unique or particularly pertinent to the secure mental healthcare setting (e.g., detention and provision of care against patients' will, exposure to verbal and physical aggression), the need for individualised organisational assessments of moral injury risks tailored to the unique complexities of the secure mental health setting is also indicated.

Furthermore, the buffering effects found for support systems in study two, in the context of low levels of social support reported by staff in secure mental healthcare (Webb et al., 2024), position the need for strategies that seek to build and strengthen interpersonal

relationships, both within and outside of the workplace, in this occupational population. Staff are commonly recruited from overseas countries into the UK healthcare system, with recent data indicating that approximately 18.5% of nurses in the NHS have migrated for employment (NHS Digital, 2021). Additionally, the full-time operation of healthcare services requires many staff to work long shift patterns and unsociable hours, which bears potential adverse effects on social functioning and quality of personal relationships (Arlinghaus et al., 2019; Qanash et al., 2021). Accordingly, assessing and implementing strategies to meet the social needs of the healthcare workforce, including those working in secure mental health settings, reflects a key priority, particularly given that moral injury may exacerbate social withdrawal (Rosen et al., 2022).

Principally, the findings from study two and three support the **potential** utility of cognitive intervention approaches in reducing risk for moral injury and wider adverse well-being outcomes following PMIE exposure. Importantly, the need to consider higher-order cognitive processes in interventions, namely beliefs about emotions and cognitions, is likely to be key. The current research indicated that the complete eradication of risk for moral injury in secure mental healthcare workers is unlikely and unrealistic, given the inherent moral dilemmas that may be posed by working in such a context. Additionally, as indicated previously, shame and guilt may be warranted emotions to transgressions in certain scenarios (Finlay, 2015; Gray et al., 2017). The findings of the current research support the potential utility of addressing beliefs about appraisals of transgressive experiences and beliefs about moral emotions.

#### **10.4. Limitations**

The findings presented and interpretations made must be considered in the context of several limitations. Primarily, the research is limited by the use of retrospective, cross-

sectional data to explore mechanistic pathways. The models developed and tested in the empirical chapters were concerned with the individual and sequential effects of trauma symptoms stemming from early adverse experiences, as well as cognitive and emotional mechanisms. Accordingly, the order in which these mechanisms occur remains hypothetical and causal inferences cannot be confirmed without further investigation.

Secondly, the research sought to establish roles for several mechanisms, which were explored as broad, general constructs. For example, in studies two and three, a role for negative self-schemas and emotional schemas was established, though the effects of specific schema types were not considered. Similarly, maladaptive metacognitions were explored within the first model as a global construct, though the role of specific metacognitive belief types were not explored. Thus, whilst the presence of a role for such mechanisms in the pathways to moral injury and other well-being outcomes is established in the current research, a more nuanced understanding of these effects remains warranted.

Thirdly, the latter three studies utilised a broad **voluntary** sample of staff from several professional groups not equally represented in the sample. Whilst the inclusion of a multi-disciplinary sample is in many ways a strength of the research, mirroring the configuration of staff working across the secure mental healthcare sector, the validity of the model in different demographic groups was not examined and thus cannot be established. Particular **discrepancies in the representation of staff from non-clinical roles, and from clinical roles outside of nursing and psychology, limits the applicability of the model across the secure mental healthcare workforce. The IPM-MI must be subject to investigation in studies utilising more representative samples; in particular, key professional groups who hold key decision-making responsibilities in secure mental healthcare services, such as doctors and leadership staff, is warranted. The use of a non-random sampling method and inability to establish a true response rate within the latter two studies also prevents generalising the findings beyond the**

samples recruited in the current research. The research was also conducted in primarily female samples. Research has indicated differences in the profiles and role of mechanisms included within the models presented here, dependent on demographic factors. For example, gender differences in the emotion regulation strategies that drive adverse psychological outcomes have been noted (e.g., Shangguan et al., 2022). Thus, it cannot be assumed that the proposed model is generalisable to all secure mental healthcare staff.

Fourthly, several limitations related to the assessment of variables are important to note. Primarily, self-report measures were relied on to assess all variables included within the structural models tested in studies two and three. As previously discussed, this included the assessment of constructs such as alexithymia, for which participants are asked to provide accurate evaluations of their capacities in an area that they may be deficit in. Good internal consistency indices were apparent across the measures utilised in this study, indicating that self-report was appropriate for the assessment of the variables explored. However, the strength of utilising a range of assessment methods and sources in the assessment of cognitive and emotional constructs, such as alexithymia (Taylor et al., 2000) and cognitive schemas (Lewis et al., 2021), is noted. Also, as noted in Chapter 8, the use of the MIESS-C to assess both PMIE exposure and moral injury within a singular, cross-sectional study introduces a common method bias, resulting in potentially inaccurate and over-inflated associations between these two variables.

Furthermore, the proposed mechanistic pathways outlined in the IPM-MI must be considered in light of several statistical limitations as identified in Chapters 8 and 9. Namely, the use of somewhat small sample sizes, in the context of the statistical analyses employed, to test a broad number of complex pathways means that the risk of false positive results is a potential issue of pertinence in the current research. Whilst the findings propose tentative

hypotheses about potential pathways linking PMIE exposure, moral injury and wider facets of well-being, no concrete conclusions can nor should be drawn from the findings presented.

Finally, the IPM-MI proposes a series of specific mechanistic pathways driving moral injury and wider well-being adversities that are facilitated in the context of a 'morally injurious' organisational environment, though the role of the organisation was not fully accounted for in either of the two empirical studies. Whilst organisational support was included in the model, as a facilitator of the effects of childhood trauma symptoms and negative self-schemas in the path to moral injury, further development and testing of the model with greater inclusion of organisational factors in analyses is of importance.

Overall, the proposed IPM-MI model is a conceptual model that reflects a synthesis of results from a literature review and theoretically-grounded research conducted in differing samples. It represents a preliminary conceptualisation of the causal factors and mechanisms leading to the development of moral injury and associated well-being outcomes in secure mental healthcare workers that warrants further evaluation and development. Directions for future research that builds upon the gaps identified here will next be outlined.

### **10.5. Future research directions**

In addition to the recommendations for further investigation identified throughout this thesis, the findings of the current research pose several additional avenues for exploration in future studies. In line with the first aim of the research, a range of PMIEs relevant to the secure mental healthcare setting were identified. However, participants recruited to the Delphi study, as well as to the studies included within the review and meta-ethnography, were working in clinical positions, predominantly in a nursing profession. However, recent national statistics indicate that just over half (52.8%; NHS Digital, 2024) of the NHS workforce occupy professional clinical roles. Accordingly, there is a need to expand

investigation of the PMIEs faced in secure mental healthcare to include the experiences of those not working in patient-facing positions, ensuring the implementation of prevention strategies that reduce risk for exposure to PMIEs across the workforce. Furthermore, the links between the PMIEs proposed in the current research, as derived from the literature review and Delphi study, and moral injury symptoms require exploration in empirical research.

Additionally, further qualitative investigation of the potential sources of moral injury experienced by secure mental healthcare staff is warranted. A Delphi method was utilised in the current programme of research to synthesise key trends in the types of PMIEs experienced by healthcare workers from a broad range of professions than could have been feasibly captured through individual interviews. Nevertheless, interview-based qualitative research would still hold much value in facilitating a more in-depth examination of the experiences of secure mental healthcare staff that may give rise to moral injury, and their beliefs and reflections on the conceptualisation of the construct.

Furthermore, investigation of the role of trauma symptoms resulting from interpersonal and attachment-based adversities, specifically, reflects an important avenue for further testing. In study two, the specific adverse experiences associated with current trauma symptoms were not assessed. Nevertheless, the proposed model draws on the tenants and ideas of attachment theory, implicating a key role for interpersonal-based traumas in driving the subsequent cognitive mechanisms that link PMIE exposure and moral injury symptom development. Given that exposure to attachment-related traumas, specifically, was not assessed, further testing of this model is necessary to confirm this hypothesis.

Furthermore, in recognition of the limitations discussed, there is much need for prospective and longitudinal research that examines the development of moral injury and wider well-being adversities over time. Strong associations have been noted between burnout, moral injury, and wider psychopathological constructs, both in the current research and the

wider literature (Linzer & Poplau, 2021; Williamson et al., 2023). Whilst moral injury was found to have unique and significant explanatory power above burnout in accounting for psychological, somatic, sleep and functioning-related problems, the cross-sectional design employed by the current study and the wider literature prevents insight into the temporal relationship between these constructs. **A longitudinal design would also aid in overcoming the issue of common method bias apparent in study 2.** Such insight is important for informing the most effective target for intervention efforts that prevent the proliferation of occupational distress. Experts in the Delphi study considered burnout a factor driving the occurrence of PMIEs, though empirical investigation is necessary to confirm this.

In consideration of the lack of specificity in the proposed model with regards to the cognitive mechanisms explored, further development of the model is necessitated. Specifically, uncovering the contributions of specific types of cognitive and emotional schemas and metacognitive beliefs in the pathways explored would be of value in identifying the core cognitions driving the development of moral injury and wider well-being adversities, which has implications for informing key targets for cognitive interventions. Importantly, measurement models should first be developed prior to testing the role of specific schemas and metacognitive beliefs within the IPM-MI model pathways. Such models were not conducted in the current research, due to the reliance on total scores on measures for which good internal consistency values were obtained. However, several of the assessment measures used were not developed in samples comparable to that of the current study; accordingly, consistency in the underlying measurement structure cannot be assumed. Indeed, variance in the factor structure of moral injury measures between healthcare workers and wider populations is apparent (Houle et al., 2024).

Finally, whilst the current research was specifically concerned with understanding the sources and mechanisms underlying moral injury in secure mental healthcare staff, as an



overlooked population, extending investigation of the model's applicability to wider populations is needed. This could include those working in other healthcare sectors and public safety professions, namely police, paramedics and firefighters, as well as staff working in prisons, as populations at high risk of experiencing occupational distress and trauma (Costa et al., 2024; Syed et al., 2020). Additionally, testing the applicability and validity of the model to different demographic populations is necessary, given that demographic differences in the constructs included in the proposed model have been noted, inclusive of moral injury in secure mental healthcare staff (Morris et al., 2022b).

## **10.6. Concluding comments**

The current research sought to further the conceptualisation of moral injury, namely the underlying sources and mechanisms, and the relationships between this framework with wider well-being constructs, in secure mental healthcare staff, as a population largely unrepresented within the field. Taken together, the findings from the systematic review and three successive studies indicate the interplay of several systems and factors in driving the initial occurrence of PMIEs, the subsequent development of moral injury, and wider psychological, somatic, sleep-related and functional outcomes. The findings support the adoption of a broader conceptualisation of PMIEs, and offer a more comprehensive understanding of the mechanisms accounting for differences in risk for moral injury and its wider impacts, that extends beyond cognitive appraisals alone. Drawing on several interdisciplinary theories not before applied to moral injury and supporting evidence from the current research, a conceptual integrative model, the Integrated Pathway Model of Moral Injury (IPM-MI), is proposed that positions mechanistic roles for early adverse experiences and cognitive processes in the pathways to and from moral injury, in addition to recognising the contributions of social influences. The findings propose several hypotheses for both the

prevention and management of moral injury in an under-explored, though at-risk occupational population. Central to the success of any efforts to address moral injury in the workforce, however, is the embedding of strategies, interventions and policies within a psychologically safe and morally aligned organisational culture.

## REFERENCES

- Aafjes-van Doorn, K., Kamsteeg, C., & Silberschatz, G. (2019). Cognitive mediators of the relationship between adverse childhood experiences and adult psychopathology: A systematic review. *Development and Psychopathology*, *32*(3), 1017-1029.  
<https://doi.org/10.1017/S0954579419001317>
- Acker, G. M. (2012). Burnout among mental health care providers. *Journal of Social Work*, *12*(5). <https://doi.org/10.1177/1468917310392418>
- Adams, J. M. (2019). The value of worker well-being. *Public Health Reports*, *134*(6), 583-586. <https://doi.org/10.1177/0033354919878434>
- Akhtar, M., Faize, F. A., Malik, R. Z., & Tabusam, A. (2022). Moral injury and psychological resilience among healthcare professionals amid COVID-19 pandemic. *Pakistan Journal of Medical Sciences*, *38*(5). <https://doi.org/10.12669/pjms.38.5.5122>
- Akram, F. (2021). Moral injury and the COVID-19 pandemic: A philosophical viewpoint. *Ethics, Medicine and Public Health*, *18*. <https://doi.org/10.1016/j.jemep.2021.100661>
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, *30*(2), 217-237. <https://doi.org/10.1016/j.cpr.2009.11.004>
- Alimoradi, Z., Majd, N. R., Broström, A., Tsang, H. W. H., Singh, P., Ohayon, M. M., Lin, C. -Y., & Pakpour, A. H. (2022). Is alexithymia associated with sleep problems? A systematic review and meta-analysis. *Neuroscience & Biobehavioral Reviews*, *133*.  
<https://doi.org/10.1016/j.neubiorev.2021.12.036>
- Amazue, L. O., Ozor, O. T., Chukwuorji, J. C., Ifeagwazi, C. M., Onu, D. U., & Onyedire, N. G. (2019). Mental pain and suicide ideation in nursing students: The moderating role of emotion regulation. *Cognition, Brain, Behavior*, *23*(3), 171-191.  
<https://doi.org/10.24193/ebb.2019.23.10>

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5<sup>th</sup> ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- Amsalem, D., Lazarov, A., Markowitz, J. C., Naiman, A., Smith, T. E., Dixon, L. B., & Neria, Y. (2021). Psychiatric symptoms and moral injury among US healthcare workers in the COVID-19 era. *BMC Psychiatry*, *21*(1).  
<https://doi.org/10.1186/s12888-021-03565-9>.
- Amstadter, A. B., & Vernon, L. L. (2008). A preliminary examination of thought suppression, emotion regulation, and coping in a trauma-exposed sample. *Journal of Aggression, Maltreatment & Trauma*, *17*(3), 279-295.  
<https://doi.org/10.1080/10926770802403236>
- Arlinghaus, A., Bohle, P., Iskra-Golec, I., Jansen, N., Jay, S., & Rotenberg, L. (2019). Working time society consensus statements: Evidence-based effects of shift work and non-standard working hours on workers, family and community. *Industrial Health*, *57*(2), 184-200. <https://doi.org/10.2486/indhealth.SW-4>
- Atkins, S., Lewin, S., Smith, H., Engel, M., Fretheim, A., & Volmink, J. (2008). Conducting a meta-ethnography of qualitative literature: Lessons learnt. *BMC Medical Research Methodology*, *8*. <https://doi.org/10.1186/1471-12288-8-21>
- Aust, B., Leduc, C., Cresswell-Smith, J., O'Brien, C., Rugulies, R., Leduc, M., Dhalaigh, D. N., Dushaj, A., Fanaj, N., Guinart, D., Maxwell, M., Reich, H., Ross, V., Sadath, A., Schnitzspahn, K., Tóth, M. D., van Audenhove, C., van Weeghel, J., Wahlbeck, K., ... MENTUPP consortium members. (2024). The effects of different types of organisational workplace mental health interventions on mental health and wellbeing in healthcare workers: A systematic review. *International Archives of Occupational and Environmental Health*, *97*, 485-522. <https://doi.org/10.1007/s00420-024-02065-z>

- Austin, W., Bergum, V., & Goldberg, L. (2003). Unable to answer the call of our patients: mental health nurses' experience of moral distress. *Nursing Inquiry*, *10*(3), 177-183. <https://doi.org/10.1046/j.1440-1800.2003.00181.x>
- Austin, W. J., Kagan, L., Rankel, M., & Bergum, V. (2008). The balancing act: Psychiatrists' experience of moral distress. *Medicine, Health Care and Philosophy*, *11*, 89-97. <https://doi.org/10.1007/s11019-007-9083-1>
- Austin, W., Rankel, M., Kagan, L., Bergum, V., & Lernermeier, G. (2005). To stay or to go, to speak or stay silent, to act or not to act: Moral distress as experienced by psychologists. *Ethics & Behavior*, *15*(3), 197-212.
- Awa, W. L., Plaumann, M., & Walter, U. (2010). Burnout prevention: A review of intervention programs. *Patient Education and Counselling*, *78*(2), 184-190. <https://doi.org/10.1016/j.pec.2009.04.008>
- Awan, S., Diwan, M. N., Aamir, A., Allahuddin, Z., Irfan, M., Carano, A., Vellante, F., Ventriglio, A., Fornaro, M., Valchera, A., Pettoruso, M., Martinotti, G., Di Giannantonio, M., Ullah, I., & De Berardis, D. (2022). Suicide in healthcare workers: Determinants, challenges, and the impact of COVID-19. *Frontiers in Psychiatry*, *3*(12). <https://doi.org/10.3389/fpsy.2021>.
- Babcock, R. L., & DePrince, A. P. (2012). Childhood betrayal trauma and self-blame appraisals among survivors of intimate partner abuse. *Journal of Trauma and Dissociation*, *13*(5), 526-538. <https://doi.org/10.1080/15299732.2012.694842>
- Babiker, A., El Hussein, M., Al Nemri, A., Al Frayh, A., Al Juryyan, A., Faki, M. O., Assiri, A., Al Saadi, M., Shaikh, F., & Al Zamil, F. (2014). Health care professional development: Working as a team to improve patient care. *Sudanese Journal of Paediatrics*, *14*(2), 9-16.

- Bagby, R. M., Parker, J. D. A., & Taylor, G. J. (1994). The twenty-item Toronto Alexithymia scale – I. Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research*, 38(1), 23-32. [https://doi.org/10.1016/0022-3999\(94\)90005-1](https://doi.org/10.1016/0022-3999(94)90005-1)
- Bailey, J., Nawaz, R. F., & Jackson, D. (2020). Acute mental health nurses' experience of forcibly touching service users during physical restraint. *International Journal of Mental Health Nursing*, 30(2), 401-412. <https://doi.org/10.1111/inm.12799>
- Balogun, A. G., Agesin, B. E., Ayodele, I. O., & Olowodunoye, S. A. (2023). Assessing the role of emotion regulation between fear of COVID-19 and mental health among frontline healthcare workers. *Journal of Workplace Behavioral Health*, 38(3), 274-292. <https://doi.org/10.1080/15555240.2023.2220968>
- Bamber, M. R. (2006). *CBT for occupational stress in health professionals: Introducing a schema-focused approach*. London and New York: Routledge.
- Bamber, M., & McMahon, R. (2008). Danger – Early maladaptive schemas at work!: The role of early maladaptive schemas in career choice and the development of occupational stress in health workers. *Clinical Psychology and Psychotherapy*, 15, 96-112. <https://doi.org/10.1002/cpp.564>
- Barley, E. A., Murray, J., Waters, P., & Tylee, A. (2011). Managing depression in primary care: A meta-synthesis of qualitative and quantitative research from the UK to identify barriers and facilitators. *BioMed Central Family Practice*, 47, 1-11. <https://doi.org/10.1186/1471-2296-12-47>
- Barlow, M. R., Goldsmith Turow, R. E., & Gerhart, J. (2017). Trauma appraisals, emotion regulation difficulties and self-compassion predict posttraumatic stress symptoms following childhood abuse. *Child Abuse & Neglect*, 65, 37-47. <https://doi.org/10.1016/j.chiabu.2017.01.006>

- Barnes, H. A., Hurley, R. A., & Taber, K. H. (2019). Moral injury and PTSD: Often co-occurring yet mechanistically different. *Journal of Neuropsychiatry and Clinical Neurosciences*, *31*(2), 98-103. <https://doi.org/10.1176/appi.neuropsych.19020036>
- Barrios, M., Guilera, G., Nuño, L., & Gómez-Benito, J. (2021). Consensus in the delphi method: What makes a decision change? *Technological Forecasting and Social Change*, *163*. <https://doi.org/10.1016/j.techfore.2020.120484>
- Battaglia, A. M., Protopopescu, A., Boyd, J. E., Lloyd, C., Jetly, R., O'Connor, C., Hood, H. K., Nazarov, A., Rhind, S. G., Lanius, R. A., & McKinnon, M. C. (2019). The relation between adverse childhood experiences and moral injury in the Canadian Armed Forces. *European Journal of Psychotraumatology*, *10*(1). <https://doi.org/10.1080/20008198.2018.1546084>
- Battles, A. R., Bravo, A. J., Kelley, M. L., White, T. D., Braitman, A. L., & Hamrick, H. C. (2018). Moral injury and PTSD as mediators of the associations between morally injurious experiences and mental health and substance use. *Traumatology*, *24*, 301-312.
- Battles, A. R., Jinkerson, J., Kelley, M. L., & Mason, R. A. (2021). Structural examination of moral injury and PTSD and their associations with suicidal behavior among combat veterans. *Journal of Community Engagement and Scholarship*, *13*(4). <https://doi.org/10.54656/VLKW1083>
- Baum, N. (2016). Secondary traumatization in mental health professionals: A systematic review of gender findings. *Trauma, Violence, & Abuse*, *17*(2), 221-235. <https://doi.org/10.1177/1524838015584357>
- Beaudoin, C., Leblanc, E., Gagner, C., & Beauchamp, M. H. (2020). Systematic review and inventory of theory of mind measures for young children. *Frontiers in Psychology*, *10*. <https://doi.org/10.3389/fpsyg.2019.02905>

- Beblo, T., Fernando, S., Kamper, P., Griepenstroh, J., Aschenbrenner, S., Pastuszak, A., Schlosser, N., & Driessen, M. (2013). Increased attempts to suppress negative and positive emotions in Borderline Personality Disorder. *Psychiatry Research, 210*(2), 505-509. <https://doi.org/10.1016/j.psychres.2013.06.036>
- Beck, A. T. (1976). *Cognitive therapy and emotional disorders*. New York: International Universities Press.
- Beck, A. T. (1983). Cognitive therapy of depression: New perspectives. In P. J. Clayton & J. E. Barrett (Eds.), *Treatment of depression. Old controversies and new approaches* (pp. 265-284). New York: Raven Press.
- Békés, V., Szabó, D., E. E. Lévy., Salgó, E., & Unoka, Z. (2023). Moral injury and shame mediate the relationship between childhood trauma and borderline personality disorder, PTSD, and complex PTSD symptoms in psychiatric inpatients. *Journal of Personality Disorders, 37*(4). <https://doi.org/10.1521/pedi.2023.37.4.406>
- Bellis, M. A., Hughes, K., Leckenby, N., Perkins, C., & Lowey, H. (2014). National household survey of adverse childhood experiences and their relationship with resilience to health-harming behaviors in England. *BMC Medicine, 12*. <https://doi.org/10.1186/1741-7015-12-72>
- Benatov, J., Zerach, G., & Levi-Belz, Y. (2022). Moral injury, depression, and anxiety symptoms among health and social care workers during the COVID-19 pandemic: The moderating role of belongingness. *International Journal of Social Psychiatry, 68*(5), 1026-1035. <https://doi.org/10.1177/00207640221099421>
- Bendall, E. (2006). Learning for reality. *Journal of Advanced Nursing, 53*(1), 14-17. <https://doi.org/10.1111/j.1365-2648.2006.03657>



- Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behaviour research and therapy*, 42(10), 1129-1148. <https://doi.org/10.1016/j.brat.2003.08.008>
- Bennett, H., & Wells, A. (2010). Metacognition, memory disorganization and rumination in posttraumatic stress symptoms. *Journal of Anxiety Disorders*, 24, 318-325. <https://doi.org/10.1016/j.janxdis.2010.01.004>
- Bercier, M. L., & Maynard, B. R. (2015). Interventions for secondary traumatic stress with mental health workers: A systematic review. *Research on Social Work Practice*, 25(1), 81-89. <https://doi.org/10.1177/1049731513517142>
- Berdida, D. J. E. (2023). The mediating roles of moral courage and moral resilience between nurses' moral distress and moral injury: An online cross-sectional study. *Nurse Education in Practice*, 71. <https://doi.org/10.1016/j.nepr.2023.103730>
- Bianchi, R., & Brisson, R. (2019). Burnout and depression: Causal attributions and construct overlap. *Journal of Health Psychology*, 24(11), 1574-1580. <https://doi.org/10.1177/1359105317740415>
- Bianchi, R., & Schonfeld, I. S. (2018). Burnout-depression overlap: Nomological network examination and factor-analytic approach. *Scandinavian Journal of Psychology*, 59(5), 532-539. <https://doi.org/10.1111/sjop.12460>
- Bianchi, R., Schonfeld, I. S., & Laurent, E. (2015). Burnout-depression overlap: A review. *Clinical Psychology Review*, 36, 28-41. <https://doi.org/10.1016/j.cpr.2015.01.004>
- Bipeta, R. (2019). Legal and ethical aspects of mental health care. *Indian Journal of Psychological Medicine*, 41(2), 108-112. [https://doi.org/10.4103/IJPSYM.IJPSYM\\_59\\_19](https://doi.org/10.4103/IJPSYM.IJPSYM_59_19)

- Blasi, A. (2004). Moral functioning: Moral understanding and personality. In D. K. Lapsley & D. Narvaez (Eds.), *Moral development, self, and identity* (pp. 335-347). Lawrence Erlbaum Associates Publishers.
- Bomyea, J., Risbrough, V., & Lang, A. J. (2012). A consideration of select pre-trauma factors as key vulnerabilities in PTSD. *Clinical Psychology Review, 32*(7), 630-641.  
<https://doi.org/10.1016/j.cpr.2012.06.008>
- Bonson, A., Murphy, D., Aldridge, V., Greenberg, N., & Williamson, V. (2023). Conceptualisation of moral injury: A socio-cognitive perspective. *Journal of Military, Veteran and Family Health, 9*(2), 75-81. <https://doi.org/10.3138/jmvfh-2022-0034>
- Borges, L. M., Barnes, S. M., Farnsworth, J. K., Drescher, K. D., & Walser, R. D. (2020). A contextual behavioral approach for responding to moral dilemmas in the age of COVID-19. *Journal of Contextual Behavioral Science, 9*, 95-101.  
<https://doi.org/10.1016/j.jcbs.2020.06.006>
- Boscarino, J. A., Adams, R. E., Wingate, T. J., Boscarino, J. J., Urosevich, T. G., Hoffman, S. N., Kirchner, H. L., Figley, C. R., & Nash, W. P. (2022). Impact and risk of moral injury among deployed veterans: Implications for Veterans and Mental Health. *Frontiers in Psychiatry, 13*. <https://doi.org/10.3380/fpsy.2022.899084>
- Bowers, L., Stewart, D, Papadopoulos, C., Dack, C., Ross, J., Khanom, H., & Jeffery, D. (2011). *Inpatient violence and aggression. Report from the conflict and containment reduction research programme.*
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development.* Routledge.
- Bradley, H. B. (1969). Community-based treatment for young adult offenders. *Crime & Delinquency, 15*(3), 359-370. <https://doi.org/10.1177/001112876901500307>

- Brady, C., Fenton, C., Loughran, O., Hayes, B., Hennessy, M., Higgins, A., Leroi, I., Shanagher, D., & McLoughlin, D. M. (2022). Nursing home staff mental health during the Covid-19 pandemic in the Republic of Ireland. *International Journal of Geriatric Psychiatry*, 37(1). <https://doi.org/10.1002/gps.5648>
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. London: Sage.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Bravo, A. J., Kelley, M. L., Mason, R., Ehlke, S., Vinci, C., & Redman, J. C. (2020). Rumination as a mediator of the associations between moral injury and mental health problems in combat-wounded veterans. *Traumatology*, 26(1), 52-60. <https://doi.org/10.1037/trm0000198>
- Brennan, C. J., McKay, M. T., & Cole, J. C. (2022). Morally injurious events and post-traumatic embitterment disorder in UK health and social care professionals during COVID-19: A cross-sectional web survey. *BMJ Open*, 12(5), <https://doi.org/10.1136/bmjopen-2021-054062>
- British Medical Association. (2019). *Measuring progress: Commitments to support and expand the mental health workforce in England*. Available at: <https://www.bma.org.uk/media/2405/bma-measuring-progress-of-commitments-for-mental-health-workforce-jan-2020.pdf>
- British Medical Association. (2021). *Moral distress and moral injury: Recognising and tackling it for UK doctors*. Available at: <https://www.bma.org.uk/media/4209/bma-moral-distress-injury-survey-report-june-2021.pdf>
- Britten, N., Campbell, R., & Pope, C. (2002). Using meta-ethnography to synthesise qualitative research: A worked example. *Journal of Health Services Research & Policy*, 7(4), 209-215. <https://doi.org/10.1258/1902320432732>

- Brock, R. N., & Letitini, G. (2012). *Soul repair: Recovering from moral injury after war*. Boston: Beacon Press.
- Bronfenbrenner, U. (1974). Developmental research, public policy, and the ecology of childhood. *Child Development*, 45(1), 1-5.
- Brotheridge, C. M., & Lee, R. T. (2003). Development and validation of the Emotional Labour Scale. *Journal of Occupational and Organizational Psychology*, 76(3), 365-379. <https://doi.org/10.1348/096317903769647229>
- Bruschwein, H., & Gettle, L. S. (2020). Multipronged intervention for reducing burnout and increasing resiliency in an interdisciplinary care team. *BMJ Open Quality*, 9. <https://doi.org/10.1136/bmjoq-2020-001015>
- Bryan, C. J., Bryan, A. O., Anestis, M. D., Anestis, J. C., Green, B. A., Etienne, N., Morrow, C. E., & Ray-Sannerud, B. (2015). Measuring moral injury: Psychometric properties of the Moral Injury Events Scale in two military samples. *Assessment*, 23(5), 557-570. <https://doi.org/10.1177/1073191115590855>
- Bryan, C. J., Bryan, A. O., Roberge, E., Leifker, F. R., & Rozek, D. C. (2018). Moral injury, posttraumatic stress disorder and suicidal behavior among national guard personnel. *Psychological Trauma: Theory, Research, Practice, and Policy*, 10, 36-45. <https://doi.org/10.1037/tra0000290>
- Bryant, R. A., Felmingham, K. L., Malhi, G., Andrew, E., & Korgaonkar, M. S. (2020). The distinctive neural circuitry of complex posttraumatic stress disorder during threat processing. *Psychological Medicine*, 51(7), 1121-1128. <https://doi.org/10.1017/S0033291719003921>
- Buchan, J., Charlesworth, A., Gershlick, B., & Seccombe, I. (2019). A critical moment: NHS staffing trends, retention and attrition. The Health Foundation. <https://www.health.org.uk/publications/reports/a-critical-moment>

- Buchanan, M., Anderson, J. O., Uhlemann, M. R., & Horwitz, E. (2006). Secondary traumatic stress: An investigation of Canadian mental health workers. *Traumatology, 12*(4), 272-281. <https://doi.org/10.1177/1534765606297817>
- Caesens, G., & Stinglhamber, F. (2014). The relationship between perceived organizational support and work engagement: The role of self-efficacy and its outcomes. *European Review of Applied Psychology, 64*(5), 259-267. <https://doi.org/10.1016/j.erap.2014.08.002>
- Cahill, J. M., Moyse, A. J., & Dugdale, L. S. (2023). “Ruptured selves: Moral injury and wounded identity”. *Medicine, Health Care and Philosophy, 26*, 225-231. <https://doi.org/10.1007/s11019-023-10138-y>
- Campbell, R., Pound, P., Morgan, M., Daker-White, G., Britten, N., Pill, R., Yardley, L., Pope, C., Donovan, J. (2011). Evaluating meta-ethnography: Systematic analysis and synthesis of qualitative research. *Health Technology Assessment, 15*(43), 1-164. <https://doi.org/10.3310/hta15430>
- Čartolovni, A., Stolt, M., Scott, P. A., & Suhonen, R. (2021). Moral injury in healthcare professionals: A scoping review and discussion. *Nursing Ethics, 28*(5), 590-602. <https://doi.org/10.1177/0969733020966776>
- Cavanagh, N., Cockett, G., Heinrich, C., Doig, L., Fiest, K., Guichon, J. R., Page, S., Mitchell, I., & Doig, C. J. (2020). Compassion fatigue in healthcare providers: A systematic review and meta-analysis. *Nursing Ethics, 27*(3), 639-665. <https://doi.org/10.1177/0969733019889400>
- Charuvastra, A., & Cloitre, M. (2008). Social bonds and posttraumatic stress disorder. *Annual Review of Psychology, 59*, 301-328. <https://doi.org/10.1146/annurev.psych.58.110405.085650>

- Chatzittofis, A., Constantinidou, A., Artemiadis, A., Michailidou, K., & Karanikola, M. N. K. (2021). The role of perceived organizational support in mental of healthcare workers during the COVID-19 pandemic: A cross-sectional study. *Frontiers in Psychiatry, 12*. <https://doi.org/10.3389/fpsyt.2023.707293>
- Chervonsky, E., & Hunt, C. (2017). Suppression and expression of emotion in social and interpersonal outcomes: A meta-analysis. *Emotion, 17*(4), 669-683. <https://doi.org/10.1037/emo0000270>
- Chestnut, R. P., Richardson, C. B., Morgan, N. R., Bleser, J. A., Perkins, D. F., Vogt, D., Copeland, L. A., & Finley, E. (2020). Moral injury and social well-being: A growth curve analysis. *Journal of Traumatic Stress, 33*(4), 587-597. <https://doi.org/10.1002/jts.22567>
- Cheung, K. L., ten Klooster, P. M., Smit, C., de Vries, H., & Pieterse, M. E. (2017). The impact of non-response bias due to sampling in public health studies: A comparison of voluntary versus mandatory recruitment in a Dutch national survey on adolescent health. *BMC Public Health, 17*. <https://doi.org/10.1186/s12889-017-4189-8>
- Choi, K. R., Hughesdon, K., Britton, L., Sinko, L., Wells, C., Giordano, N., Sarna, L., & Heilemann, M. V. (2021). Interpersonal trauma in the lives of nurses and perceptions of nursing work. *Western Journal of Nursing Research, 44*(8), 734-742. <https://doi.org/10.1177/01939459211015894>
- Chou, S. P., Huang, B., Goldstein, R., & Grant, B. F. (2013). Temporal associations between physical illnesses and mental disorder – Results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *Comprehensive Psychiatry, 54*(6), 627-638. <https://doi.org/10.1016/j.comppsy.2012.12.020>

- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310-357. <https://doi.org/10.1037//0033-2909.98.2.310>
- Cook, L. J., Hassem, T., Laher, S., Variava, T., & Schutte, E. (2021). Mental health experiences of healthcare professionals during COVID-19. *SA Journal of Industrial Psychology*, 47, <https://doi.org/10.4102.sajip.v47i0.1865>
- Corley, M. C. (2002). Nurse moral distress: A proposed theory and research. *Nursing Ethics*, 9(6), 636-650. <https://doi.org/10.1191/0969733002ne557oa>
- Costa, V., Monteiro, S., Cunha, A. I., Pereira, H., & Esgalhado, G. (2024). Job stress and burnout among prison staff: A systematic literature review. *Journal of Criminal Psychology*. <https://doi.org/10.1108/JCP-10-2023-0067>
- Couette, M., Mouchabac, S., Bourla, A., Nuss, P., & Ferreri, F. (2020). Social cognition in post-traumatic stress disorder: A systematic review. *British Journal of Clinical Psychology*, 59(2), 117-138. <https://doi.org/10.1111/bjc.12238>
- Cramer, A. O. J., Waldorp, L. J., van der Maas, H. L. J., & Borsboom, D. (2010). Comorbidity: A network perspective. *Behavioral and Brain Sciences*, 33, 137-193. <https://doi.org/10.1017/S0140525X09991567>
- Currier, J. M., Farnsworth, J. K., Drescher, K. D., McDermott, R. C., Sims, B. M., Albright, D. L. (2017). Development and evaluation of the Expressions of Moral Injury Scale – Military Version. *Clinical Psychology and Psychotherapy*, 25(3), 474-488. <https://doi.org/10.1002/cpp.2170>
- Cusack, P., Cusack, F. P., McAndrew, S., McKeown, M., & Duxbury, J. (2018). An integrative review exploring the physical and psychological harm inherent in using restraint in mental health inpatient settings. *International Journal of Mental Health Nursing*, 27(3), 1162-1176. <https://doi.org/10.1111/inm.12432>

- Cutuli, D. (2014). Cognitive reappraisal and expressive suppression strategies role in the emotion regulation: An overview on their modulatory effects and neural correlates. *Frontiers in Systems Neuroscience*, 8. <https://doi.org/10.3389/fnsys.2014.00175>
- Cyr, S., Marcil, M. -J., Marin, M. -F., Tardif, J. -C., Guay, S., Guertin, M. -C., Rosa, C., Genest, C., Forest, J., Lavoie, P., Labrosse, M., Vadenboncoeur, A., Selcer, S., Ducharme, S., & Brouillette, J. (2021). Factors associated with burnout, post-traumatic stress and anxio-depressive symptoms in healthcare workers 3 months into the COVID-19 pandemic: An observational study. *Frontiers in Psychiatry*. <https://doi.org/10.3389/fpsyt.2021.668278>
- d'Ettorre, G., & Pellicani, V. (2017). Workplace violence toward mental healthcare workers employed in psychiatric wards. *Safety and Health at Work*, 8(4), 337-342. <https://doi.org/10.1016/j.shaw.2017.01.004>
- Dale, L. P., Cuffe, S. P., Sambuco, N., Guastello, A. D., Leon, K. G., Nunez, L. V., Bhullar, A., Allen, B. R., & Matthews, C. A. (2021). Morally distressing experiences, moral injury, and burnout in Florida healthcare providers during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 18(23). <https://doi.org/10.3390/ijerph182312319>
- Dalkey, N., & Helmer, O. (1963). An experimental application of the Delphi Method to the use of experts. Santa Monica, CA: The RAND Corporation.
- Dancey, C. and Reidy, J. (2004) *Statistics without Maths for Psychology: using SPSS for Windows*. Prentice Hall, London.
- Danda, M. C. (2020). Putting restraint on chemical restraint: Exploring the complexity of acute inpatient mental health nurses' experiences of chemical restraint interventions. *Witness: The Canadian Journal of Critical Nursing Discourse*, 2(2), 29-53. <https://doi.org/10.25071/2291-5796.75>



- Dang, S., Sharma, P., & Shekhawat, L. S. (2019). Cognitive schemas among mental health professionals and other health professionals. *Indian Journal of Psychological Medicine, 41*(3), 258-265. [https://doi.org/10.4103/IJPSYM.IJPSYM\\_194\\_18](https://doi.org/10.4103/IJPSYM.IJPSYM_194_18)
- Davis, L. W., Leonhardt, B. L., Siegel, A., Brustuen, B., Luedtke, B., Vohs, J. L., James, A. V., & Lysaker, P. H. (2016). Metacognitive capacity predicts severity of trauma-related dysfunctional cognitions in adults with post-traumatic stress disorder. *Psychiatry Research, 237*, 182-187. <https://doi.org/10.1016/j.psychres.2016.01.045>
- De Hert, M., Correll, C. U., Bobes, J., Cetkovich-Bakmas, M., Cohen, D., Asai, I., Detraux, J., Gautam, S., Möller, H. -J., Ndeti, D. M., Newcomer, J. W., Uwakwe, R., & Leucht, S. (2011). Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry, 10*(1), 52-77. <https://doi.org/10.1002/j.2051-5545.2011.tb00014.x>
- De Hert, M. (2020). Burnout in healthcare workers: Prevalence, impact and preventative strategies. *Local and Regional Anesthesia, 13*, 171-183. <https://doi.org/10.2147/LRA.S240564>
- De Hooge, I. E., Breugelmans, S. M., Wagemans, F. M. A., & Zeelenberg, M. (2018). The social side of shame: Approach versus withdrawal. *Cognition and Emotion, 32*(8), 1671-1677. <https://doi.org/10.1080/02699931.2017.1422696>
- De Hooge, I. E., Zeelenberg, M., & Breugelmans, S. M. (2010). Restore and protect motivations following shame. *Cognitive and Emotion, 24*(1), 111-127. <https://doi.org/10.1080/02699930802584466>
- Deady, R., & McCarthy, J. (2010). A study of the situations, features, and coping mechanisms experienced by Irish psychiatric nurses experiencing moral distress. *Perspectives in Psychiatric Care, 46*(3), 209-220. <https://doi.org/10.1111/j.1744-6163.2010.00260.x>

- Dean, W., Talbot, S., & Austin, D. (2019). Reframing clinician distress: Moral injury not burnout. *Federal Practitioner*, *36*(9), 400-402.
- Dedert, E. A., Dennis, P. A., Cunningham, K. C., Ulmer, C. S., Calhoun, P. S., Kimbrel, N., Neal, J. M., & Beckham, J. C. (2019). Roles of guilt cognitions in trauma-related sleep disturbance in military veterans with posttraumatic stress disorder. *Behavioral Sleep Medicine*, *17*(5), 595-604. <https://doi.org/10.1080/15402002.2018.1435544>
- Delfrate, F., Ferrara, P., Spotti, D., Terzoni, S., Lamiani, G., Canciani, E., & Bonetti, L. (2018). Moral distress (MD) and burnout in mental health nurses: A multicenter survey. *Medicina del Lavoro*, *109*(2), 97-109. <https://doi.org/10.23749/mdl.v109i2.6876>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499-512.
- Demerouti, E., Bakker, A. B., Vardakou, I., & Kantas, A. (2003). The convergent validity of two burnout instruments: A multi-trait multi-methods analysis. *European Journal of Psychological Assessment*, *19*(1), 12-23. <https://doi.org/10.1027/1015-5759.19.1.12>
- Demirdogen, E. S., Algedik, P., Warikoo, N., Bahadir, E., Akbiyik, M., Büyüktarakçi, S., Kadak, M. T., & Yavuz, M. (2022). The associations between metacognition problems, childhood trauma and internalizing symptoms in healthcare workers working directly with patients infected with COVID-19. *Psychology, Health & Medicine*, *27*(9), 1937-1950. <https://doi.org/10.1080/13548506.2021.1985147>
- Deplancke, C., Somerville, M. P., Harrison, A., & Vuillier, L. (2022). It's all about beliefs: Believing emotions are uncontrollable is linked to symptoms of anxiety and depression through cognitive reappraisal and expressive suppression. *Current Psychology*. <https://doi.org/10.1007/s12144-022-03252-2>

