University of Southampton

Faculty of Environment and Life Sciences

School of Psychology

An Investigation into the use of Compassion-focused Interventions for Moral Injury and Post-Traumatic Stress Disorder in Military Veterans

by

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Thesis for the degree of Doctorate in Clinical Psychology

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<u>**Abstract**</u>

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The first chapter details a meta-analysis exploring the relationship between self-compassion (SC) and post-traumatic stress disorder (PTSD) among veterans. Searches were conducted using PsycINFO, MEDLINE, Web of Science, Google Scholar, ProQuest Military, and ProQuest PTSDpubs. Twelve studies were included in the review. Random-effects meta-analyses investigated associations between SC and PTSD, and effectiveness of SC interventions on PTSD and SC among veterans. The first meta-analysis included eight studies revealing a significant positive relationship between SC and PTSD ($r = -.525$, $p < 0.001$), the second meta-analysis included four studies revealing non-significant findings for SC interventions on PTSD ($d = -.398$, $p = .058$), and exploratory analyses revealed SC interventions significantly increased SC levels among veterans ($d = -.369$, $p = .042$). The study tentatively indicated the use of SC within veteran specific PTSD-treatments. Future research is needed using RCT designs whilst investigating the relationship between SC and PTSD in veterans.

The second chapter is an empirical paper exploring the relationship between psychological distress, alcohol use, the inhibitors and facilitators of compassion, and the three flows of compassion on moral injury (MI) in veterans. A total of 127 participants completed online measures of MI, psychological distress, alcohol use, shame, fears of

compassion, self-criticising and self-reassurance, and the three flows of compassion. Bivariate correlations and a hierarchical multiple regression determined relationships between the aforementioned variables, and whether these predicted MI among veterans. Younger age, lower rank, psychological distress, alcohol use, and the facets of compassion were all significantly related to MI in veterans, however these variables did not predict MI. Shame was found as the biggest predictor of MI in veterans, followed by lower rank. The findings indicate strong relationships between the facets of compassion and MI in veterans, highlighting the potential clinical utility of including compassion within MI interventions.

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Research Thesis: Declaration of Authorship

Print name: Leanne Morgan

Title of thesis: An Investigation into the use of Compassion-focused Interventions for Moral Injury and Post-Traumatic Stress Disorder in Military Veterans

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
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7. None of this work has been published before submission

Signature: ....Date: 14/05/2023

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Finally, to my late Grandmother, thank you for everything.

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Definitions and Abbreviations

AUDIT	The Alcohol Use Disorders Identification Test
CAPS	Clinician Administered PTSD Scale for DSM-5
CBT	Cognitive Behavioural Therapy
CEAS	The Compassionate Engagement and Action Scales
CFT	Compassion Focused Therapy
CMA	Comprehensive Meta-Analysis software
CORE-10	The Clinical Outcomes in Routine Evaluation
CPT	Cognitive Processing Therapy
DSM-5	Diagnostic and Statistical Manual of Mental Disorder 5th Edition
E.g.	Example
EISS	The External and Internal Shame Scale
EMDR	Eye Movement Desensitisation Reprocessing
EMIS-M	The Expressions of Moral Injury Scale – Military Version
FCS	The Fears of Compassion Scale
FCTS	Fears of Compassion to Self
FCTO	Fears of Compassion to Others
FCFO	Fears of Compassion from Others
FoC	Fears of Compassion

FSCRS   The Forms of Self-Criticising/Attacking and Self-Reassuring Scale

LKM   Loving-Kindness Meditation

LKM-S   Loving-Kindness Meditation for the Self

MI   Moral Injury

MIE   Morally Injurious Events

MSC   Mindful Self-Compassion

N   Number

NHS   National Health Service

NICE   The National Institute for Health and Care Excellence

PCL-5   PTSD Checklist for DSM-5

PCL-M   The PTSD Checklist Military Version

PCL-S   PTSD Checklist-Specific Stressor Version

PE   Prolonged Exposure

PRISMA   Preferred Reporting Items for Systematic Reviews and Meta-Analyses

PROSPERO   Prospective Register of Systematic Reviews

PSS-I   PTSD Symptom Scale Interview

PTSD   Post-Traumatic Stress Disorder

SC   Self-Compassion

SCFT   Self-Compassion Focussed Treatment

SCS   Self-Compassion Scale

SCS-SF   Self-Compassion Scale Short Form

SD   Standard Deviation

Sig   Significant

SIT   Stress Inoculation Training

SQAC   Standard Quality Assessment Criteria for Evaluating Primary Research

                       from a Variety of Fields

TSG   True Strength Group

U.K.   United Kingdom

U.S.   United States

VA   Veteran's Affair

Chapter 1   Does Self-Compassion Reduce Post Traumatic Stress Disorder Symptoms in Military Veterans? A Systematic Review and Meta-analysis