- Diamond, I. R., Grant, R. C., Feldman, B. M., Pencharz, P. B., Ling, S. C., Moore, A. M., Wales, P. W. (2021). Defining consensus: A systematic review recommends methodologic criteria for reporting of Delphi studies. *Journal of Clinical Epidemiology*, *67*(4), 401-409. <https://doi.org/10.1016/j.jclinepi.2013.12.002>
- Dickens, G., Picchioni, M., & Long, C. (2013a). Aggression in specialist secure and forensic inpatient mental health care: Incidence across care pathways. *The Journal of Forensic Practice*, *15*(3), 206-217. <https://doi.org/10.1108/JFP-09-2012-0017>
- Dickens, G., Piccirillo, M., & Alderman, N. (2013b). Causes and management of aggression and violence in a forensic mental health service: Perspectives of nurses and patients. *International Journal of Mental Health Nursing*, *22*(6), 532-544. <https://doi.org/10.1111/j.1447-0349.2012.00888.x>
- Downes, M. J., Brennan, M. L., Williams, H. C., & Dean, R. S. (2016). Development of a critical appraisal tool to assess the quality of cross-sectional studies (AXIS). *BMJ Open*, *6*(12). <https://doi.org/10.1136/bmjopen-2016-011458>
- Drescher, K. D., Foy, D. W., Kelly, C., Leshner, A., Schutz, K., & Litz, B. (2011). An exploration of the viability and usefulness of the construct of moral injury in war veterans. *Traumatology*, *17*(1), 8-13. <https://doi.org/10.1177/1534765610395615>
- Dryman, M. T., & Heimberg, R. G. (2018). Emotion regulation in social anxiety and depression: A systematic review of expressive suppression and cognitive reappraisal. *Clinical Psychology Review*, *65*, 17-42. <https://doi.org/10.1016/j.cpr.2018.07.004>
- Dutheil, F., Aubert, C., Pereira, B., Dambrun, M., Moustafa, F., Mermillod, M., Baker, J. S., Trousselard, M., Lesage, F., -X., & Navel, V. (2019). Suicide among physicians and health-care workers: A systematic review and meta-analysis. *PLoS One*, *14*(12). <https://doi.org/10.1371/journal.pone.0226361>

- Dyer, N. L., Adan, F., Barnett, T., & Dusek, J. A. (2022). Assessment of healthcare professionals' well-being during a peak of the COVID-19 pandemic in a healthcare system in Ohio. *Global Advances in Health and Medicine, 11*, 1-9. <https://doi.org/10.1177/2164957X221089258>
- Easterbrook, B., Plouffe, R. A., Houle, S. A., Liu, A., McKinnon, M. C., Ashbaugh, A. R., Mota, N., Afifi, T. O., & Enns, M. W. (2022). Risk factors for moral injury among Canadian armed forces personnel. *Frontiers in Psychiatry, 13*. <https://doi.org/10.3389/fpsy.2022.892320>
- Edú-Valsania, S., Laguía, A., & Moriano, J. A. (2022). Burnout: A review of theory and measurement. *International Journal of Environmental Research and Public Health, 19*(3). <https://doi.org/10.3390/ijerph19031780>
- Edwards, E., Leahy, R., & Snyder, S. (2022). Patterns of emotional schema endorsement and personality disorder symptoms among outpatient psychotherapy clients. *Motivation and Emotion, 47*, 412-422. <https://doi.org/10.1007/s11031-022-10000-3>
- Edwards, E. R., Liu, Y., Ruiz, D., Brosowsky, N. P., & Wupperman, P. (2021). Maladaptive emotional schemas and emotional functioning: Evaluation of an integrated model across two independent samples. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 39*, 428-455. <https://doi.org/10.1007/s10942-020-00379-8>
- Edwards, E. R., & Wupperman, P. (2019). Research on emotional schemas: A review of findings and challenges. *Clinical Psychologist, 23*(1), 3-14. <https://doi.org/10.1111/cp.12171>
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy, 38*(4), 319-345. [https://doi.org/10.1016/s0005-7967\(99\)00123-0](https://doi.org/10.1016/s0005-7967(99)00123-0)

- Eichhorn, S., Brähler, E., Matthias, F., Friedrich, M., & Heide, G. (2014). Traumatic experiences, alexithymia, and posttraumatic symptomatology: A cross-sectional population-based study in Germany. *European Journal of Psychotraumatology*. <https://doi.org/10.3402/ejpt.v5.23870>
- Eisenberger, S., Huntingdon, R., Hutchinson, S., & Sowa, D. (1986). Perceived organisational support. *Journal of Applied Psychology, 71*, 500-507. <https://doi.org/10.1037/0021-9010.71.3.500>
- Elwood, L. S., Hahn, K. S., Olatunji, B. O., & Williams, N. L. (2009). Cognitive vulnerabilities to the development of PTSD: A review of four vulnerabilities and the proposal of an integrative vulnerability model. *Clinical Psychology Review, 29*(1), 87-100.
- Elwood, L. S., Williams, N. L., Olatunji, B. O., & Lohr, J. M. (2007). Interpretation biases in victims and non-victims of interpersonal trauma and their relation to symptom development. *Journal of Anxiety Disorders, 21*, 554-567. <https://doi.org/10.1016/j.janxdis.2006.08.006>
- Escobar-Chua, R. L. (2018). Moral sensitivity, moral distress, and moral courage among baccalaureate Filipino nursing students. *Nursing Ethics, 25*(4), 458-469. <https://doi.org/10.1177/0969733016654317>
- d'Ettorre, G., & Pellicani, V. (2017). Workplace violence toward mental healthcare workers employed in psychiatric wards. *Safety and Health at Work, 8*(4), 337-342. <https://doi.org/10.1016/j.shaw.2017.01.004>
- Evans, S. E., Steel, A. L., & DiLillo, D. (2013). Child maltreatment severity and adult trauma symptoms: Does perceived social support play a buffering role? *Child Abuse & Neglect, 37*(11), 934-943. <https://doi.org/10.1016/j.chiabu.2013.03.005>

- Fani, N., Currier, J. M., Turner, M. D., Guelfo, A., Kloess, M., Jain, J., Mekawi, Y., Kuzyk, E., Hinrichs, R., Bradley, B., Powers, A., Stevens, J. S., Michopoulos, V., & Turner, J. A. (2021). Moral injury in civilians: Associations with trauma exposure, PTSD, and suicide behavior. *European Journal of Psychotraumatology*, *12*.  
<https://doi.org/10.1080/20008198.2021.1965464>
- Farnsworth, J. K., Drescher, K. D., Evans, W., & Walser, R. D. (2017). A functional approach to understanding and treating military-related moral injury. *Journal of Contextual Behavioral Science*, *6*(4), 391-397.  
<https://doi.org/10.1016/j.jcbs.2017.07.003>
- Faustino, B., & Vasco, A. B. (2021). Emotional schemas mediate the relationship between emotion regulation and symptomatology. *Current Psychology*, *42*, 2733-2739.  
<https://doi.org/10.1007/s12144-021-01560-7>
- Faustino, B., Vasco, A. B., Silva, A. N., & Marques, T. (2020). Relationships between emotional schemas, mindfulness, self-compassion and unconditional self-acceptance on the regulation of psychological needs. *Research in Psychotherapy*, *23*(2).  
<https://doi.org/10.4081/ripppo.2020.442>
- Feast, A., Orrell, M., Charlesworth, G., Poland, F., Featherstone, K., Melunsky, N., & Moniz-Cook, E. (2018). Using meta-ethnography to synthesize relevant studies: Capturing the bigger picture in dementia with challenging behavior within families. *SAGE Research Methods Cases Part 2*. <https://doi.org/10.4135/9781526444899>
- Feinberg, M., Willer, R., Antonenko, O., & John, O. P. (2012). Liberating reason from the passions: Overriding intuitionist moral judgements through emotion reappraisal. *Psychological Science*, *23*(7) 788-795. <https://doi.org/10.1177/0956797611434747>
- Feingold, D., Zerach, G., & Levi-Belz, Y. (2019). The association between moral injury and substance use among Israeli combat veterans: the mediating role of distress and

- perceived social support. *International Journal of Mental Health and Addiction*, 17, 217-233. <https://doi.org/10.1007/s11469-018-0012-8>
- Feinstein, A., Pavisian, B., & Storm, H. (2018). Journalists covering the refugee and migration crisis are affected by moral injury not PTSD. *JRSM Open*, 9(3). <https://doi.org/10.1177/2054270418759010>
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245-258. [https://doi.org/10.1016/s0749-3797\(98\)00017-8](https://doi.org/10.1016/s0749-3797(98)00017-8)
- Ferrajão, P. C., & Oliveira, R. A. (2014). Self-awareness of mental states, self-integration of personal schemas, perceived social support, posttraumatic and depression levels, and moral injury: A mixed-method study among Portuguese war veterans. *Traumatology*, 20(4), 277–285. <https://doi.org/10.1037/trm0000016>
- Ferrajão, P. C., & Oliveira, R. A. (2015). From self-integration in personal schemas of morally experiences to self-awareness of mental states: A qualitative study among a sample of Portuguese war veterans. *Traumatology*, 21(1), 22-31. <https://doi.org/10.1037/trm0000019>
- Fessler, D. M. T. (2004). Shame in two cultures: Implications for evolutionary approaches. *Journal of Cognition and Culture*, 4(2), 207-262. <https://doi.org/10.1163/1568537041725097>
- Finlay, L. D. (2015). Evidence-based trauma treatment: Problems with a cognitive reappraisal of guilt. *Journal of Theoretical and Philosophical Psychology*, 35(4), 220-229. <https://doi.org/10.1037/teo0000021>

Fleming, W. H. (2021). Moral injury and the absurd: The suffering of moral paradox. *Journal of Religion and Health*, 60, 3012-3033. <https://doi.org/10.1007/s10943-021-01227-4>

Fleming, W. J. (2024). Employee well-being outcomes from individual-level mental health interventions: Cross-sectional evidence from the United Kingdom. *Industrial Relations Journal*, 55(2), 162-182. <https://doi.org/10.1111/irj.12418>

Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin*, 99(1), 20-35. <https://doi.org/10.1037/0033-2909.99.1.20>

Foa, E. B., Steketee, G., & Rothbaum, B. O. (1989). Behavioral-cognitive conceptualization of post-traumatic stress disorder. *Behavior Therapy*, 20(2), 155-176. [https://doi.org/10.1016/S0005-7894\(89\)80067-X](https://doi.org/10.1016/S0005-7894(89)80067-X)

Ford, J. D., & Courtois, C. A. (2021). Complex PTSD and borderline personality disorder. *Borderline Personality Disorder and Emotion Dysregulation*, 8. <https://doi.org/10.1186/s40479-021-00155-9>

Forkus, S. R., Breines, J. G., & Weiss, N. H. (2019). Morally injurious experiences and mental health: The moderating role of self-compassion. *Psychological Trauma: Theory, Research, Practice, and Policy*, 11(6), 630-638. <https://doi.org/10.1037/tra0000446>

Foster, C., & Smedley, K. (2019). Understanding the nature of mental health nursing within CAMHS PICU: 2. Staff experience and support needs. *Journal of Psychiatric Intensive Care*, 15(2), 103-115. <https://doi.org/10.20299/jpi.2019.013>

Fowler, D., Freeman, D., Smith, B., Kuipers, E., Bebbington, P., Bashforth, H., Coker, S., Hodgekins, J., Gracie, A., Dunn, G., Garety, P. (2006). The Brief Core Schema Scales (BCSS): Psychometric properties and associations with paranoia and grandiosity in



non-clinical and psychosis samples. *Psychological Medicine*, 36(6), 749-759.

<https://doi.org/10.1017/S0033291706007355>

France, E. F., Cunningham, M., Ring, N., Uny, I., Duncan, E. A., Jepson, R. G., Maxwell, M., Roberts, R. J., Turley, R. L., Booth, A., Britten, N., Flemming, K., Gallagher, I., Garside, R., Hannes, K., Lewin, S., Noblit, G. W., Pope, C., Thomas, J., Vanstone, M. et al. (2019a). Improve reporting of meta-ethnography: The eMERGe reporting guidance. *BMC Medical Research Methodology*, 19. <https://doi.org/10.1186/s12874-018-0600-0>

France, E. F., Ring, N., Thomas, R., Noyes, J., Maxwell, M., & Jepson, R. (2014). A methodological systematic review of what's wrong with meta-ethnography reporting. *BMC Medical Research Methodology*, 14. <https://doi.org/10.1186/1471-2288-14-119>

France, E. F., Uny, I., Ring, N., Turley, R. L., Maxwell, M., Duncan, E. A. S., Jepson, R. G., Roberts, R. J., & Noyes, J. (2019b). A methodological systematic review of meta-ethnography conduct to articulate the complex analytical phases. *BMC Medical Research Methodology*, 19. <https://doi.org/10.1186/s12874-019-0670-7>

France, E. F., Wells, M., Lang, H., & Williams, B. (2016). Why, when and how to update a meta-ethnography qualitative synthesis. *Systematic Reviews*, 5. <https://doi.org/10.1186/s13643-016-0218-4>

Franzel, B., Schwiegershausen, M., Heusser, P., & Berger, B. (2013). Individualised medicine from the perspectives of patients using complementary therapies: A meta-ethnography approach. *BMC Complementary Medicine and Therapies*, 13. <https://doi.org/10.1186/1472-6882-13-124>

Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues*, 30(1), 159-165. <https://doi.org/10.1111/j.1540-4560.1974.tb00706.x>

- Frost, R., Murphy, J., Hyland, P., Shevlin, M., Ben-Ezra, M., Hansen, M., Armour, C., McCarthy, A., Cunningham, T., & McDonagh, T. (2020). Revealing what is distinct by recognising what is common: Distinguishing between complex PTSD and borderline personality disorder symptoms using bifactor modelling. *European Journal of Psychotraumatology*, *11*(1). <https://doi.org/10.1080/20008198.2020.1836864>
- García-Batista, Z. E., Guerra-Peña, K., Kandany, V. N., Marte, M. I., Garrido, L. E., Cantisano-Guzmán, L. M., Moretti, L., & Medrano, L. A. (2021). COVID-19 pandemic and health worker stress: The mediating effect of emotional regulation. *PLoS One*, *16*(11). <https://doi.org/10.1371/journal.pone.0259013>
- Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and Individual Differences*, *30*(8), 1311-1327. [https://doi.org/10.1016/S0191-8869\(00\)00113-6](https://doi.org/10.1016/S0191-8869(00)00113-6)
- Giano, Z., Wheeler, D., & Hubach, R. D. (2020). The frequencies and disparities of adverse childhood experiences in the U.S. *BMC Public Health*, *20*(1). <https://doi.org/10.1186/s12889-020-09411-z>
- Gibb, B. E., Schofield, C. A., & Coles, M. E. (2009). Reported history of childhood abuse and young adults processing biases for facial displays of emotion. *Child Maltreatment*, *14*(2), 148-156. <https://doi.org/10.1177/1077559508326358>
- Gilbert, P. (1997). The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy. *British Journal of Medical Psychology*, *70*(2), 113-147. <https://doi.org/10.1111/j.2044-8341.1997.tb01893.x>
- Gilbert-Ouimet, M., Zahiriharsini, A., Biron, C., Langlois, L., Ménard, C., Lebel, M., Pelletier, J., Duchaine, C., Beaulieu, M., & Truchon, M. (2022). Predict, prevent and manage moral injuries in Canadian frontline healthcare workers and leaders facing the

- COVID-19 panemic: Protocol of a mixed methods study. *SSM Mental Health*, 2.  
<https://doi.org/10.1016/j.ssmmh.2022.100124>
- Glazer, J. (2022). A devil's bargain: Teachers' decision to transfer and moral injury. *Teachers and Teaching*, 28(1), 118-129.  
<https://doi.org/10.1080/13540602.2022.2027363>
- Gómez de la Cuesta, G., Schweizer, S., Diehle, J., Young, J., & Meiser-Stedman, R. (2019). The relationship between maladaptive appraisals and posttraumatic stress disorder: A meta-analysis. *European Journal of Psychotraumatology*, 10.  
<https://doi.org/10.1080/20008198.2019.1620084>
- Gray, M. J., Nash, W. P., & Litz, B. T. (2017). When self-blame is rational and appropriate: The limited utility of socratic questioning in the context of moral injury: Commentary on Wachen et al. (2016). *Cognitive and Behavioral Practice*, 24(4), 383-387.  
<https://doi.org/10.1016/j.cbpra.2017.03.001>
- Gross, C. A., & Hansen, N. E. (2000). Clarifying the experience of shame: The role of attachment style, gender, and investment in relatedness. *Personality and Individual Differences*, 28(5), 897-907. [https://doi.org/10.1016/S0191-8869\(99\)00148-8](https://doi.org/10.1016/S0191-8869(99)00148-8)
- Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology*, 74(1), 224-237. <https://doi.org/10.1037/0022-3514.74.1.224>
- Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, 39, 281-291. <https://doi.org/10.1017.S0048577201393198>
- Gross, J. J. (2015). The extended process model of emotion regulation: Elaborations, applications and future directions. *Psychological Inquiry*, 26(1), 130-137.  
<https://doi.org/10.1080/1047840X.2015.989751>

- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348-362.
- Gupta, U. G., & Clarke, R. E. (1996). Theory and applications of the Delphi technique: A bibliography (1975-1994). *Technological Forecasting and Social Change, 53*, 185-211.
- Guzys, D. (2021). Moral distress: A theorized model of influences to facilitate mitigation and resilience. *Nursing and Health Sciences, 23*(3), 658-664.  
<https://doi.org/10.1111/nhs.12827>
- Haight, W., Sugrue, E., Calhoun, M., & Black, J. (2017). Everyday coping with moral injury: The perspectives of professionals and parents involved with child protection services. *Children and Youth Services Review, 82*, 108-121.  
<https://doi.org/10.1016/j.childyouth.2017.09.025>
- Hall, N. A., Everson, A. T., Billingsley, M. R., & Miller, M. B. (2022). Moral injury, mental health and behavioural health outcomes: A systematic review of the literature. *Clinical Psychology and Psychotherapy, 29*(1), 92-110.  
<https://doi.org/10.1002/cpp.2607>
- Hamaideh, S. H. (2014). Moral distress and its correlates among mental health nurses in Jordan. *International Journal of Mental Health Nursing, 23*, 33-41.  
<https://doi.org/10.1111/inm.12000>
- Havens, J., Hughes, J. H., McMaster, F., & Kinglerlee, R. (2018). Planned dream interventions: A pragmatic randomized control trial to evaluate a psychological treatment for traumatic nightmares in UK military veterans. *Military Behavioral Health, 7*(4), 401-413. <https://doi.org/10.1080/21635781.2018.1526148>

- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hayes, A. F. (2022). PROCESS (Version 4.1) [Computer software].  
<https://www.processmacro.org/download.html>
- Hegarty, S., Lamb, D., Stevelink, S. A. M., Bhundia, R., Raine, R., Doherty, M. J., Scott, H. R., Rafferty, A. M., Williamson, V., Dorrington, S., Hotopf, M., Razavi, R., Greenberg, N., & Wessely, S. (2022). 'It hurts your heart': Frontline healthcare worker experiences of moral injury during the COVID-19 pandemic. *European Journal of Psychotraumatology*, *13*. <https://doi.org/10.1080/20008066.2022.2128028>
- Heleniak, C., Jenness, J. L., Vander Stoep, A., McCauley, E., & McLaughlin, K. A. (2016). Childhood maltreatment exposure and disruptions in emotion regulation: A transdiagnostic pathway to adolescent internalizing and externalizing psychopathology. *Cognitive Therapy and Research*, *40*(3), 394-415.  
<https://doi.org/10.1007/s10608-015-9735-z>
- Hem, M. H., Molewijk, B., & Pedersen, R. (2014). Ethical challenges in connection with the use of coercion: A focus group study of health care personnel in mental health care. *BMC Medical Ethics*, *15*. <https://doi.org/10.1186/1472-6939-15-82>
- Hennessy, B., Hunter, A., Grealish, A. (2022). A qualitative synthesis of patients' experiences of re-traumatization in acute mental health inpatient settings. *Journal of Psychiatric and Mental Health Nursing*, *30*(3), 398-434.  
<https://doi.org/10.1111/jpm.12889>
- Hill, J. E., Harris, C., Danielle, C., Boland, P., Doherty, A. J., Benedetto, V., Gita, B. E., & Clegg, A. J. (2022). The prevalence of mental health conditions in healthcare workers during and after a pandemic: Systematic review and meta-analysis. *Journal of Advanced Nursing*, *78*(6), 1551-1573. <https://doi.org/10.1111/jan.15175>

Hine, D. (2007). *Principles and paradoxes in healthcare: A challenge to professionalism?*

The Nuffield Trust. <https://www.nuffieldtrust.org.uk/files/2017-01/principles-paradoxes-modern-healthcare-web-final.pdf>

Hines, S. E., Chin, K. H., Levine, A. R., & Wickwire, E. M. (2020). Initiation of a survey of healthcare worker distress and moral injury at the onset of the COVID-19 surge.

*American Journal of Industrial Medicine*, 63(9), 830-833.

<https://doi.org/10.1002/ajim.23157>

Hitlin, S. (2011). Values, personal identity, and the moral self. In S. Schwartz, K. Luyckx, & V. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 515-529).

Springer. [https://doi.org/10.1007/978-1-4419-7988-9\\_20](https://doi.org/10.1007/978-1-4419-7988-9_20)

Hobfoll, S. E. (1989). Conservation of resources. A new attempt at conceptualizing stress.

*The American Psychologist*, 44(3), 513-524. [https://doi.org/10.1037//0003-](https://doi.org/10.1037//0003-066x.44.3.513)

[066x.44.3.513](https://doi.org/10.1037//0003-066x.44.3.513)

Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*.

University of California Press: Berkeley, CA.

Hodgson, T. J., & Carey, L. B. (2017). Moral injury and definitional clarity: Betrayal,

spirituality and the role of chaplains. *Journal of Religion and Health*, 56(4), 1212-

1228. <https://doi.org/10.1007/s10943-017-0407-z>

Hoffman, J., Liddell, B., Bryant, R. A., & Nickerson, A. (2019). A latent profile analysis of moral injury appraisals in refugees. *European Journal of Psychotraumatology*, 10(1).

<https://doi.org/10.1080/20008198.2019.1686805>

Hoffman, J., & Nickerson, A. (2020). The impact of moral-based appraisals on psychological outcomes in response to analogue trauma: An experimental paradigm of moral injury.

*Cognitive Therapy and Research*, 45, 494-507. [https://doi.org/10.1007/s10608-020-](https://doi.org/10.1007/s10608-020-10172-7)

[10172-7](https://doi.org/10.1007/s10608-020-10172-7)

- Hoffman, J., & Nickerson, A. (2021). The impact of moral-injury cognitions on psychological outcomes in refugees: An experimental investigation. *Clinical Psychological Science, 10*(4), 603-621. <https://doi.org/10.1177/21677026211039516>
- Hoffman, J., & Nickerson, A. (2022). An experimental investigation of the impact of blame appraisals and moral injury beliefs on psychological outcomes. *Cognitive Therapy and Research, 46*, 319-332. <https://doi.org/10.1007/s10608-021-10264-y>
- Hofmann, B. (2001). The paradox of health care. *Health Care Analysis, 9*(4), 369-386. <https://doi.org/10.1023/A:1013854030699>
- Holey, E. A., Feeley, J. L., Dixon, J., & Whittaker, V. J. (2007). An exploration of the use of simple statistics to measure consensus and stability in Delphi studies. *BMC Medical Research Methodology, 7*. <https://doi.org/10.1186/1471-2288-7-52>
- Hong, S., Ai, M., Xu, X., Wang, W., Chen, J., Zhang, Q., Wang, L., & Kuang, L. (2021). Immediate psychological impact on nurses working at 42 government-designated hospitals during COVID-19 outbreak in China: A cross-sectional study. *Nursing Outlook, 69*(1), 6-12. <https://doi.org/10.1016/j.outlook.2020.07.007>
- Hormozi, B. K., Tavoli, A., & Abdollahi, A. (2022). Perceived parental styles and alexithymia in adult Iranian migraine patients: The mediating role of emotional schemas. *The Journal of Genetic Psychology, 183*(3), 250-262. <https://doi.org/10.1080/00221325.2022.2051421>
- Horowitz, M. J. (1986). Stress-response syndromes: A review of posttraumatic and adjustment disorders. *Hospital and Community Psychiatry, 37*(3), 241-249.
- Hosseini Ramaghani, N. A., Rezaei, F., Sepahvandi, M. A., Gholamrezaei, S., Mirderikvand, F. (2019). The mediating role of the metacognitions, time perspectives and experiential avoidance on the relationship between childhood trauma and post-

- traumatic stress disorder symptoms. *European Journal of Psychotraumatology*, *10*.  
<https://doi.org/10.1080/20008198.2019.1648173>
- Houle, S. A., Ein, N., Gervasio, J., Plouffe, R. A., Litz, B. T., Carleton, R. N., Hansen, K. T., Liu, J. J. W., Ashbaugh, A. R., Callaghan, W., Thompson, M. M., Easterbrook, B., Smith-MacDonald, L., Rodrigues, S., Bélanger, S. A. H., Bright, K., Lanius, R. A., Baker, C., Younger, W., ... Nazarov, A. (2024). Measuring moral distress and moral injury: A systematic review and content analysis of existing scales. *Clinical Psychology Review*, *108*. <https://doi.org/10.1016/j.cpr.2023.102377>
- Hsu, C-C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Assessment, Research, and Evaluation*, *12*. <https://doi.org/10.7275/pdz9-th90>
- Huei, L. C., Ya-Wen, L., Ming, Y. C., Chen, H. L., Yi, W. J., & Hung, L. M. (2020). Occupational health and safety hazards faced by healthcare professionals in Taiwan: A systematic review of risk factors and control strategies. *SAGE Open Medicine*, *8*.  
<https://doi.org/10.1177/2050312120918999>
- Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *Lancet Public Health*, *2*(8).  
[https://doi.org/10.1016/S2468-2667\(17\)30118-4](https://doi.org/10.1016/S2468-2667(17)30118-4)
- Hulbert, C. A., Jennings, T. C., Jackson, H. J., & Chanen, A. M. (2011). Attachment style and schema as predictors of social functioning in youth with borderline features. *Personality and Mental Health*, *5*(3), 209-221. <https://doi.org/10.1002/pmh.169>
- IBM Corp. (2021). IBM SPSS Statistics for Mac (Version 28.0) [Computer software]. IBM Corp.



- IBM Corp. (2023). IBM SPSS Statistics for Mac (Version 29.0) [Computer software]. IBM Corp.
- Ireland, C. A., Chu, S., Ireland, J. L., Hartley, V., Ozanne, R., & Lewis, M. (2021). Extreme stress events in a forensic hospital setting: Prevalence, impact and protective factors in staff. *Issues in Mental Health Nursing*, *43*(5), 418-433.  
<https://doi.org/10.1080/01612840.2021.2003492>
- Jacob, J. D., Gagnon, M., & Holmes, D. (2009). Nursing so-called monsters: On the importance of abjection and fear in forensic psychiatric nursing. *Journal of Forensic Nursing*, *5*(3), 153-161. <https://doi.org/10.1111/j.1939-3938.2009.01048.x>
- Jansen, T-L., & Hanssen, I. (2016). Patient participation: Causing moral stress in psychiatric nursing? *Scandinavian Journal of Caring Sciences*, *31*(2), 388-394.  
<https://doi.org/10.1111/scs.12358>
- Jansen, T-L., Hem, M., Dambolt, L., & Hanssen, I. (2020). Moral distress in acute psychiatric nursing: Multifaceted dilemmas and demands. *Nursing Ethics*, *27*(5), 1315-1326.  
<https://doi.org/10.1177/0969733019877526>
- Janzarik, G., Wollschläger, D., Wessa, M., & Lieb, K. (2022). A group intervention to promote resilience in nursing professionals: A randomised controlled trial. *International Journal of Environmental Research and Public Health*, *19*(2).  
<https://doi.org/10.3390/ijerph19020649>
- Jennings, A. A., Foley, T., Walsh, K. A., Coffey, A., Browne, J. P., & Bradley, C. P. (2018). General practitioners' knowledge, attitudes, and experiences of managing behavioural and psychological symptoms of dementia: A mixed-methods systematic review. *International Journal of Geriatric Psychiatry*, *33*(9), 1163-1176.  
<https://doi.org/10.1002/gps.4918>

- Jinkerson, J. (2016). Defining and assessing moral injury: A syndrome perspective. *Traumatology*, 22(2), 122-130. <https://doi.org/10.1037/trm0000069>
- Johnson, J., Hall, L. H., Berzins, K., Baker, J., Melling, K., & Thompson, C. (2018). Mental healthcare staff well-being and burnout: A narrative review of trends, causes, implications and recommendations for future interventions. *International Journal of Mental Health Nursing*, 27, 20-32. <https://doi.org/10.1111/inm.12416>
- Jones, A. C., & Crossley, D. R. (2012). Shame and acute psychiatric inpatient care: Healthcare professionals. *International Journal of Mental Health Promotion*, 14(3), 125-138. <https://doi.org/10.1080/14623730.2012.719302>
- Jones, E. (2020). Moral injury in a context of trauma. *The British Journal of Psychiatry*, 216(3), 127-128. <https://doi.org/10.1192/bjp.2020.46>
- Jordan, A. H., Eisen, E., Bolton, E., Nash, W. P., & Litz, B. T. (2017). Distinguishing war-related PTSD resulting from perpetration- and betrayal-based morally injurious events. *Psychological Trauma: Theory, Research, Practice, and Policy*, 9(6), 627-634. <https://doi.org/10.1037/tra0000249>
- Kaeding, A., Souglaris, C., Reid, C., van Vreeswijk, M. F., Hayes, C., Dorrian, J., & Simpson, S. (2017). Professional burnout, early maladaptive schemas, and physical health in clinical and counselling psychology trainees. *Journal of Clinical Psychology*, 73(12), 1782-1796. <https://doi.org/10.1002/jclp.22485>
- Kantar Public. (2022). Community life survey technical report 2020/21. <https://www.gov.uk/government/collections/community-life-survey-2#community-life-survey:-statistical-releases>
- Kaplow, J. B., Gipson, P. Y., Horwitz, A. G., Burch, B. N., & King, C. A. (2013). Emotional suppression mediates the relation between adverse life events and adolescent suicide:

Implications for prevention. *Prevention Science*, *15*, 177-185.

<https://doi.org/10.1007/s11121-013-0367-9>

Karatzias, T., Shevlin, M., Pitcairn, J., Thomson, L., Mahoney, A., & Hyland, P. (2019).

Childhood adversity and psychosis in detained inpatients from medium to high secured units: Results from the Scottish census survey. *Child Abuse & Neglect*, *96*.

<https://doi.org/10.1016/j.chiabu.2019.104094>

Kaźmierczak, I., Zajenkowska, A., Rogoza, R., Jonason, P. K., & Ścigala, D. (2023). Self-selection biases in psychological studies: Personality and affective disorders are prevalent among participants. *PLoS One*, *18*(3).

<https://doi.org/10.1371/journal.pone.0281046>

Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., Howes, M.

J., Normand, S. T., Manderscheid, R. W., Walters, E. E., & Zaslavsky, A. M. (2003).

Screening for serious mental illness in the general population. *Archives of General Psychiatry*, *60*(2), 184-189. <https://doi.org/10.1001/archpsyc.60.2.184>

Kidwell, M. C., & Kerig, P. K. (2021). To trust is to survive: Toward a developmental model of moral injury. *Journal of Child & Adolescent Trauma*.

<https://doi.org/10.1007/s40653-021-00399-1>

Kilpatrick, D. G., Koenen, K. C., Ruggiero, K. J., Acierno, R., Galea, S., Resnick, H. S.,

Roitzsch, J., Boyle, J., & Gelernter, J. (2007). The serotonin transporter genotype and social support and moderation of posttraumatic stress disorder and depression in hurricane-exposed adults. *The American Journal of Psychiatry*, *164*(11), 1693-1699.

<https://doi.org/10.1176/appi.ajp.2007.06122007>

Kimble, M., Sripad, A., Fowler, R., Sobolewski, S., & Fleming, K. (2018). *Psychological*

*Trauma*, *10*(5), 576-584. <https://doi.org/10.1037/tra0000324>

- Kinghorn, W. (2012). Combat trauma and moral fragmentation: A theological account of moral injury. *Journal of the Society of Christian Ethics*, 32(2), 57-74.  
<https://doi.org/10.1353/sce.2012.0041>
- Kinnaird, E., Stewart, C., & Tchanturia, K. (2019). Investigating alexithymia in autism: A systematic review and meta-analysis. *European Psychiatry*, 55, 80-89.  
<https://doi.org/10.1016/j.eurpsy.2018.09.004>
- Koenig, H. G., Ames, D., Youssef, N. A., Oliver, J. P., Volk F., Teng, E. J., Haynes, K., Erickson, Z. D., Arnold, I., O'Garro, K., & Pearce, M. (2018). The Moral Injury Symptom Scale – Military Version. *Journal of Religion and Health*, 57(1), 249-265.  
<https://doi.org/10.1007/s10943-017-0531-9>
- Koenig, H. G., Youssef, N. A., Ames, D., Teng, E. J., & Hill, T. D. (2020). Examining the overlap between moral injury and PTSD in US veterans and active duty military. *The Journal of Nervous and Mental Disease*, 208(1), 7-12.  
<https://doi.org/10.1097/NMD.0000000000001077>
- Koffel, E., Polusny, M. A., Arbisi, P. A., & Erbes, C. R. (2013). Pre-deployment daytime and nighttime sleep complaints as predictors of post-deployment PTSD and depression in National Guard troops. *Journal of Anxiety Disorders*, 27, 512-519.  
<https://doi.org/10.1016/j.janxdis.2013.07.003>
- Kosior, K., Wall, T., & Ferrero, S. (2019). The role of metacognition in teaching clinical reasoning: Theory to practice. *Education in the Health Professions*, 2(2), 108-114.  
[https://doi.org/10.4103/EHP.EHP\\_14\\_19](https://doi.org/10.4103/EHP.EHP_14_19)
- Kramer, M. (1974). *Reality shock: Why nurses leave nursing*. C.V. Mosby Co, St Louis.
- Krautscheid, L., Mood, L., McLennon, S. M., Mossman, T. C., Wagner, M., & Wode, J. (2020). Examining relationships between resilience protective factors and moral

distress among nursing students. *Nursing Education Perspectives*, 41(1), 43-45.

<https://doi.org/10.1097/01.NEP.0000000000000471>

Kredlow, M. A., Fenster, R. J., Laurent, E. S., Ressler, K. J., & Phelps, E. A. (2022).

Prefrontal cortex, amygdala, and threat processing: Implications for PTSD.

*Neuropsychopharmacology*, 47, 247-259. [https://doi.org/10.1038/s41386-021-01155-](https://doi.org/10.1038/s41386-021-01155-7)

[7](https://doi.org/10.1038/s41386-021-01155-7)

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2002). The PHQ-15: Validity of a new

measure for evaluating the severity of somatic symptoms. *Psychosomatic Medicine*,

64(2), 258-266. <https://doi.org/10.1097/00006842-200203000-00008>

Krvavac, S., & Jansson, B. (2021). The role of emotion dysregulation and alexithymia in the

link between types of child abuse and neglect and psychopathology: A moderated

mediation model. *European Journal of Trauma & Dissociation*, 5(3).

<https://doi.org/10.1016/j.ejtd.2021.100213>

Kshtriya, S., Lawrence, J., Kobezak, H. M., Popok, P. J., & Lowe, S. (2022). Investigating

strategies of emotion regulation as mediators of occupational stressors and mental

health outcomes in first responders. *International Journal of Environmental Research*

*and Public Health*, 19(12). <https://doi.org/10.13390/ijerph19127009>

Kuo, W. -Y., Huang, C. -C., Weng, S. -F., Lin, H. -J., Su, S. -B., Wang, J. -J., Guo, H. -R., &

Hau, C. -C. (2015). Higher migraine risk in healthcare professionals than in general

population: A nationwide population-based cohort study in Taiwan. *The Journal of*

*Headache and Pain*, 16. <https://doi.org/10.1186/s10194-015-0585-6>

Labrague, L. J. (2021). Psychological resilience, coping behaviours and social support among

health care workers during the COVID-19 pandemic: A systematic review of

quantitative studies. *Journal of Nursing Management*, 29(7), 1893-1905.

<https://doi.org/10.1111/jonm.13336>

- Lamb, D., Gnanapragasam, S., Greenberg, N., Bhundia, R., Carr, E., Hotopf, M., Razavi, R., Raine, R., Cross, S., Dewar, A., Docherty, M., Dorrington, S., Hatch, S., Wilson-Jones, C., Leightley, D., Madan, I., Marlow, S., McMullen, I., Rafferty, A.- M., Parsons, M., Polling, C., Serfioti, D., Gaunt, H., Aitken, P., Morris-Bone, J., Simela, C., French, V., Harris, R., Stevelink, S. A. M., & Wessely, S. (2021). Psychosocial impact of the COVID-19 pandemic on 4378 UK healthcare workers and ancillary staff: Initial baseline data from a cohort study collected during the first wave of the pandemic. *Occupational and Environmental Medicine*, 78(11), 801-808.  
<https://doi.org/10.1136/oemed-2020-107276>
- Lanctôt, N. (2020). Child maltreatment, maladaptive cognitive schemas, and perceptions of social support among young women care leavers. *Child & Family Social Work*, 25(3), 619-627. <https://doi.org/10.1111/cfs.12736>
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159-174. <https://doi.org/10.2307/2529310>
- Lane, R. D., & Schwartz, G. E. (1987). Levels of emotional awareness: A cognitive-developmental theory and its application to psychopathology. *American Journal of Psychiatry*, 144(2), 133-143. <https://doi.org/10.1176/ajp.144.2.133>
- Lane, R. D., Weihs, K. L., Herring, A., Hishaw, A., & Smith, R. (2015). Affective agnosia: Expansion of the alexithymia construct and a new opportunity to integrate and extend Freud's legacy. *Neuroscience and Biobehavioral Reviews*, 55, 594-611.  
<https://doi.org/>
- Lathan, E. C., Powers, A., Kottakis, A., Guelfo, A., Siegle, G. J., Turner, J. A., Turner, M. D., Yakkanti, V., Jain, J., Mekawi, Y., Teer, A. P., Currier, J. M., & Fani, N. (2022). Civilian moral injury: Associations with trauma type and high-frequency heart rate

- variability in two trauma-exposed community based samples. *Psychological Medicine*. <https://doi.org/10.1017/S003329172200215X>
- Latimer, A. L., Otis, M. D., Mudd-Martin, G., & Moser, D. K. (2022). Moral distress during COVID-19: The importance of perceived organizational support for hospital nurses. *Journal of Health Psychology*. <https://doi.org/10.1177/13591053221111850>
- Lazarus, R. S. (1996). *Psychological stress and the coping process*. McGraw-Hill.
- Lazzari, T., Terzoni, S., Meani, L., Bonetti, L., & Ferrara, P. (2019). Moral distress in correctional nurses: A national survey. *Nursing Ethics*, 27(1), 40-52. <https://doi.org/10.1177/0969733019834976>
- Leahy, R. L. (2002). A model of emotional schemas. *Cognitive and Behavioral Practice*, 9, 177-190. [https://doi.org/10.1016/S1077-7229\(02\)80048-7](https://doi.org/10.1016/S1077-7229(02)80048-7)
- Leahy, R. L. (2012). Leahy Emotional Schema Scale II (LESS II). Unpublished manuscript, American Institute for Cognitive Therapy, New York.
- Leahy, R. L. (2022). Emotional schemas. *Cognitive and Behavioral Practice*, 29(3), 575-580. <https://doi.org/10.1016/j.cbpra.2022.02.004>
- Leahy, R. L., Wupperman, P., Edwards, E., Shivaji, S., & Molina, N. (2019). Metacognition and emotional schemas: Effects on depression and anxiety. *International Journal of Cognitive Therapy*, 12, 25-37. <https://doi.org/10.1007/s41811-018-0035-8>
- LeBlanc, N. J., Toner, E. R., O'Day, E. B., Moore, C. W., Marques, L., Robinaugh, D. J., & McNally, R. J. (2020). Shame, guilt and pride after loss: Exploring the relationship between moral emotions and psychopathology in bereaved adults. *Journal of Affective Disorders*, 263, 405-412. <https://doi.org/10.1016/j.jad.2019.11.164>
- Lee, S. -H., & Lee, K. -T. (2022). Attentional processing of unpleasant stimuli in alexithymia. *Psychological Reports*. <https://doi.org/10.1177/00332941221146917>

- Lee, S. W., Won, S., & Jeong, B. (2019). Moderating effect of emotional awareness on the association between maltreatment experiences and resilience. *Personality and Individual Differences, 148*, 38-44. <https://doi.org/10.1016/j.paid.2019.05.037>
- Lentz, L. M., Smith-MacDonald, L., Malloy, D., Carleton, R. N., & Brémault-Phillips, S. (2021). Compromised conscience: A scoping review of moral injury among firefighters, paramedics, and police officers. *Frontiers in Psychology, 12*. <https://doi.org/10.3389/fpsyg.2021.639781>
- Levi-Belz, Y., Ben-Yehuda, A., & Zerach, G. (2023). Suicide risk among combatants: The longitudinal contributions of pre-enlistment characteristics, pre-deployment personality factors and moral injury. *Journal of Affective Disorders, 324*, 624-631. <https://doi.org/10.1016/j.jad.2022.12.160>
- Levi-Belz, Y., Greene, T., & Zerach, G. (2020). Associations between moral injury, PTSD clusters and depression among Israeli veterans: A network approach. *European Journal of Psychotraumatology, 11*. <https://doi.org/10.1080/20008198.2020.1736411>
- Levin, R., & Nielsen, T. (2009). Nightmares, bad dreams, and emotion dysregulation: A review and new neurocognitive model of dreaming. *Current Directions in Psychological Science, 18*(2). <https://doi.org/10.1111/j.1467-8721.2009.01614.x>
- Levinson, C. A., Byrne, M., & Rodebaugh, T. L. (2016). Shame and guilt as shared vulnerability factors: Shame, but not guilt, prospectively predicts both social anxiety and bulimic symptoms. *Eating Behaviors, 22*, 188-193. <https://doi.org/10.1016/j.eatbeh.2016.06.016>
- Levrier, K., Marchand, A., Belleville, G., Dominic, B. -P., & Guay, S. (2016). Nightmare frequency, nightmare distress and the efficiency of trauma-focused cognitive behavioral therapy for post-traumatic stress disorder. *Archives of Trauma Research, 5*(3). <https://doi.org/10.5812/at.33051>



- Lewis, D., Dunne, A. L., Meyer, D., & Daffern, M. (2021). Assessing schema modes using self- and observer-rated instruments: Associations with aggression. *Journal of Interpersonal Violence, 36*(17-18). <https://doi.org/10.1177/0886260519860088>
- Li, S., Zhang, B., Guo, Y., & Zhang, J. (2015). The association between alexithymia as assessed by the 20-item Toronto Alexithymia Scale and depression: A meta-analysis. *Psychiatry Research, 227*(1), 1-9. <https://doi.org/10.1016/j.psychres.2015.02.006>
- Li, Z., Wu, X., Zhang, L., & Zhang, Z. (2017). Habitual cognitive reappraisal was negatively related to perceived immorality in the harm and fairness domains. *Frontiers in Psychology, 8*. <https://doi.org/10.3389/fpsyg.2017.01805>
- Liang, S., Liu, C., Rotaru, K., Li, K., Wei, X., Yuan, S., Yang, Q., Ren, L., & Liu, X. (2022). The relations between emotion regulation, depression and anxiety among medical staff during the late stage of the COVID-19 pandemic: A network analysis. *Psychiatry Research, 317*. <https://doi.org/10.1016/j.psychres.2022.114863>
- Liberati, E., Richards, N., Willars, J., Scott, D., Boydell, N., Parker, J., Pinfold, V., Graham, M., Dixon-Woods, M., & Jones, P. B. (2021). A qualitative study of experiences of NHS mental healthcare workers during the Covid-19 pandemic. *BMC Psychiatry, 21*(1). <https://doi.org/10.1186/s12888-021-03261-8>
- Lin, Y. C., & Chan, C. H. (2003). A factor analysis of the Taiwan Version of the Toronto Alexithymia Scale-20. *Taiwanese Journal of Psychiatry, 17*(4), 276-282.
- Lindenmeyer, A., Greenfield, S. M., Greenfield, C., & Jolly, K. (2016). How do people with COPD value different activities? An adapted meta-ethnography of qualitative research. *Qualitative Health Research, 27*(1), 37-50.
- Linzer, M., & Poplau, S. (2021). Eliminating burnout and moral injury: Bolder steps required. *EClinicalMedicine, 39*. <https://doi.org/10.1016/j.eclinm.2021.101090>

- Liotti, G., & Gilbert, P. (2011). Mentalizing, motivation, and social mentalities: Theoretical considerations and implications for psychotherapy. *Psychology and Psychotherapy*, 84(1), 9-25. <https://doi.org/10.1348/147608310X520094>
- Litam, S. D. A., & Balkin, R. S. (2021). Moral injury in health-care workers during COVID-19 pandemic. *Traumatology*, 27(1), 14-19. <https://doi.org/10.1037/trm0000290>
- Litz, B. T., & Keane, T. M. (1989). Information processing in anxiety disorders: Application to the understanding of post-traumatic stress disorder. *Clinical Psychology Review*, 9, 243-257.
- Litz, B. T., & Kerig, P. K. (2019). Introduction to the special issue on moral injury: Conceptual challenges, methodological issues, and clinical applications. *Journal of Traumatic Stress*, 32(3), 341-349. <https://doi.org/10.1002/jts.22405>
- Litz, B. T., Plouffe, R. A., Nazarov, A., Murphy, D., Phelps, A., Coady, A., Houle, S. A., Dell, L., Frankfurt, S., Zerach, G., & Levi-Belz, Y. (2022). Defining and assessing the syndrome of moral injury: Initial findings of the Moral Injury Outcome Scale Consortium. *Frontiers in Psychiatry*, 13. <https://doi.org/10.3389/fpsy.2022.923928>
- Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., & Maguen, S. (2009). Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. *Clinical Psychology Review*, 29(8), 695-706. <https://doi.org/10.1016/j.cpr.2009.07.003>
- Liu, G., Tong, Y., Li, J., Sun, X., Chen, L., Zheng, X., Zhang, X., Lv, J., Wang, J., Wei, B., Wei, J., Cheng, R., & Wang, Z. (2023). Burnout, moral injury, and suicidal/self-harm ideation among healthcare professionals in Mainland China: Insights from an online survey during the COVID-19 pandemic. *The International Journal of Psychiatry in Medicine*. <https://doi.org/10.1177/00912174231219041>

- de Looff, P., Nijman, H., Didden, R., & Embregts, P. (2018). Burnout symptoms in forensic psychiatric nurses and their associations with personality, emotional intelligence and client aggression: A cross-sectional study. *Journal of Psychiatric and Mental Health Nursing, 25*(8), 506-516. <https://doi.org/10.1111/jpm.12496>
- Lopez, F. G., Gover, M. R., Leskela, J., Sauer, E., Schirmer, L., & Wyssmann, J. (1997). Attachment styles, shame, guilt, and collaborative problem-solving orientations. *Personal Relationships, 4*(2), 187-199. <https://doi.org/10.1111/j.1475-6811.1997.tb00138.x>
- Low, R. S. T., Overall, N. C., Chang, V. T., Henderson, A. M. E., & Sibley, C. G. (2021). Emotion regulation and psychological and physical health during a nationwide COVID-19 lockdown. *Emotion, 21*(8), 1671-1690. <https://doi.org/10.1037/emo0001046>
- Luminet, O., Nielson, K. A., & Ridout, N. (2021). Having no words for feelings: Alexithymia as a fundamental personality dimension at the interface of cognition and emotion. *Cognition and Emotion, 35*(3), 435-448. <https://doi.org/10.1080/02699931.2021.1916442>
- Lysaker, P. H., Gumley, A., Brüne, M., Vanhuele, S., Buck, K. D., & Dimaggio, G. (2011). Deficits in the ability to recognize one's own affects and those of others: Associations with neurocognition, symptoms and sexual trauma among persons with schizophrenia spectrum disorders. *Consciousness and Cognition, 20*(4), 1183-1192. <https://doi.org/10.1016/j.concog.2010.12.018>
- Lysaker, P. H., Hamm, J. A., Hasson-Ohayon, I., Pattison, M. L., & Leonhardt, B. L. (2018). Promoting recovery from severe mental illness: Implications from research on metacognition and metacognitive reflection and insight therapy. *World Journal of Psychiatry, 8*(1), 1-11. <https://doi.org/10.5498/wjp.v8.i1.1>

- Maben, J., Latter, S., & Macleod Clark, J. (2006). The theory-practice gap: Impact of professional-bureaucratic work conflict on newly-qualified nurses. *Journal of Advanced Nursing*, 55(4), 465-477. <https://doi.org/10.1111/j.1365-2648.2006.03939.x>
- Mäder, T., Oliver, K. I., Daffre, C., Kim, S., Orr, S. P., Lasko, N. B., Seo, J., Kleim, B., & Pace-Schott, E. F. (2021). Autonomic activity, posttraumatic and nontraumatic nightmares, and PTSD after trauma exposure. *Psychological Medicine*, 53(3), 731-740. <https://doi.org/10.1017/S0033291721002075>
- Maercker, A., & Eberle, D. J. (2022). Disorders specifically associated with stress in ICD-11. *Clinical Psychology in Europe*, 4. <https://doi.org/10.32872/cpe.9711>
- Maercker, A., & Horn, A. B. (2012). A socio-interpersonal perspective on PTSD: The case for environments and interpersonal processes. *Clinical Psychology & Psychotherapy*, 20(6), 465-481. <https://doi.org/10.1002/cpp.1805>
- Maftai, A., & Holman, A. -C. (2021). The prevalence of exposure to potentially morally injurious events among physicians during the COVID-19 pandemic. *European Journal of Psychotraumatology*, 12(1). <https://doi.org/10.1080/20008198.2021.1898791>
- Maguen, S., Griffin, B. J., Copeland, L. A., Perkins, D. F., Finley, E. P., & Vogt, D. (2020). Gender differences in prevalence and outcomes of exposure to potentially morally injurious events among post-9/11 veterans. *Journal of Psychiatric Research*, 130, 97-103. <https://doi.org/10.1016/j.jpsychires.2020.06.020>
- Mai, T., Todisco, L., Schilder, M., Franke, V., & Ristau, J. (2021). The situation of nurses in hospitals during the second wave of the COVID-19 pandemic: An online survey. *Pflege*, 35(2), 104-113. <https://doi.org/10.1024/1012-5302/a000846>
- Mangoulia, P., Koukia, E., Alevizopoulos, G., Fildissis, G., & Katostaras, T. (2015). Prevalence of secondary traumatic stress among psychiatric nurses in Greece.

- Archives of Psychiatric Nursing*, 29(5), 333-338.  
<https://doi.org/10.1016/j.apnu.2015.06.001>
- Mansueto, G., Caselli, G., Ruggiero, G. M., & Sassaroli, S. (2019). Metacognitive beliefs and childhood adversities: An overview of the literature. *Psychology, Health & Medicine*, 24(5), 542-550. <https://doi.org/10.1080/13548506.2018.1550258>
- Mantri, S., Lawson, J. M., Wang, Z., & Koenig, H. G. (2020). Identifying moral injury in healthcare professionals: The Moral Injury Symptom Scale-HP. *Journal of Religion and Health*, 59, 2323-2340. <https://doi.org/10.1007/s10943-020-01065-w>
- Mantri, S., Lawson, J. M., Wang, Z., & Koenig, H. G. (2021). Prevalence and predictors of moral injury symptoms in health care professionals. *The Journal of Nervous and Mental Disease*, 209(3), 174-180. <https://doi.org/10.1097/NMD.0000000000001277>
- Martin, A., Nixon, C., Watt, K. L., Taylor, A., & Kennedy, P. J. (2021). Exploring the prevalence of adverse childhood experiences in secure children's home admissions. *Child & Youth Care Forum*, 51, 921-935. <https://doi.org/10.1007/s10566-021-09660-y>
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, 2(2), 99-113. <https://doi.org/10.1002/job.4030020205>
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory*. Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397-422. <https://doi.org/10.1146/annurev.psych.52.1.397>
- Matthews, H., & Williamson, I. (2016). Caught between compassion and control: Exploring the challenges associated with inpatient adolescent mental healthcare in an independent hospital. *Journal of Advanced Nursing*, 75(5), 1042-1053.  
<https://doi.org/10.1111/jan.12889>

- Maunder, R. G., Peladeau, N., Savage, D., & Lancee, W. J. (2010). The prevalence of childhood adversity among healthcare workers and its relationship to adult life events, distress and impairment. *Child Abuse and Neglect*, *34*(2), 114-123. <https://doi.org/10.1016/j.chiabu.2009.04.008>
- May, T., Younan, R., & Pilkington, P. D. (2022). Adolescent maladaptive schemas and childhood abuse and neglect: A systematic review and meta-analysis. *Clinical Psychology and Psychotherapy*, *29*(4), 1159-1171. <https://doi.org/10.1002/cpp.2712>
- Mayaki, S., & Stewart, M. (2020). Teamwork, professional identities, conflict, and industrial action in Nigerian healthcare. *Journal of Multidisciplinary Healthcare*, *13*, 1223-1234. <https://doi.org/10.2147/JMDH.S267116>
- McGuire, A. P., Nosen, E., & Lyons, J. A. (2019). Benefits of moral elevation in veterans with PTSD and moral injury: A proposed theoretical framework and pilot study. *Military Behavioral Health*, *7*(3), 315-326. <https://doi.org/10.1080/21635781.2018.1540316>
- McKay, M. T., Cannon, M., Chambers, D., Conroy, R. M., Coughlan, H., Dodd, P., Healy, C., O'Donnell, L., & Clarke, M. C. (2020). Childhood trauma and adult mental disorder: A systematic review and meta-analysis of longitudinal cohort studies. *Acta Psychiatrica Scandinavica*, *143*(3), 189-205. <https://doi.org/10.1111/acps.13268>
- Medina, M. S., Castleberry, A. N., & Persky, A. M. (2017). Strategies for improving learner metacognition in health professional education. *American Journal of Pharmaceutical Education*, *81*(4). <https://doi.org/10.5688/ajpe81478>
- Meganck, R., Vanhuele, S., & Desmet, M. (2008). Factorial validity and measurement invariance of the 20-item Toronto Alexithymia Scale in clinical and nonclinical samples. *Assessment*, *15*(1), 36-47. <https://doi.org/10.1177/1073191107306140>

- Melamed, S., Ugarten, U., Shirom, A., Kahana, L., Lerman, Y., & Froom, P. (1999). Chronic burnout, somatic arousal and elevated salivary cortisol levels. *Journal of Psychosomatic Research*, *46*(6), 591-598. [https://doi.org/10.1016/S0022-3999\(99\)00007-0](https://doi.org/10.1016/S0022-3999(99)00007-0)
- Mendeley Ltd. (2021). Mendeley Reference Manager v1.19.8. [Computer software]. Elsevier Ltd.
- Meneguzzo, P., Cazzola, C., Castegnaro, R., Buscaglia, F., Bucci, E., Pillan, A., Garolla, A., Bonello, E., & Todisco, P. (2021). Associations between trauma, early maladaptive schemas, personality traits, and clinical severity in eating disorder patients: A clinical presentation and mediation analysis. *Frontiers in Psychology*, *12*. <https://doi.org/10.3389/fpsyg.2021.661924>
- Mensink, B., van Schagen, A., van der Aa, N., & ter Heide, F. J. J. (2022). Moral injury in trauma-exposed, treatment-seeking officers and military veterans: Latent class analysis. *Frontiers in Psychiatry*, *13*. <https://doi.org/10.3389/fpsyt.2022.904659>
- Menzies Lyth, I. E. P. (1959). A case-study in the functioning of social systems as a defence against anxiety: A report on a study of the nursing service of a general hospital. *Human Relations*, *13*(2), 95-121. <https://doi.org/10.1177/001872676001300201>
- Merkt, H., Haesen, S., Eytan, A., Habermeyer, E., Aebi, M. F., Elger, B., & Wangmo, T. (2021). Forensic mental health professionals' perceptions of their dual loyalty conflict: Findings from a qualitative study. *BMC Medical Ethics*, *22*. <https://doi.org/10.1186/s12910-021-00688-2>
- Mertens, Y., Yilmaz, M., & Lobbestael, J. (2020). Schema modes mediate the effect of emotional abuse in childhood on the differential expressions of personality disorders. *Child Abuse & Neglect*, *104*. <https://doi.org/10.1016/j.chiabu.2020.104445>

- Messman-Moore, T. L., & Coates, A. A. (2007). The impact of childhood psychological abuse on adult interpersonal conflict: The role of early maladaptive schemas and patterns of interpersonal behavior. *Journal of Emotional Abuse, 7*(2), 75-92.  
[https://doi.org/10.1300/J135v07n02\\_05](https://doi.org/10.1300/J135v07n02_05)
- Miconi, D., Li, Z. Y., Frounfelker, R. L., Santavicca, T., Cénat, J. M., Venkatesh, V., & Rousseau, C. (2020). Ethno-cultural disparities in mental health during the COVID-19 pandemic: A cross-sectional study on the impact of exposure to the virus and COVID-19 related discrimination and stigma on mental health across ethno-cultural groups in Quebec (Canada). *BJPsych Open, 7*(1). <https://doi.org/10.1192/bjo.2020.146>
- Mitchell, R., Hanna, D., Brennan, K., Curran, D., McDermott, B., Ryan, M., Craig, K., McCullough, E., Wallace, P., & Dyer, K. F. W. (2018). Alienation appraisals mediate the relationships between childhood trauma and multiple markers of posttraumatic stress. *Journal of Child & Adolescent Trauma, 13*, 11-19.  
<https://doi.org/10.1007/s40653-018-0220-1>
- Mitchell, S., & Steele, K. (2021). Mentalising in complex trauma and dissociative disorders. *European Journal of Trauma & Dissociation, 5*(3).  
<https://doi.org/10.1016/j.ejtd.2020.100168>
- Moffatt-Bruce, S. D., Nguyen, M. C., Steinberg, B., Holliday, S., & Klatt, M. (2019). Interventions to reduce burnout and improve resilience: Impact on a health system's outcomes. *Clinical Obstetrics and Gynecology, 62*(3), 432-443.  
<https://doi.org/10.1097/GRF.0000000000000458>
- Mohammadkhani, S., Foroutan, A., Akbari, M., & Shahbahrami, M. (2022). Emotional schemas and psychological distress: Mediating role of resilience and cognitive flexibility. *Iranian Journal of Psychiatry, 17*(3), 284-293.  
<https://doi.org/10.18502/ijps.v17i3.9728>



- Mohanty, A., Kabi, A., & Mohanty, A. (2019). Health problems in healthcare workers: A review. *Journal of Family Medicine and Primary Care*, 8(8), 2568-2572.  
[https://doi.org/10.4103/jfmpe.jfmpe\\_431\\_19](https://doi.org/10.4103/jfmpe.jfmpe_431_19)
- Molendijk, T. (2021). Warnings against romanticising moral injury. *The British Journal of Psychiatry*, 220(1), 1-3. <https://doi.org/10.1192/bjp.2021.114>
- Molendijk, T., Kramer, E. -H., & Verweij, D. (2018). Moral aspects of “moral injury”:  
Analyzing conceptualizations on the role of morality in military trauma. *Journal of Military Ethics*, 17(1), 36-53. <https://doi.org/10.1080/15027570.2018.1483173>
- Molendijk, T., Verkoren, W., Drogendijk, A., Elands, M., Kramer, E.-H., Smit, A., & Verweij, D. (2022). Contextual dimensions of moral injury: An interdisciplinary review. *Military Psychology*, 34(6), 742-753.  
<https://doi.org/10.1080/08995605.2022.2035643>
- Molewijk, B., Engerdahl, I., & Pedersen, R. (2016). Two years of moral case deliberations on the use of coercion in mental health care: Which ethical challenges are being discussed by health care professionals? *Clinical Ethics*, 11(2-3), 87-96.  
<https://doi.org/10.1177/1477750915622034>
- Monteverde, S. (2014). Caring for tomorrow’s workforce: Moral resilience and healthcare ethics education. *Nursing Ethics*, 23(1), 104-116.  
<https://doi.org/10.1177/0969733014557140>
- Moore, S. A., Zoellner, L. A., & Mollenholt, N. (2008). Are expressive suppression and cognitive reappraisal associated with stress-related symptoms? *Behaviour Research and Therapy*, 46(9), 993-1000. <https://doi.org/10.1016/j.brat.2008.05.001>
- Moran, A., Cocoman, A., Scott, P. A., Matthews, A., Staniulene, V., & Valimaki, M. (2009). Restraint and seclusion: A distressing treatment option? *Journal of Psychiatric and*

*Mental Health Nursing*, 16(7), 599-605. <https://doi.org/10.1111/j.1365-2850.2009.01419>

Morgantini, L. A., Naha, U., Wang, H., Francavilla, S., Acar, Ö, Flores, J. M., Crivellaro, S., Moreira, D., Abern, M., Eklund, M., Vigneswaran, H. T., & Weine, S. M. (2020). Factors contributing to healthcare professional burnout during the COVID-19 pandemic: A rapid turnaround survey. *PLoS One*, 15(9).

<https://doi.org/10.1371/journal.pone.0238217>

Morris, D. (2023). *Working with the intersection of trauma and personality needs: Reformulating approaches to HCP needs. Disconnects and reconnects* [Paper presentation]. 4<sup>th</sup> International Trauma Informed Care Conference, St Andrew's Healthcare, Northampton, UK.

Morris, D. J., & Webb, E. L. (2023, November). *Unseen and unheard: Understanding the trauma and trust needs of male service users and healthcare professionals* [Symposia]. Division of Forensic Psychology Annual Conference 2023, British Psychological Society, Belfast, Northern Ireland.

Morris, D. J., Webb, E. L., & Devlin, P. (2022a). Moral injury in secure mental healthcare part II: Experiences of potentially morally injurious events and their relationship to well-being in health professionals in secure services. *Journal of Forensic Psychiatry and Psychology*. <https://doi.org/10.1080/14789949.2022.2111319>

Morris, D. J., Webb, E. L., Trundle, G., & Caetano, G. (2022b). Moral injury in secure mental healthcare part I: Exploratory and confirmatory factor analysis of the Moral Injury Events Scale. *The Journal of Forensic Psychiatry & Psychology*, 33(5). <https://doi.org/10.1080/14789949.2022.2111318>

Morris, D. J., Webb, E. L., Worsfold, J., & Greenwood, A. (2023). Exploring the psychosocial and well-being needs of staff accessing trauma support in forensic

- mental health services in the UK: Relations with demographic, occupational and trauma event characteristics. *International Journal of Forensic Mental Health*
- Motta-Ochoa, R., Lencucha, R., Xu, J., & Park, M. (2021). A matter of time: Grappling with everyday ethical tensions at the confluence between policy and practice in a psychiatric unit. *Journal of Medical Ethics*, 47(3), 179-184.  
<https://doi.org/10.1136/medethics-2019-105423>
- Murray, H., & Ehlers, A. (2021). Cognitive therapy for moral injury in post-traumatic disorder. *The Cognitive Behaviour Therapist*, 14.  
<https://doi.org/10.1017/S1754470X21000040>
- Musto, L., & Schreiber, R. S. (2012). Doing the best I can do: Moral distress in adolescent mental health nursing. *Issues in Mental Health Nursing*, 33(3), 137-144.  
<https://doi.org/10.3109/01612840.2011.641069>
- Musto, L., Schreiber, R., & Rodney, P. (2021). Risking vulnerability: Enacting moral agency in the is/ought gap in mental health care. *Journal of Advanced Nursing*, 77(5), 2458-2471. <https://doi.org/10.1111/jan.14776>
- Myers, S. G., & Wells, A. (2015). Early trauma, negative affect, and anxious attachment: The role of metacognition. *Anxiety, Stress, and Coping*, 28(6), 634-649.  
<https://doi.org/10.1080/10615806.2015.1009832>
- Nash, W. P., Marino Carper, T. L., Mills, M. A., Au, T., Goldsmith, A., & Litz, B. T. (2013). Psychometric evaluation of the Moral Injury Events Scale. *Military Medicine*, 178(6), 646-652. <https://doi.org/10.7205/MILMED-D-13-00017>
- Nash, W. P., Vasterling, J., Ewing-Cobbs, L., Horn, S., Gaskin, T., Golden, J., Riley, W. T., Bowles, S. V., Favret, J., Lester, P., Koffman, R., Farnsworth, L. C., & Baker, D. G. (2010). Consensus recommendations for common data elements for operation stress research and surveillance: Report of a federal interagency working group. *Archives of*

*Physical Medicine and Rehabilitation*, 91(11), 1673-1683.

<https://doi.org/10.1016/j.apmr.2010.06.035>

Nasa, P., Jain, R., & Juneja, D. (2021). Delphi methodology in healthcare: How to decide its appropriateness. *World Journal of Methodology*, 11(4), 116-129.

<https://doi.org/10.5662/wjm.v11.i4.116>

National Institute for Health and Care Excellence. (2012). Appendix H Quality appraisal checklist – qualitative studies. Available at:

<https://www.nice.org.uk/process/pmg4/chapter/appendix-h-quality-appraisal-checklist-qualitative-studies>

National Institute for Health and Care Excellence. (2018). *Post-traumatic stress disorder* (NICE guideline NG116).

<https://www.nice.org.uk/guidance/ng116/resources/posttraumatic-stress-disorder-pdf-66141601777861>

Nazarov, A., Walaszczyk, V., Frewen, P., Oremus, C., Lanius, R., & McKinnon, M. C. (2016). Moral reasoning in women with posttraumatic stress disorder related to childhood abuse. *European Journal of Psychotraumatology*, 7.

<https://doi.org/10.3402/ejpt.v7.31028>

Nejadsarvari, N., Abbasi, M., Borhani, F., Ebrahaimi, A., Rasooli, H., Motamedi, M. H., Kiani, M., & Bazmi, S. (2015). Relationship of moral sensitivity and distress among physicians. *Trauma Monthly*, 20(2). <https://doi.org/10.5812/traumamon.26075>

Neller, D. J., & Fabian, J. M. (2006). Trauma and its contribution to violent behaviour.

*Criminal Justice Matters*, 66(1), 6-7. <https://doi.org/10.1080/09627250608553387>

Nelson, K. E., Hanson, G. C., Boyce, D., Ley, C. D., Swavely, D., Reina, M., & Rushton, C. H. (2022). Organizational impact on healthcare workers' moral injury during COVID-

19: A mixed-methods analysis. *The Journal of Nursing Administration*, 52(1), 57-66.

<https://doi.org/10.1097/NNA.0000000000001103>

NHS Digital. (2021). Nurse & Health Visitors turnover data pack, October 17 to 20 AH4395.

NHS Hospital and Community Health Services (HCHS): Nurses & health visitors in NHS Trusts and CCGs in England by nationality group and age band, 31 October each year, 2017 to 2020, headcount and full time equivalent (FTE). NHS Digital - Supplementary Info. [https://digital.nhs.uk/supplementary-information/2021/nurse--health-visitors-turnover-data-pack-oct17-to-oct20\\_ah4395](https://digital.nhs.uk/supplementary-information/2021/nurse--health-visitors-turnover-data-pack-oct17-to-oct20_ah4395)

NHS Digital. (2023). *NHS Sickness Absence Rates, January 2023*. <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-sickness-absence-rates/january-2023-provisional-statistics#>

NHS Digital. (2024). *NHS Workforce Statistics – October 2023 (including selected provisional statistics for November 2023)*. <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics/october-2023>

NHS England. (2019). *NHS Staff Survey 2018. National results briefing*.

[https://www.nhsstaffsurveys.com/Caches/Files/ST18\\_National%20briefing\\_FINAL\\_20190225.pdf](https://www.nhsstaffsurveys.com/Caches/Files/ST18_National%20briefing_FINAL_20190225.pdf)

Nickerson, A., Hoffman, J., Schick, M., Schnyder, U., Bryant, R. A., & Morina, N. (2018). A longitudinal investigation of moral injury appraisals amongst treatment-seeking refugees. *Frontiers in Psychiatry*, 9. <https://doi.org/10.3389/fpsy.2018.00667>

Nieuwsma, J. A., O'Brien, E. C., Xu, H., Smigelsky, M. A., VISN 6 MIREXCC Workgroup., HERO Research Program., & Meador, K. G. (2022). Patterns of potential moral injury in post-9/11 combat veterans and COVID-19 healthcare workers. *Journal of General Internal Medicine*, 37, 2033-2040. <https://doi.org/10.1007/s11606-022-07487-4>

Nieuwsma, J. A., Walser, R. D., Farnsworth, J., Drescher, K. D., Meador, K., & Nash, W. P.

(2015). Possibilities within Acceptance and Commitment Therapy for Approaching Moral Injury. *Current Psychiatry Reviews*, *11*(3).

<https://doi.org/10.2174/1573400511666150629105234>

Noblit, G. W., & Hare, R. D. (1988). *Meta-ethnography: synthesizing qualitative studies*.

London, England: SAGE.

O'Connor, K., Neff, D. M., & Pitman, S. (2018). Burnout in mental health professionals: A

systematic review and meta-analysis of prevalence and determinants. *European*

*Psychiatry*, *53*, 74-99. <https://doi.org/10.1016/j.eurpsy.2018.06.003>

O'Laughlin, K. D., Martin, M. J., & Ferrer, E. (2018). Cross-sectional analysis of

longitudinal mediation processes. *Multivariate Behavioral Research*, *53*(3), 375-402.

<https://doi.org/10.1080/00273171.2018.1454822>

Odes, R., Chapman, S., Harrison, R., Ackerman, S., & Hong, S. (2021). Frequency of

violence towards healthcare workers in the United States' inpatient psychiatric

hospitals: A systematic review of literature. *International Journal of Mental Health*

*Nursing*, *30*(1), 27-46. <https://doi.org/10.1111/inm.12812>

Oh, D. L., Jerman, P., Marques, S. S., Koita, K., Boparai, S. K. P., Harris, N. B., & Bucci, M.

(2018). Systematic review of pediatric health outcomes associated with childhood

adversity. *BMC Pediatrics*, *18*(1). <https://doi.org/10.1186/s12887-018-1037-7>

Ohnishi, K., Stone, T. E., Yoshiike, T., & Kitaoka, K. (2020). The role of online ethics

consultation on mental health. *Nursing Ethics*, *27*(5), 1261-1269.

<https://doi.org/10.1177/0969733020906596>

Ohnishi, K., Ohgushi, Y., Nakano, M., Fujii, H., Tanaka, H., Kitaoka, K., Nakahara, J., &

Narita, Y. (2010). Moral distress experienced by psychiatric nurses in Japan. *Nursing*

*Ethics*, *17*(6), 726-740. <https://doi.org/10.1177/0969733010379178>

- Ohrnberger, J., Fichera, E., & Sutton, M. (2017). The relationship between physical and mental health: A mediation analysis. *Social Science & Medicine*, *195*, 42-49. <https://doi.org/10.1016/j.socscimed.2017.11.008>
- Okoli, C., & Pawlowski, S. D. (2004). The Delphi method as a research tool: An example, design considerations and applications. *Information & Management*, *42*(1), 15-29. <https://doi.org/10.1016/j.im.2003.11.002>
- Olagunju, A. T., Bioku, A. A., Olagunju, T. O., Sarimiye, F. O., Onwuameze, O. E., & Halbreich, U. (2021). Psychological distress and sleep problems in healthcare workers in a developing context during COVID-19 pandemic: Implications for workplace well-being. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *110*. <https://doi.org/10.1016/j.pnpbp.2021.110292>
- Oquendo, M. A., Bernstein, C. A., & Mayer, L. E. S. (2019). A key differential diagnosis for physicians – major depression or burnout? *JAMA Psychiatry*, *76*(11), 1111-1112. <https://doi.org/10.1001/jamapsychiatry.2019.1332>
- Ortiz-Calvo, E., Martínez-Alés, G., Mediavilla, R., González-Gómez, E., Fernández-Jiménez, E., Bravo-Ortiz, M.- F., Moreno-Küstner, B., & COVID-19 HEROES-SPA Group. (2022). The role of social support and resilience in the mental health impact of the COVID-19 pandemic among healthcare workers in Spain. *Journal of Psychiatric Research*, *148*, 181-187. <https://doi.org/10.1016/j.jpsychires.2021.12.030>
- Østefjells, T., Lystad, J. U., Berg, A. O., Hagen, R., Loewy, R., Sandvik, L., Melle, I., Røssberg, J. I. (2017). Metacognitive beliefs mediate the effect of emotional abuse on depressive and psychotic symptoms in severe mental disorders. *Psychological Medicine*, *47*(13), 2323-2333. <https://doi.org/10.1017/S0033291717000848>

- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Bulletin*, *129*(1), 52-73. <https://doi.org/10.1037/0033-2909.129.1.52>
- Padmanathan, P., Lamb, D., Scott, H., Stevelink, S., Greenberg, N., Hotopf, M., Morriss, R., Raine, R., Rafferty, A. M., Madan, I., Dorrington, S., Wessely, S., & Moran, P. (2023). Suicidal thoughts and behaviour among healthcare workers in England during the COVID-19 pandemic: A longitudinal study. *PLoS One*, *18*(6). <https://doi.org/10.1371/journal.pone.0286207>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A. et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*. <https://doi.org/10.31222/osf.io/v7gm2>
- Page, S. E. (2007). *The difference: How the power of diversity creates better groups, firms, schools and societies*. Princeton, NJ: Princeton University Press.
- Palant, A., & Himmel, W. (2019). Are there also negative effects of social support? A qualitative study of patients with inflammatory bowel disease. *BMJ Open*, *9*. <https://doi.org/10.1136/bmjopen-2018-022642>
- Palmer, C. A., & Alfano, C. A. (2017). Sleep and emotion regulation: An organizing, integrative review. *Sleep Medicine Reviews*, *31*, 6-16. <https://doi.org/10.1016/j.smrv.2015.12.006>
- Panayiotou, G., Leonidou, C., Constantinou, E., Hart, J., Rinehart, K. L., Sy, J. T., & Björgvinsson, T. (2015). Do alexithymic individuals avoid their feelings? Experiential avoidance mediates the association between alexithymia, psychosomatic, and



- depressive symptoms in a community and a clinical sample. *Comprehensive Psychiatry*, 56, 206-216. <https://doi.org/10.1016/j.comppsy.2014.09.006>
- Pandey, R., Saxena, P., & Dubey, A. (2011). Emotion regulation difficulties in alexithymia and mental health. *Europe's Journal of Psychology*, 7(4), 604-623. <https://doi.org/10.5964/ejop.v7i4.155>
- Papazoglou, K., Blumberg, D., Briones-Chiongbian, V., Russo, C., & Koskelainen, M. (2019). Exploring the roles of moral injury and personality in police traumatization. *Crisis, Stress, and Human Resilience: An International Journal*, 1(1), 32-56.
- Parry, B. (2021). *Burnout and related concepts: A systematic review exploring moral injury and burnout and an investigation into the role of individual psychological factors in the development of burnout in mental health nurses* [Doctoral dissertation, The University of Edinburgh. <http://dx.doi.org/10.7488/era/1545>
- Pauly, B., Varcoe, C., Storch, J., & Newton, L. (2009). Registered nurses' perceptions of moral distress and ethical climate. *Nursing Ethics*, 16(5), 561-573. <https://doi.org/10.1177/0969733009106649>
- Pelto-Piri, V., Engström, K., & Engström, I. (2012). The ethical landscape of professional care in everyday practice as perceived by staff: A qualitative content analysis of ethical diaries written by staff in child and adolescent psychiatric inpatient care. *Child and Adolescent Psychiatry and Mental Health*, 6(1). <https://doi.org/10.1186/1753-2000-6-18>
- Pelto-Piri, V., Engström, K., & Engström, I. (2014). Staffs' perceptions of the ethical landscape in psychiatric inpatient care: A qualitative content analysis of ethical diaries. *Clinical Ethics*, 9(1), 45-52. <https://doi.org/10.1177/1477750914524069>

- Pérez-Toribio, A., Moreno-Poyato, A. R., Roldán-Merino, J. F., & Nash, M. (2022). Spanish mental health nurses' experiences of mechanical restraint: A qualitative descriptive study. *Journal of Psychiatric and Mental Health Nursing*, 29(5), 688-697. <https://doi.org/10.1111/jpm.12860>
- Petkus, A. J., Gum, A., & Wetherell, J. L. (2012). Thought suppression is associated with psychological distress in homebound older adults. *Depression and Anxiety*, 29(3), 219-225. <https://doi.org/10.1002/da.20912>
- Petrucelli, K., Davis, J., & Berman, T. (2019). Adverse childhood experiences and associated health outcomes: A systematic review and meta-analysis. *Child Abuse & Neglect*, 97. <https://doi.org/10.1016/j.chiabu.2019.104127>
- Piaget, J. (1926). *The language and thought of the child*. Kegan Paul Ltd.
- Piaget, J. (1932). *The moral judgement of the child*. The Free Press.
- Pilkington, P. D., Bishop, A., Younan, R. (2020). Adverse childhood experiences and early maladaptive schemas in adulthood: A systematic review and meta-analysis. *Clinical Psychology & Psychotherapy*, 28(3), 569-584. <https://doi.org/10.1002/cpp.2533>
- Plouffe, R. A., Easterbrook, B., Liu, A., McKinnon, M. C., Richardson, J. D., & Nazarov, A. (2021). Psychometric evaluation of the Moral Injury Events Scale in two Canadian armed forces samples. *Assessment*, 1-13. <https://doi.org/10.1177/10731911211044198>
- Pfluger, V., Rohner, S. L., Eising, C. M., Maercker, A., & Thoma, M. V. (2022). Internalizing mental health disorders and emotion regulation: A comparative and mediational study of older adults with and without a history of complex trauma exposure. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.820345>
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531-544. <https://doi.org/10.1177/014920638601200408>

- Poghosyan, L., Ghaffari, A., Liu, J., & McHugh, M. D. (2020). Organizational support for nurse practitioners in primary care and workforce outcomes. *Nursing Research, 69*(4), 290-288. <https://doi.org/10.1097/NNR.0000000000000425>
- Pollak, S. D., Cicchetti, D., Hornung, K., & Reed, A. (2000). Recognizing emotions in faces: Developmental effects of child abuse and neglect. *Developmental Psychology, 36*(5), 679-688. <https://doi.org/10.1037/0012-1649.36.5.679>
- Popic, T., & Schneider, S. M. (2018). An east-west comparison of healthcare evaluations in Europe: Do institutions matter? *Journal of European Social Policy, 28*(5), 517-534. <https://doi.org/10.1177/0958928717754294>
- Porter, C., Palmier-Claus, J., Branitsky, A., Mansell, W., Warwick, H., & Varese, F. (2020). Childhood adversity and borderline personality disorder: A meta-analysis. *Acta Psychiatrica Scandinavica, 141*(1), 6-20. <https://doi.org/10.1111/acps.13118>
- Powell, C. (2003). The Delphi technique: Myths and realities. *Journal of Advanced Nursing, 41*(4), 376-382. <https://doi.org/10.1046/j.1365-2648.2003.02537.x>
- Power, N., Perreault, M., Ferrari, M., Boudreau, P., Boivin, D. B. (2022). Sleep of healthcare workers during the COVID-19 pandemic and the role of atypical work schedules: A scoping review. *Journal of Biological Rhythms, 37*(4), 358-384. <https://doi.org/10.1177/07487304221103376>
- Preece, D., Becerra, R., Allan, A., Robinson, K., & Dandy, J. (2017). Establishing the theoretical components of alexithymia via factor analysis: Introduction and validation of the attention-appraisal model of alexithymia. *Personality and Individual Differences, 119*, 341-352. <https://doi.org/10.1016/j.paid.2017.08.003>
- Preece, D. A., Becerra, R., Robinson, K., & Gross, J. J. (2020). The Emotion Regulation Questionnaire: Psychometric properties in general community samples. *Journal of*

*Personality Assessment*, 102(3), 348-356.