1.1   Abstract

Increasing evidence has emerged investigating the relationship between self-compassion (SC) and PTSD in veterans. With this in mind, the review aimed to explore the association between SC and PTSD, and investigate the effectiveness of SC interventions on reducing PTSD in veteran populations. Electronic database searches were conducted using PsycINFO, MEDLINE, Web of Science, Google Scholar, EThOS, ProQuest Dissertations and Theses Global, ProQuest Military, and ProQuest PTSDpubs. Risk of bias was assessed by two reviewers using a standardised quality assessment tool. Twelve studies met the inclusion criteria and were included in the review. Random-effects meta-analyses were conducted to investigate the association between SC and PTSD, and effectiveness of SC interventions for PTSD among veterans. Additional analyses and publication bias tests were conducted. The first meta-analysis included eight cross-sectional studies investigating the association between SC and PTSD in veterans which revealed significant positive results ($r = -.525$, 95% CI [-0.633; -0.396], $p < 0.001$). The second meta-analysis included four intervention studies investigating the effectiveness of SC interventions on PTSD, which revealed non-significant results ($d = -.398$, 95% CI [-.810; .013], $p = .058$). Additional exploratory analyses indicated SC as a potentially protective factor for PTSD in veterans ($d = -.369$, 95% CI [.013; .725], $p = .042$), tentatively indicating the use of integrating SC within veteran specific PTSD-treatments. Future research is needed using RCT designs whilst considering potential confounders impacting the relationship between SC and PTSD in veterans.

Key Practitioner Message:

- PTSD prevalence rates remain higher in a veteran population compared to that of a general population.

- PTSD treatments for veterans have been found to be less efficacious in reducing PTSD symptoms compared to that of a civilian population.

- Increasing evidence has emerged investigating the relationship between self-compassion and PTSD in veterans, with studies now beginning to investigate the effectiveness of self-compassion interventions for PTSD in veteran populations.

- Increasing self-compassion has been associated with reduced PTSD symptoms in veterans, highlighting the potential clinical utility of using self-compassion-based techniques within PTSD treatments for veterans.

- Self-compassion may serve as a protective factor against PTSD for veterans and efforts should be made in further investigating how self-compassion can be used within treatments for PTSD in veterans.

Keywords:

Post-traumatic stress disorder, PTSD, self-compassion, veterans, meta-analysis, review

1.2   Introduction

1.2.1   Veterans and PTSD

Post-traumatic stress disorder (PTSD) is a common and persistent mental health disorder leading to significant distress and chronic impairment, consequently posing as a worldwide major public health concern (Davidson, 2000; Kessler et al., 2017). Prevalence rates indicate that on average, 10% of the UK general population and 1-6% of the adult population across the world develop PTSD (National Institute for Health and Care Excellence [NICE] 2020; Sareen, 2019). Moreover, since the COVID-19 pandemic, prevalence rates of PTSD across Asia, America, and Europe have risen to 17.52% (Yunitri et al., 2021). According to the Diagnostic and Statistical Manual of Mental Disorder 5th Edition (DSM-5; American Psychiatric Association [APA], 2013), PTSD occurs from exposure to actual or threatened death resulting in intrusive memories of the traumatic event, avoidance of stimuli associated with the memory, negative changes in cognition and mood, and marked alterations in arousal and reactivity. Specifically, negative emotions associated with PTSD, including guilt and shame, have been suggested as key mechanisms in maintaining PTSD symptomology (Beaumont et al., 2016).

Military personnel and veterans have been found at increased risk of exposure to life-threatening events including combat, injury, and bearing witness to suffering and/or death (Haagen et al., 2015). As a result, PTSD is one of the most common mental health disorders experienced by military and veteran populations, causing significant functional and relational impairments (Forbes et al., 2019). Rates of PTSD among this population have been reported as 10-30% higher compared to that of a civilian population, with

prevalence for lifetime PTSD increasing to 35% for those deployed (Fisher et al., 2021; Forbes et al., 2019; O'Toole et al., 2009; Wisco et al., 2022;). PTSD within military veterans has been associated with a number of comorbid physical and mental health problems including diabetes, heart disease, osteoarthritis, suicidal ideation, and substance misuse (Back et al., 2014; David et al., 2004; Kachadourian et al., 2018).

PTSD prevalence has been found higher in veteran populations, defined as those who served in military service for at least one day and are no longer actively serving (Burdett et al., 2012), than in currently serving cohorts (Stevelink et al., 2018). Possible reasons for this discrepancy may be attributed to veterans experiencing additional stressors including transition to civilian life (e.g., finding jobs, accommodation, managing finances, and forming relationships), disruption of identity, and having more time for past experiences and/or traumatic events to arise and dominate the mind (Forbes et al., 2019). For the veteran population, prevalence for lifetime PTSD has been estimated at 8%, and 4.8% for current PTSD (Wisco et al., 2022).