<https://doi.org/10.1080/00223891.2018.1564319>

- Preece, D. A., Mehta, A., Becerra, R., Chen, W., Allan, A., Robinson, K., Boyes, M., Hasking, P., & Gross, J. J. (2022). Why is alexithymia a risk factor for affective disorder symptoms? The role of emotion regulation. *Journal of Affective Disorders*, 296, 337-341. <https://doi.org/10.1016/j.jad.2021.09.085>
- Preece, D. A., Mehta, A., Petrova, K., Sikka, P., Bjureberg, J., Becerra, R., & Gross, J. J. (2023). Alexithymia and emotion regulation. *Journal of Affective Disorders*, 324, 232-238. <https://doi.org/10.1016/j.jad.2022.12.065>
- Prins, A., Bovin, M. J., Kimerling, R., Kaloupek, D. G., Marx, B. P., Pless Kaiser, A., & Schnurr, P. P. (2015). The Primary Care PTSD Screen for DSM-5 (PC-PTSD-5): Development and evaluation within a Veteran primary care sample. *Journal of General and Internal Medicine*, 31, 1206-1211. <https://doi.org/10.1007/s11606-016-3703-5>
- Protopopescu, A., Boyd, J. E., O'Connor, C., Rhind, S. G., Jetly, R., Lanius, R. A., & McKinnon, M. C. (2021). Examining the associations among moral injury, difficulties with emotion regulation, and symptoms of PTSD, depression, anxiety, and stress among Canadian military members and veterans: A preliminary study. *Journal of Military, Veteran and Family Health*, 7(2), 71-80. <https://doi.org/10.3138/jmvfh-2020-0036>
- Purdon, C. (1999). Thought suppression and psychopathology. *Behaviour Research and Therapy*, 37(11), 1029-1054. [https://doi.org/10.1016/S0005-7967\(98\)00200-9](https://doi.org/10.1016/S0005-7967(98)00200-9)
- Pynoos, R. S., Steinberg, A. M., & Piacentini, J. C. (1999). A developmental psychopathology model of childhood traumatic stress and intersection with anxiety

- disorders. *Biological Psychiatry*, 46(11), 1542-1554. [https://doi.org/10.1016/s0006-3223\(99\)00262-0](https://doi.org/10.1016/s0006-3223(99)00262-0)
- Qanash, S., Alwafi, H., Barasheed, S., Bashnaini, S., Andergiri, R., Yaghmour, L., Murad, W., Shabrawishi, M., Naser, A. Y., & Alsyyid, B. (2021). Impact of night shifts on sleeping patterns, psychosocial and physical well-being among healthcare professionals: A cross-sectional study in a tertiary hospital in Saudi Arabia. *BMJ Open*, 11(9). <https://doi.org/10.1136/bmjopen-2020-046036>
- Quinless, F. W., & McDermott-Nelson, M. A. (1988). Development of a measure of learned helplessness. *Nursing Research*, 37(1), 11-15. <https://doi.org/10.1097/00006199-198801000-00003>
- Quirk, R., Rodin, H., & Linzer, M. (2021). Targeting causes of burnout in residency: An innovative approach used at Hennepin Healthcare. *Academic Medicine*, 96(5), 690-694. <https://doi.org/10.1097/ACM.0000000000003940>
- R Core Team. (2022). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>
- Rabin, S., Kika, N., Lamb, D., Murphy, D., Stevelink, S. A. M., Williamson, V., Wessely, S., & Greenberg, N. (2023). Moral injuries in healthcare workers: What causes them and what to do about them? *Journal of Healthcare Leadership*, 15, 153-160. <https://doi.org/10.2147/JHL.S396659>
- Raes, F., & Hermans, D. (2008). On the mediating role of subtypes of rumination in the relationship between childhood emotional abuse and depressed mood: Brooding versus reflection. *Depression and Anxiety*, 25, 1067-1070. <https://doi.org/10.1002/da.20447>
- Ray, T. N., Hunsanger, J. A., Nagy, S. M., & Pickett, S. M. (2020). Potentially morally injurious events and depression symptoms among a trauma-exposed sample:

- Examining the roles of interpersonal needs and emotion dysregulation. *Stress and Health*, 37(1), 151-161. <https://doi.org/10.1002/smi.2981>
- Rezaei, M., Ghazanfari, F., & Rezaee, F. (2016). The role of childhood trauma, early maladaptive schemas, emotional schemas and experimental avoidance on depression. *Psychiatry Research*, 246, 407-414. <https://doi.org/10.1016/j.psychres.2016.10.037>
- Richardson, C.B., Chesnut, R.P., Morgan, N.R., Bleser, J.A., Perkins, D.F., Vogt, .D., Copeland, L.A., & Finley, E. (2020). Examining the Factor Structure of the Moral Injury Events Scale in a Veteran Sample. *Military Medicine*, 185(1-2). <https://doi.org/10.1093/milmed/usz129>
- Riedel, P. -L., Kreh, A., Kulcar, V., Liever, A., & Juen, B. (2022). A scoping review of moral stressors, moral distress and moral injury in healthcare workers during COVID-19. *International Journal of Environmental Research and Public Health*, 19. <https://doi.org/10.3390/ijerph19031666>
- Riskind, J. H. (1997). Looming vulnerability to threat: A cognitive paradigm for anxiety. *Behaviour Research and Therapy*, 35(8), 685-702. [https://doi.org/10.1016/S0005-7967\(97\)00011-9](https://doi.org/10.1016/S0005-7967(97)00011-9)
- Robaee, N., Atashzadeh-Shoorideh, F., Ashktorab, T., Baghestani, A., & Barkhordari-Sharifabad, M. (2018). Perceived organizational support and moral distress among nurses. *BMC Nursing*, 17(1). <https://doi.org/10.1186/s12912-017-0270-y>
- Rodrigues, N. C., Ham, E., Hilton, N. Z., & Seto, M. C. (2021). Workplace characteristics of forensic and nonforensic psychiatric units associated with posttraumatic stress disorder (PTSD) symptoms. *Psychological Services*, 18(4), 464-473. <https://doi.org/10.1037/ser0000405>
- Rodríguez, E. A., Agüero-Flores, M., Landa-Blanco, M., Agurcia, D., & Santos-Midence, C. (2021). Moral injury and light triad traits: Anxiety and depression in health-care

- personnel during the Coronavirus-2019 pandemic in Honduras. *Hispanic Health Care International*, 19(4), 230-238. <https://doi.org/10.1177/15404153211042371>
- Rogier, G., Cavalli, R. G., Maggiolo, C., & Velotti, P. (2023). Factorial structure of the Emotional Beliefs Questionnaire: Testing measurement invariance and competitive models. *Journal of Psychopathology and Behavioral Assessment*, 45, 558-571. <https://doi.org/10.1007/s10862-023-10038-8>
- Rolfe, G. (1993). Closing the theory-practice gap: A model of nursing praxis. *Journal of Clinical Nursing*, 2(3), 173-177. <https://doi.org/10.1111/j.1365-2702.1993.tb00157.x>
- Rosen, A., Cahill, J. M., & Dugdale, L. S. (2022). Moral injury in healthcare: Identification and repair in the COVID-19 era. *Journal of General Internal Medicine*, 37, 3739-3743. <https://doi.org/10.1007/s11606-022-07761-5>
- Roth, S. L., Andrews, K., Protopopescu, A., Lloyd, C., O'Connor, C., Losier, B. J., Lanius, R. A., & McKinnon, M. C. (2022). Mental health symptoms in Public Safety Personnel: Examining the effects of adverse childhood experiences and moral injury. *Child Abuse & Neglect*, 123. <https://doi.org/10.1016/j.chiabu.2021.105394>
- Rushton, C. H., Thomas, T. A., Antonsdottir, I. M., Nelson, K. E., Boyce, D., Vioral, A., Swavely, D., Ley, C. D., & Hanson, G. C. (2022). Moral injury and moral resilience in health care workers during COVID-19 pandemic. *Journal of Palliative Medicine*, 25(5), 712-719. <https://doi.org/10.1089/jpm.2021.0076>
- Saba, S. K., Davis, J. P., Lee, D. S., Castro, C. A., & Pedersen, E. R. (2022). Moral injury events and behavioral health outcomes among American veterans. *Journal of Anxiety Disorders*, 90. <https://doi.org/10.1016/j.janxdis.2022.102605>
- Saddichha, S., Kumar, A., & Pradhan, N. (2012). Cognitive schemas among mental health professionals: Adaptive or maladaptive? *Journal of Research in Medical Sciences*, 17(6), 523-526.

- Sahraian, A., Fazelzadeh, A., Mehdizadeh, A. R., & Toobae, S. H. (2008). Burnout in hospital nurses: A comparison of internal, surgery, psychiatry and burns wards. *International Nursing Review*, 55(1), 62-67. <https://doi.org/10.1111/j.1466-7657.2007.00582.x>
- Sahle, B. W., Reavley, N. J., Li, W., Morgan, A. J., Yap, M. B. H., Reupert, A., & Jorm, A. F. (2021). The association between adverse childhood experiences and common mental disorders and suicidality: An umbrella review of systematic review and meta-analyses. *European Child & Adolescent Psychiatry*. <https://doi.org/10.1107/s00787-021-01745-2>
- Sakakibara, R., & Endo, T. (2015). Cognitive appraisal as a predictor of cognitive emotion regulation choice. *Japanese Psychological Research*, 58(2), 175-185. <https://doi.org/10.1111/jpr.12098>
- Saragih, I. D., Tonapa, S. I., Saragih, I. S., Advani, S., Batubara, S. O., Suarilah, I., & Lin, C. -J. (2021). Global prevalence of mental health problems among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. *International Journal of Nursing Studies*, 121. <https://doi.org/10.1016/j.ijnurstu.2021.104002>
- Sardarzadeh, S. (2017). Cognitive schemas have the ability to predict emotional schemas in different types of anxiety disorders. *International Journal of Psychological and Brain Sciences*, 2(6), 120-126. <https://doi.org/10.11648/j.ijpbs.20170206.11>
- Sasso, L., Delogu, B., Carrozzino, R., Aleo, G., & Bagnasco, A. (2018). Ethical issues of prison nursing: A qualitative study in Northern Italy. *Nursing Ethics*, 25(3), 393-409. <https://doi.org/10.1177/0969733016639760>



- Sattar, R., Lawton, R., Panagioti, M., & Johnson, J. (2021). Meta-ethnography in healthcare research: A guide to using a meta-ethnographic approach for literature synthesis. *BMC Health Services Research*, 21(50). <https://doi.org/10.1186/s12913-020-06049-w>
- Scarpa, A., Wilson, L. C., Wells, A. O., Patriquin, M. A., & Tanka, A. (2009). Thought control strategies as mediators of trauma symptoms in young women with histories of child sexual abuse. *Behaviour Research and Therapy*, 47, 809-813. <https://doi.org/10.1016/j.brat.2009.06.002>
- Scheele (2002) <https://web.njit.edu/~turoff/pubs/delphibook/delphibook.pdf>
- Schneider, W. (2008). The development of metacognitive knowledge in children and adolescents: Major trends and implications for education. *Mind, Brain, and Education*, 2, 114-121. <https://doi.org/10.1111/j.1751-228X.2008.00041.x>
- Schwartz, G., Halperin, E., & Levi-Belz, Y. (2021). Moral injury and suicide ideation among combat veterans: The role of trauma-related shame and collective hatred. *Journal of Interpersonal Violence*, 37(15-16). <https://doi.org/10.1177/08862605211007932>
- Scott, H. R., Stevelink, S. A. M., Gafoor, R., Lamb, D., Carr, E., Bakolis, I., Bhundia, R., Docherty, M. J., Dorrington, S., Gnanapragasam, S., Hegarty, S., Hotopf, M., Madan, I., McManus, S., Moran, P., Souliou, E., Raine, R., Razavi, E., Weston, D., ...
- Wessely, S. (2023). Prevalence of post-traumatic stress disorder and common mental disorders in health-care workers in England during the COVID-19 pandemic: A two-phase cross-sectional study. *Lancet Psychiatry*, 10, 40-49. [https://doi.org/10.1016/S2215-0366\(22\)00375-3](https://doi.org/10.1016/S2215-0366(22)00375-3)
- Sequeira, H., & Halstead, S. (2004). The psychological effects on nursing staff of administering physical restraint in a secure psychiatric hospital: 'When I go home, it's then that I think about it'. *The British Journal of Forensic Practice*, 6(1), 3-15. <https://doi.org/10.1108/14636646200400002>

- Seys, D., Peeters, B., Doggen, K., & Vanhaecht, K. (2022). The evolving personal, professional and physical impact on healthcare professionals during three COVID-19 waves: A cross-sectional study. *International Journal for Quality in Health Care*, 34(3). <https://doi.org/10.1093/intghc/mzac069>
- Shackman, J. E., Shackman, A. J., & Pollak, S. D. (2007). Physical abuse amplifies attention to threat and increases anxiety in children. *Emotion*, 7(4), 838-852. <https://doi.org/10.1037/1528-3542.7.4.838>
- Shanafelt, T. D., Hasan, O., Dyrbye, L. N., Sinsky, C., Satele, D., Sloan, J., & West, C. P. (2015). Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. *Mayo Clinical Proceedings*, 90(12), 1600-1613. <https://doi.org/10.1016/mayocp.2015.08.023>
- Shangguan, C., Zhang, L., Wang, Y., Wang, W., Shan, M., & Liu, F. (2022). Expressive flexibility and mental health: The mediating role of social support and gender differences. *International Journal of Environmental Research and Public Health*, 19(1). <https://doi.org/10.3390/ijerph19010456>
- Shapira-Lishchinsky, O. (2009). Ethical dilemmas: The experiences of Israeli nurses. *Qualitative Health Research*, 19(11), 1602-1611. <https://doi.org/10.1177/1049732309350730>
- Shaver, P. S., & Mikulincer, M. (2007). Adult attachment theory and the regulation of emotion. In J. Gross, & R. A. Thompson (Eds.), *Handbook of emotional regulation*, (pp. 446-465). Guildford Press.
- Shay, J. (1994). *Achilles in Vietnam: Combat trauma and the undoing of character*. New York: Atheneum.
- Shay, J. (2003). *Odysseus in America: Combat trauma and the trials of homecoming*. New York: Scribner.

Shay, J. (2014). Moral injury. *Psychoanalytic Psychology*, 31(2), 182-191.

<https://doi.org/10.1037/a0036090>

Sherif, M. (1966). *Group conflict and co-operation: Their social psychology*. Psychology Press.

Shibaoka, A. (2024). *Moral injury as a war syndrome: A historical approach* [Paper presentation]. Narrative of Moral Injury in European and International Contexts Conference, International Centre for Moral Injury, Durham, UK.

Shingler, J., Sonnenberg, S. J., & Needs, A. (2020). 'Their life in your hands': The experiences of prison-based psychologists conducting risk assessments with indeterminate sentenced prisoners in the United Kingdom. *Psychology, Crime & Law*, 26(4), 311-326.

Singh, J., & Hassard, J. (2021). Emotional labour, emotional regulation strategies, and secondary traumatic stress: A cross-sectional study of allied mental health professionals in the UK. *The Social Science Journal*.

<https://doi.org/10.1080/03623319.2021.1979825>

Sistad, R. E., Simons, R. M., Mojallal, M., & Simons, J. S. (2021). The indirect effect from childhood maltreatment to PTSD symptoms via thought suppression and cognitive reappraisal. *Child Abuse & Neglect*, 114.

<https://doi.org/10.1016/j.chiabu.2021.104939>

Smetana, J. G., Kelly, M., & Twentyman, C. T. (1984). Abused, neglected, and nonmaltreated children's conceptions of moral and social-conventional transgressions. *Child Development*, 55(1), 277-287.

Smigelsky, M. A., Malott, J. D., Morris, K. V., Berlin, K. S., & Neimeyer, R. A. (2018). Latent profile analysis exploring potential moral injury and posttraumatic stress

- disorder among military veterans. *Journal of Clinical Psychology*, 75(3), 499-519.  
<https://doi.org/10.1002/jclp.22714>
- Smith, J. P., & Herber, O. R. (2015). Ethical issues experienced by mental health nurses in the administration of antipsychotic depot and long-acting intramuscular injections: A qualitative study. *International Journal of Mental Health Nursing*, 24(3), 222-230.  
<https://doi.org/10.1111/inm.12105>
- Snow, J., Moorman, J., & Romano, E. (2022). Emotion regulation and mental health among with childhood sexual abuse histories. *Journal of Child Sexual Abuse*, 31(4), 412-430.  
<https://doi.org/10.1080/10538712.2021.1970677>
- Song, Y. K., Mantri, S., Lawson, J. M., Berger, E. J., & Koenig, H. G. (2021). Morally injurious experiences and emotions of health care professionals during the COVID-19 pandemic before vaccine availability. *JAMA Network Open*, 4(11).  
<https://doi.org/10.1001/jamanetworkopen.2021.36150>
- Sperry, D. M., & Widom, C. S. (2013). Child abuse and neglect, social support, and psychopathology in adulthood: A prospective investigation. *Child Abuse & Neglect*, 37(6), 415-425. <https://doi.org/10.1016/j.chiabu.2013.02.006>
- Spies, J. P., Cwik, J. C., Willmund, G. D., Knaevelsrud, C., Schumacher, S., Niemeyer, H., Engel, S., Küster, A., Muschalla, B., Köhler, K., Weiss, D., & Rau, H. (2020). Associations between difficulties in emotion regulation and post-traumatic stress disorder in deployed service members of the German Armed Forces. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsy.2020.576553>
- Spilg, E. G., Rushton, C. H., Phillips, J. L., Kendzerska, T., Saad, M., Gifford, W., Gautam, M., Bhatla, R., Edwards, J. D., Quilty, L., Leveille, C., & Robillard, R. (2022). The new frontline: Exploring the links between moral distress, moral resilience and mental

- health in healthcare workers during the COVID-19 pandemic. *BMC Psychiatry*, 22(19). <https://doi.org/10.1186/s12888-021-03637-w>
- Stamm, B. H. (2005). *The Pro-QOL Manual: The Professional Quality of Life Scale: Compassion satisfaction, burnout & compassion fatigue/secondary trauma scales*. Baltimore, MD: Sidran Press.
- Stansfield, S. A., Pike, C., McManus, S., Harris, J., Bebbington, P., Brugha, T., Hassiotis, A., Jenkins, R., Meltzer, H., Moran, P., & Clark, C. (2012). Occupations, work characteristics and common mental disorder. *Psychological Medicine*, 43(5), 961-973. <https://doi.org/10.1017/S0033291712001821>
- Steenkamp, M. M., Litz, B. T., Hoge, C. W., & Marmar, C. R. (2015). Psychotherapy for military related PTSD: A review of randomized controlled trials. *JAMA*, 314(5), 489-500. <https://doi.org/10.1001/jama.2015.8370>
- Stein, N. R., Mills, M. A., Arditte, K., Mendoza, C., Borah, A. M., Resick, P. A., Litz, B. T., & STRONG STAR Consortium. (2012). A schema for categorizing traumatic military events. *Behavior Modification*, 36(6), 787-807. <https://doi.org/10.1177/0145445512446945>
- Steinmetz, S. E., & Gray, M. J. (2015). Treatment for distress associated with accurate appraisals of self-blame for moral transgressions. *Current Psychiatry Reviews*, 11(3), 207-219. <https://doi.org/10.2174/15734005116661506291>
- Stellern, J., Xiao, K. B., Grennell, E., Sanches, M., Gowin, J. L., & Sloan, M. E. (2022). Emotion regulation in substance use disorders: A systematic review and meta-analysis. *Addiction*. <https://doi.org/10.1111/add.16001>
- Stovall, M., Hansen, L., & van Ryn, M. (2020). A critical review: Moral injury in nurses in the aftermath of a patient safety incident. *Journal of Nursing Scholarship*, 52(3), 320-328. <https://doi.org/10.1111/jnu.12551>

- Suhaimi, A., Mulud, Z. A., & Sharoni, S. K. A. (2021). Shortage of nurses' impact on quality care: A qualitative study. *Journal of Islamic, Social, Economics and Development*, 6(36), 73-80.
- Sumption, M., & Strain-Fajth, Z. (2023). *Migration and the health and care workforce*. ReWage and Migration Observatory Evidence Paper, COMPAS, University of Oxford.
- Sun, M., & Lau, A. S. (2019). Exploring cultural differences in expressive suppression and emotion recognition. *Journal of Cross-Cultural Psychology*, 49(4), 664-672.  
<https://doi.org/10.1177/0022022118763749>
- Swart, M., Kortekaas, R., & Aleman, A. (2009). Dealing with feelings: Characterization of trait alexithymia on emotion regulation strategies and cognitive-emotional processing. *PLoS ONE*, 4(6). <https://doi.org/10.1371/journal.pone.0005751>
- Syed, S., Ashwick, R., Schlosser, M., Jones, R., Rowe, S., & Billings, J. (2020). Global prevalence and risk factors for mental health problems in police personnel: A systematic review and meta-analysis. *Occupational and Environmental Medicine*, 77(11), 737-747. <https://doi.org/10.1136/oemed-2020-106498>
- Szabó, D., Békés, V., Lévy, E. E., Salgó, E., & Unoka, Z. S. (2023). Moral injury in psychiatric patients with personality and other clinical disorders: Development, psychometric properties, and validity of the Moral Injury Events Scale-Civilian Version. *European Journal of Psychotraumatology*
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin, & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-37). Brooks/Cole.

- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel, & W. G. Austin (Eds.), *Psychology of intergroup relation* (pp. 7-24). Hall Publishers.
- Takarangi, M. K. T., Nayda, D., Strange, D., & Nixon, R. D. V. (2017). Do meta-cognitive beliefs affect meta-awareness of intrusive thoughts about trauma? *Journal of Behavior Therapy and Experimental Psychiatry*, *54*, 292-300.  
<https://doi.org/10.1016/j.jbtep.2016.10.005>
- Tanzer, M., Salaminios, G., Morosan, L., Campbell, C., & Debbané, M. (2020). Self-blame mediates the link between childhood neglect experiences and internalizing symptoms in low-risk adolescents. *Journal of Child & Adolescent Trauma*, *14*, 73-83.  
<https://doi.org/10.1007/s40653-020-00307-z>
- Taylor, G. J., Bagby, R. M., & Olivier, L. (2000). Assessment of alexithymia: Self-report and observer-rated measures. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace* (pp. 301-319). Jossey-Bass/Wiley.
- ter Heide, F. J. J., & Olf, M. (2023). Widening the scope: Defining and treating moral injury in diverse populations. *European Journal of Psychotraumatology*, *14*(2).  
<https://doi.org/10.1080/20008066.2023.2196899>
- Tezel, F. K., Tutarel-Kışlak, Ş., & Boysan, M. (2015). Relationships between childhood traumatic experiences, early maladaptive schemas and interpersonal styles. *Noro Psikiyatri Arsivi*, *52*(3), 226-232. <https://doi.org/10.5152/npa.2015.7118>
- Theocharis, A., Antonopoulos, V., Christodoulou, N. G. (2023). Somatic symptoms associated with mental distress during the COVID-19 pandemic: A systematic review. *Australasian Psychiatry*, *31*(2). <https://doi.org/10.1177/10398562231156380>

- Thomas, T. A., Davis, F. D., Kumar, S., Thammasitboon, S., & Rushton, C. H. (2021). COVID-19 and moral distress: A pediatric critical care survey. *American Journal of Critical Care, 30*(6), 80-98. <https://doi.org/10.4037/ajcc2021999>
- Thomas, V., Bizumic, B., & Quinn, S. (2023). The Occupational Moral Injury Scale (OMIS) – Development and validation in frontline health and first responder workers. *Traumatology*. Advance online publication. <https://doi.org/10.31219/osf.io/ht7ne>
- Thomson, K., Outram, S., Gilligan, C., & Levett-Jones, T. (2015). Interprofessional experiences of recent healthcare graduates: A social psychology perspective on the barriers to effective communication, teamwork, and patient-centred care. *Journal of Interprofessional Care, 29*(6), 634-640. <https://doi.org/10.3109/13561820.2015.1040873>
- Tomlin, J., Egan, V., Bartlett, P., & Völlm, B. (2020). What do patients find restrictive about forensic mental health services? A qualitative study. *International Journal of Forensic Mental Health, 19*(1), 44-56. <https://doi.org/10.1080/14999013.2019.1623955>
- Too, L. S., & Butterworth, P. (2018). Psychosocial job stressors and mental health: The potential moderating role of emotion regulation. *Journal of Occupational and Environmental Medicine, 60*(10), 518-524. <https://doi.org/10.1097/JOM.0000000000001416>
- Toye, F., Seers, K., Allcock, N., Briggs, M., Carr, E., Andrews, J., & Barker, K. (2013). ‘Trying to pin down jelly’ – exploring intuitive processes in quality assessment for meta-ethnography. *BMC Medical Research Methodology, 13*(1). <https://doi.org/10.1186/1471-2288-13-46>



- Tran, K. T., Nguyen, P. V., Dang, T. T. U., & Ton, T. N. B. (2018). The impacts of the high-quality workplace relationships on job performance: A perspective on staff nurses in Vietnam. *Behavioural Sciences*, 8(12). <https://doi.org/10.3390/bs8120109>
- Turner, R., Louie, K., Parvez, A., Modaffar, M., Rezaie, R., Greene, T., Bisby, J., Fonagy, P., Bloomfield, M. A. P. (2022). The effects of developmental trauma on theory of mind and its relationship to psychotic experiences: A behavioural study. *Psychiatry Research*, 312. <https://doi.org/10.1016/j.psychres.2022.114544>
- Ulusoy, S., & Çelik, Z. (2022). The silent cry of healthcare workers: A cross-sectional study on levels and determinants of burnout among healthcare workers after first year of the pandemic in Turkey. *Psychiatry and Clinical Psychopharmacology*, 32, 63-71. <https://doi.org/10.5152/pcp.21248>
- Van Kleef, G. A. (2009). How emotions regulate social life: The emotions as social information (EASI) model. *Current Directions in Psychological Science*, 18(3), 184-188. <https://doi.org/10.1111/j.1467-8721.2009.01633.x>
- Vandekerckhove, M., & Wang, Y. (2018). Emotion, emotion regulation and sleep: An intimate relationship. *AIMS Neuroscience*, 5(1), 1-17. <https://doi.org/10.3934/Neuroscience.2018.1.1>.
- Verkuilen, J., Bianchi, R., Schonfeld, I. S., & Laurent, E. (2021). Burnout-depression overlap: Exploratory structural equation modelling bifactor analysis and network analysis. *Assessment*, 28(6), 1583-1600. <https://doi.org/10.1177/1073191120911095>
- Vogel, C., Zwolinsky, S., Griffiths, C., Hobbs, M., Henderson, E., & Wilkins, E. (2019). A Delphi study to build consensus on the definition and use of big data in obesity research. *International Journal of Obesity*, 43, 2573-2586. <https://doi.org/10.1038/s41366-018-0313-9>

- Waller, E., & Scheidt, C. E. (2004). Somatoform disorders as disorders of affect regulation: A study comparing the TAS-20 with non-self-report measures of alexithymia. *Journal of Psychosomatic Research*, *57*(3), 239-247. [https://doi.org/10.1016/S0022-3999\(03\)00613-5](https://doi.org/10.1016/S0022-3999(03)00613-5)
- Wang, J., Zheng, Z., Tang, Y., Zhang, R., Lu, Q., Wang, B., & Sun, Q. (2022b). Psychological distress and its influencing factors among psychiatric nurses in China: A cross-sectional study. *Frontiers in Psychiatry*, *13*. <https://doi.org/10.3389/fpsy.2022.948786>
- Wang, M., Hu, C., Zhao, Q., Feng, R., Wang, Q., Hongbin, C., Guo, Z., Xu, K., Luo, W., Guo, C., Zhang, S., Chen, C., Zhu, C., Wang, H., Chen, Y., Ma, L., Zhan, P., Cao, J., Huang, S., ... Yang, Y. (2021). Acute psychological impact on COVID-19 patients in Hubei: A multicenter observational study. *Translational Psychiatry*, *11*(1). <https://doi.org/10.1038/s41398-021-01259-0>
- Wang, Z., Koenig, H. G., Tong, Y., Wen, J., Sui, M., Liu, H., Al Zaben, F., & Liu, G. (2022a). Moral injury in Chinese health professionals during the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy*, *14*(2), 250-257. <https://doi.org/10.1037/tra0001026>
- Warchol-Biedermann, K., Bugajski, P., Budzicz, L., Ziarko, M., Jasielska, A., Samborski, W., Daroszewski, P., Greberski, K., Bączyk, G., Karoń, J., & Mojs, E. (2022). Relationship between stress and alexithymia, emotional processing and negative/positive affect in medical staff working amid the COVID-19 pandemic. *Journal of Investigative Medicine*, *70*(2), 428-435. <https://doi.org/10.1136/jim-2021-001942>
- Webb, E. L., Morris, D., Sadler, E., MacMillan, S., Trowell, S., & Legister, A. (2023a). Predictors of moral injury in secure mental healthcare workers: Examining a role for

- violence and restrictive practices through an intersectional lens. *Journal of Forensic Psychology Research and Practice*. <https://doi.org/10.1080/24732850.2022.2164538>
- Webb, E. L., Morris, D. J., Lupatelli Gencarelli, B., & Trowell, S. (2024). *The potentially morally injurious effects of restrictive practices and violence in secure mental healthcare: Examining a moderating role for perceived social support*. [Manuscript submitted for publication].
- Webb, E. L., Morris, D. J., Lupatelli Gencarelli, B., & Worsfold, J. (2023b). The differential and accumulative impacts of self and other sources of moral injury on well-being in healthcare. *International Journal of Workplace Health Management*, *17*(2), 139-155. <https://doi.org/10.1108/IJWHM-10-2023-0155>
- Weber, M., Smith, A. J., Jones, R. T., Holmes, G. A., Johnson, A. L., Patrick, R. N. C., Alexander, M. D., Miyazaki, Y., Wright, H., Ehman, A. C., Langenecker, S. A., Benight, C. C., Pyne, J. M., Harris, J. I., Usset, T. J., Maguen, S., & Griffin, B. J. (2022). Moral injury and psychosocial functioning in health care workers during the COVID-19 pandemic. *Psychological Services*, *20*(1), 19-29. <https://doi.org/10.1037/ser0000718>
- Weekers, L. C., Hutsebaut, J., & Kamphuis, J. H. (2019). The Level of Personality Functioning Scale – Brief Form 2.0: Update of a brief instrument for assessing level of personality functioning. *Personality and Mental Health*, *13*(1), 3-14. <https://doi.org/10.1002/pmh.1434>
- Weekers, L. C., Sellbom, M., Hutsebaut, J., Simonsen, S., & Bach, B. (2022). Normative data for the LPFS-BF 2.0 derived from the Danish general population and relationship with psychosocial impairment. *Personality and Mental Health*, *17*(2), 157-164. <https://doi.org/10.1002/pmh.1570>

- Wells, A. (2000). *Emotional disorders and metacognition: Innovative cognitive therapy*. Chichester, UK: Wiley.
- Wells, A., & Cartwright-Hatton, S. (2004). A short form of the Metacognitions Questionnaire: Properties of the MCQ-30. *Behaviour Research and Therapy*, 42, 385-396.
- Wells, A., & Matthews, G. (1996). Modelling cognition in emotional disorder: The S-REF model. *Behaviour Research and Therapy*, 34(11-12), 881-888.  
[https://doi.org/10.1016/s0005-7967\(96\)00050-2](https://doi.org/10.1016/s0005-7967(96)00050-2)
- West, M. A., & Lyubovnikova, J. (2013). Illusions of team working in healthcare. *Journal of Health Organization and Management*, 27(1), 134-142.  
<https://doi.org/10.1108/14777261311311843>
- Williamson, V., Greenberg, N., & Murphy, D. (2021b). Predictors of moral injury in UK treatment seeking veterans. *Child Abuse & Neglect*, 112.  
<https://doi.org/10.1016/j.chiabu.2020.104889>
- Williamson, V., Lamb, D., Hotopf, M., Raine, R., Stevelink, S., Wessely, S., Docherty, M., Madan, I., Murphy, D., & Greenberg, N. (2023). Moral injury and psychological well-being in UK healthcare staff. *Journal of Mental Health*.  
<https://doi.org/10.1080/09638237.2023.2182414>
- Williamson, V., Murphy, D., & Greenberg, N. (2022). Experiences and impact of moral injury in U.K. veterinary professional well-being. *European Journal of Psychotraumatology*, 13(1). <https://doi.org/10.1080/20008198.2022.2051351>
- Williamson, V., Murphy, D., Stevelink, S. A. M., Jones, E., Allen, S., & Greenberg, N. (2021a). Family and occupational functioning following military trauma exposure and moral injury. *BMJ Military Health*. <https://doi.org/10.1136/bmjmilitary-2020-001770>

- Williamson, V., Stevelink, S. A. M., & Greenberg, N. (2018). Occupational moral injury and mental health: Systematic review and meta-analysis. *The British Journal of Psychiatry*, 212(6), 339-346. <https://doi.org/10.1192/bjp.2018.55>
- Wilson, J. P., Droždek, B., & Turkovic, S. (2006). Posttraumatic shame and guilt. *Trauma, Violence & Abuse*, 7(2), 122-141. <https://doi.org/10.1177/1524838005285914>
- Wojtowicz, B., Hagen, B., & Van Daalen-Smith, C. (2014). No place to turn: Nursing students' experiences of moral distress in mental health settings. *International Journal of Mental Health Nursing*, 23(3), 257-264. <https://doi.org/10.1111/inm.12043>
- World Health Organization. (2019). *International classification of diseases for mortality and morbidity statistics, 11<sup>th</sup> revision (ICD-11)*, WHO, Geneva.
- Wu, H., Liu, X., Hagan, C. C., & Mobbs, D. (2020). Mentalizing during social interaction: A four component model. *Cortex*, 126, 242-252. <https://doi.org/10.1016/j.cortex.2019.12.031>
- Wymbs, N. F., Orr, C., Albaugh, M. D., Althoff, R. R., O'Loughlin, K., Holbrook, H., Garavan, H., Montalvo-Ortiz, J. L., Mostofsky, S., Hudziak, J., & Kaufman, J. (2020). Social supports moderate the effects of child adversity on neural correlates of threat processing. *Child Abuse & Neglect*, 102. <https://doi.org/10.1016/j.chiabu.2020.104413>
- Xie, W., Wang, J., Okoli, C., He, H., Feng, F., Zhuang, L., Tang, P., Zeng, L., & Jin, M. (2020). Prevalence and factors of compassion fatigue among Chinese psychiatric nurses: A cross-sectional study. *Medicine*, 99(29). <https://doi.org/10.1097/MD.00000000000021083>
- Xu, Y. (2006). Differences in healthcare systems between east and west: Implications for Asian nurses. *Home Health Care Management and Practice*, 18(4), 338-341. <https://doi.org/10.1177/1084822305285835>

- Xue, Y., Lopes, J., Ritchie, K., D'Alessandro, A. M., Banfield, L., McCabe, R. E., Heber, A., Lanius, R. A., McKinnon, M. C. (2022). Potential circumstances associated with moral injury and moral distress in healthcare workers and public safety personnel across the globe during COVID-19: A scoping review. *Frontiers in Psychiatry, 13*.  
<https://doi.org/10.3389/fpsyt.2022.863232>
- Yan, G. W. (2016). The invisible wound: Moral injury and its impact on the health of operation enduring freedom/operation Iraqi freedom veterans. *Military Medicine, 181*(5), 451-458. <https://doi.org/10.7205/MILMED-D-15-00103>
- Yazıcı, H., & Özdemir, M. (2022). Predictors of secondary traumatic stress in mental health professionals: Trauma history, self-compassion, emotional intelligence. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 41*, 162-175.  
<https://doi.org/10.1007/s10942-022-00458-y>
- Yeh, S.-C. J., Chen, S.-H. S., Yuan, K.-S., Chou, W., & Wan, T. T. H. (2020). Emotional labor in health care: The moderating roles of personality and the mediating role of sleep on job performance and satisfaction. *Frontiers in Psychology, 11*.  
<https://doi.org/10.3389/fpsyg.2020.574898>
- Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema Therapy: A Practitioner's Guide*. New York, USA: Guilford Press.
- Yu, C. -W. F., Haase, C. M., & Chang, J. -H. (2023). Habitual expressive suppression of positive, but not negative, emotions consistently predicts lower well-being across two culturally distinct regions. *Affective Science, 4*, 684-701.  
<https://doi.org/10.1007/s42761-023-00221-1>
- Zefferman, M. R., & Mathew, S. (2020). An evolutionary theory of moral injury with insight from Turkana warriors. *Evolution and Human Behavior, 41*(5), 341-353.  
<https://doi.org/10.1016/j.evolhumbehav.2020.07.003>

- Zerach, G., & Levi-Belz, Y. (2021). Moral injury and mental health outcomes among Israeli health and social care workers during the COVID-19 pandemic: A latent class analysis approach. *European Journal of Psychotraumatology*, *12*(1).  
<https://doi.org/10.1080/20008198.2021.1945749>
- Zerach, G., & Levi-Belz, Y. (2022). Moral injury, depression and anxiety among Israeli health and social care workers during the COVID-19 pandemic: The moderating role of thwarted belongingness. *European Psychiatry*, *65*.  
<https://doi.org/10.1192/j.eurpsy.2022.1361>
- Zerach, G., & Levi-Belz, Y. (2023). Exposure to potentially morally injurious events, disruption in assumptive world, moral injury symptoms, and psychological distress among Israeli female veterans. *Stress and Health*. <https://doi.org/10.1002/smi.3214>
- Zhang, M. -R., Huang, H. -G., Chen, H. -X., & Deng, Y. -F. (2022). Factors associated with poor mental health outcomes in nurses in COVID-19-designated hospitals in the postepidemic period in Guangdong Province: A cross-sectional study. *BMJ Open*, *12*.  
<https://doi.org/10.1136/bmjopen-2022-061116>
- Zhao, F., Lung, H., Chen, P. -F., Chang, M. -C., & Lung, F. -W. (2022). Religion and the mediating role of alexithymia in the mental distress of healthcare workers during the coronavirus disease 2019 pandemic in a psychiatric hospital in China. *Frontiers in Psychiatry*, *13*. <https://doi.org/10.3389/fpsy.2022.837916>
- Zhou, T., Xu, C., Wang, C., Sha, S., Wang, Z., Zhou, Y., Zhang, X., Hu, D., Liu, Y., Tian, T., Liang, S., Zhou, L., & Wang, Q. (2022). Burnout and well-being of healthcare workers in the post-pandemic period of COVID-19: a perspective from the job demands-resources model. *BMC Health Services Research*, *22*.  
<https://doi.org/10.1186/s12913-022-07608-z>

Zhou, X., & Zhen, R. (2022). How do physical and emotional abuse affect depression and problematic behaviors in adolescents? The roles of emotion regulation and anger.

*Child Abuse & Neglect*, 129. <https://doi.org/10.1016/j.chiabu.2022.105641>

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 55(3-4), 610-

617. <https://doi.org/10.1080/00223891.1990.9674095>

## APPENDICES

### Appendix A. Meta-ethnography concept grids (phase 4)

Category A: Culture and Systems			
Study	Sample	Setting	Concepts
[17] Musto et al. (2021)	27 nurses, social workers, medics and occupational therapists	Acute inpatient mental health settings	<i>Working in a system where there is a gap between claimed and enacted philosophies</i>  <i>Working within a healthcare system that dehumanizes patients in its policies and practices</i>  <i>Working in a culture of bullying</i>
[27] Delfrate et al. (2018)	228 nurses	Inpatient, outpatient and rehabilitation mental health settings	<i>Working in a service where nurses are dehumanized</i>



[13] Matthews & Williamson (2016)	10 healthcare assistants	Secure female adolescent wards in a mental health hospital	<i>Working in an organisation that promotes depersonalized care</i>  <i>Working in a medicalized system that puts the focus on risk management</i>  <i>Conflict between maintaining professionalism and demonstrating compassion</i>
[28] Hamaideh (2014)	130 mental health nurses	Acute and non-acute wards in a psychiatric hospital	<i>Working in a service where nurses are dehumanized</i>
[20] Pelto-Piri et al. (2014)	105 nurses, healthcare assistants, social workers, doctors and psychologists	Inpatient psychiatric wards (general, forensic, and integrated addiction care)	<i>Failing to challenge the offensive/abusive behaviour of colleagues towards patients and staff due to cultural acceptance</i>
[26] Wojtowicz et al. (2014)	7 nursing students on clinical rotation	Acute inpatient psychiatric wards	<i>Not addressing patient's experiences of sexual abuse due to a culture of silence</i>  <i>Reliance on medication when alternatives are available</i>
[16] Musto & Schreiber (2012)	12 general and psychiatric nurses working with adolescents	Inpatient and community mental health services (adolescents)	<i>Working under policies that interfere with one's ability to keep patient's safe</i>  <i>Inconsistencies in acceptable practices between across the healthcare system</i>
[11] Jones & Crossley (2012)	14 psychiatrists, social workers, occupational therapists and mental health nurses	One NHS trust (no further information)	<i>'Doing to' rather than 'being with' patients as a result of focus on organizational tasks</i>
[30] Ohnishi et al. (2010)	269 psychiatric nurses	National, public and private hospitals	<i>Working in a service where nurses are dehumanized</i>
[6] Deady & McCarthy (2009)	8 psychiatric nurses	Acute care settings	<i>Working in a poor quality service in which there is a reliance on medication</i>
[3] Austin et al. (2005)	Psychologists	Mental health settings	<i>Conflicts in the priority of the institution (reputation) and the healthcare provider (patient welfare)</i>

<b>Category B: Environment and Context</b>			
<b>Study</b>	<b>Sample</b>	<b>Setting</b>	<b>Culture and system factors</b>
[21] Sasso et al. (2016)	31 correctional nurses	Prisons	<i>Working under rules dictated by security requirements rather than healthcare needs</i>  <i>Restrictions on interactions with prisoners as a result of the forensic context</i>
[20] Pelto-Piri et al. (2014)	105 nurses, healthcare assistants, social workers, doctors and psychologists	Inpatient psychiatric wards (general, forensic, and integrated addiction care)	<i>Enforcing rigid rules and routines</i>
[5] Danda et al. (2013)	8 mental health nurses	Adult acute mental health units	<i>Providing care in a physically inadequate therapeutic environment</i>
[11] Jones & Crossley (2012)	14 psychiatrists, social workers, occupational therapists and mental health nurses	NHS trust	<i>Providing care within the restrictive context of an institutional setting</i>
[3] Austin et al. (2005)	Psychologists	Mental health settings	<i>Working in an environment which defies patient's confidentiality</i>
[1] Austin et al. (2003)	Nurses	Mental health settings	<i>Caring for patients in an inadequate environment</i>

<b>Category C: Restrictive Practices</b>			
<b>Study</b>	<b>Sample</b>	<b>Setting</b>	<b>Concept</b>
[12] Liberati et al. (2021)	35 psychiatrists, mental health nurses, psychotherapists, and clinical psychologists	Inpatient and community mental health NHS services (forensic and non-forensic)	Confining patients to their rooms for the purpose of infection control (COVID-19)
[4] Bailey et al. (2020)	14 mental health nurses	Acute, recovery and intensive care wards in NHS hospitals	Physical restraint and the resultant distress to patients  Inhumanity of physical restraint
[18] Ohnishi et al. (2020)	7 nurses and psychiatrists working in mental health care	Not reported	Secluding patients for physical health rather than mental health purposes  Withholding patient's possessions  Working in a service where patients are illegally secluded
[8] Hem et al. (2014)	65 psychiatrists, psychologists, residents, nurses, nursing assistants, social educators, team leaders and managers	Various mental health services across three institutions	Administering coercive care under physical restraint
[5] Danda (2013)	8 mental health nurses	Adult acute mental health units	Physical restraint and the resultant distress to patients
[6] Deady & McCarthy (2009)	8 psychiatric nurses	Acute care settings	Imposing inappropriate restrictions on patients not related to their safety or mental health  Inappropriate restrictions on patient autonomy
[14] Moran et al. (2009)	23 psychiatric nurses	Psychiatric hospital	Restraint and seclusion, as last resort techniques
[22] Sequeira & Halstead (2004)	17 nurses and nursing assistant	Secure psychiatric hospital	Physical restraint of patients, in the absence of any other management technique

<b>Category D: Powerlessness and power</b>			
<b>Study</b>	<b>Sample</b>	<b>Setting</b>	<b>Concept</b>
[17] Musto et al. (2021)	27 nurses, social workers, medics and occupational therapists	Acute inpatient mental health settings	Powerlessness to challenge bullying [of staff and patients] due to dismissal by colleagues
[13] Matthews & Williamson (2016)	10 healthcare assistants	Secure female adolescent wards in a mental health hospital	Failure to prevent patient distress due to powerlessness against senior staff members
[26] Wojtowicz et al. (2014)	7 nursing students on clinical rotation	Acute inpatient psychiatric wards	Powerlessness to challenge staff at the top of the hierarchy about legitimate concerns
[19] Pelto-Piri et al. (2012)	68 healthcare assistants, nurses, doctors, psychologists, social workers and teachers	Child and adolescent inpatient psychiatric wards	Failure to challenge leadership decisions that foster organizational ineffectiveness
[6] Deady & McCarthy (2009)	8 psychiatric nurses	Acute care settings	Failure to challenge a clinical decision due to imbalances in power between staff

<b>Category E: Coercion</b>			
<b>Study</b>	<b>Sample</b>	<b>Setting</b>	<b>Concepts</b>
[10] Jansen et al. (2019)	16 registered nurses	Mental health hospitals	Participating in the administration of coercive treatments
[21] Smith & Herber (2015)	8 community mental health nurses	Based at two hospitals – specifics not reported	Coercive administration of medication despite patient's emotional distress
[26] Wojtowicz et al. (2014)	7 nursing students on clinical rotation	Acute inpatient psychiatric wards	Tricking patients or withholding information to get them to comply
[28] Hamaideh (2014)	130 mental health nurses	Acute and non-acute wards in a psychiatric hospital	Tricking patients into taking medication unknowingly
[8] Hem et al. (2014)	65 psychiatrists, psychologists, residents, nurses, nursing assistants, social educators, team leaders and managers	Various mental health services across three institutions	Manipulating patients in order to provide care that is in their best interest  Administering coercive care under physical restraint
[20] Pelto-Piri et al. (2014)	105 nurses, healthcare assistant, doctors, social workers and psychologists	Inpatient psychiatric wards (forensic and non-forensic)	Coercively administering medication
[6] Deady & McCarthy (2009)	8 psychiatric nurses	Acute care settings	Inappropriate use of coercive practices (due to insufficient, delayed, or inappropriate medical intervention)

<b>Category F: Inappropriate Treatment</b>			
<b>Study</b>	<b>Sample</b>	<b>Setting</b>	<b>Concept</b>
[17] Musto et al. (2021)	27 nurses, social workers, medics, and occupational therapists	Acute inpatient mental health settings	Providing care for patients diverted from the appropriate services

[21] Smith & Herber (2015)	8 community mental health nurses	Based at two hospitals – specifics not reported	Administering a treatment, despite not agreeing with it, due to a lack of alternatives  Administering a treatment that one deems to be unnecessary because of legal orders  Administering medication that one deems to be unnecessary due to the views of other professionals
[30] Ohnishi et al. (2010)	269 psychiatric nurses	National, public and private hospitals	Failure to challenge the unnecessary hospitalization of patients
[2] Austin et al. (2008)	Psychiatrists	Mental health settings	Administration of medication against one's beliefs about its ineffectiveness

<b>Category G: Self-Competence and Behaviours</b>			
<b>Study</b>	<b>Sample</b>	<b>Setting</b>	<b>Concept</b>
[17] Musto et al. (2021)	27 nurses, social workers, medics, and occupational therapists	Acute inpatient mental health settings	Providing care for patients diverted from the appropriate services
[21] Smith & Herber (2015)	8 community mental health nurses	Based at two hospitals – specifics not reported	Administering a treatment, despite not agreeing with it, due to a lack of alternatives  Administering a treatment that one deems to be unnecessary because of legal orders  Administering medication that one deems to be unnecessary due to the views of other professionals
[30] Ohnishi et al. (2010)	269 psychiatric nurses	National, public and private hospitals	Failure to challenge the unnecessary hospitalization of patients
[2] Austin et al. (2008)	Psychiatrists	Mental health settings	Administration of medication against one's beliefs about its ineffectiveness

<b>Category H: Staff Attitudes and Behaviours</b>			
<b>Study</b>	<b>Sample</b>	<b>Setting</b>	<b>Concept</b>
[17] Musto et al. (2021)	27 nurses, social workers, medics and occupational therapists	Acute inpatient mental health settings	Witnessing inhumane care of patients justified by senior leadership in the context of resource constraints
[10] Jansen et al. (2019)	16 registered nurses	Mental health hospitals	Working with colleagues whose standards of care place's patients at risk
[27] Delfrate et al. (2018)	228 nurses	Inpatient, outpatient and rehabilitation mental health settings	Working with staff deemed to lack professional competence
[20] Pelto-Piri et al. (2014)	105 nurses, healthcare assistants, doctors, social workers and psychologists	Inpatient psychiatric wards (forensic and non-forensic)	Lack of respect and dignity for patients due to the actions (or inactions) of colleagues  Witnessing the offensive/abusive behaviour of colleagues
[26] Wojtowicz et al. (2014)	7 nursing students on clinical rotation	Acute inpatient psychiatric wards	Lack of time spent engaging with patients by staff

[16] Musto & Schreiber (2012)	12 general and psychiatric nurses working with adolescents	Inpatient and community mental health services	Working with colleagues who fail to follow the agreed care plan
[2] Austin et al. (2005)	Psychologists	Mental health settings	Witnessing the administration of tests by staff without the required credentials
[1] Austin et al. (2003)	Nurses	Mental health settings	Colleagues given up on caring for patients Absence of respect for patients by staff

<b>Category I: Relationships with Colleagues</b>			
<b>Study</b>	<b>Sample</b>	<b>Setting</b>	<b>Concept</b>
[29] Lazzari et al. (2019)	238 nurses	Correctional facilities	Perceiving little recognition and/or poor collaboration from prison staff
[27] Delfrate et al. (2018)	228 nurses	Inpatient, outpatient and rehabilitation mental health settings	Minimization of one's competence and authority by colleagues of other professions
[21] Sasso et al. (2016)	31 correctional nurses	Prisons	Minimization of one's competence and authority by colleagues of other professions
[20] Pelto-Piri et al. (2014)	105 nurses, healthcare assistants, doctors, social workers and psychologists	Inpatient psychiatric wards (forensic and non-forensic)	Going against what one thinks is right to maintain loyalty within team Conflict between team loyalty and doing what one thinks is right
[19] Pelto-Piri et al. (2012)	68 healthcare assistants, nurses, doctors, psychologists, social workers and teachers	Child and adolescent inpatient psychiatric wards (forensic and non-forensic)	Enacting decisions that one does not agree with to maintain good team relationships
[6] Deady & McCarthy (2009)	8 psychiatric nurses	Acute care settings	Failure to challenge poor standards of practice due to concerns about impact on relationships within the team
[2] Austin et al. (2005)	Psychologists	Mental health settings	Failure to challenge unethical practice due to fears of alienating self or others

<b>Category J: Power and Conflict Between Patients and Caregivers</b>			
<b>Study</b>	<b>Sample</b>	<b>Setting</b>	<b>Concept</b>
[9] Jansen & Hanssen (2016)	9 trained healthcare workers	Psychiatric subacute hospital unit	Absence of patients in meetings about their care
[8] Hem et al. (2014)	65 psychiatrists, psychologists, residents, nurses, nursing assistants, social educators, team leaders and managers	Various mental health services within three institutions	Asymmetry of power between patients and staff Defining what patients are allowed to do

			<p>(Adolescent wards) The power of parents to make care decisions for their children due to laws related to age</p> <p>(Adolescent wards) Managing the relationships between patients and their parents</p> <p>(Adolescent wards) Excluding parents from their child's treatment due to laws related to age</p>
[2] Austin et al. (2008)	Psychiatrists	Mental health settings	<p>'Psychiatrizing' patients to remove their right to decisions contested by other healthcare professionals</p> <p>Making decisions for patients who are prevented from making decisions for themselves due to their illness</p>

Category K: Resource Constraints and Consequences			
Study	Sample	Setting	Concept
[12] Liberati et al. (2021)	35 psychiatrists, mental health nurses, psychotherapists, and clinical psychologists	Inpatient and community mental health NHS services (secure forensic services, community mental health teams, psychosis services, crisis teams, and acute hospital wards)	<p>Having to make clinical decisions based on insufficient (in quality and/or quantity) information (COVID-19)</p> <p>Conducting an insufficient assessment due to resource constraints (COVID-19)</p> <p>Being unable to refer patients on to the necessary services due to resource constraints</p> <p>Discharging patients into insufficient community services (COVID-19)</p> <p>Leaving vulnerable patients without the necessary support and care due to resource constraints (COVID-19)</p> <p>Not assessing appropriate referrals due to tightened admission criteria resulting from resource constraints (COVID-19)</p>
[24] Shingler et al. (2020)	11 psychologists	Prison settings	Not providing meaningful risk assessments due to resource pressures
[10] Jansen et al. (2019)	16 registered nurses	Two mental health hospitals	<p>Prioritizing needs of some patients over others, due to insufficient time</p> <p>Lack of meaningful engagement with patients, due to insufficient time</p>
[29] Lazzari et al. (2019)	238 nurses	Correctional facilities	<p>Low staffing</p> <p>Being unable to ensure quality care due to resource constraints</p>
[15] Motta-Ochoa et al. (2019)	37 nurses, social workers, psychologists, psychiatrists, orderlies and occupational therapists	In- and out-patient psychiatry department	<p>Discharging patients to unsuitable community placements due to resource constraints</p> <p>Discharging patients before the desired care is provided due to resource constraints</p>

			Lack of humane engagement with patients, due to insufficient time
[27] Delfrate et al. (2018)	228 nurses	Inpatient, outpatient and rehabilitation mental health settings	Working in the context of unsafe staffing levels  Working with diminished resources that comprise the ability to provide quality healthcare
[21] Sasso et al. (2016)	31 correctional nurses	Seven prisons	Failure to provide equal care to all patients due to insufficient resources
[28] Hamaideh (2014)	130 mental health nurses	Acute and non-acute wards in a psychiatric hospital	Working in the context of unsafe staffing levels  Lack of time to engage with less challenging patients  Treat patients inadequately because of low staffing
[20] Pelto-Piri et al. (2014)	105 nurses, healthcare assistants, doctors, social workers and psychologists	Inpatient psychiatric wards (general, forensic, and integrated addiction care)	Discharging patients into inadequate care circumstances due to need to free-up beds
[19] Pelto-Piri et al. (2012)	68 healthcare assistants, nurses, doctors, psychologists, social workers and teachers	Six child and adolescent inpatient psychiatric wards	Not being able to provide the necessary care due to shortages of resources
[30] Ohnishi et al. (2010)	269 psychiatric nurses	National, public and private hospitals	Working in the context of unsafe staffing levels  Treat patients inadequately because of low staffing
[1] Austin et al. (2003)	Nurses	Mental health settings	Missed care as a result of lack of staff  Not enough time to treat patients like people due to resource constraints  Insufficient time to provide the deserved care to patients  Loneliness of patients due to resource constraints

Category L: Responsibilities of Role and Principles of Profession			
Study	Sample	Setting	Concept
[12] Liberati et al. (2021)	35 psychiatrists, mental health nurses, psychotherapists, and clinical psychologists	Inpatient and community mental health NHS services (forensic services, community mental health teams, psychosis services, crisis teams, acute wards)	<i>Needing to balance the need for human contact with infection control requirements (COVID-19)</i>
[10] Jansen et al. (2019)	16 registered nurses	Two mental health hospitals	<i>Conflict between the need to maintain safety and the need to minimize use of coercion</i>  <i>Refusal to limit patient autonomy despite potential for adverse repercussions</i>
[21] Sasso et al. (2016)	31 correctional nurses	Seven prisons	<i>Responding to manipulation by patients due to one's duty to meet their needs</i>
[25] Smith & Herber (2015)	8 community mental health nurses	Two hospitals (no further information)	<i>Balancing the therapeutic alliance and the need to maintain a safe environment for others</i>
[8] Hem et al. (2014)	65 psychiatrists, psychologists, residents, nurses, nursing assistants, social educators, team leaders and managers	Various mental health services within three institutions	<i>Conflict between acting in beneficence and upholding patient autonomy</i>  <i>Expectation to uphold a patient's right to autonomy whilst protecting others</i>  <i>Conflict between giving back autonomy to patients and justified paternalism</i>
[23] Shapira-Lishchinsky (2009)	52 nurses	Wards, including psychiatric wards, in hospitals and health maintenance organizations	<i>Conflict between enabling patient autonomy and maintaining safety</i>
[7] Foster & Smedley (2009)	Mental health nurses and healthcare assistants	CAMHS psychiatric intensive care unit	<i>Prioritizing continuous observation and safety-oriented tasks above therapeutic and care-focused tasks</i>
[2] Austin et al. (2008)	Psychiatrists	Mental health settings	<i>Conflict between acting in patient's best interests and needing to protect</i>  <i>Moral responsibility placed on professionals by society to protect and prevent all harm</i>
[12] Liberati et al. (2021)	35 psychiatrists, mental health nurses, psychotherapists, and clinical psychologists	Mental health NHS services (forensic, community, psychosis, crisis, and acute hospital wards)	<i>Needing to balance the need for human contact with infection control requirements (COVID-19)</i>
[10] Jansen et al. (2019)	16 registered nurses	Two mental health hospitals	<i>Conflict between the need to maintain safety and the need to minimize use of coercion</i>  <i>Refusal to limit patient autonomy despite potential for adverse repercussions</i>
[21] Sasso et al. (2016)	31 correctional nurses	Seven prisons	<i>Responding to manipulation by patients due to one's duty to meet their needs</i>
[25] Smith & Herber (2015)	8 community mental health nurses	Two hospitals (no further information)	<i>Balancing the therapeutic alliance and the need to maintain a safe environment for others</i>



## Appendix B. Meta-ethnography primary data syntheses (phase 5)

### **Category A: Culture and system factors**

#### **Synthesis of papers 3, 6, 11, 13, 16, 17, 20, 26, 27, 28, and 30**

Findings from paper 17 showed that the contrast of the values of the healthcare system as reflected in culture, policies, and practices and the core values of the healthcare profession to be a moral dilemma. Somewhat in parallel, paper 13 documented the challenges for healthcare assistants that stem from having to work in a medicalized system in which the principles of care are depersonalized [in secure care]. Both papers draw on concepts that relate to the cultural attitude of the system towards both staff and patients. However, paper 13 also touches upon the depersonalised nature of the profession; one nurse discusses the difficulties in showing compassion in the professional, depersonalised context of the organisation.

Findings from paper 20 also highlighted a concept relating to the cultural attitude towards staff and patients, documenting the acceptance of a culture of bullying as an ethical issue for healthcare professionals across inpatient forensic and non-forensic psychiatric settings. More specifically, however, this paper demonstrated that it was the perceived inability or unwillingness to challenge the culture that was at the root of their distress.

The findings of paper 26 highlighted reliance on medication to be a source of moral distress for nursing students in inpatient psychiatric settings, paralleling the findings of paper 13 relating to a medicalized system. Further parallel to the other papers, paper 26 also documented that discrepancy between the values of psychiatric healthcare and the values reflected in the organisation's culture to be a source of moral distress for nursing students, drawing on the 'culture of silence' towards patient's experiences of sexual abuse.

Again, crossover in the concepts highlighted in paper 16 are apparent. This paper documented challenges related to an inability to fulfill one's duty of safety to patients due to policies that prevent one from doing so, and inconsistencies in practices across the healthcare system for nurses working with adolescents in inpatient and community settings. This mirrors the theme emanating from the later papers regarding contrast between the values and principles of the healthcare profession, and those of the system, as embedded in policies and practices.

The meaning emanating from paper 11 share some similarity with that reported in paper 13, in that healthcare professions ground their moral distress in the depersonalized context of care-giving. For these staff, the focus on organizational tasks leads them to feel as though they are 'doing to' (the 'is') rather than 'being with' (the 'ought') patients.

In line with papers 13 and 26, paper 6 also highlighted reliance of medication to be a cause of moral distress for registered psychiatric nurses in acute care, reinforcing the medicalized healthcare system as problematic. Finally, the theme emanating throughout the qualitative papers relating to contrasts in the values of the healthcare profession and those enacted in the healthcare system was present in paper 3. Psychologists working in mental health settings reported how conflicts between institutional priorities (reputation) and their own priorities, as the care provider (patient welfare) posed as a source of moral distress.

Findings from all three quantitative papers (27, 28, 30) conducted in nursing populations across a range of hospital settings highlighted the dehumanizing attitude of a service towards nurses to be a source of moral distress. Again, this falls in line with the theme stemming throughout the papers regarding the cultural attitudes towards staff [and patients].

### **Category B: Environment and Context**

#### **Synthesis of papers 1, 3, 5, 11, 20 and 21**

The results from paper 21 highlight the tension of working in a healthcare capacity within a secure setting; correctional nurses working in prisons reported the challenging nature of working under rules dictated by security requirements rather than healthcare needs, which are their priority. Findings from paper 1 also documented the forensic context in which correctional nurses were working to be an ethical issue, specifically because of the restrictions it placed on their interactions with patients. In parallel paper 20 also highlighted the context of inpatient psychiatric services, both forensic and non-forensic, to be an ethical challenge for healthcare professionals; specifically, they spoke about the issues of rigidity and enforcing routines on patients.

The meanings expressed in paper 5 divert from those reported in papers 1 and 20. Instead, the paper highlights issues relating to the physical environment, rather than the context in which they were working. Mental health nurses working in acute mental health units touched upon the inappropriateness of the units in terms of both their size and therapeutic atmosphere.

Paper 11 documented findings that relate to the ideas expressed in papers 1 and 20. Healthcare professionals talked about the restrictive nature of mental health settings and compared the rigidity and routines placed on patients to being 'like prison'.

In parallel to paper 5, papers 3 and 1 touched upon aspects of the physical environment as sources of moral distress for staff working in mental health settings. In paper 3, psychologists highlighted that working in an environment that physically challenges the confidentiality of patient conversations was morally distressing. In paper 1, nurses drew on the issues of the care environment more generally, touching on the inadequacy of systems and operations.

### **Category C: Restrictive Practices**

#### **Synthesis of papers 4, 5, 6, 12, 14, 18 and 22**

Findings from paper 1 documented the forensic context in which correctional nurses were working to be an ethical issue, specifically because of the restrictions it placed on their interactions with patients. In parallel paper 20 also highlighted the context of inpatient psychiatric services, both forensic and non-forensic, to be an ethical challenge for healthcare professionals; specifically, they spoke about the issues of rigidity and enforcing routines on patients.

The meanings expressed in paper 5 divert from those reported in papers 1 and 20. Instead, the paper highlights issues relating to the physical environment, rather than the context in which they were working. Mental health nurses working in acute mental health units touched upon the inappropriateness of the units in terms of both their size and therapeutic atmosphere.

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### **Category D: Powerlessness and power**

#### **Synthesis of papers 6, 13, 17, 19 and 26**

The findings reported in paper 17 draw on the experiences of healthcare professionals as being powerless to challenge bullying, due to the dismissal by colleagues. The power imbalance occurred due to being outnumbered by colleagues. Similarly, paper 13 also highlights one's inability to prevent patient distress, due to powerlessness against senior staff members as a moral dilemma for healthcare assistants in secure

mental health care. Additionally, paper 26 also reports powerlessness to challenge senior staff about legitimate concerns to be a source of moral distress for nursing students on inpatient psychiatric wards. All three papers highlight how power differentials leave staff feeling unable to take the action they deem right. In comparison with the initial three papers, the final two papers also report concepts which discuss powerlessness resulting from power imbalances. Paper 19 documents that failure to challenge leadership decisions which foster organizational ineffectiveness to be an ethical problem faced by healthcare professionals working in child and adolescent psychiatric services. Alternatively, paper 6 identifies the failure to challenge a *clinical decision* due to power imbalances to be a source of moral distress for psychiatric nurses in acute care.

Across the papers, healthcare professionals working across acute and adolescent inpatient services reported a powerlessness to challenge decisions, related to both patient care and staff welfare, due to power imbalances. Papers 13, 26, 19 and 6 identify this power imbalance in regards to hierarchical status, whilst paper 17 identifies this power imbalance in regards to being outnumbered. Whilst it is one's failure to act that participants identify as problematic, power imbalances are at the root of this moral distress.

### **Category E: Coercion**

#### **Synthesis of papers 6, 8, 10, 20, 21, 26 and 28**

The findings from paper 10 showed that participation in the administration of coercive treatments was a source of moral distress for nurses in mental health hospitals. Some participants expressed the distress when coercively administering medication they knew the patient required, whilst others expressed distress specifically when coercively administering medication that they did not agree with. Similarly in paper 2, coercive administration of medication was cited as an ethical issue for community mental health nurses. For this group, it was the resulting emotional distress that they were causing to their patients that led them to experience coercive treatment as problematic.

Papers 26 and 28 also report coercive care to be problematic for mental health nurses on acute and non-acute psychiatric wards, although for these staff, it is the act of coercion itself that is reported to be problematic. Paper 26 discusses instances where patients have been tricked, either by the self or another colleague, as a source of moral distress. In parallel, tricking patients into taking medication unknowingly also presented as a moral challenge in paper 28. Furthermore, papers 8 and 20 also share similarities in meanings with papers 26 and 28. Paper 8 highlights the manipulation of patients, despite being in order to provide care that is in their best interest, to be an ethical dilemma for healthcare professionals in mental health settings. Similarly, paper 20 showed that healthcare professionals working in both forensic and non-forensic psychiatric wards found the act of coercively administering medication to be problematic, despite its justification. The manipulative nature of coercive practice as problematic is a theme that runs through these papers.

The final paper discusses the inappropriate use of coercive practices as a source of moral distress for psychiatric nurses in acute care. For some nurses, the nature of coercion alone is enough to result in moral distress, mirroring the findings of papers 8, 20, 26 and 28. However, paper 6 also shows that for others, moral distress arises when coercion is used in the presence of certain circumstances, mirroring papers 2 and 10.

### **Category F: Inappropriate Treatment**

#### **Synthesis of papers 2, 27, 21 and 30**

The findings of paper 17 reported that, for healthcare professionals in acute inpatient mental health settings, providing care for inappropriately placed patients was an ethical dilemma. Specifically, participants discussed having to provide care to patients for whom the responsibility for their care has been passed on from the most appropriate services. Paper 21 also touched upon the provision of inappropriate care. In this paper, community mental health nurses discussed ethical issues surrounding the administration of treatments that one deems inappropriate. The rationales for administering inappropriate treatments related to a lack of alternatives and external constraints, specifically legal orders and the views of other health professionals. In parallel to paper 17, paper 30 also raised challenges related to the provision of care for inappropriate patients. Nurses working in national, public and private hospitals experienced moral distress when they failed to challenge the unnecessary hospitalization of patients. The final paper parallels the findings reported in paper 21; paper 2 highlights that psychiatrists working in mental health settings experienced moral distress when administering medications against one's beliefs about its ineffectiveness. In line with the experiences of the community mental health nurses reported in paper 21, psychiatrists struggled with the moral conundrum of providing treatments that they didn't think would work anyway.

### **Category G: Self-Competence and Behaviours**

#### **Synthesis of papers 2, 9, 13, 16, 20, 21, 27, 28 and 29**

The findings of paper 29 and 27 both highlighted that working beyond the scope of one's own professional role was a source of moral distress for staff working in both correctional and mental health settings. For these staff, fulfilling duties that they did not possess the skills and/or training to do so was problematic. Paper 9 showed that one's own failure to advocate for and enact patient participation in decision-making to be a source of distress for healthcare workers. Paper 13 highlighted that, for healthcare assistants, interacting with patients for individualistic gain was a source of distress. Both papers highlight personal actions (or inactions) which conflict with the values of the healthcare profession. Paper 21 reports the unintentional harm caused to patients during the administration of medication to be a challenge for community mental health nurses. Alike papers 9 and 13, this paper also reports one's own actions as a source of distress due to the conflict with caring principles.

The findings in paper 28 highlight a novel idea. This paper reports one's failure to take action against unethical conduct and following unethical orders to be sources of moral distress for mental health nurses. In this instance, it is not the direct behaviours committed by the self which are resulting in distress, but rather how one responds, in response to the distressing behaviours of others.

Paper 20 highlighted concepts related to the inability to meet the needs of patients, due to personal abilities rather than external constraints, as an ethical issue for healthcare professionals in both forensic and non-forensic wards. This paper shows that one's own skills and competence, if perceived to be inadequate for the provision of the necessary care, can cause distress for healthcare professionals. Similarly, paper 16 highlighted the actual or perceived inability to ensure the safety of staff and patients to be a source of moral distress for nurses, which mainly arose following an incident that threatened the safety of others, leading staff to question whether they had fulfilled their primary responsibility as a nurse. The final paper also expressed a concept that overlapped with those documented in papers 20 and 16. Paper 2 showed that, for psychiatrists, lacking the ability to help a patient, due to personal rather than organisational constraints, was a source of moral distress.

### **Category H: Staff Attitudes and Behaviours**

#### **Synthesis of papers 1, 2, 10, 16, 17, 20, 26 and 27**

The findings from paper 17 showed that healthcare professionals working in acute mental health care reported witnessing the inhumane of care by senior staff to be a source of moral distress. Even when justified in the context of resource constraints, participants still experienced distress as a result of the behaviours of their colleagues. This paper highlight how the inadequate care of patients resulting from the actions of colleagues can lead to moral distress for healthcare professionals.

Somewhat similarly, papers 10 and 27 highlighted the incompetency of colleagues to be a source of moral distress for nurses. In paper 10, nurses reported working with colleagues whose standards of care place patients at risk to be a source of moral distress. Similarly, in paper 27, nurses reported moral distress resulting from having to work with staff who they deemed to lack professional competence.

In line with paper 17, papers 20 and 26 also report concepts that relate to the inadequate treatment of patients by colleagues. Paper 20 showed that for healthcare professionals working in both forensic and non-forensic psychiatric wards, witnessing offensive/abusive behaviours and behaviours which compromise the respect and dignity of patients by colleagues were ethically challenging. Additionally, paper 26 documented that working with colleagues who spend little time engaging with their patients to be morally distressing for nursing students.

The incompetency of colleagues is again reflected as a challenge within paper 16. In this paper, nurses working in inpatient and community mental health services reported that colleague's failure to follow the agreed care plan gave rise to moral distress. Colleague's incompetence is also shared in a concept from paper 2, in which witnessing the administration of tests by staff without the required credentials was raised as a moral dilemma for psychologists. In these instances, the poor practice of colleagues created moral distress for healthcare professionals.

The final paper reports concepts that share similarities with the ideas and meanings expressed in papers 17, 20 and 26. In paper 1, nurses reported that working with colleagues who have given up on, or showed an absence of respect for patients created moral distress.

### **Category I: Relationships with Colleagues**

#### **Synthesis of papers 2, 6, 19, 20, 21, 27 and 29**

The findings from paper 29 highlight the moral distress experienced by nurses working in correctional facilities as a result of strained relationships with prison staff. Specifically, responses on the Moral Distress Scale highlighted that lack of recognition and collaboration from non-healthcare prison staff to be a source of moral distress. Similarly, papers 27 and 21 documented interprofessional minimization of competence and authority to be a source of moral distress for nurses working in mental health and correctional settings, respectively. The findings of papers 19 and 20 highlight an additional source of distress relating to colleague relationships; healthcare professionals in both forensic and non-forensic settings highlighted the conflicting desires to do what is right and to remain loyal to colleagues, for the purpose of maintaining good relationships, as an ethical challenge. Similarly, papers 6 and 2 both reported the failure to challenge poor practice, because of concerns about the impact of doing so on team relationships, as a source of moral distress in nurses and psychologists working in mental health settings. Collectively, papers 2, 6, 19 and 20 demonstrate the struggle faced by healthcare professionals in maintaining morals, when professional relationships are at stake. Moral distress resulting from interprofessional conflict was only reported in studies that utilised a nurse sample.

**Category J: Power and Conflict between Patients and Caregivers****Synthesis of papers 2, 8 and 9**

The findings from paper 9 reports moral stress in healthcare professionals arising from the lack of patient involvement in care. Participants spoke about the absence of patients in meetings as problematic; the power over care was not shared, but solely in the hands of the healthcare professional.

Another set of meanings arise in paper 8. The findings highlight a number of concepts, which relate to the power that staff have over patients. Within this account, some healthcare professionals did report the importance of asymmetry in power for safeguarding and upholding patient dignity, although they also recognised that exercising coercion in a good way, such as for these reasons, is challenging due to the coercive culture in mental health settings. Within paper 8, a series of ethical challenges related for staff working in adolescent wards, specifically, were also raised; one such challenge similarly related to power imbalances, although related to that held by parents, rather than themselves, due to age-related laws.

The final paper shares both similarity and difference with the other papers. Psychiatrists working in mental health settings did highlight an imbalance in power as a source of moral distress, situating this in circumstances in which decisions are made for patients who are incapable of doing so as a result of their illness, paralleling the meanings found in paper 8. Nevertheless, a novel source which arises from paper 2 is the inappropriate use of one's power to meet the preferences of colleagues; for psychiatrists, a challenge faced was 'psychiatrizing' patients, not because they believed it was necessary, but to prevent the patient from enacting rights that other healthcare professionals did not agree with. For these participants, the imbalance in power between themselves and the patient was problematic when used inappropriately.

**Category K: Resource constraints and consequences****Synthesis of papers 1, 10, 12, 15, 19, 20, 21, 24, 27, 28, 29 and 30**

The findings of paper 12 highlight a wealth of moral dilemmas resulting from resource constraints, tied to the COVID-19 pandemic. Healthcare professionals working in both forensic and non-forensic settings discussed three key moral challenges that arose from resource constraints. The first was the initial inaccessibility of appropriate care and support. For patients who they were seeing, the compromised care that were left to provide to these individuals, as a result of altered practice, posed as a moral dilemma. Additionally, they faced the pressure to discharge patients into insufficient services, due to capacity constraints.

The theme of compromised practice due to altered practice resulting from resource constraints is also apparent in paper 24. Psychologists working in prison settings reported that an inability to provide meaningful risk assessment was problematic. Whilst it was the altered practice that they discussed as problematic, the consequences that it has for maintaining safety may also contribute here. In line with papers 12 and 24, paper 29 also found compromised care due to constraint-induced alterations in practice as a source of moral distress for nurses in correctional settings.

Paper 10 similarly highlights moral distress situated in compromised care resulting from resource constraints, although the distress seems to result from the consequences it has on nurses' engagement with patients. Nurses in mental health settings were left being unable to engage with patients in a meaningful way, and were unable to equally respond to the needs of all patients. This idea was also apparent in paper 15, in which healthcare professionals in mental health settings reported being unable to engage with patients in a humane way because of insufficient time. Paper 15 also shared similarities in findings with paper 12, in which healthcare professionals reported problems relating to the discharge of patient that was deemed to be inappropriate, either because it was too early, or because the placement in which they were being discharged too was not suitable.

The findings of paper 27 both mirror and add to those reported in the later papers. Compromised care, stemming from alterations in practice due to diminished resources, was again found to be a source of moral distress for nurses in mental health settings. However, working in the context of low staff levels was also reported to cause moral distress for this sample; in this case, the problematic compromised care was linked to the risks posed to safety.

Paper 21 reports distress arising from an inability to equally respond to patient needs in correctional nurses, directly mirroring that reported in paper 10 in a sample of nurses working in mental health settings. This finding relates to the theme emanating through multiple papers that compromised care resulting from resource constraints creates moral distress due to the impacts it has on staff's engagement with patients. This theme is again also apparent in paper 28, in which a lack of time engaging with patients and inadequate treatment of patients, because of time constraints, create moral distress for mental health nurses in a psychiatric hospital. This paper also highlighted that working in the context of unsafe staffing levels was a source of moral distress for this population, mirroring the ideas evident in paper 27 around risks posed to safety because of resource-induced compromised care.

In line with papers 12 and 15, the inappropriate discharge of patients due to capacity constraints again appears within paper 20, which reports that healthcare professionals working in both forensic and non-forensic settings faced pressure to discharge patients into inappropriate circumstances due to pressure to free up beds.

The final three papers also highlight sources of distress relating to the compromised care that results from resource constraints, for underlying rationales highlighted in the earlier papers. In paper 19, healthcare professionals working in child and adolescent psychiatric services discuss the alterations in their practice that arise from a shortage of resources, which leads them to being unable to provide the required level of care for their patients. This is also a theme that appears in paper 1, in which the quality of care provided to patients was comprised as a result of changes in practice due to staff and time insufficiencies. The consequences of compromised care for patient engagement also appears in paper 1, in which nurses working in mental health settings discussed their inability to treat patients in a humane way, and the loneliness of patients that results. The inadequate treatment of patients similarly appears in paper 30, for psychiatric nurses. Paper 30 also documents working in the context of unsafe staffing levels to trigger moral distress, mirroring the theme relating to compromised safety, as a result of compromised care, reported in later papers.

#### **Category L: Responsibilities of Role and Principles of Profession**

##### **Synthesis of papers 2, 7, 8, 10, 12, 20, 21, 23 and 25**

Paper 12 documents the difficulties with balancing humane care and the need for infection control, in the context of COVID-19, for healthcare professionals in both forensic and non-forensic settings. This conflict between ensuring safety and providing good care is also echoed in paper 10, in which nurses in mental health hospitals discussed the conflict in ensuring safety and minimizing coercion. Within paper 10, conflicts between specific nursing principles relating to safety and care also emerged. Nurses reported refusing to limit patient autonomy despite the potential for adverse repercussions; moral distress is linked to the potential violation of non-maleficence (a bioethical principle) resulting from allowing patient autonomy (also a bioethical principle).

The difficulties in balancing safety and care, and the resultant distress that comes from this, is also apparent in the findings of papers 21 and 25. As reported in paper 21, nurses working in a correctional setting reported the problematic nature of responding to attempts at manipulation by patients, because they have a duty to meet their needs; the authors suggest that responding to patients deceiving behaviour can contradict the bioethical principles of beneficence and non-maleficence. The findings from paper 25 are also grounded in a theme of 'safety vs. care', with community mental health nurses citing the balancing act between a good therapeutic alliance and the need to maintain a safe environment for others.

The concepts and meanings arising from papers 8 and 23 are also grounded in the thread emanating throughout the later papers, relating to challenges in balancing safety and care. However, these papers specifically draws upon autonomy, as one component of 'care'. Nurses and other healthcare professionals working across various mental health settings discussed issues surrounding the upholding of patient autonomy, whilst simultaneously upholding other key principles and maintaining the safety of others. There seems to be conflict between the principles of the profession themselves. The final paper also draws on conflict between safety and care, however it places this as a particular challenge for psychiatrists, due to a moral responsibility placed on the psychiatry profession for protection and prevention of all harm.

The papers under this category all seem to highlight distress resulting from the need to balance the key principles of safety and care. This relates to the safety of both the patient and others.

## Appendix C. Study 1 Materials



**Participant Consent Form (v.1)**

**Title:           Exploring the potentially morally injurious experiences of healthcare workers in forensic mental health settings: A Delphi survey**

1. I have read the information sheet dated *02.11.2021* for the above study and understand the information provided. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that taking part in the study involves completion of an online survey, over three rounds.

3. I understand that my participation is voluntary and that I am free to withdraw at any point during the study, without giving any reason and without my rights being affected. I also understand that I am free to decline to answer any particular question or questions.

4. I understand that if I chose to withdraw, it will not be possible for my data collected prior to this to be removed and excluded from the study, but no further data will be collected.

5. I understand that my data, including my email address, will be held electronically by the lead researcher in a secure password-protected environment, in line with data protection requirements at the University of Central Lancashire.

6. I consent to participating in the above study





## Participant Information Sheet (v.1)

### **Title of Study: Exploring the potentially morally injurious experiences of healthcare workers in forensic mental health settings: A Delphi survey**

We would like to invite you to take part in our research study, as a Delphi panel member. The decision whether or not to take part is entirely up to you. Before you decide to do so, it is important that you understand why this study is being conducted and what your participation will involve. Please take time to read this sheet carefully, and feel free to contact us if you would like more information or if there is anything that you do not understand.

#### **What is the purpose of the study?**

This study aims to explore sources of ‘moral injury’ for staff working in a forensic mental health setting. ‘Moral injury’ describes the psychological distress that can arise as a result of perpetrating, witnessing, or failing to prevent an act that defies one’s own moral values.

#### **Why have I been chosen?**

We are inviting people with experience in moral injury to participate. This includes staff in forensic mental healthcare settings, as experts by experience, and academics with expertise in moral injury.

#### **Do I have to take part?**

It is up to you whether you decide to take part or not. If you decide to take part, you are free to change your mind and withdraw from the study at any time. Due to the anonymity of the data and the nature of the Delphi method, responses prior to withdrawal will be still used. However, no further data will be collected following withdrawal.

#### **What will happen if I take part?**

You will be asked to complete a series of questionnaires, with one questionnaire per round for an expected total of three rounds, over a period of about 13 weeks. You will firstly be

asked to indicate your consent and to provide an email address so that questionnaires can be sent to you.

In round one, you will be presented with a questionnaire which contains a series of questions designed to gain your thoughts, opinions and experiences relating to moral injury and its causes in forensic and mental health settings. In round two, you will be presented with a questionnaire which details a range of 'potentially morally injurious events', based on the responses given in round one, and asked to rate the extent to which you agree that each is a potential source of moral injury for staff working in forensic mental healthcare. In round three, you will be given a summary of the responses of the group, and asked to reconfirm your opinion on each item as a potential source of moral injury.

We kindly request that participants take part in all three rounds. At the start of each round, you will receive an email which will include a link to the online questionnaire. You will be given three weeks to complete each round, with a break period of one to two weeks between rounds. At each round, after two weeks, you will be sent an email reminder to complete the questionnaire.

**What are the possible benefits of taking part?**

By taking part in the study, you will help us to understand the sources of moral injury for staff working in forensic mental health settings. The findings will be used to inform a further study which seeks to confirm the associations between exposure to PMIEs, as identified in this study, and moral injury symptoms. An understanding of the experiences and events which may lead to moral injury is necessary for informing guidelines for minimizing exposure to PMIEs and thus, risk for moral injury.

**What are the possible risks of taking part?**

Whilst there are no expected risks, the study does require you to consider sources of moral distress, of which you may have experienced. You are free to withdraw from the study at any time. If you are affected by any aspect of the study, support can be obtained from the following resources:

**Internal resources (for St. Andrew’s employees)*****Trauma Response Service***

*Confidential support for staff who have experienced trauma*

Tel: 01604 616149

Email: [traumaresponseservice@standrew.co.uk](mailto:traumaresponseservice@standrew.co.uk)

***Employee Assistance Programme***

*Online support and counselling platform*

Tel: 0800 019 3453

Website: <https://standrews.helpeap.com>

**External resources (accessible by all)*****Samaritans***

*Confidential mental health support*

24-hr helpline: 116 123

Email: [jo@samaritans.org](mailto:jo@samaritans.org)

Website: <https://www.samaritans.org/>

***Project5***

*Free wellbeing support for health/care workers*

Email: [support@project5.org](mailto:support@project5.org)

Website: <https://www.project5.org/>

**How will my data be used?**

The University processes personal data as part of its research and teaching activities in accordance with the lawful basis of ‘public task’, and in accordance with the University’s purpose of “advancing education, learning and research for the public benefit”. Under UK data protection legislation, the University acts as the Data Controller for personal data collected as part of the University’s research. The University privacy notice for research participants can be found at: [https://www.uclan.ac.uk/data\\_protection/privacy-notice-research-participants.php](https://www.uclan.ac.uk/data_protection/privacy-notice-research-participants.php).

Further information on how your data will be used can be found in the table below:

How will my data be collected?	Data will be collected through an electronic survey hosted on the online Qualtrics platform.
How will my data be stored?	Data will be stored on the lead researcher’s UCLan Office 365 Cloud account and accessed on a secure password-protected and encrypted device. As participants will be required to provide an email address, for the purpose of providing the survey link and sending completion reminders, these will be stored in a separate database to that of the raw data.
How long will my data be stored for?	Data will be stored for 7 years, as per UCLan requirements

<p>What measures are in place to protect the security and confidentiality of my data, and will my data be anonymised?</p>	<p>To ensure that responses remain unidentifiable, you will be assigned a participant ID number through the online survey platform. Whilst group responses will be summarized and presented to panel members at each round, individual responses will not be presented and panel members will not be identifiable to one another. As described, the nature of the study requires that you provide an email address. This information will be kept in a secure, password protected computer database, which will only be accessible by the lead researcher, and will be destroyed upon completion of the Delphi study. Further information can be found by visiting <a href="https://www.uclan.ac.uk/data_protection/privacy-notice-research-participants.php">https://www.uclan.ac.uk/data_protection/privacy-notice-research-participants.php</a>.</p>
<p>How will my data be used?</p>	<p>Data pertaining to participants' experiences of morally injurious events is being collected for the purposes of a research study exploring the sources of moral injury for staff in forensic mental healthcare. Your e-mail address will be used for the essential purpose of providing access to the questionnaire and sending completion reminders. No individual will be identifiable in any dissemination resulting from this research</p>
<p>Who will have access to my data?</p>	<p>Only the lead researcher will access the raw survey data and participants' email addresses. The data will not be transferred or communicated to any other person outside of the research team.</p>
<p>Will my data be archived for use in other research projects in the future?</p>	<p>To maintain the confidentiality of responses, data will not be archived for use in future research projects.</p>
<p>How will my data be destroyed?</p>	<p>Data will be stored for 7 years, after which time it will be electronically erased, so that data cannot be read or reconstructed. Records of participants' email addresses will be destroyed following completion of data collection.</p>

### **How can I take part?**

If you would like to take part, please follow the link below to provide an email address through which you can be contacted. You will receive an email from the lead researcher in January 2022 with a link to the online questionnaire, where you will also be asked to indicate consent.

### **Contacts**

If you have any concerns about this study, or would like further information, please contact a member of the research team using the details below. If you would like to know more about the ethical approval process for this study, or if you have any concerns which you would like

to raise beyond the members of the research team, you can contact the UCLan Ethics, Integrity and Governance Unit at [OfficerForEthics@uclan.ac.uk](mailto:OfficerForEthics@uclan.ac.uk). Any correspondence should include the title of the study and the names of the research team members. Should you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office (0303 123 1113).

### **Lead Researcher**

**Elanor Webb** ([ELWebb@standrew.co.uk](mailto:ELWebb@standrew.co.uk); 01604 616086)

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### **Advisor**

**Dr Deborah Morris** ([Deborah.Morris@standrew.co.uk](mailto:Deborah.Morris@standrew.co.uk))

Centre for Developmental and Complex Trauma, St Andrew's Healthcare, Northampton, UK



## **Participant Debrief Sheet**

**Title: Exploring the potentially morally injurious experiences of healthcare workers in forensic mental health settings: A Delphi survey**

Thank you for taking the time to participate in this study.

The study aims to explore potential sources of moral injury for staff working in forensic mental healthcare settings. Your responses will help us to better understand the situations and events which may lead staff to experience moral injury. This information is important for developing guidance for organisations' on how to minimise staffs' exposure to these potentially morally injurious events.

The information that you have provided in this study is completely confidential, and you will not be identifiable in any of the outputs that come from this research. Due to the nature of the Delphi study and anonymity processes, it is not possible to remove your individual data following completion of the study.

We recognise that participation in this study might have touched upon some sensitive or difficult personal experiences. If so, we would like to remind you of the following resources, which you can access for support:

**Internal resources (for St. Andrew's employees):**

***Trauma Response Service***

*Confidential support for staff who have experienced trauma*

Tel: 01604 616149

Email: [traumaresponseservice@standrew.co.uk](mailto:traumaresponseservice@standrew.co.uk)

***Employee Assistance Programme***

*Online support and counselling platform*

Tel: 0800 019 3453

Website: <https://standrews.helpeap.com>

**External resources (accessible by all)**

***Samaritans***

*Confidential mental health support*

24-hr helpline: 116 123

Email: [jo@samaritans.org](mailto:jo@samaritans.org)

Website: <https://www.samaritans.org/>

***Project5***

*Free wellbeing support for health/care workers*

Email: [support@project5.org](mailto:support@project5.org)

Website: <https://www.project5.org/>

A summary of the findings will be available, upon request, on completion of this study. If you have any further questions, or would like to raise any concerns, please contact a member of the research team on the details below.

This study has been reviewed and approved by the University of Central Lancashire (UCLan) Science Ethics Committee. If you would like to know more about the ethical approval process for this study, or if you have any concerns which you would like to raise beyond the members of the research team, you can contact the UCLan ethics office at [OfficerForEthics@uclan.ac.uk](mailto:OfficerForEthics@uclan.ac.uk). Any correspondence of this nature should include the title of the study and the names of the research team members.

### **Lead Researcher**

**Elanor Webb** ([ELWebb@standrew.co.uk](mailto:ELWebb@standrew.co.uk); 01604 616086)

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## **Delphi Round 1 Survey**



Thank you for your interest in participating in this research study.

You will be presented with 11 questions, designed to gain your thoughts, opinions and experiences relating to moral injury and its causes in healthcare staff working in a secure psychiatric setting. Specifically, we are interested in the potential causes of moral injury for clinical healthcare professionals (i.e. nurses, healthcare assistants, psychologists, psychiatrists, dietitians etc). Secure psychiatric services are those which provide care and treatment for individuals with severe mental health difficulties, who pose a risk to themselves and/or others.

If you are happy to continue participating, please indicate this below. You will then be provided with a definition of 'potentially morally injurious events' and 'moral injury', before being presented with the questionnaire.

If you have changed your mind and would no longer like to participate, please indicate this below. You will then be redirected from the survey.

Please indicate your decision:

- I consent to participating in this study and am happy to continue
- I no longer consent to participating in this study and do not want to continue

Please indicate which of the following statements applies to you (select all that apply):

- I am currently, or have previously worked, as a healthcare professional in a secure psychiatric setting
- I have previously published research in the field of moral injury/distress or a similar area (i.e. ethical dilemmas)



Please indicate in which professional role you have worked within a secure psychiatric setting (please select your current or most recent role):

- Dietetics and Nutrition
- Psychology
- Psychiatry
- Qualified Nursing
- Unqualified Nursing (i.e. Healthcare Assistant, Support Worker)
- Occupational Therapy
- Speech and Language Therapy
- Social Work
- Manager/Director
- Other (please indicate below)

### Definition

*'Potentially morally injurious events' (PMIEs) are defined as situations in which an individual has 'perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations' (Litz et al., 2009). 'Moral injury' is the psychological distress arising from exposure to such situations.*

1. How well does this definition of PMIEs describe the experiences of, and situations faced by, healthcare professionals working in secure psychiatric settings?

2. What else, if anything, should be included in the definition of a PMIE?

*'Potentially morally injurious events' (PMIEs) are defined as situations in which an individual has 'perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations' (Litz et al., 2009). 'Moral injury' is the psychological distress arising from exposure to such situations.*

3. What are the sources of moral injury most commonly faced by healthcare professionals working in secure psychiatric settings?

4. Are there any factors unique to the secure psychiatric healthcare setting that may cause moral injury, which aren't faced by staff working in general (non-secure) psychiatric healthcare settings?

5. Are there any ways in which the healthcare system promotes moral injury? Please describe the features which you feel contribute to or create the necessary conditions for staff to develop a moral injury:

*'Potentially morally injurious events' (PMIEs) are defined as situations in which an individual has 'perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations' (Litz et al., 2009). 'Moral injury' is the psychological distress arising from exposure to such situations.*

6. Are there any aspects of a healthcare professional's role within a secure psychiatric setting that might be a source of moral injury (i.e. responsibilities, practices)?



7. Moral injury can result from witnessing the actions [or inactions] of others, as well as one's own behaviours. What behaviours of colleagues may lead to a moral injury for healthcare staff working in secure psychiatric settings?



8. Healthcare professionals work with multiple parties, including patients, families and carers, and colleagues. How might these relationships lead to a moral injury for staff?



*'Potentially morally injurious events' (PMIEs) are defined as situations in which an individual has 'perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations' (Litz et al., 2009). 'Moral injury' is the psychological distress arising from exposure to such situations.*

9. For what reasons might a healthcare professional feel obligated to act against their moral beliefs and values?



10. Are there any sources of moral injury specifically linked to COVID-19, which were not likely to have been experienced by staff in secure psychiatric settings prior to the pandemic?

Finally, please describe any other situations or factors that you believe to be a source of moral injury for healthcare professionals working in secure psychiatric settings:

## Delphi Round 2 Survey



Welcome to round 2 of the Delphi survey, which aims to explore sources of moral injury for healthcare staff working in secure psychiatric settings\*. This is the second of three rounds.

The survey which you will be presented with shortly features a list of 64 statements which relate to the following topics: i) the definition of a 'potentially morally injurious event' (PMIE), ii) the PMIEs faced by healthcare professionals, iii) underlying factors which may lead to or promote a PMIE, and iv) risk factors for developing moral injury following exposure to a PMIE.

These statements were developed based on the responses given by all participants in the previous round. You will be asked to indicate the extent to which you agree with each statement, on a rating scale. There are no right or wrong answers - we are simply interested in gaining your opinion.

It is expected that the survey will take around 10 minutes to complete. You are able to save your response and return to it at a later date, if you do not wish to complete it all at once.

The deadline for the completion of this survey is **Monday 7th March**. A reminder email will be sent to all participants one week prior to this date.

If you are happy to continue participating, please indicate this below. You will then be presented with the questionnaire.

\*Note: Secure psychiatric services are those which provide care and treatment for individuals with severe mental health difficulties, who pose a risk to themselves and/or

Please indicate your decision:

- I consent to participating in this study and am happy to continue
- I no longer consent to participating in this study and do not want to continue

Only participants who responded to survey in the first round are eligible to partake in round 2 of this Delphi study. Please confirm whether or not you participated in round 1.

- Yes, I participated in round 1 of the Delphi study
- No, I did not participate in round 1. Please remove my email address from future correspondence:

## Demographics

Please indicate which of the following statements applies to you (select all that apply):

- I am currently, or have previously worked, as a healthcare professional in a secure psychiatric setting
- I have previously published research in the field of moral injury/distress or a similar area (i.e. ethical dilemmas)

Please indicate in which professional role you have worked within a secure psychiatric setting (please select your current or most recent role):

- Dietetics and Nutrition
- Psychology
- Psychiatry
- Qualified Nursing
- Unqualified Nursing (i.e. Healthcare Assistant, Support Worker)
- Occupational Therapy
- Speech and Language Therapy
- Social Work
- Manager/Director
- Other (please indicate below)

## Part I: Definition of a 'potentially morally injurious event'

*'Potentially morally injurious events' (PMIEs) are defined as situations in which an individual has 'perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations' (Litz et al., 2009). 'Moral injury' is the psychological distress arising from exposure to such situations.*

Below are 5 statements which relate to the **definition of 'potentially morally injurious events' (PMIEs)**. Please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
A PMIE is an unavoidable event in which an individual has had no personal choice in the course of action	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
The definition of PMIEs should include non-events (i.e. witnessing a decision being made, or learning about an attitude held by a colleague) as well as events and behaviours	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
A PMIE is an event which occurs in a high stakes situation, where there is imminent risk for harm and suffering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
PMIEs occur in the context of wider structural and systemic issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
Experiences of betrayal by individuals in a position of authority or trust should be included in the definition of PMIEs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Part II: Types of PMIEs**

'Potentially morally injurious events' (PMIEs) are defined as situations in which an individual has 'perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations' (Litz et al., 2009). 'Moral injury' is the psychological distress arising from exposure to such situations.

Below are 19 statements which relate to **examples of potentially morally injurious experiences (PMIEs)**. Please indicate the extent to which you agree or disagree with each statement as being a PMIE faced by healthcare staff working in secure psychiatric settings.

	Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
Restrictions placed on patients contact with family members, carers and friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being unable to meet a patient's care needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restricted interaction and engagement with patients, due to time constraints or to maintain personal safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Witnessing or experiencing conflict between/with colleagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inappropriate administration of assessments and treatments (i.e. without informed consent)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Caring for patients in a physically inadequate environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inappropriately detaining a patient (i.e. due to lack of alternative, appropriate placements)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Caring for people who have committed serious criminal offences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Detention of patients against their will	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restrictions and rigidities placed on patients activities, access to items, and/or freedoms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Being exposed to physical or verbal aggression from patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Witnessing the distress of colleagues when placed into situations that cause them fear (i.e. observing highly aggressive patients)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of restrictive practices when inappropriate, or when alternative solutions were available	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Witnessing a patient commit harm to themselves (i.e. self-harm, suicide attempts)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning about the traumatic histories of patients in one's care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of coercive measures to provide care and treatment to patients against their will	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of restrictive practices (in the context of appropriate and necessary use)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inappropriately discharging a patient (i.e. prematurely, to free up beds)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with colleagues who lack the skills or capacity to provide quality care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below are an additional 18 statements which relate to **examples of potentially morally injurious experiences (PMIEs)**. Please indicate the extent to which you agree or disagree with each statement as being a PMIE faced by healthcare staff working in secure psychiatric settings.

	Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
Working with colleagues who act in ways that demoralise or demean patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Failing to challenge the immoral behaviours of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compromising or failing to provide the necessary care, due to restrictions imposed as a result of COVID-19	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Placing others at risk of COVID-19 (i.e. patients, family members)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having to report a colleague for unethical behaviour	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Failing to ensure the safety of patients and/or colleagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working in a system that focuses on risk management and security, rather than healthcare needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Renewing or extending the detention of a patient under the MHA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working in a non-therapeutic culture (i.e. a system which re-traumatizes patients)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of guidance and/or resources to effectively manage during the COVID-19 pandemic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with colleagues who demonstrate demoralized attitudes towards patients and care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Experiencing acts of betrayal towards the team by colleagues (i.e. having a colleague abandon the ward when short-staffed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working amongst non-therapeutic relationships (i.e. with families who have contributed to the patient's admission)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Displays of poor professional practice by colleagues (i.e. unlawfully breaching patient confidentiality)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having greater autonomy than patients and carers over care decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Silenced patient voice in decision-making processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with multiple parties who have conflicting needs, wants and/or opinions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of consequences for acts of aggression committed by patients whilst detained in hospital (i.e. failure for police to proceed against assaults)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Part III: Driving and perpetuating factors

*'Potentially morally injurious events' (PMIEs) are defined as situations in which an individual has 'perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations' (Litz et al., 2009). 'Moral injury' is the psychological distress arising from exposure to such situations.*

Below are 14 statements which relate to **underlying factors that may lead to or promote the occurrence of a PMIE**. Please indicate the extent to which you agree or disagree with each statement.

	Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree
Pressure from colleagues or carers may lead a healthcare professional to act against their moral values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A lack of clarity or understanding of the roles of different professions within a team can promote the occurrence of PMIEs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A desire to maintain good relationships with a patient or colleague may lead a healthcare professional to act in ways that go against their moral values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being overworked and burnt out made lead a healthcare professional to act against their moral values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of resources (i.e. material, financial, staffing, time) may promote the occurrence of PMIEs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Policies and legal frameworks may necessitate staff to engage in morally injurious actions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engaging in, or being exposed to morally injurious events, are inherent to the role of a healthcare professional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dismissal of the opinions and concerns of patients and staff by the organisation may promote the occurrence of PMIEs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Working in a system where there is a depersonalized approach to care can promote the occurrence of PMIEs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having to follow the orders of colleagues with greater authority may promote the occurrence of PMIEs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prioritization of costs over care by the organisation / system may promote the occurrence of PMIEs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pressure from regulatory bodies or leaders may lead a healthcare professional to act against their moral values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A negative workplace culture (i.e. high levels of manipulation and blame, closed culture) can normalise and promote the occurrence of PMIEs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A healthcare professional may act against their moral values in order to ensure the safety of patients, the self, and/or others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below are 8 statements which relate to **risk factors that may make an individual more likely to develop moral injury, following exposure to a PMIE**. Please indicate the extent to which you agree or disagree with each statement.

Strongly Disagree      Slightly Disagree      Slightly Agree      Strongly Agree

Having no means to deal with exposure to immoral experiences occurring in the workplace can make it more likely for a person to develop moral injury

Having to hide one's emotional response to immoral events within the workplace can make a healthcare professional more likely to develop moral injury

Lack of time to process immoral experiences can make it more likely for a person to develop moral injury

Lack of training and support within the workplace in dealing with PMIEs can make it more likely for a person to develop moral injury after experiencing a PMIE

Ignorance of staff wellbeing by the organisation can make it more likely for a person to develop moral injury after experiencing a PMIE

Lack of opportunity for a debrief within the workplace, following a PMIE, can make it more likely for a person to develop moral injury

Having pre-existing personal mental health difficulties can make a healthcare professional more likely to develop moral injury after experiencing a PMIE

Lack of coping strategies and support outside of the workplace can make it more likely for a person to develop moral injury after experiencing a PMIE



## Delphi Round 3 Survey



Welcome to round 3 of the Delphi survey, which aims to explore sources of moral injury for healthcare staff working in secure psychiatric settings\*. This is the final round.

In this round, you will be represented with the 64 statements that were presented to you in the previous round, and asked to reconfirm your opinion on each. The percentage of participants who agreed and disagreed with each statement will be visible to you during this round.

There are no right or wrong answers - we are simply interested in gaining your opinion.

It is expected that the survey will take around 10 minutes to complete. You are able to save your response and return to it at a later date, if you do not wish to complete it all at once.

The deadline for the completion of this survey is **Thursday 31st March**. A reminder email will be sent to all participants one week prior to this date.

If you are happy to continue participating, please indicate this below. You will then be presented with the questionnaire.

\*Note: Secure psychiatric services are those which provide care and treatment for individuals with severe mental health difficulties, who pose a risk to themselves and/or others.

Please indicate your decision:

- I consent to participating in this study and am happy to continue
- I no longer consent to participating in this study and do not want to continue

Only participants who responded to the survey in the first and second rounds are eligible to partake in round 3 of this Delphi study. Please confirm whether or not you participated in rounds 1 and 2.

- Yes, I participated in rounds 1 and 2 of the Delphi study
- No, I did not participate in round 1 and 2. Please remove my email address from future correspondence:



2. A PMIE is an unavoidable event in which an individual has had no personal choice in the course of action

Disagree (75.8%)



Agree (24.2%)



3. A PMIE is an event which occurs in a high stakes situation, where there is imminent risk for harm and suffering

Disagree (27.3%)



Agree (72.7%)



4. PMIEs occur in the context of wider structural and systemic issues

Disagree (3.0%)



Agree (97.0%)



5. The definition of PMIEs should include non-events (i.e. witnessing a decision being made, or learning about an attitude held by a colleague) as well as events and behaviours

Disagree (18.2%)



Agree (81.8%)



## Part 2: Types of PMIEs

'Potentially morally injurious events' (PMIEs) are defined as situations in which an individual has 'perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations' (Litz et al., 2009). 'Moral injury' is the psychological distress arising from exposure to such situations.

Below are 19 statements which relate to **examples of potentially morally injurious experiences** (PMIEs). Please indicate the extent to which you agree or disagree with each statement as being a PMIE faced by healthcare staff working in secure psychiatric settings.

## 6. Detention of patients against their will

Disagree (30.3%)



Agree (69.7%)



## 7. Restrictions placed on patients contact with family member, carers and friends

Disagree (18.2%)



Agree (81.8%)



## 8. Being exposed to physical or verbal aggression from patients

Disagree (24.2%)



Agree (75.8%)



## 9. Witnessing a patient commit harm to themselves (i.e. self-harm, suicide attempts)

Disagree (27.3%)



Agree (72.7%)



## 10. Witnessing the distress of colleagues when placed into situations that cause them fear (i.e. observing highly aggressive patients)

Disagree (15.1%)



Agree (84.9%)



## 11. Caring for people who have committed serious criminal offences

Disagree (57.6%)



Agree (42.4%)



## 12. Learning about the traumatic histories of patients in one's care

Disagree (42.4%)



Agree (57.6%)



13. Use of restrictive practices (in the context of appropriate and necessary use)

Disagree (39.4%)



Agree (60.6%)



14. Use of restrictive practices when inappropriate, or when alternative solutions were available

Disagree (6.1%)



Agree (93.9%)



15. Use of coercive measures to provide care and treatment to patients against their will

Disagree (9.1%)



Agree (90.9%)



16. Restrictions and rigidities placed on patients activities, access to items, and/or freedoms

Disagree (30.3%)



Agree (69.7%)



17. Inappropriate administration of assessments and treatments (i.e. without informed consent)

Disagree (6.1%)



Agree (93.9%)



18. Inappropriately detaining a patient (i.e. due to a lack of alternative, appropriate placements)

Disagree (3.0%)



Agree (97.0%)



19. Inappropriately discharging a patient (i.e. prematurely to free up beds)

Disagree (6.1%)



Agree (93.9%)



20. Being unable to meet a patients care needs

Disagree (6.1%)



Agree (93.9%)



21. Working with colleagues who lack the skills or capacity to provide quality care

Disagree (21.2%)



Agree (78.8%)



22. Witnessing or experiencing conflict between/with colleagues

Disagree (36.4%)



Agree (63.6%)



23. Caring for patients in a physically inadequate environment

Disagree (6.1%)



Agree (93.9%)



24. Restricted interaction and engagement with patients, due to time constraints or to maintain personal safety

Disagree (12.1%)



Agree (87.9%)



Below are an additional 18 statements which relate to examples of potentially morally injurious experiences (PMIEs). Please indicate the extent to which you agree or disagree with each statement as being a PMIE faced by healthcare staff working in secure psychiatric settings.

25. Working amongst non-therapeutic relationships (i.e. with families who have contributed to the patient's admission)

Disagree (36.4%)



Agree (63.6%)



26. Lack of consequences for acts of aggression committed by patients whilst detained in hospital (i.e. failure for police to proceed against assaults)

Disagree (27.3%)



Agree (72.7%)



27. Failing to ensure the safety of patients and/or colleagues

Disagree (12.1%)



Agree (87.9%)



28. Failing to challenge the immoral behaviours of others

Disagree (15.2%)



Agree (84.8%)



29. Silenced patient voice in decision-making processes

Disagree (12.1%)



Agree (87.9%)



30. Working with colleagues who act in ways that demoralise or demean patients

Disagree (6.1%)



Agree (93.9%)



31. Displays of poor professional practice by colleagues (i.e. unlawfully breaching patient confidentiality)

Disagree (9.1%)



Agree (90.9%)



32. Experiencing acts of betrayal towards the team by colleagues (i.e. having a colleague abandon the ward when short-staffed)

Disagree (21.2%)



Agree (78.8%)



33. Having greater autonomy than patients and carers over care decisions

Disagree (51.5%)



Agree (48.5%)



34. Placing others at risk of COVID-19 (i.e. patients, own family members)

Disagree (30.3%)



Agree (69.7%)



35. Working with multiple parties who have conflicting needs, wants and/or opinions

Disagree (42.4%)



Agree (57.6%)



36. Working with colleagues who demonstrate demoralised attitudes towards patients and care

Disagree (9.1%)



Agree (90.9%)



37. Working in a non-therapeutic culture (i.e. a system which retraumatises patients)

Disagree (6.1%)



Agree (93.9%)



38. Compromising or failing to provide the necessary care, due to restrictions imposed as a result of COVID-19

Disagree (9.1%)



Agree (90.9%)



39. Lack of guidance and/or resources to effectively manage during the COVID-19 pandemic

Disagree (18.2%)



Agree (81.8%)



40. Renewing or extending the detention of a patient under the MHA

Disagree (60.6%)



Agree (39.4%)



41. Having to report a colleague for unethical behaviour

Disagree (33.3%)



Agree (66.7%)



42. Working in a system that focuses on risk management and security, rather than healthcare needs

Disagree (24.2%)



Agree (75.8%)



### Part 3: Driving and perpetuating factors

*'Potentially morally injurious events' (PMIEs) are defined as situations in which an individual has 'perpetrated, failed to prevent, bore witness to, or learnt about acts that transgress deeply held moral beliefs and expectations' (Litz et al., 2009). 'Moral injury' is the psychological distress arising from exposure to such situations.*

Below are 14 statements which relate to **underlying factors that may lead to or promote the occurrence of a PMIE**. Please indicate the extent to which you agree or disagree with each statement.

43. Prioritisation of costs over care by the organisation/system may promote the occurrence of PMIEs

Disagree (9.1%)



Agree (90.9%)





44. Pressure from regulatory bodies or leaders may lead a healthcare professional to act against their moral values

Disagree (24.2%)



Agree (75.8%)



45. Pressure from colleagues or carers may lead a healthcare professional to act against their moral values

Disagree (24.2%)



Agree (75.8%)



46. Being overworked and burnt out may lead a healthcare professional to act against their moral values

Disagree (6.1%)



Agree (93.9%)



47. A healthcare professional may act against their moral values in order to ensure the safety of patients, the self, and/or others

Disagree (21.2%)



Agree (78.8%)



48. Lack of resources (i.e. material, financial, staffing, time) may promote the occurrence of PMIEs

Disagree (3.0%)



Agree (97.0%)



49. Having to follow the orders of colleagues with greater authority may promote the occurrence of PMIEs

Disagree (27.3%)



Agree (72.7%)



50. Dismissal of the opinions and concerns of patients and staff by the organisation may promote the occurrence of PMIEs

Disagree (6.1%)



Agree (93.9%)



51. A desire to maintain good relationships with a patient or colleague may lead a healthcare professional to act in ways that go against their moral values

Disagree (27.3%)



Agree (72.7%)



52. Engaging in or being exposed to morally injurious events are inherent to the role of a healthcare professional

Disagree (27.3%)



Agree (72.7%)



53. A negative workplace culture (i.e. high levels of manipulation and blame, closed culture) can normalise and promote the occurrence of PMIEs

Disagree (3.0%)



Agree (97.0%)



54. Policies and legal frameworks may necessitate staff to engage in morally injurious actions

Disagree (18.2%)



Agree (81.8%)



55. A lack of clarity or understanding of the roles of different professions within a team can promote the occurrence of PMIEs

Disagree (27.3%)



Agree (72.7%)



56. Working in a system where there is a depersonalised approach to care can promote the occurrence of PMIEs

Disagree (3.0%)



Agree (97.0%)



Below are 8 statements which relate to **risk factors that may make an individual more likely to develop moral injury**, following exposure to a PMIE. Please indicate the extent to which you agree or disagree with each statement.

57. Having pre-existing mental health difficulties can make a healthcare professional more likely to develop moral injury after experiencing a PMIE

Disagree (24.2%)



Agree (75.8%)



58. Having to hide one's emotional response to immoral events within the workplace can make a healthcare professional more likely to develop moral injury

Disagree (9.1%)



Agree (90.9%)



59. Having no means to deal with exposure to immoral experiences occurring in the workplace can make it more likely for a person to develop moral injury

Disagree (6.1%)



Agree (93.9%)



60. Lack of opportunity for a debrief within the workplace, following a PMIE, can make it more likely for a person to develop moral injury

Disagree (3.0%)



Agree (97.0%)



61. Lack of coping strategies and support outside of the workplace can make it more likely for a person to develop moral injury after experiencing a PMIE

Disagree (6.1%)



Agree (93.9%)



62. Ignorance of staff wellbeing by the organisation can make it more likely for a healthcare professional to develop moral injury after experiencing a PMIE

Disagree (3.0%)



Agree (97.0%)



63. Lack of training and support within the workplace in dealing with PMIEs can make it more likely for a person to develop moral injury after experiencing a PMIE

Disagree (3.0%)



Agree (97.0%)



64. Lack of time to process immoral experiences can make it more likely for a person to develop moral injury

Disagree (6.1%)



Agree (93.9%)



## Appendix D. Description of themes and subthemes extracted at round one

### 1. Defining PMIEs

Two primary themes related to the definition of a PMIE. Whilst the majority of experts (82.2%), indicated that the existing definition of PMIEs proposed by Litz et al. (2009) was adequate in describing many of the experiences faced by healthcare professionals in secure psychiatric settings, 23.8% of experts suggested amendments which they felt were important in defining a morally injurious event. Specifically, these suggestions related to widening the type of PMIEs captured in the definition, and specifying the context in which such events occur.

#### Theme one: Type of PMIEs

'*Experiences of authoritative betrayal*' (subtheme one) were suggested to be a type of morally injurious event which should be encapsulated in the definition of a PMIE. Numerous experts referred to the definition proposed by Shay (2003), conceptualising a PMIE as an act of betrayal committed by someone in a legitimate position of authority. Comments also suggested that moral injury may arise from '*non-action transgressions*' (subtheme two), where no direct action has occurred, but attitudes held or decisions made are learnt about and witnessed.

#### Theme two: Context of PMIEs

The '*inescapability*' (subtheme one) of PMIEs was suggested to be important to defining this construct in the context of secure psychiatric healthcare. Experts suggested that having to be exposed to, or engage in, morally injurious behaviours was an unavoidable aspect of working in this type of setting. Some experts also indicated that a '*high risk for*

*harm or suffering*' (subtheme two) is characteristic of a PMIE, and referred to the '*high stakes*' terminology reflected in Shay's (2003) definition. Thirdly, a number of experts considered it important for the '*systemic root*' (subtheme three) in which PMIEs are grounded to be reflected in the definition. Specifically, experts considered the structural issues and role of the organisation in driving PMIEs to be important features for inclusion.

## **2. Sources of Moral Injury**

Six primary themes related to potential sources of moral injury for healthcare professionals in secure psychiatric settings. These themes closely reflect the questions asked of experts in the first round, as informed from the earlier systematic review and meta-ethnography, which focused on systemic sources, relational sources, and profession-based sources. However, the specific subthemes that emerged at this stage built upon the PMIEs identified in study one.

### *Theme one: Morally harmful aspects of the healthcare system*

Experts indicated that secure psychiatric settings may be morally injurious by nature. The '*restrictive context of secure psychiatric settings*' (subtheme one) was cited by both academics and healthcare professionals as being a potential source of moral injury due to the restrictions on patients' liberties and the rigid ward routines that patients were expected to abide by. The physically restrictive nature of the environment was also noted in a number of experts' responses. Additionally, a '*harmful cultural climate*' (subtheme two) was raised as a potential source of moral injury. The specific types of climate described by participants varied, though all related to environments which were non-therapeutic in nature. For example, one expert mentioned the re-traumatizing nature of secure psychiatric healthcare

settings, whilst others focused on settings adopting overly medicalized approaches to care. Thirdly, the *'lack of consequences for aggression by patients in the system'* (subtheme three) was identified as a potential source of moral injury when working in a secure psychiatric context. Experts raised the failure for the organisation and legal bodies (i.e. the police) to support staff in prosecuting against crimes committed by patients whilst detained in hospital as a morally comprising experience which may result in a professional feeling morally injured.

*Theme two: Past and present harm*

The secure context was suggested to bring additional sources of moral injury due to the high prevalence of aggression and harm, both historically and in the current day. Incidents of *'harm to others'* (subtheme one) were frequently reported by experts as a potential source of moral injury. Comments from experts related to acts of aggression displayed by patients, one's own behaviours which compromise, or risk comprising, the safety of others (i.e. patients, colleagues) and witnessing the distress of colleagues when placed into situations where there is a high risk for harm. Besides incidents of other-directed aggression, incidents of *'harm to self'* committed by a patient in one's care was noted to be a PMIE. In these instances, the failure to prevent the distress and/or harm experienced by others may result in the development of a moral injury. Finally, as well as incidents of harm occurring in the hospital setting, *'patients' pre-admission histories of harm to and from others'* (subtheme three) were flagged by experts as a potential source of moral injury for healthcare professionals. Providing care for individuals who have committed acts in the past that violate one's own personal moral values was raised as a PMIE by some experts. Additionally, learning about the traumatic events that patient's in one's care had often

endured was suggested to be potentially distressing for healthcare professionals; it was unclear from experts' responses exactly how this may be a source of moral injury, however.

### Theme three: Challenging practices of profession

A number of comments made by experts in the survey related to practices that healthcare staff in secure psychiatric settings must engage in, as part of their role, which were felt to be unethical. '*Restrictive practices*' (subtheme one) were frequently reported as a potential source of moral injury faced by this staff population. As was evident in the earlier systematic review and meta-ethnography conducted, some experts discussed the problematic nature of restrictive practices generally, even when their use is necessary and justified, whilst some contextualised their problematic nature, suggesting restrictive practices to cross moral boundaries if used inappropriately or in the face of alternatives. Secondly, the administering of '*coercive care*' (subtheme two) was also discussed by many experts as a likely source of moral injury for healthcare professionals. As was the case with restrictive practices, some experts felt that using coercive measures to provide lawful and necessary care and treatment to patients (i.e. force feeding patients via a nasogastric tube) The final subtheme encompassed suggestions made by experts which related to '*detention and discharge practices*' (subtheme three). Specifically, caring for patients for whom the service is not appropriate, or who are being detained for longer than is necessary, was suggested by some to be potentially morally injurious. On the other side, discharging patients inappropriately and prematurely, before treatment needs and goals have been met or adequate follow-up support has been established, was also suggested by some experts to have the potential to result in moral injury. Furthermore, a number of comments made by experts related to the renewal and extension of treatment for patients detained under the MHA. Having to renew or amend the section under which a patient is detained (i.e. to a more restrictive part of the act) was



suggested as being potentially morally injurious. Experts also raised the often long periods of detention to which patients are often subject, due to their complex psychiatric needs and lengthy recovery process. The re-admission of patients into services for further treatment, which can frequently occur as a result of their complex treatment needs being insufficiently met in previous admissions, was also highlighted by one expert as a possible source of moral injury. In this instance, the potential for moral injury may lie within the extended detention of the patient across repeated admissions, or the failure for services to deliver the treatment required for a patient's enduring recovery.

*Theme four: Inadequate standards of care delivered*

The incompetence, negative attitudes and unethical actions (or inactions) of the self and colleagues were additional factors flagged by experts as PMIEs, due to the resulting compromises that they placed on the quality of care provided to patients. Comments made by experts regarding the '*incompetency of the self and colleagues*' (subtheme one) related to the failure to meet a patient's care needs, as a result of an individual's own abilities rather than as a consequence of wider systemic constraints, as well as working alongside the colleagues who lack the skills and/or capacity to provide the quality of care deserved by patients. In such instances, the failure to deliver effective, quality care for patients, whether by oneself or a colleague, reflects a potential transgression of one's moral values as a healthcare professional. Secondly, experts made a number of comments pertaining to '*colleagues harmful attitudes towards patients and care*' (subtheme two) and the '*harmful actions of colleagues*' (subtheme three) when describing potential sources of moral injury. The words and language used to identify such attitudes and behaviours varied amongst responses, though all related to a sense of demoralization and demeaning of patients, and poor professional practice. For example, experts discussed attitudes of indifference, incompassion,

and hopelessness, as well as use of derogatory language, abusive behaviours, and unjustified violations of patient confidentiality. Acts of betrayal towards the team were also highlighted, with experts referring to situations in which a colleague abandons their ward and leaves their team short-staffed, or places unethical requests and demands on team members, as potential causes of moral injury in the workplace. The final subtheme linked to standards of care delivered was '*inaction by the self and colleagues*' (subtheme four). In addition to the witnessed morally injurious behaviour committed by another, the failure to challenge such a behaviour could be considered a self-committed transgression of one's own behaviours, leading to moral injury.

#### *Theme five: Relational factors*

A number of sources of moral injury raised by experts were linked to the social context in which healthcare professionals worked. Many of the responses on the survey raised '*challenging team dynamics*' (subtheme one) as one such issue, referring to situations of conflict with and or between colleagues. Comments touched upon both the indirect witnessing of conflict between other colleagues, as well as directly experienced conflict. Such direct experiences included conflict at an individual level, between the self and another colleague, as well as at a group level, between one's own professional group and another. For example, one expert who was working as a healthcare assistant reported the division faced between their professional group and all other professions comprised within the multidisciplinary team. A number of factors relating to '*hierarchy and power challenges*' (subtheme two) were also evident in experts responses. The greater autonomy that healthcare professionals have, by nature, over care decisions was thought to be a potential source of moral injury. Additionally, the further minimisation of the voice of patient's in their care, as a result of the failure to uphold and advocate for the rights of patients by the self or another,

was raised as an additional PMIE faced by healthcare professionals. The third subtheme encompassed under relational factors was '*balancing competing needs of patients and others*' (subtheme three). Experts described various scenarios in which their relationships with patients, colleagues, carers, and other stakeholders may necessitate them to engage in actions that violate their own moral values. Examples include pressure to fulfil requests made by families or colleagues which conflict with the patients' needs and/or wishes, working between competing obligations to different parties, and withholding information from families and carers at the request of their patient. Besides the number of relationships between which healthcare professionals are pulled, the nature of the relationships that they may work alongside was also discussed by experts. Specifically, '*working between harmful patient relationships*' (subtheme four) was identified as a PMIE. Examples included engaging with families who have contributed to the patient's need for admission to a secure facility, and witnessing inappropriate relationships between patients and colleagues.

#### *Theme six: COVID-19 factors*

A final group of PMIEs that emerged from the survey were factors tied to the COVID-19 pandemic. Firstly, '*organisational factors*' (subtheme one), specifically a lack of guidance and/or resources from leadership and authorities to enable staff to effectively manage during the COVID-19 was felt to be a possible source of moral injury, potentially leading to feelings of betrayal. Beyond organisational factors, other circumstances and events which occurred as a consequence of the pandemic were identified as potentially morally injurious due to their '*impacts on patients and others*' (subtheme two). Collectively, experts identified a number of PMIEs which were felt to compromise or prevent the adequate and necessary care being provided to patients; these included the additional limitations placed on patient's contact with family members and restricting patient's leave due to staff absences

and/or COVID-19 restrictions. Besides patients, impacts on others were also acknowledged, such as the strain placed on the rest of the team as a result of being absent from work, and the increased risk of infecting one's own family members and friends as a consequence of working in healthcare and being unable to isolate.

### **3. Driving and risk factors**

Four primary themes related to factors which were felt to create the necessary conditions for a PMIE to occur, or increased the risk for moral injury to develop following a PMIE. These themes closely mapped onto the layers identified in the line-of-argument developed through the earlier meta-ethnography. However, individual factors also emerged.

#### *Theme one: System-created conditions*

Just as aspects of the system were identified as morally injurious themselves, systemic factors were also suggested to create the conditions for other PMIEs to arise, and to increase the risk of moral injury subsequently developing. Many experts described the problematic nature of working in '*a culture out of touch with principles*' (subtheme one), and how this may promote the occurrence of PMIEs. The words used to identify problematic types of culture varied; however, they generally described a depersonalised approach to care, as well as an environment in which morally injurious behaviours were normalised and sometimes necessitated by policies and legal frameworks. Another feature of the system thought to increase the likelihood of PMIEs occurring was the '*minimization of staff and patient's voice*' (subtheme two). Experts discussed the issues of being unable to voice thoughts and concerns and challenge decisions by both staff and patients, as a result of system-created barriers such as a lack of clear procedures or an organisational culture in which speaking out is

discouraged. For example, working in an organisation in which challenging morally harmful policies and procedures would have negative repercussions may prevent staff from speaking out, as well as prevent changes to the policies and procedures that are experienced as morally harmful from occurring. In this instance, the organisational culture has created two potential pathways to the development of moral injury. Thirdly, the focus placed on ‘*costs over care*’ (subtheme three), and ‘*insufficient resources*’ (subtheme four) within the wider healthcare system were identified by a number of experts to be factors driving the occurrence of PMIEs. Working in a system for which financial targets are prioritized and/or the necessary resources are not available was suggested to compromise the quality of care provided to patients. Consequently, staff are unable to fulfil their professional duties as a healthcare worker, and may be left to make decisions or act in ways which contradict their moral values. A lack of time to process witnessed situations, as a resource constraint, was also indicated to render a staff member more at risk for moral injury, following a PMIE. The final subtheme, which related to ‘*investment in staff*’ (subtheme five) encompasses a number of risk factors thought to increase the likelihood of developing moral injury following a PMIE. Specifically, experts mentioned how organisational ignorance of staff wellbeing, lack of support and training in managing PMIEs, and lack of support following an incident, from both the workplace and externally, can increase the likelihood that moral injury will develop.

#### *Theme two: Relational drivers*

A number of interpersonal factors thought to increase the likelihood of a PMIE occurring were identified by experts. Firstly, experts identified the role that ‘*pressure from different parties*’ (subtheme one) can have on facilitating the occurrence of morally injurious behaviours and events, with an individual feeling compelled to act in a way that defies their own moral code. Experts located this pressure from regulatory bodies and leaders, as well as

colleagues and carers. The second group of factors to emerge related to '*interprofessional dynamics*' (subtheme two). Requirements and expectations to comply with the orders of colleagues of a greater seniority and/or authority, as a result of their professional status, were suggested as potential reasons for which a healthcare professional may act in ways that defy their own moral values, due to feeling like there is no alternative possible course of action. Experts from a nursing background specifically noted the expectation for individuals working in their profession to follow the orders of doctors, due to hierarchical norms in the healthcare setting. Additionally, a lack of clarity of the roles and responsibilities held by members of different professions within multi-disciplinary healthcare teams were noted by a number of experts as a factor facilitating the occurrence of PMIEs. Finally, PMIEs were suggested to sometimes occur for the purpose of '*maintaining relationships*' (subtheme three). Experts expressed the drive for healthcare professionals to maintain good relationships with both patients and colleagues. They suggested that an individual may act in ways that defy their own moral code if failing to do so would threaten their membership in their professional team and leave them ostracized, or compromise their therapeutic relationship with a patient.

### *Theme three: Staff wellbeing*

Experts also identified factors relating to the psychological wellbeing of staff which may increase risk for both the initial occurrence of a PMIE, and the subsequent development of moral injury. This theme comprised no subthemes. With respect to factors driving the occurrence of a PMIE, being overworked and/or burnt out were suggested as potential factors leading a healthcare professional to engage in practices which they felt to be morally harmful and provide sub-standard care to patients. Additionally, poor psychological wellbeing was identified as a factor increasing vulnerability to the development of a moral injury. Specifically, experts suggested that staff members with their own personal mental health

difficulties were more at risk, and that emotional labour – that is, having to physically suppress one’s own emotional response to a situation – can increase the likelihood of moral injury developing following a morally harmful event.

*Theme four: Duties of role*

The final theme of factors which were suggested to drive the occurrence of a PMIE related to the healthcare profession itself. Again, this category did not comprise any subthemes. Experts identified the need to for healthcare professionals to sometimes act in morally injurious ways to ensure the safety of themselves, their patient, or others (i.e. colleague, general public). It was suggested that ensuring the safety of patients, which is a key duty for healthcare professionals working in secure psychiatric settings, often necessitated violating basic human rights. Being exposed to PMIEs was also suggested to be an inherent and unavoidable part of the healthcare professional’s role. For example, it was suggested by one expert that engaging in morally harmful acts may be necessary to secure and maintain one’s employment in a healthcare organisation, whilst another expert suggested that patient-centred care, which is considered to be the gold standard in healthcare, may lead staff to act against their own moral values as a consequence of prioritizing patient needs over personal beliefs.

## Appendix E. Study 2 Materials

**Participant Information Sheet (v.1)*****Title of Study: Pathways to moral injury: Identifying risk factors and exploring a developmental-cognitive pathway***

*You are being invited to participate in a research study.* The decision whether or not to take part is entirely up to you. Before you decide to do so, it is important that you understand why this study is being conducted and what your participation will involve. Please take time to read this sheet carefully, and feel free to contact us if you would like more information or if there is anything that you do not understand.

**What is the purpose of the study?**

‘Moral injury’ describes the psychological distress that can arise as a result of perpetrating, witnessing, or failing to prevent an act that defies one’s own moral values. Staff who work in secure psychiatric settings face a number of potentially morally injurious experiences (PMIEs) in their role. The study aims to explore the factors which make a healthcare worker more likely to develop symptoms of moral injury, following a PMIE.

**Why have I been invited to take part?**

We are inviting people with current experience of working in a secure psychiatric setting to participate in the study. Those with at least 6 months of experience working in such a setting are eligible to participate.

**Do I have to take part?**

It is up to you whether you decide to take part or not. If you decide to take part, you are free to change your mind and withdraw from the study at any time prior to submitting your response, without needing to give a reason. Due to the anonymity of the data, it will not be possible to withdraw your data from the study once you have submitted a response, as the researcher is unable to identify individual responses from the database.

**What will happen if I take part?**

You will firstly be asked to indicate your consent to participate in the study. You will then be presented with a series of questionnaires. Specifically, the questionnaires will ask about adverse events that you may have experienced in childhood, beliefs about yourself, your thoughts and others, and symptoms of moral injury. You will also be asked to provide some basic demographic and occupational information, such as your age, gender,



and professional role. It is expected that the study should take about 30 minutes to complete. A debrief sheet will be provided to you at the end of the study.

### How will my data be used?

The University processes personal data as part of its research and teaching activities in accordance with the lawful basis of ‘public task’, and in accordance with the University’s purpose of “advancing education, learning and research for the public benefit”. Under UK data protection legislation, the University acts as the Data Controller for personal data collected as part of the University’s research. The University privacy notice for research participants can be found on the attached link [https://www.uclan.ac.uk/data\\_protection/privacy-notice-research-participants.php](https://www.uclan.ac.uk/data_protection/privacy-notice-research-participants.php)

Further information on how your data will be used can be found in the table below.

How will my data be collected?	Data will be collected through an electronic survey hosted on the online Qualtrics platform.
How will my data be stored?	Data will be stored on the lead researcher’s UCLan Office 365 Cloud account and accessed on a secure password-protected and encrypted device.
How long will my data be stored for?	Data will be stored for 7 years, in line with the University of Central Lancashire’s data storage requirements
What measures are in place to protect the security and confidentiality of my data, and will my data be anonymised?	Responses will be anonymous. To ensure that you cannot be identified from your response, you will be assigned a participant ID number through the online survey platform. This information will be kept in a secure, password protected computer database, which will only be accessible by the lead researcher.
How will my data be used?	Data pertaining to demographic and occupational factors, adverse childhood experiences, and beliefs about one’s self, thoughts and others is being collected for the purposes of a research study exploring factors associated with moral injury. No participant will be identifiable in any dissemination resulting from this research.

Who will have access to my data?	Only the lead researcher will access the raw study data. The data will not be transferred or communicated to any other person outside of the research team.
Will my data be archived for use in other research projects in the future?	To maintain the confidentiality of responses, data will not be archived for use in future research projects.
How will my data be destroyed?	Data will be stored for 7 years, after which time it will be electronically erased, so that data cannot be read or reconstructed.

### **What are the possible risks of taking part?**

There are no expected disadvantages of taking part in the study. However, participation will involve answering some questions about traumatic experiences. You will not be asked to disclose any specific details about the nature of the traumatic event(s) that they have experienced, besides when it occurred, although we recognise that this may be distressing for some people. Participation is completely voluntary and if this is likely to cause you distress, you do not have to respond. If you do experience any distress as a result of taking part in the study, please contact the researcher immediately using the details provided at the bottom of this sheet. The contact details of a number of support resources available to you are listed in the debrief sheet, which will be presented to you following completion of the study or earlier, if you decide to withdraw.

### **What are the possible benefits of taking part?**

Participation is on a voluntary basis and it is not anticipated that you will directly benefit from taking part in the study. However, you will help us to understand the risk factors which make an individual more likely to develop moral injury. This information is important in developing recommendations and guidance for secure psychiatric services in reducing the likelihood of a person developing moral injury, and informing intervention and prevention strategies.

### **What will happen to the results of the study?**

A summary of results will be shared with participants, upon request, following completion of the study. This research is being conducted as part of a PhD programme of study, and thus the results will primarily be presented in a thesis. It is also possible that the results be shared in other formats, such as in a peer-reviewed journal, or at conferencing events. No individual will be identifiable in any dissemination resulting from this research.

### **Contacts**

If you have any concerns about this study, or would like further information, please contact a member of the research team using the details below. If you would like to know more about the ethical approval process for this study, or if you have any concerns which you would like to raise beyond the members of the research team,

you can contact the UCLan Ethics, Integrity and Governance Unit at [OfficerForEthics@uclan.ac.uk](mailto:OfficerForEthics@uclan.ac.uk). Any correspondence should include the title of the study and the names of the research team members. Should you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office (0303 123 1113).

**Lead Researcher**

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## Participant Consent Form

Version number & date: Version 1 / 26.05.2022

Research ethics approval number: SCIENCE 0161 STUDY 3

Title of the research project: *Pathways to moral injury: Identifying risk factors and exploring a developmental-cognitive pathway*

Name of researcher(s): Elanor Webb

1. I confirm that I have read and have understood the information sheet dated 26.05.22 for the above study, and understand the information provided. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
  
2. I understand that taking part in the study involves completion of a series of online questionnaires, for the purpose of understanding demographic, occupational and cognitive risk factors for moral injury. This includes answering questions about potentially distressing experiences.
  
3. I understand that my participation is voluntary and that I am free to stop taking part and can withdraw from the study at any point before submitting my response, without giving any reason and without my rights being affected. I also understand that I am free to decline to answer any particular question or questions.
  
4. I understand that once I submit my response, it will not be possible to withdraw my data from the study.
  
5. I understand that the information I provide will be held securely and in line with data protection requirements at the University of Central Lancashire.
  
6. I understand that my data will be held in an electronic, password-protected database, only accessible by members of the research team, for a period of 7 years, in line with data storage requirements at the University of Central Lancashire.
  
7. I consent to participating in the above study.



### **Participant Debrief Sheet**

**Title:** *Pathways to moral injury: Identifying risk factors and exploring a developmental-cognitive pathway*

Thank you for taking the time to participate in this study. The study aims to explore the factors which make a healthcare worker more likely to develop symptoms of moral injury.

You completed the Adverse Childhood Experiences Questionnaire (ACES-Q) and the Brief Core Schema Scales (BCSS) as we were interested in the effects of early adverse experiences on the way a person thinks about themselves, their thoughts and others, and whether this increases the risk for developing moral injury. You also completed the Metacognitions Questionnaire (MCQ-30) and the Emotion Regulation Questionnaire (ERQ), as we were interested in whether the way a person thinks about their thoughts and negative events may mitigate the impact of early trauma on risk for moral injury. Finally, you completed the Moral Injury Symptoms Scale-Healthcare Professional Version (MISS-HP), to assess a range of psychological symptoms linked with moral injury. Please note that moral injury is not a diagnosable clinical disorder, and the MISS-HP was used for research purposes only.

The information that you have provided in this study is completely confidential, and you will not be identifiable in any of the outputs that come from this research. Due to the anonymous nature of this study, it is not possible to remove your individual data following completion of the study.

We recognise that participation in this study might have touched upon some sensitive or difficult personal experiences. Therefore, we would like to remind you of the following resources, which you can access for support:

**Internal resources (for St. Andrew's employees)*****Trauma Response Service***

*Confidential support for staff who have experienced trauma*

Tel: 01604 616149

Email: [traumaresponseservice@standrew.co.uk](mailto:traumaresponseservice@standrew.co.uk)

***Employee Assistance Programme***

*Online support and counselling platform*

Tel: 0800 019 3453

Website: <https://standrews.helpeap.com>

**External resources (accessible by all)*****Samaritans***

*Confidential mental health support*

24-hr helpline: 116 123

Email: [jo@samaritans.org](mailto:jo@samaritans.org)

Website: <https://www.samaritans.org/>

***Project5***

*Free wellbeing support for health/care workers*

Email: [support@project5.org](mailto:support@project5.org)

Website: <https://www.project5.org/>

A summary of the findings will be made available upon request. If you have any questions or concerns, please contact a member of the research team using the details provided below.

This study has been reviewed and approved by the University of Central Lancashire (UCLan) Science Ethics Committee. If you would like to know more about the ethical approval process for this study, or if you have any concerns which you would like to raise beyond the members of the research team, you can contact the UCLan ethics office at [OfficerForEthics@uclan.ac.uk](mailto:OfficerForEthics@uclan.ac.uk). Any correspondence of this nature should include the title of the study and the names of the research team members.

**Lead Researcher**

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**8-item Survey of Perceived Organisational Support (SPOS)**

Listed below and on the next several pages are statements that represent possible opinions that YOU may have about working at your organisation. Please indicate the degree of your agreement or disagreement with each statement by filling in the circle on your answer sheet that best represents your point of view about your organisation. Please choose from the following answers:

0	1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. The organization values my contribution to its well-being.
3. The organization fails to appreciate any extra effort from me. (R)
7. The organization would ignore any complaint from me. (R)
9. The organization really cares about my well-being.
17. Even if I did the best job possible, the organization would fail to notice. (R)
21. The organization cares about my general satisfaction at work.
23. The organization shows very little concern for me. (R)
27. The organization takes pride in my accomplishments at work.



**Multidimensional Scale of Perceived Social Support (MSPSS)**

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

		Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree
1.	There is a special person who is around when I am in need. (SO)							
2.	There is a special person with whom I can share joys and sorrows. (SO)							
3.	My family really tries to help me. (FA)							
4.	I get the emotional help & support I need from my family. (FA)							
5.	I have a special person who is a real source of comfort to me. (SO)							
6.	My friends really try to help me. (FR)							
7.	I can count on my friends when things go wrong. (FR)							
8.	I can talk about my problems with my family. (FA)							
9.	I have friends with whom I can share my joys and sorrows. (FR)							
10.	There is a special person in my life who cares about my feelings. (SO)							
11.	My family is willing to help me make decisions. (FA)							
12.	I can talk about my problems with my friends. (FR)							

SO = Significant Other subscale; FA = Family subscale; FR = Friends subscale

**Emotional Labour Scale (ELS)**

<b><i>Duration</i></b> A typical interaction I have with a service user takes about _____ minutes					
<b>On an average day at work, how frequently do you...</b>					
	<b>Never (1)</b>	<b>Rarely (2)</b>	<b>Sometimes (3)</b>	<b>Often (4)</b>	<b>Always (5)</b>
<b><i>Frequency</i></b>					
Display specific emotions required by part of your job					
Adopt certain emotions required as part of your job					
Express particular emotions needed for your job					
<b><i>Intensity</i></b>					
Show some strong emotions					
Express intense emotions					
<b><i>Variety</i></b>					
Display many different kinds of emotions					
Express many different emotions					
Display many different emotions when interacting with others					
<b><i>Surface Acting</i></b>					
Hide my true feelings about a situation					
Resist expressing my true feelings					

Pretend to have emotions that I don't really have					
<i>Deep Acting</i>					
Make an effort to actually feel the emotions that I need to display to others					
Really try to feel the emotions that I have to show as part of my job					
Try to actually experience the emotions that I must show					

**Moral Injury Exposure and Symptoms Scale – Civilian (MIESS-C)**

Please indicate how much you agree or disagree with each of the following statements regarding your experiences working in a secure mental health setting.

		1	2	3	4	5	6
1	I saw things that were morally wrong (E)						
2	I am troubled by having witnessed others' immoral acts (S)						
3	I acted in ways that violated my own moral code or values (E)						
4	I am troubled by having acted in ways that violated my own morals or values (S)						
5	I violated my own morals by failing to do something that I felt I should have done (E)						
6	I am troubled because I violated n morals by failing to do something that I felt I should have done (S)						
7	I feel betrayed by specific people who I once trusted (E)						
8	I am troubled by this betrayal by specific people (S)						
9	I feel betrayed by the institutions that I am supposed to trust (for example, my own organisation, governmental workers) (E)						
10	I am troubled by this betrayal by the institutions that I am supposed to trust (S)						

E = Exposure; S = Symptoms

**Primary Care PTSD Screen for DSM-5 (PC-PTSD-5)**

Sometimes things happen to people that are unusually or especially frightening, horrible, or traumatic. **For example:**

- a serious accident or fire
- a physical or sexual assault or abuse
- an earthquake or flood
- a war
- seeing someone be killed or seriously injured
- having a loved one die through homicide or suicide.

Have you ever experienced this kind of event? The above are examples, but not an exhaustive list.

YES                      NO

**If YES, please answer the questions below**

---

**In the past month, have you...**

1. had nightmares about the event(s) or thought about the event(s) when you didn't want to?

YES                      NO

2. tried hard not to think about the event(s) or went out of your way to avoid situations that reminded you of the event(s)?

YES                      NO

3. been constantly on guard, watchful, or easily startled?

YES                      NO

4. felt numb or detached from people, activities, or your surroundings?

YES                      NO

5. felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused?

YES      NO

### Brief Core Schema Scales (BCSS)

This questionnaire lists beliefs that people can hold about themselves and other people. Please indicate whether you hold each belief (NO or YES). If you hold the belief then please indicate how strongly you hold it by circling a number (1-4). Try to judge the beliefs on how you have generally, over time, viewed yourself and others. Do not spend too long on each belief. There are no right or wrong answers and the first response to each belief is often the most accurate.

				Believe it slightly	Believe it moderately	Believe it very much	Believe it totally
<i>MYSELF</i>							
I am unloved (NS)	NO	YES	→	1	2	3	4
I am worthless (NS)	NO	YES	→	1	2	3	4
I am weak (NS)	NO	YES	→	1	2	3	4
I am vulnerable (NS)	NO	YES	→	1	2	3	4
I am bad (NS)	NO	YES	→	1	2	3	4
I am a failure (NS)	NO	YES	→	1	2	3	4
I am respected (PS)	NO	YES	→	1	2	3	4
I am valuable (PS)	NO	YES	→	1	2	3	4
I am talented (PS)	NO	YES	→	1	2	3	4
I am successful (PS)	NO	YES	→	1	2	3	4
I am good (PS)	NO	YES	→	1	2	3	4
I am interesting (PS)	NO	YES	→	1	2	3	4
<i>OTHER PEOPLE</i>							
Other people are hostile (NO)	NO	YES	→	1	2	3	4
Other people are harsh (NO)	NO	YES	→	1	2	3	4
Other people are unforgiving (NO)	NO	YES	→	1	2	3	4
Other people are bad (NO)	NO	YES	→	1	2	3	4
Other people are devious (NO)	NO	YES	→	1	2	3	4
Other people are nasty (NO)	NO	YES	→	1	2	3	4
Other people are fair (PO)	NO	YES	→	1	2	3	4
Other people are good (PO)	NO	YES	→	1	2	3	4
Other people are trustworthy (PO)	NO	YES	→	1	2	3	4
Other people are accepting (PO)	NO	YES	→	1	2	3	4
Other people are supportive (PO)	NO	YES	→	1	2	3	4
Other people are truthful (PO)	NO	YES	→	1	2	3	4

NS = Negative Self; PS = Positive Self; NO = Negative Other; PO = Positive Other

**Metacognitions Questionnaire-30 (MCQ-30)**

This questionnaire is concerned with beliefs people have about their thinking. Listed below are a number of beliefs that people have expressed. Please read each item and say how much you *generally* agree with it by *circling* the appropriate number. Please respond to all the items, there are no right or wrong answers.

	<i>Do not agree</i>	<i>Agree slightly</i>	<i>Agree moderately</i>	<i>Agree very much</i>
Worrying helps me to avoid problems in the future (PBW)	1	2	3	4
My worrying is dangerous for me (NBUD)	1	2	3	4
I think a lot about my thoughts (CSC)	1	2	3	4
I could make myself sick with worrying (NBUD)	1	2	3	4
I am aware of the way my mind works when I am thinking through a problem (CSC)	1	2	3	4
If I did not control a worrying thought, and then it happened, it would be my fault (NCT)	1	2	3	4
I need to worry in order to remain organised (PBW)	1	2	3	4
I have little confidence in my memory for words and names (LCC)	1	2	3	4
My worrying thoughts persist, no matter how I try to stop them (NBUD)	1	2	3	4
Worrying helps me to get things sorted out in my mind (PBW)	1	2	3	4
I cannot ignore my worrying thoughts (NBUD)	1	2	3	4
I monitor my thoughts (CSC)	1	2	3	4
I should be in control of my thoughts all the time (NCT)	1	2	3	4
My memory can mislead me at times (LCC)	1	2	3	4

My worrying could make me go mad (NBUD)	1	2	3	4
I am constantly aware of my thinking (CSC)	1	2	3	4
I have a poor memory (LCC)	1	2	3	4
I pay close attention to the way my mind works (CSC)	1	2	3	4
Worrying helps me cope (PBW)	1	2	3	4
Not being able to control my thoughts is a sign of weakness (NCT)	1	2	3	4
When I start worrying I cannot stop (NBUD)	1	2	3	4
I will be punished for not controlling certain thoughts (NCT)	1	2	3	4
Worrying helps me to solve problems (PBW)	1	2	3	4
I have little confidence in my memory for places (LCC)	1	2	3	4
It is bad to think certain thoughts (NCT)	1	2	3	4
I do not trust my memory (LCC)	1	2	3	4
If I could not control my thoughts, I would not be able to function (NCT)	1	2	3	4
I need to worry in order to work well (PBW)	1	2	3	4
I have little confidence in my memory for actions (LCC)	1	2	3	4
I constantly examine my thoughts (CSC)	1	2	3	4

PBW = Positive Beliefs about Worry; NBUD = Negative Beliefs about Uncontrollability and Danger; CSC = Cognitive Self-Consciousness; NCT = Need to Control Thoughts; LCC = Lack of Cognitive Confidence



### Emotion Regulation Questionnaire (ERQ)

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale.

1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7

**Strongly  
disagree**

**Neutral**

**Strongly  
agree**

1. \_\_\_\_\_ When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about* (CR)
2. \_\_\_\_\_ I keep my emotions to myself (ES)
3. \_\_\_\_\_ When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about* (CR)
4. \_\_\_\_\_ When I am feeling *positive* emotions, I am careful not to express them (ES)
5. \_\_\_\_\_ When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm (CR)
6. \_\_\_\_\_ I control my emotions by *not expressing them* (ES)
7. \_\_\_\_\_ When I want to feel more *positive* emotion, I *change the way I'm thinking about the situation* (CR)
8. \_\_\_\_\_ I control my emotions by *changing the way I think about the situation I'm in* (CR)
9. \_\_\_\_\_ When I am feeling *negative* emotions, I make sure not to express them (ES)
10. \_\_\_\_\_ When I want to feel less *negative* emotion, I *change the way I'm thinking about the situation* (CR)

CR = Cognitive Reappraisal; ES = Emotional Suppression

## Appendix F. Bivariate correlations between study 3 variables

	1	2	3	4	5	6	7	8	9	10
1. MIESS-C Exposure	-									
2. MIESS-C Symptoms	<b>.92***</b>	-								
3. SPOS Total	<b>-.40***</b>	<b>-.37***</b>	-							
4. MSPSS Total	<b>-.15***</b>	<b>-.13**</b>	<b>.24***</b>	-						
5. MSPSS Significant Other	<b>-.02</b>	<b>-.01</b>	<b>.14***</b>	<b>.42***</b>	-					
6. MSPSS Family	<b>-.16***</b>	<b>-.15***</b>	<b>.18***</b>	<b>.82***</b>	<b>.24***</b>	-				
7. MSPSS Friends	<b>-.09*</b>	<b>-.09*</b>	<b>.16***</b>	<b>.51***</b>	<b>.33***</b>	<b>.27***</b>	-			
8. ELS Surface Acting	<b>.32***</b>	<b>.33***</b>	<b>-.33***</b>	<b>-.18***</b>	<b>-.01</b>	<b>-.15***</b>	<b>-.13**</b>	-		
9. ELS Deep Acting	<b>.004</b>	<b>.02</b>	<b>.09*</b>	<b>-.14***</b>	<b>.07</b>	<b>.09*</b>	<b>.14***</b>	<b>-.09*</b>	-	
10. PC-PTSD Childhood Trauma Score	<b>.19***</b>	<b>.20***</b>	<b>-.19***</b>	<b>-.18***</b>	<b>-.05</b>	<b>-.20***</b>	<b>-.12**</b>	<b>.20***</b>	<b>-.08</b>	-
11. BCSS Negative Self	<b>.27***</b>	<b>.28***</b>	<b>-.20***</b>	<b>-.26***</b>	<b>-.06</b>	<b>-.28***</b>	<b>-.10*</b>	<b>.22***</b>	<b>-.00</b>	<b>.23***</b>
12. BCSS Negative Other	<b>.14**</b>	<b>.15***</b>	<b>-.12**</b>	<b>-.06</b>	<b>-.05</b>	<b>-.03</b>	<b>-.05</b>	<b>.19***</b>	<b>.00</b>	<b>.19***</b>
13. MCQ-30 Total	<b>.23***</b>	<b>.24***</b>	<b>-.06</b>	<b>-.13**</b>	<b>-.01</b>	<b>-.12**</b>	<b>-.09*</b>	<b>.27***</b>	<b>.02</b>	<b>.22***</b>
14. MCQ-30 Lack of Cognitive Confidence	<b>.16***</b>	<b>.16***</b>	<b>-.08</b>	<b>-.09*</b>	<b>-.02</b>	<b>-.08</b>	<b>-.07</b>	<b>.15***</b>	<b>-.04</b>	<b>.16***</b>
15. MCQ-30 Positive Beliefs about Worry	<b>.16***</b>	<b>.17***</b>	<b>.07</b>	<b>-.03</b>	<b>.05</b>	<b>-.05</b>	<b>-.03</b>	<b>.16***</b>	<b>.03</b>	<b>.09*</b>
16. MCQ-30 Cognitive Self-Conscientiousness	<b>.14***</b>	<b>.15***</b>	<b>.02</b>	<b>-.03</b>	<b>.01</b>	<b>-.02</b>	<b>-.02</b>	<b>.13**</b>	<b>.14***</b>	<b>.11**</b>
17. MCQ-30 Negative Beliefs about Danger	<b>.20***</b>	<b>.22***</b>	<b>-.13**</b>	<b>-.16***</b>	<b>-.02</b>	<b>-.17***</b>	<b>-.07</b>	<b>.26***</b>	<b>-.09*</b>	<b>.21***</b>
18. MCQ-30 Need to Control Thoughts	<b>.13**</b>	<b>.13**</b>	<b>-.08</b>	<b>-.13**</b>	<b>-.06</b>	<b>-.07</b>	<b>-.14**</b>	<b>.25***</b>	<b>-.02</b>	<b>.20***</b>
19. ERQ Cognitive Reappraisal	<b>-.07</b>	<b>-.04</b>	<b>.11**</b>	<b>.27***</b>	<b>.06</b>	<b>.21***</b>	<b>.11**</b>	<b>-.10*</b>	<b>.17***</b>	<b>-.02</b>

Notes. SPOS = Survey of Perceived Organisational Support; MSPSS = Multidimensional Scale of Perceived Social Support; ELS = Emotional Labour Scale; PC-PTSD = Primary Care PTSD Screen for DSM-5; BCSS = Brief Core Schema Scales; MCQ-30 =

Metacognitions Questionnaire-30; ERQ = Emotion Regulation Questionnaire; MIESS-C = Moral Injury Exposure and Symptoms Scale – Civilian; \*  $p < .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$ ; significant correlations of  $r \leq .20$  are indicated in **bold**

	11	12	13	14	15	16	17	18	19
11. BCSS Negative Self	-								
12. BCSS Negative Other	<b>.25***</b>	-							
13. MCQ-30 Total	<b>.43***</b>	<b>.30***</b>	-						
14. MCQ Lack of Cognitive Confidence	<b>.30***</b>	.18***	<b>.54***</b>	-					
15. MCQ Positive Beliefs about Worry	<b>.20***</b>	.11**	<b>.63***</b>	<b>.22***</b>	-				
16. MCQ Cognitive Self- Conscientiousness	<b>.23***</b>	.18***	<b>.72***</b>	.16***	<b>.36***</b>	-			
17. MCQ Negative Beliefs about Danger	<b>.43***</b>	<b>.28***</b>	<b>.79***</b>	<b>.35***</b>	<b>.41***</b>	<b>.44***</b>	-		
18. MCQ Need to Control Thoughts	<b>.31***</b>	<b>.31***</b>	<b>.72***</b>	<b>.28***</b>	<b>.32***</b>	<b>.46***</b>	<b>.50***</b>	-	
19. ERQ Cognitive Reappraisal	<b>-.23***</b>	-.07	-.07	-.14***	.01	.15***	-.18***	-.03	-

*Notes.* SPOS = Survey of Perceived Organisational Support; MSPSS = Multidimensional Scale of Perceived Social Support; ELS = Emotional Labour Scale; PC-PTSD = Primary Care PTSD Screen for DSM-5; BCSS = Brief Core Schema Scales; MCQ-30 = Metacognitions Questionnaire-30; ERQ = Emotion Regulation Questionnaire; MIESS-C = Moral Injury Exposure and Symptoms Scale – Civilian; \*  $p < .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$ ; significant correlations are indicated in **bold**.

## Appendix G. Study 2 structural equation modelling code

**Mediation Model 1: Negative self schemas**Measurement model and parameter estimates code:

```

> model1<- 'MIESS_Symptom_Score ~ c*MIESS_Exposure_NY
+
+ PC_PTSD_5_Childhood_Score ~ a1*MIESS_Exposure_NY
+ BCSS_NegSelf ~ a2*MIESS_Exposure_NY
+ MCQ_Total ~ a3*MIESS_Exposure_NY
+ BCSS_NegSelf ~ a4*PC_PTSD_5_Childhood_Score
+ MCQ_Total ~ a5*BCSS_NegSelf
+ MCQ_Total ~ a6*PC_PTSD_5_Childhood_Score
+
+ MIESS_Symptom_Score ~ b1*PC_PTSD_5_Childhood_Score
+ MIESS_Symptom_Score ~ b2*BCSS_NegSelf
+ MIESS_Symptom_Score ~ b3*MCQ_Total
+
+ IndirectM1 := a1*b1
+ IndirectM2 := a2*b2
+ IndirectM3 := a3*b3
+ IndirectM1M2 := a1*a4*b2
+ IndirectM1M3 := a1*a6*b3
+ IndirectM2M3 := a2*a5*b3
+ IndirectM1M2M3 := a1*a4*a5*b3
+
+ total := c + (a1*b1) + (a2*b2) + (a3*b3) + (a1*a4*b2) + (a1*a6*b3) + (a2*a5*b3) +
(a1*a4*a5*b3)'
> set.seed(123456)
> fit1 <- cfa(model=model1, data=database, se='bootstrap', verbose = FALSE, bootstrap=1000)
> summary(fit1, fit.measures=TRUE, standardized=TRUE, rsquare=TRUE, ci=TRUE)

```

PROCESS mediation analysis code:

```

> process(data=database, y="MIESS_Symptom_Score", x="MIESS_Exposure_NY",
m=c("PC_PTSD_5_Childhood_Score", "BCSS_NegSelf", "MCQ_Total"), model=6, effsize=1,
total=1, stand=1, boot=1000, modelbt=1, seed=123456)

```

## Mediation Model 2: Negative other schemas

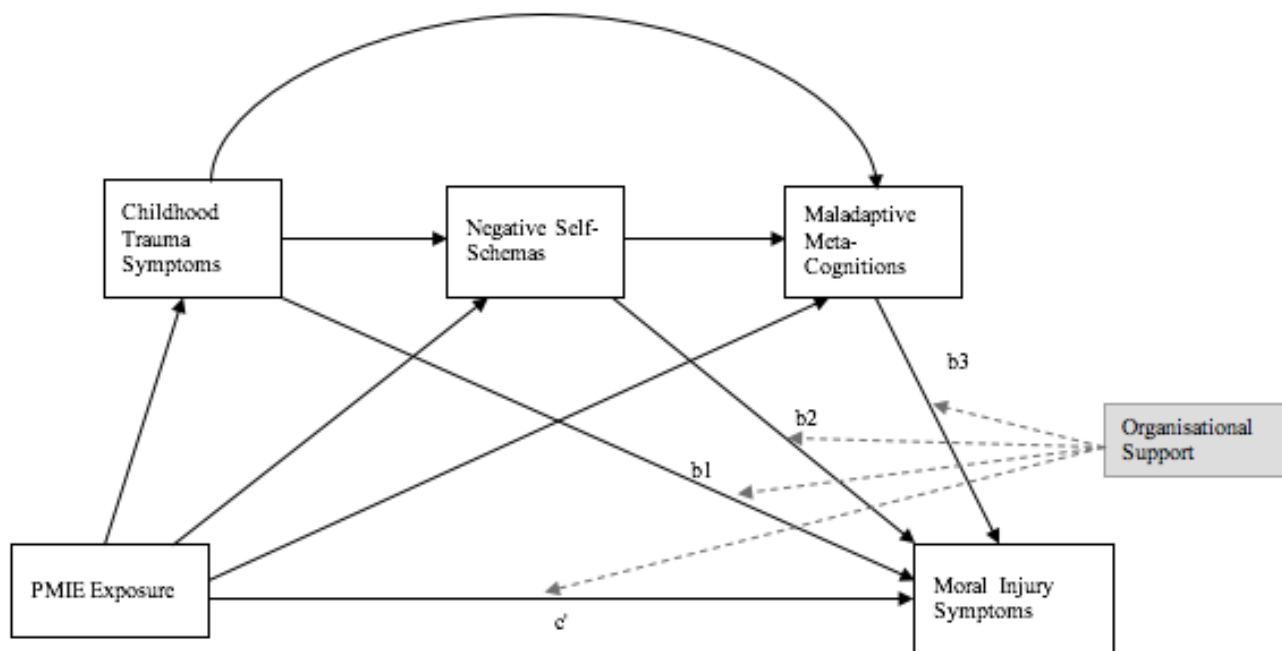
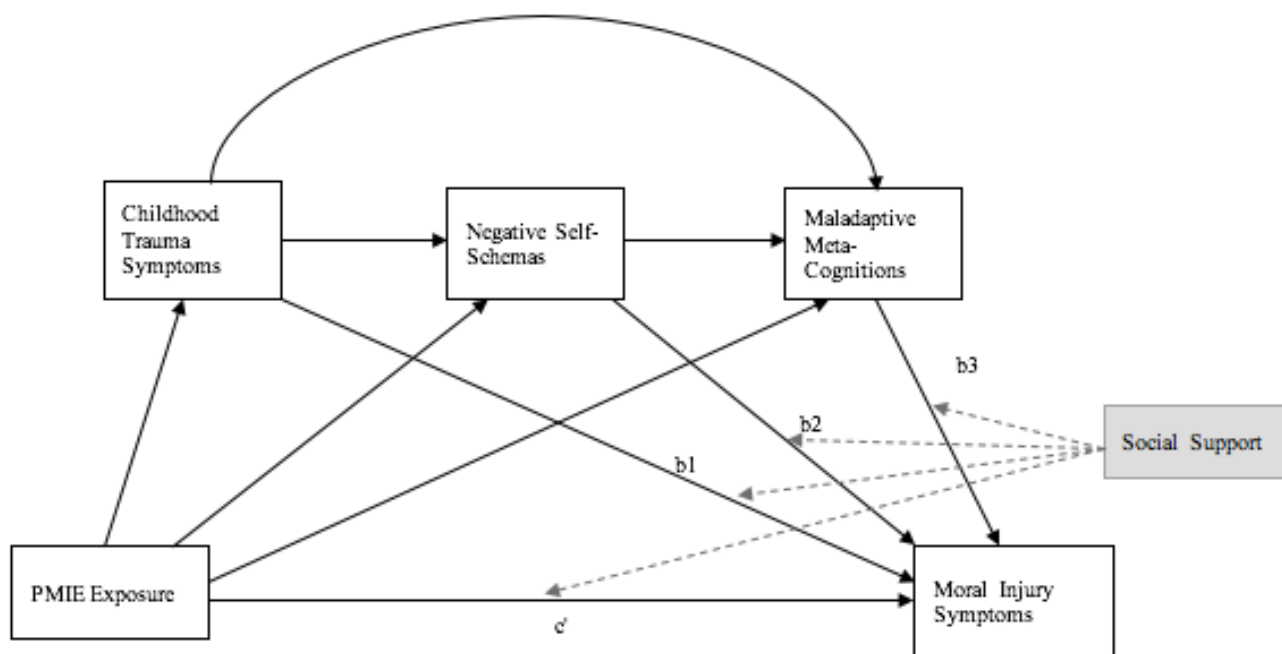
Measurement model and parameter estimates code:

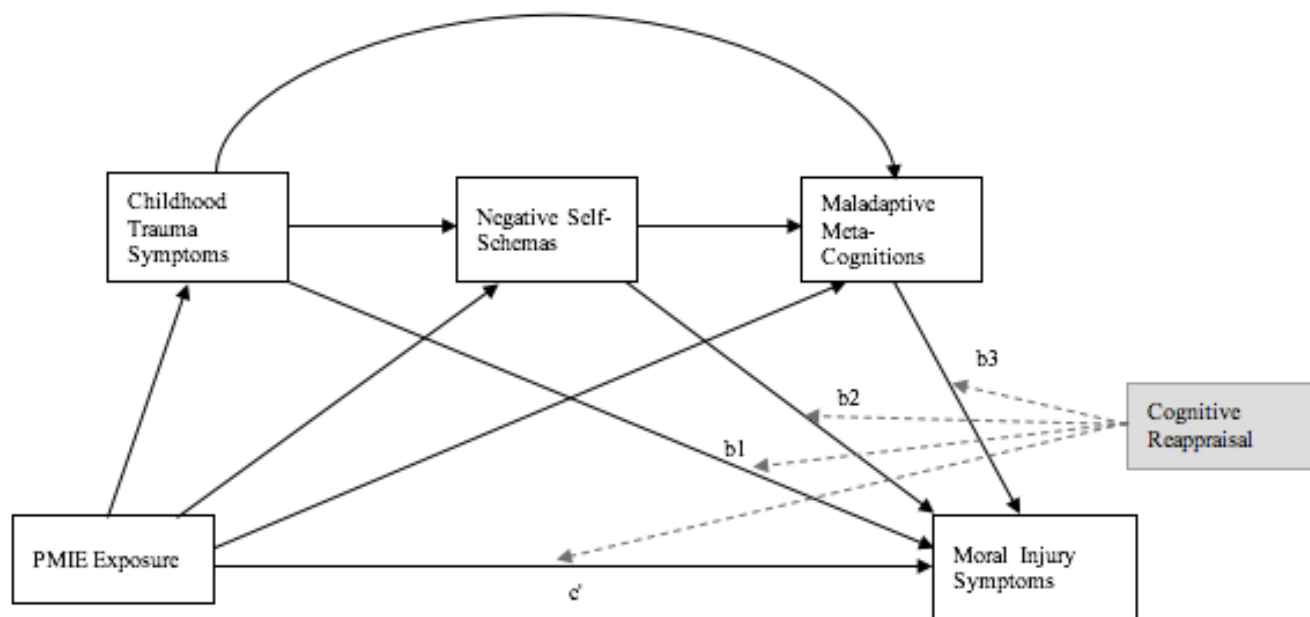
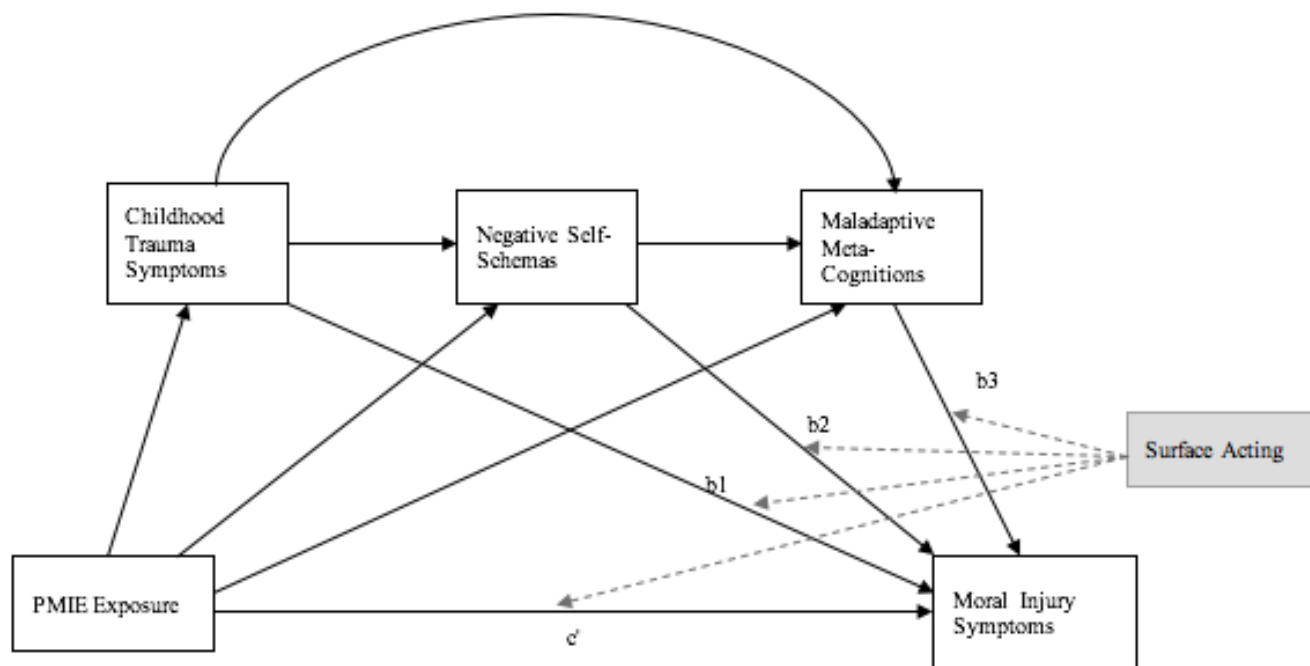
```

> model2 <- 'MIESS_Symptom_Score ~ c*MIESS_Exposure_NY
+
+ PC_PTSD_5_Childhood_Score ~ a1*MIESS_Exposure_NY
+ BCSS_NegOther ~ a2*MIESS_Exposure_NY
+ MCQ_Total ~ a3*MIESS_Exposure_NY
+ BCSS_NegOther ~ a4*PC_PTSD_5_Childhood_Score
+ MCQ_Total ~ a5*BCSS_NegOther
+ MCQ_Total ~ a6*PC_PTSD_5_Childhood_Score
+
+ MIESS_Symptom_Score ~ b1*PC_PTSD_5_Childhood_Score
+ MIESS_Symptom_Score ~ b2*BCSS_NegOther
+ MIESS_Symptom_Score ~ b3*MCQ_Total
+
+ IndirectM1 := a1*b1
+ IndirectM2 := a2*b2
+ IndirectM3 := a3*b3
+ IndirectM1M2 := a1*a4*b2
+ IndirectM1M3 := a1*a6*b3
+ IndirectM2M3 := a2*a5*b3
+ IndirectM1M2M3 := a1*a4*a5*b3
+
+ total := c + (a1*b1) + (a2*b2) + (a3*b3) + (a1*a4*b2) + (a1*a6*b3) + (a2*a5*b3) +
(a1*a4*a5*b3)'
> set.seed(123456)
> fit1 <- cfa(model=model2, data=database, se='bootstrap', verbose = FALSE, bootstrap=1000)
> summary(fit1, fit.measures=TRUE, standardized=TRUE, rsquare=TRUE, ci=TRUE)

```

## Appendix H. Study 2 conceptual moderated mediation models





## Appendix I. Study 3 materials



## Participant Consent Form

Version number & date: Version 2 / 29.06.2023

Research ethics approval number: SCIENCE 01023

Title of the research project: *Pathways from moral injury: Exploring associated wellbeing outcomes and the underlying cognitive-emotional mechanisms*

Name of researcher(s): Elanor Webb

1. I confirm that I have read and have understood the information sheet for the above study, and understand the information provided. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that taking part in the study involves completion of a series of online questionnaires, as well as questions relating to demographic and occupational information, for the purpose of understanding the factors that link moral injury with other areas of wellbeing. This includes answering questions about psychological symptoms and some potentially difficult work-related experiences.
3. I understand that my participation is voluntary and that I am free to stop taking part and can withdraw from the study at any time without giving any reason and without my rights being affected. I also understand that I am free to decline to answer any particular question or questions.
4. I understand that once I submit my response, it will not be possible to withdraw my data from the study.
5. I understand that the information I provide will be held securely and in line with data protection requirements at the University of Central Lancashire.
6. I understand that my data will be held in an electronic, password-protected database, only accessible by members of the research team, for a period of 7 years, in line with data storage requirements at the University of Central Lancashire.

I agree to all the above statements consent to participating in the study.





### Participant Information Sheet

**Title of Study:** Pathways from moral injury: Exploring associated wellbeing outcomes and the underlying cognitive-emotional mechanisms

*You are being invited to participate in a research study.* The decision whether or not to take part is entirely up to you. Before you do so, it is important that you understand why this study is being conducted and what your participation will involve. Please take time to read this sheet carefully, and contact us if you would like more information or if there is anything you do not understand. We would like to stress that you do not have to accept this invitation and should only take part if you want to.

#### **What is the purpose of the study?**

'Moral injury' describes the psychological distress that can arise as a result of perpetrating, witnessing, or failing to prevent an act that defies one's own moral values. Moral injury has been linked with a range of adverse health outcomes, though little is known about the mechanisms underlying these relationships. This study aims to explore the factors that link moral injury with other facets of wellbeing and functioning.

#### **Why have I been invited to take part?**

We are inviting people with current experience of working in a secure psychiatric setting to participate in the study. Those with at least 6 months of experience working in such a setting are eligible to participate.

#### **Do I have to take part?**

It is up to you whether you decide to take part or not. If you decide to take part, you are free to change your mind and withdraw from the study at any time prior to submitting your response, without needing to give a reason and without incurring any disadvantage. Due to the anonymity of the data, it will not be possible to withdraw your data from the study once you have submitted a response, as the researcher is unable to identify individual responses from the database. A button will be accessible throughout the survey to allow you to withdraw.

#### **What will happen if I take part?**

You will be asked to indicate your consent to participate. You will then be presented with a series of questionnaires that ask about moral injury, beliefs about your emotions and strategies for managing these, and a range of psychological, physical and behavioural symptoms. You will also be asked to provide some basic demographic and occupational information, such as your age, gender, and professional role. It is expected that the study should take about 15-20 minutes to complete. A debrief sheet will be provided to you at the end of the study.

#### **How will my data be used?**

The University processes personal data as part of its research and teaching activities in accordance with the lawful basis of 'public task', and in accordance with the University's purpose of "advancing education, learning and research for the public benefit". Under UK data protection legislation, the University acts as the Data Controller for personal data collected as part of the University's research. The University privacy notice for participants can be found at: [https://www.uclan.ac.uk/data\\_protection/privacy-notice-research-participants.php](https://www.uclan.ac.uk/data_protection/privacy-notice-research-participants.php)

Further information on how your data will be used can be found in the table below.

How will my data be collected?	Data will be collected through an electronic survey hosted on the online Qualtrics platform.
How will my data be stored?	Data will be stored on the lead researcher's UCLan Office 365 Cloud account and accessed on a secure password-protected and encrypted device.

How long will my data be stored for?	Data will be stored for 7 years, in line with the University of Central Lancashire's data storage requirements
What measures are in place to protect the security and confidentiality of my data, and will my data be anonymised?	Responses will be anonymous. To ensure that you cannot be identified from your response, you will be assigned a participant ID number through the online survey platform. This information will be kept in a secure, password protected computer database, which will only be accessible by the lead researcher.
How will my data be used?	Data pertaining to demographic and occupational factors, moral injury, beliefs about your emotions and strategies for managing these, and a range of psychological, physical and behavioural symptoms is being collected for the purposes of a research study exploring factors linking moral injury and wellbeing. No participant will be identifiable in any dissemination resulting from this research.
Who will have access to my data?	Only the lead researcher will access the raw study data. The data will not be transferred or communicated to any other person outside of the research team.
Will my data be archived for use in other research projects in the future?	To maintain the confidentiality of responses, data will not be archived for use in future research projects.
How will my data be destroyed?	Data will be stored for 7 years, after which time it will be electronically erased, so that data cannot be read or reconstructed.

#### **What are the possible risks of taking part?**

There are no expected disadvantages of taking part. However, participation will involve answering some questions about psychological, physical and behavioural symptoms that you may be experiencing. Participation is completely voluntary and if this is likely to cause you distress, you do not have to respond. If you do experience any distress as a result of taking part, please contact the researcher immediately using the details provided at the bottom of this sheet. The contact details of a number of support resources available to you are listed in the debrief sheet, which will be presented to you following completion of the study or earlier, if you decide to withdraw.

#### **What are the possible benefits of taking part?**

Participation is voluntary and it is not anticipated that you will directly benefit from taking part. However, you will help us to understand how moral injury impacts on other areas of wellbeing. This information is important for informing intervention and prevention strategies for reducing the adverse effects of moral injury, once it has developed. Participants will not incur any expenses nor payments from participating in this study,

#### **What will happen to the results of the study?**

A summary of results will be shared with participants, upon request, following completion of the study. This research is being conducted as part of a PhD programme of study, and thus the results will primarily be presented in a thesis. It is also possible that the results be shared in other formats, such as in a peer-reviewed journal, or at conferencing events. No individual will be identifiable in any dissemination resulting from this research.

#### **What will happen if I want to stop taking part?**

Participation is voluntary, and you can withdraw at any time without giving a reason prior to submitting your response. If you wish to withdraw please note that, due to the anonymous nature of the study, data cannot be withdrawn once a response has been submitted. After this point, it won't be possible to identify who you are.

#### **What if I am unhappy or if there is a problem?**

If you are unhappy, or if there is a problem, please let us know by contacting the lead researcher using the contact details provided below, and we will try to help. If you remain unhappy, or have a complaint which you cannot come to us with, please contact the Ethics, Integrity and Governance Unit at [OfficerForEthics@uclan.ac.uk](mailto:OfficerForEthics@uclan.ac.uk). Any correspondence should include the title of the study and the names of the research team members. The University strives to maintain the highest standards of rigour in the processing of your data. However, if you have any concerns

about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office by calling 0303 123 1113.

**Who can I contact if I have further questions?**

If you have any questions about this study, or would like further information, please contact a member of the research team using the details below. Any correspondence should include the title of the study and the names of the research team members. Should you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office (0303 123 1113).

**Lead Researcher**

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**Dr Michael Lewis** ([MLewis9@uclan.ac.uk](mailto:MLewis9@uclan.ac.uk))  
School of Psychology and Computer Science, University of Central Lancashire, UK



## **Participant Debrief Sheet**

**Title:** *Pathways from moral injury: Exploring associated wellbeing outcomes and the underlying cognitive-emotional mechanisms*

Thank you for taking the time to participate in this study. The study aims to explore the factors which make a healthcare worker more likely to experience adverse wellbeing outcomes as a result of moral injury.

You completed the Brief Leahy Emotional Schema Scale (LESS-II), the Toronto Alexithymia Scale (TAS) and the Emotion Regulation Questionnaire (ERQ), as we were interested in whether the way in which people recognise, think about and manage their emotions underlie the psychological, physical and behavioural adversities that may develop as a consequence of moral injury. You also completed the Oldenberg Burnout Inventory (OLBI), as we were interested in understanding how moral injury effects other areas of wellbeing, after controlling for burnout. Finally, you completed the Moral Injury Exposure and Symptom Scale – Civilian (MIESS-C), as a measure of moral injury, and the Kessler Psychological Distress Scale (K10), SCL-90 Somatisation subscale, Brief Level of Personality Functioning Scale (LPFS-BF-2.0) and the Nightmare Assessment Scale (NAS) as measures of psychological, physical and behavioural symptoms. Please note that measures were used for research purposes only.

The information that you have provided in this study is completely confidential, and you will not be identifiable in any of the outputs that come from this research. Due to the anonymous nature of this study, it is not possible to remove your individual data following completion of the study. A summary of the findings will be made available upon request. If you have any questions or concerns, please contact a member of the research team using the details provided below.

We recognise that participation may have touched upon some sensitive personal experiences. Therefore, we would like to remind you of some of the resources that you can access for support:

### **Internal resources (for St. Andrew's employees)**

#### ***Trauma Response Service***

*Confidential support for staff who have experienced trauma*

Tel: 01604 616149

Email: [traumaresponseservice@standrew.co.uk](mailto:traumaresponseservice@standrew.co.uk)

#### ***Employee Assistance Programme***

*Online support and counselling*

Tel: 0800 019 3453

Website: <https://standrews.helpeap.com>

**External resources (accessible by all)*****Samaritans***

*Confidential mental health support*

24-hr helpline: 116 123

Email: [jo@samaritans.org](mailto:jo@samaritans.org)

Website: <https://www.samaritans.org/>

***Project5***

*Free wellbeing support for health/care workers*

Email: [support@project5.org](mailto:support@project5.org)

Website: <https://www.project5.org/>

This study has been reviewed and approved by the University of Central Lancashire (UCLan) Science Ethics Committee. If you would like to know more about the ethical approval process for this study, or if you have any concerns which you would like to raise beyond the members of the research team, you can contact the UCLan ethics office at [OfficerForEthics@uclan.ac.uk](mailto:OfficerForEthics@uclan.ac.uk). Any correspondence of this nature should include the title of the study and the names of the research team members.

**Lead Researcher**

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**Dr Michael Lewis** ([MLewis9@uclan.ac.uk](mailto:MLewis9@uclan.ac.uk))

School of Psychology and Computer Science, University of Central Lancashire, UK

**Occupational Moral Injury Scale (OMIS)**

Below are some statements that describe how people may feel about difficult experiences in their workplace. Please choose a response to indicate how much you agree or disagree with each of the statements in relation to your own experience.

Item	Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree
1. I'm angry because my workplace expects a lot from employees but does not look after us in return							
2. Experience has shown me that I cannot rely on my workplace to look after me							
3. The way my workplace has failed to look after me makes me question my career							
4. I feel guilty for choosing to do things at work that go against my conscience							
5. I'm ashamed of choices I've made in my job that go against my beliefs about right and wrong							
6. I feel anger when I think about things I've decided to do at work that don't align with my moral values							
7. I question whether I can trust others because of workplace decisions I've made that go against my conscience							
8. Choosing to act against my own moral values in my job has made it hard for me to find meaning in my work							
9. I feel guilty over things I've been made to do at work that I don't morally agree with							
10. I'm ashamed of myself because of things I'm pressures to do at work that go against my conscience							

11. I'm angry because I've been forced to do things in the workplace that go against my beliefs about right and wrong							
12. It's difficult for me to find meaning in the morally questionable things I've been made to do at work							
13. I feel guilty about time I stood back and allowed bad things to continue happening in my workplace							
14. I've let myself down at work by allowing things I knew were not right to continue happening							
15. I'm angry that I haven't chosen to stand up against the things that go against my beliefs about right and wrong at work							
16. Ignoring my conscience in order to do my job has made it hard for me to trust myself							
17. Even though it's outside my control, the unethical behavior I've seen from others in my workplace makes me ashamed							
18. It makes me angry that I cannot stop others from doing things at work that go against my value							
19. Being unable to stop people from doing thing I don't morally agree with in the workplace has made me less trusting of others							
20. Witnessing unethical behaviour at work without being able to change it has broken the sense of purpose I used to have							

**Do the feelings you indicated above cause you significant distress, or make it hard for you to function in relationships, at work, at home, or other areas of your life important to you?**

<b>Not at all</b>	<b>Mildly</b>	<b>Moderately</b>	<b>Very much</b>	<b>Extremely</b>
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Oldenburg Burnout Inventory

*Instructions:* Below you find a series of statements with which you may agree or disagree. Using the scale, please indicate the degree of your agreement by selecting the number that corresponds with each statement.

		<i>strongly agree</i>	<i>agree</i>	<i>disagree</i>	<i>strongly disagree</i>
1.	I always find new and interesting aspects in my work (D)	1	2	3	4
2.	There are days when I feel tired before I arrive at work (E.R.)	1	2	3	4
3.	It happens more and more often that I talk about my work in a negative way (D.R)	1	2	3	4
4.	After work, I tend to need more time than in the past in order to relax and feel better (E.R)	1	2	3	4
5.	I can tolerate the pressure of my work very well (E)	1	2	3	4
6.	Lately, I tend to think less at work and do my job almost mechanically (D.R)	1	2	3	4
7.	I find my work to be a positive challenge (D)	1	2	3	4
8.	During my work, I often feel emotionally drained (E.R.)	1	2	3	4
9.	Over time, one can become disconnected from this type of work (D.R)	1	2	3	4
10.	After working, I have enough energy for my leisure activities (E)	1	2	3	4
11.	Sometimes I feel sickened by my work tasks (D.R)	1	2	3	4
12.	After my work, I usually feel worn out and weary (E.R)	1	2	3	4
13.	This is the only type of work that I can imagine myself doing (D)	1	2	3	4
14.	Usually, I can manage the amount of my work well (E)	1	2	3	4
15.	I feel more and more engaged in my work (D)	1	2	3	4
16.	When I work, I usually feel energized (E)	1	2	3	4



## Leahy Emotional Schema Scale II

We are interested in how you deal with your feelings or emotions—for example, how you deal with feelings of anger, sadness, anxiety, or sexual feelings. We all differ in how we deal with these feelings—so there are no right or wrong answers. Please read each sentence carefully and answer each sentence—using the scale below—as to how you deal with your feelings during the past month. Put the number of your response next to the sentence.

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**Scale:**

1=very untrue of me

2=somewhat untrue of me

3=slightly untrue of me

4=slightly true of me

5=somewhat true of me

6=very true of me

1. \_\_\_ I often think that I respond with feelings that others would not have.
2. \_\_\_ Some feelings are wrong to have.
3. \_\_\_ There are things about myself that I just don't understand.
4. \_\_\_ I believe that it is important to let myself cry in order to get my feelings "out".
5. \_\_\_ If I let myself have some of these feelings, I fear I will lose control.
6. \_\_\_ Others understand and accept my feelings.
7. \_\_\_ My feelings don't make sense to me.
8. \_\_\_ If other people changed, I would feel a lot better.
9. \_\_\_ I sometimes fear that if I allowed myself to have a strong feeling, it would not go away.
10. \_\_\_ I feel ashamed of my feelings.
11. \_\_\_ Things that bother other people don't bother me.
12. \_\_\_ No one really cares about my feelings.
13. \_\_\_ It is important for me to be reasonable and practical rather than sensitive and open to my feelings.
14. \_\_\_ When I feel down, I try to think of the more important things in life---what I value.
15. \_\_\_ I feel that I can express my feelings openly.
16. \_\_\_ I often say to myself, "What's wrong with me?"
17. \_\_\_ I worry that I won't be able to control my feelings.
18. \_\_\_ You have to guard against having certain feelings.
19. \_\_\_ Strong feelings only last a short period of time.
20. \_\_\_ I often feel "numb" emotionally---like I have no feelings.
21. \_\_\_ Other people cause me to have unpleasant feelings.
22. \_\_\_ When I feel down, I sit by myself and think a lot about how bad I feel.
23. \_\_\_ I like being absolutely definite about the way I feel about *someone else*.
24. \_\_\_ I accept my feelings.
25. \_\_\_ I think that I have the same feelings that other people have.
26. \_\_\_ There are higher values that I aspire to.
27. \_\_\_ I think it is important to be rational and logical in almost everything.
28. \_\_\_ I like being absolutely definite about the way I feel about *myself*.

Emotion Regulation Questionnaire (ERQ)

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale.

1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7

**Strongly**

**Neutral**

**Strongly**

**disagree**

**agree**

1. When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about* (CR)
2. I keep my emotions to myself (ES)
3. When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about* (CR)
4. When I am feeling *positive* emotions, I am careful not to express them (ES)
5. When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm (CR)
6. I control my emotions by *not expressing them* (ES)
7. When I want to feel more *positive* emotion, I *change the way I'm thinking about the situation* (CR)
8. I control my emotions by *changing the way I think about the situation I'm in* (CR)
9. When I am feeling *negative* emotions, I make sure not to express them (ES)
10. When I want to feel less *negative* emotion, I *change the way I'm thinking about the situation* (CR)

Toronto Alexithymia Scale (TAS-20)

	<b>1 - Strongly Disagree</b>	<b>2 - Disagree</b>	<b>3 -- Neither Agree nor Disagree</b>	<b>4 - Agree</b>	<b>5 - Strongly Agree</b>
I am often confused about what emotion I am feeling					
It is difficult for me to find the right words for my feelings					
I have physical sensations that even doctors don't understand					
I am able to describe my feelings easily					
I prefer to analyse problems rather than just describe them					
When I am upset, I don't know if I am sad, frightened, or angry					
I am often puzzled by sensations in my body					
I prefer to just let things happen rather than to understand why they turned out that way					
I have feelings that I can't quite identify					
Being in touch with emotions is essential					
I find it hard to describe how I feel about people					
People tell me to describe my feelings more					
I don't know what's going on inside me					
I often don't know why I am angry					
I prefer talking to people about their daily activities rather than feelings					
I prefer to watch "light" entertainment shows rather than psychological dramas					
It is difficult for me to reveal my innermost feelings, event to close friends					
I can feel close to someone, even in moments of silence					
I find examination of my feelings useful in solving personal problems					
I look for hidden meanings in movies or plays					

Kessler Psychological Distress Scale

Please tick the answer that is correct for you:	All of the time (score 5)	Most of the time (score 4)	Some of the time (score 3)	A little of the time (score 2)	None of the time (score 1)
1. In the past 4 weeks, about how often did you feel tired out for no good reason?					
2. In the past 4 weeks, about how often did you feel nervous?					
3. In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down?					
4. In the past 4 weeks, about how often did you feel hopeless?					
5. In the past 4 weeks, about how often did you feel restless or fidgety?					
6. In the past 4 weeks, about how often did you feel so restless you could not sit still?					
7. In the past 4 weeks, about how often did you feel depressed?					
8. In the past 4 weeks, about how often did you feel that everything was an effort?					
9. In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?					
10. In the past 4 weeks, about how often did you feel worthless?					

SCL-90 (Somatisation Subscale)

Below is a list of problems and complaints that people sometimes have. Please read each one carefully. After you have done so, select one of the numbered descriptors that best describes HOW MUCH THAT PROBLEM HAS BOTHERED OR DISTRESSED YOU DURING THE PAST WEEK, INCLUDING TODAY.

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Headaches					
Faintness or dizziness					
Pains in heart or chest					
Pains in lower back					
Nausea or upset stomach					
Soreness of your muscles					
Trouble getting your breath					
Hot or cold spells					
Numbness or tingling in parts of your body					
A lump in your throat					
Feelings weak in parts of your body					
Heavy feelings in your arms or legs					

Level of Personality Functioning Scale - Brief Version 2.0

Report for each of the following statements to what extent they apply to you at this moment.		Very false or Often False	Sometimes or Somewhat False	Sometimes or Somewhat True	Very true or often True
1	I often do not know who I really am	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	I often think very negatively about myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	My emotions change without me having a grip on them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I have no sense of where I want to go in my life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I often do not understand my own thoughts and feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I often make unrealistic demands on myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I often have difficulty understanding the thoughts and feelings of others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	I often find it hard to stand it when others have a different opinion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	I often do not fully understand why my behavior has a certain effect on others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	My relationships and friendships never last long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	I often feel very vulnerable when relations become more personal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	I often do not succeed in cooperating with others in a mutually satisfactory way	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Nightmare Assessment Scale

*Instructions:* The following is a list of difficulties associated with nightmares. Please read each item, and then circle the appropriate number to indicate how often the difficulty has occurred **over the last 7 days**.

		Not at all	A little	Sometimes	Quite often	Frequently
1	How often have you avoided going to sleep because you feared having nightmares?	0	1	2	3	4
2	How often do you believe your sleep has been disrupted by nightmares?	0	1	2	3	4
3	How often do you feel a dream woke you up?	0	1	2	3	4
4	How often have you had episodes of "acting out" during your sleep, such as kicking, punching or screaming?	0	1	2	3	4
5	When you could remember it, how often was dream content disturbing to you?	0	1	2	3	4
6	How often were you unable to get back to sleep if woken by a nightmare in the middle of the night?	0	1	2	3	4
7	How often have nightmares and disrupted sleep had an impact your daytime functioning?	0	1	2	3	4

## Appendix J. Summary of hierarchical linear regression analyses

Outcome	Step	Predictors	B	SE	<i>p</i>	R	<i>R</i> <sup>2</sup>	$\Delta R^2$	Model summary
Psychological Distress	1	Overall Model				.63	.40	.40	F(1,335)=221.71, <i>p</i> <.001
		Burnout	.65	.04	<.001***				
	2	Overall Model				.64	.41	.01	F(2,334)=115.73, <i>p</i> <.001
		Burnout	.60	.05	<.001***				
		Moral Injury	.03	.01	.02*				
Somatic Symptoms	1	Overall Model				.54	.29	.29	F(1,323)=129.55, <i>p</i> <.001
		Burnout	.53	.05	<.001***				
	2	Overall Model				.55	.30	.01	F(2,322)=69.04, <i>p</i> <.001
		Burnout	.48	.06	<.001***				
		Moral Injury	.04	.02	.03*				
Nightmare Difficulties	1	Overall Model				.26	.07	.07	F(1,336)=23.91, <i>p</i> <.001
		Burnout	.16	.04	<.001***				
	2	Overall Model				.28	.08	.01	F(2,335)=14.69, <i>p</i> <.001
		Burnout	.12	.04	.005**				
		Moral Injury	.02	.01	.02*				
Self-Functioning Impairment	1	Overall Model				.53	.28	.28	F(1,338)=130.95, <i>p</i> <.001
		Burnout	.30	.03	<.001***				
	2	Overall Model				.54	.29	.01	F(2,337)=69.08, <i>p</i> <.001
		Burnout	.27	.03	<.001***				
		Moral Injury	.02	.01	.03*				
Interpersonal Functioning Impairment	1	Overall Model				.41	.17	.17	F(1,336)=68.08, <i>p</i> <.001
		Burnout	.17	.02	<.001***				
	2	Overall Model				.43	.19	.02	F(2,335)=37.93, <i>p</i> <.001
		Burnout	.14	.03	<.001***				
		Moral Injury	.02	.01	.02*				

Notes. \*\*\**p*<.001; \*\**p*<.01; \**p*<.05; regressions were conducted based on 1000 bootstrap resamples



## Appendix K. Bivariate correlations between study 4 variables

		1	2	3	4	5	6	7	8	9	10
1.	OMIS Total	-									
2.	OLBI Total	<b>.46***</b>	-								
3.	LESS-II Total	<b>.47***</b>	<b>.52***</b>	-							
4.	ERQ Expressive Suppression	<b>.20***</b>	<b>.19***</b>	<b>.47***</b>	-						
5.	TAS-20 Total	<b>.35***</b>	<b>.49***</b>	<b>.71***</b>	<b>.42***</b>	-					
6.	K10 Total	<b>.40***</b>	<b>.63***</b>	<b>.58***</b>	<b>.25***</b>	<b>.53***</b>	-				
7.	SCL-90 Somatisation	<b>.33***</b>	<b>.55***</b>	<b>.49***</b>	<b>.18***</b>	<b>.46***</b>	<b>.69***</b>	-			
8.	NAS Total	<b>.23***</b>	<b>.31***</b>	<b>.33***</b>	<b>.15**</b>	<b>.25***</b>	<b>.48***</b>	<b>.49***</b>	-		
9.	LPFS-BF Self Functioning	<b>.34***</b>	<b>.52***</b>	<b>.58***</b>	<b>.20***</b>	<b>.55***</b>	<b>.71***</b>	<b>.56***</b>	<b>.43***</b>	-	
10.	LPFS-BF Interpersonal Functioning	<b>.31***</b>	<b>.41***</b>	<b>.49***</b>	<b>.30***</b>	<b>.50***</b>	<b>.48***</b>	<b>.44***</b>	<b>.27***</b>	<b>.63***</b>	-

*Notes.* OMIS = Occupational Moral Injury Scale; OLBI = Oldenburg Burnout Inventory; LESS-II = Leahy Emotional Schema Scale-II; ERQ = Emotion Regulation Questionnaire; TAS-20 = Toronto Alexithymia Scale-20; K10 = Kessler Psychological Distress Scale; SCL-90 = Symptom Checklist-90; NAS = Nightmare Assessment Scale; LPFS-BF = Level of Personality Functioning Scale-Brief Form; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$ ; significant correlations of  $r \leq .20$  are indicated in **bold**

## Appendix L. Study 3 mediation modelling code

Mediation model 1 – Psychological distress

```

> model1<- 'OMIS_Total~ c*K10_Total
+ LESS_Total ~ a1*OMIS_Total
+ ERQ_ER ~ a2*OMIS_Total
+ ERQ_ER ~ a3*LESS_Total
+ K10_Total ~ b1*LESS_Total
+ K10_Total ~ b2*ERQ_ER
+ IndirectM1 := a1*b1
+ IndirectM2 := a2*b2
+ IndirectM1M2 := a1*a3*b2
+ total := c + (a1*b1) + (a2*b2) + (a1*a3*b2)'

> set.seed(123456)
> fitK10 <- cfa(model=K10model, data=database, se='bootstrap', verbose=FALSE,
bootstrap=1000)
> summary(fitK10, fit.measures=TRUE, standardized=TRUE, rsquare=TRUE, ci=TRUE)
> process(data=database, y="K10_Total", x="OMIS_Total", m=c("LESS_Total", "ERQ_ER"),
model=6, effsize=1, total=1, stand=1, boot=1000, modelbt=1, seed=123456)

```

Mediation model 2 – Somatic symptoms

```

> SCLmodel<- 'OMIS_Total~ c*SCL_90_Total
+ LESS_Total ~ a1*OMIS_Total
+ ERQ_ER ~ a2*OMIS_Total
+ ERQ_ER ~ a3*LESS_Total
+ SCL_90_Total ~ b1*LESS_Total
+ SCL_90_Total ~ b2*ERQ_ER
+ IndirectM1 := a1*b1
+ IndirectM2 := a2*b2
+ IndirectM1M2 := a1*a3*b2
+ total := c + (a1*b1) + (a2*b2) + (a1*a3*b2)'

> set.seed(123456)
> fitSCL <- cfa(model=SCLmodel, data=database, se='bootstrap', verbose=FALSE,
bootstrap=1000)
> summary(fitSCL, fit.measures=TRUE, standardized=TRUE, rsquare=TRUE, ci=TRUE)
> process(data=database, y="SCL_90_Total", x="OMIS_Total", m=c("LESS_Total",
"ERQ_ER"), model=6, effsize=1, total=1, stand=1, boot=1000, modelbt=1, seed=123456)

```

Mediation model 3 – Nightmares

```

> NASmodel <- 'OMIS_Total~ c*NAS_Total
+ LESS_Total ~ a1*OMIS_Total
+ ERQ_ER ~ a2*OMIS_Total
+ ERQ_ER ~ a3*LESS_Total
+ NAS_Total ~ b1*LESS_Total
+ NAS_Total ~ b2*ERQ_ER
+ IndirectM1 := a1*b1
+ IndirectM2 := a2*b2
+ IndirectM1M2 := a1*a3*b2
+ total := c + (a1*b1) + (a2*b2) + (a1*a3*b2)'

> set.seed(123456)
> fitNAS <- cfa(model=NASmodel, data=database, se='bootstrap', verbose=FALSE,
bootstrap=1000)
  >summary(fitNAS, fit.measures=TRUE, standardized=TRUE, rsquare=TRUE,
ci=TRUE)
> process(data=database, y="NAS_Total", x="OMIS_Total", m=c("LESS_Total", "ERQ_ER"),
model=6, effsize=1, total=1, stand=1, boot=1000, modelbt=1, seed=123456)

```

Mediation model 4 – Self functioning

```

> LPFSSelfmodel<- 'OMIS_Total~ c* LPFS_Self_Functioning
+ LESS_Total ~ a1*OMIS_Total
+ ERQ_ER ~ a2*OMIS_Total
+ ERQ_ER ~ a3*LESS_Total
+ LPFS_Self_Functioning~ b1*LESS_Total
+ LPFS_Self_Functioning~ b2*ERQ_ER
+ IndirectM1 := a1*b1
+ IndirectM2 := a2*b2
+ IndirectM1M2 := a1*a3*b2
+ total := c + (a1*b1) + (a2*b2) + (a1*a3*b2)'

> set.seed(123456)
> fitLPFSSelf <- cfa(model= LPFSSelfmodel, data=database, se='bootstrap', verbose=FALSE,
bootstrap=1000)
  >summary(fitLPFSSelf, fit.measures=TRUE, standardized=TRUE, rsquare=TRUE,
ci=TRUE)
> process(data=database, y="LPFS_Self_Functioning", x="OMIS_Total", m=c("LESS_Total",
"ERQ_ER"), model=6, effsize=1, total=1, stand=1, boot=1000, modelbt=1, seed=123456)

```

Mediation model 5 – Interpersonal functioning

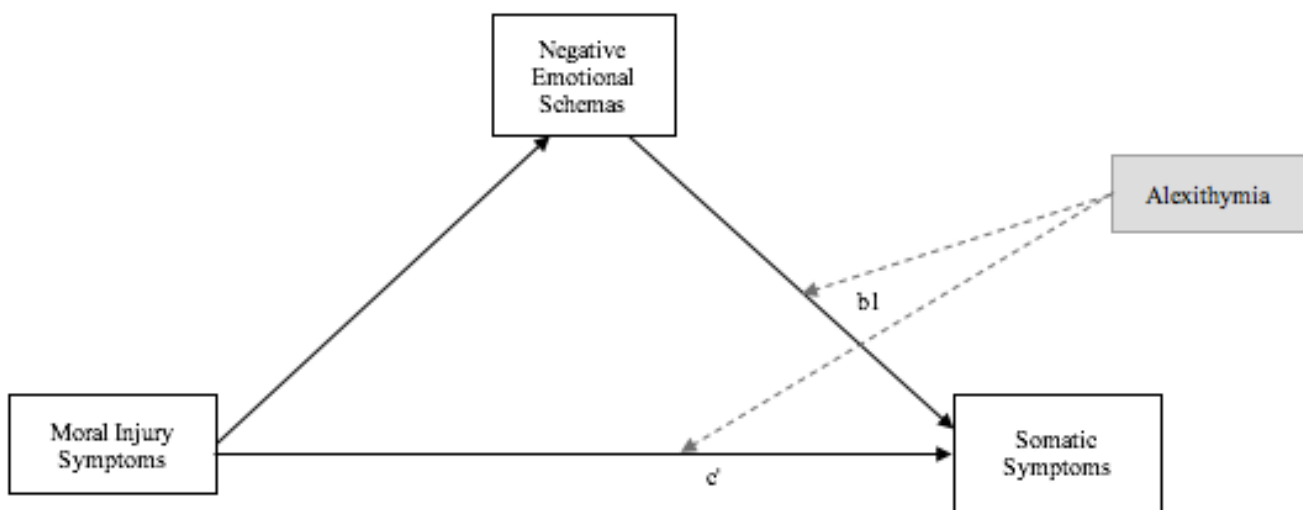
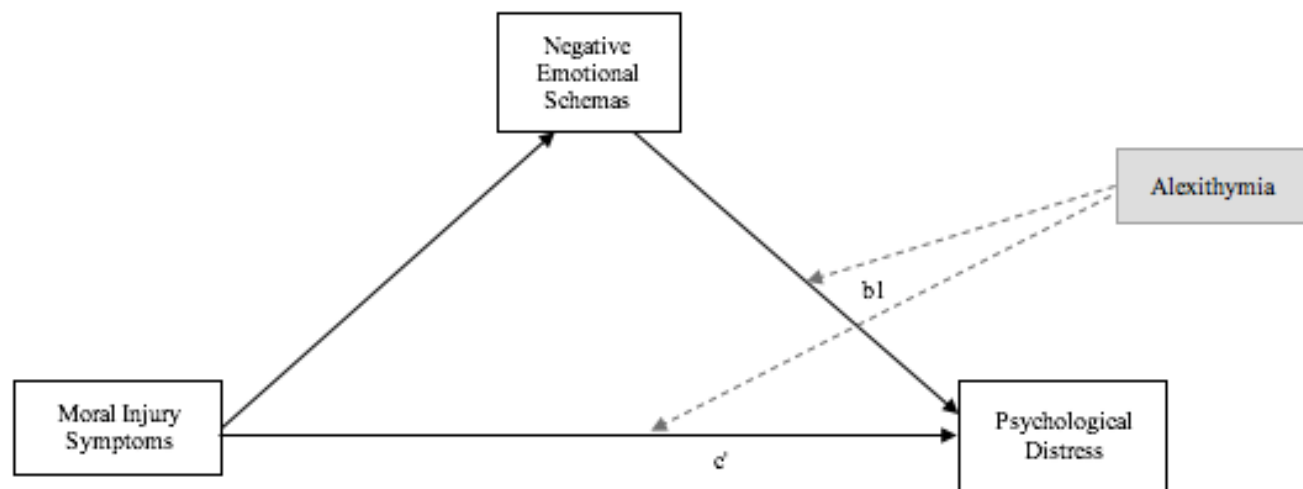
```

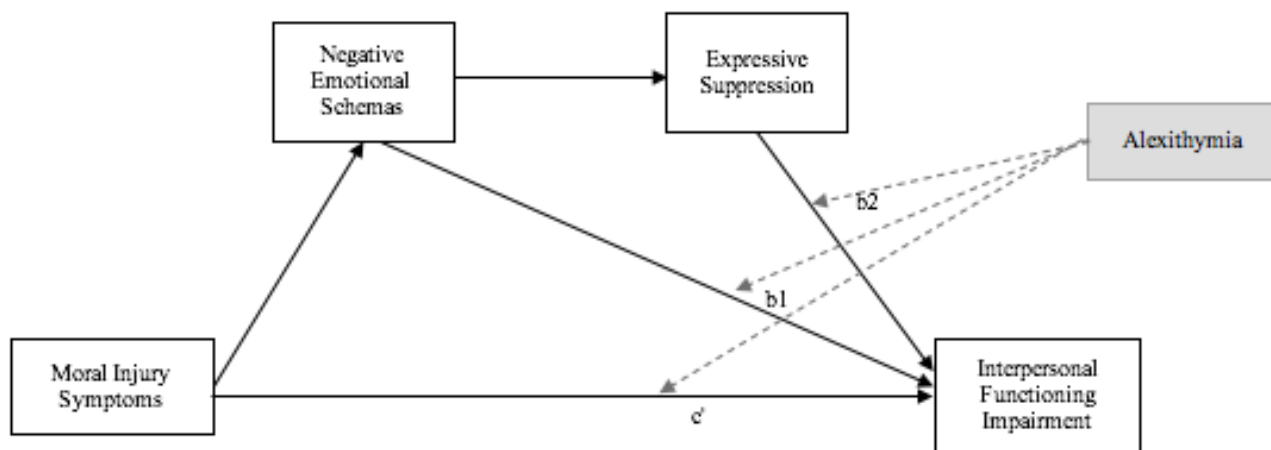
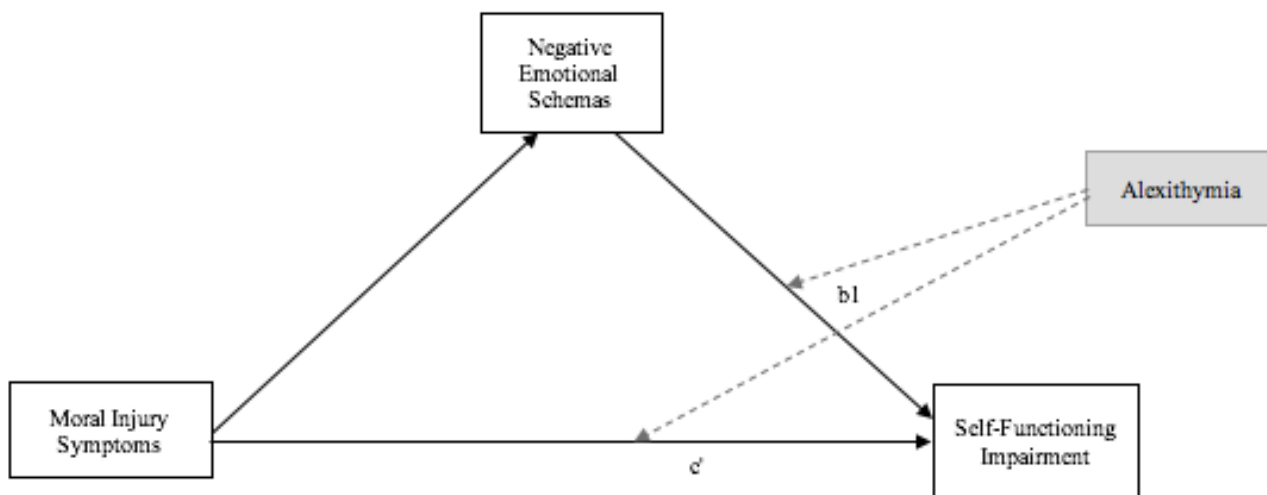
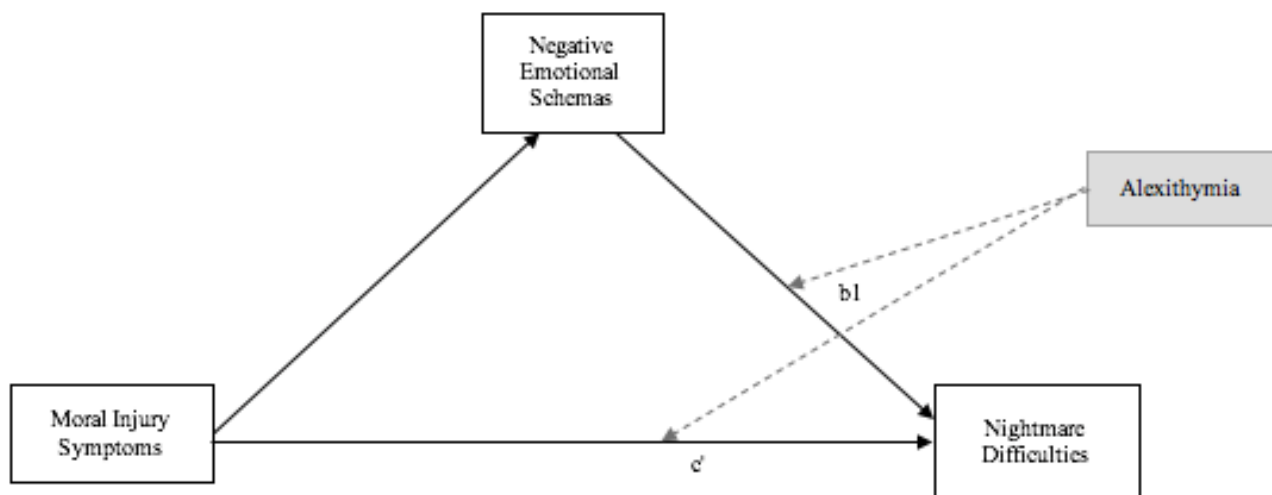
> LPFSInterpersonalmodel<- 'OMIS_Total~ c* LPFS_Interpersonal_Functioning
+ LESS_Total ~ a1*OMIS_Total
+ ERQ_ER ~ a2*OMIS_Total
+ ERQ_ER ~ a3*LESS_Total
+ LPFS_Interpersonal_Functioning ~ b1*LESS_Total
+ LPFS_Interpersonal_Functioning ~ b2*ERQ_ER
+ IndirectM1 := a1*b1
+ IndirectM2 := a2*b2
+ IndirectM1M2 := a1*a3*b2
+ total := c + (a1*b1) + (a2*b2) + (a1*a3*b2)'

> set.seed(123456)
fitLPFSInterpersonal<- cfa(model= LPFSInterpersonalmodel, data=database, se='bootstrap',
verbose=FALSE, bootstrap=1000)
  >summary(fitLPFSInterpersonal, fit.measures=TRUE, standardized=TRUE,
rsquare=TRUE, ci=TRUE)
> process(data=database, y="LPFS_Interpersonal_Functioning", x="OMIS_Total",
m=c("LESS_Total", "ERQ_ER"), model=6, effsize=1, total=1, stand=1, boot=1000, modelbt=1,
seed=123456)

```

## Appendix M. Study 3 conceptual moderated mediation models





## Publications

The following papers has been submitted or published from this PhD:

Webb, E. L., Ireland, J. L., Lewis, M., & Morris, D. (2023). Potential sources of moral injury for healthcare workers in forensic and psychiatric settings: A systematic review and meta-ethnography. *Trauma, Violence & Abuse*. <https://doi.org/10.1177/15248380231167390>

Webb, E. L., Ireland, J. L., & Lewis, M. (in submission). Defining and identifying potentially morally injurious experiences for secure mental healthcare workers: A Delphi study. *Journal of Criminological Research, Policy and Practice*.