Of interest, moral injury (MI), a syndrome characterised by guilt, shame, intrusive thoughts, and self-loathing, has consistently been associated with military populations (Jones, 2020; Richardson et al., 2020). MI has been proposed to occur through exposure to morally injurious events (MIE's), defined as the "perpetration, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations" (Litz et al., 2009, p700). Unsurprisingly, given the nature of war, military populations have been found at increased risk of experiencing MIE's during combat (Frankfurt & Frazier, 2016). Although not currently classified as a formal disorder, MI has been proposed to share characteristics related to PTSD including guilt, shame, and negative thoughts or feelings related to a specific traumatic event (Koenig et al., 2020). MI has been proposed to occur in the presence or absence of PTSD, however, has been associated with greater severity of PTSD (Bryan et al., 2016; Koenig, 2018).

Despite the increasing recognition of MI alongside PTSD among veterans, some authors debate the validity of MI as a syndrome, as at current, there is no clear operationalised definition of MI and no reliable gold standard measure of MI (Litz & Kerig, 2019). Further, the lack of consensus on a clear definition of MI may reflect the concept of MI as being bound by religious, biological, psychological, cultural, and social dimensions (Litz & Kerig, 2019). Specifically, morals are individualistic and philosophic in nature, meaning MI is distinctly related to ethical behaviour, meanings attached to certain events, perceptions of the self, and spirituality, subsequently causing difficulties in validly measuring MI as a construct (Jones, 2020). However, of importance, guilt and shame have been found as core features of both MI and PTSD among military veterans and have been proposed as complex emotions which may maintain trauma-related pathology (APA, 2013; Ehlers & Steil, 1995; Lee & James, 2013; Vermetten & Jetly, 2018).

1.2.2   PTSD Treatment

Psychological interventions have been recommended as a first-line treatment for PTSD in adult populations and have consistently demonstrated efficacy throughout literature (e.g., Forbes et al., 2007; NICE, 2018; Taylor Miller et al., 2021). Numerous psychological treatments have emerged for combat-related PTSD, yet the efficacy of these remain questioned, with veterans benefiting less from first-line PTSD interventions than the general population (Haagen et al., 2015; Peterson et al., 2011; Reisman, 2016). Moreover, a recent meta-analysis revealed psychological treatment was effective in treating PTSD for military personnel, however, no specific intervention could be recommended due to limited studies and lack of power (Kitchiner et al., 2019). Of the psychological treatments proposed, interventions derived from the Cognitive Behavioural Therapy (CBT) approach (Ehlers & Clark, 2000) have the strongest evidence-base for

reducing PTSD symptoms in veterans and are widely used across veteran services in the U.K. and U.S (Kitchiner et al., 2019; Murphy et al., 2016; NICE, 2018).

CBT interventions for PTSD involve various techniques to address traumatic memories and associated emotions and/or cognitive processes (Steenkamp et al., 2015). In particular, Prolonged Exposure (PE) therapy (Foa, Hembree, & Rothbaum, 2007) and Cognitive Processing therapy (CPT) (Resick, Monson, & Chard, 2016) has the strongest evidence base for reducing PTSD symptomology among veterans (Reisman, 2016; Sharpless, 2011; Steenkamp et al., 2015). PE and CPT adopt a manualised approach, typically consisting of 8-12 weekly sessions aiming to process the emotional and cognitive features of the targeted traumatic event (Foa, 2011; Resick, Monson, & Chard, 2006; Steenkamp et al., 2020).

Meta-analyses examining mostly civilian studies demonstrate large pre-post treatment effects for CPT and PE in the treatment of PTSD (Cukor et al., 2010; Cusack et al., 2016). The effectiveness of CPT and PE for the treatment of military related PTSD has been examined and has interestingly revealed mixed findings (Chard et al., 2010; Eftekhari et al., 2013; Monson et al., 2006; Rutt et al., 2017; Schnurr et al., 2022). Due to this, the effectiveness of PE and CPT in treating veterans with PTSD has been challenged and is subsequently the subject of ongoing debates (Rutt et al., 2017; Steenkamp et al., 2015; Steenkamp, Litz, & Marmar, 2020). Steenkamp et al.'s (2015) meta-analysis reviewing psychotherapy for military-related PTSD revealed mixed results when examining the effectiveness of PE and CPT. This was attributed to high dropout rates, non-clinically meaningful change, and quality issues within the research, emphasising the need for further research aiming to develop therapeutic approaches for military-attributable PTSD (Rutt et al., 2017).

Numerous alternative psychological interventions have been found efficacious for the treatment of PTSD in veterans including Stress Inoculation Training (SIT) (Meichenbaum, 1985) and Exposure via Virtual Reality (Jackson et al., 2019; Rothbaum, Hodges, & Kooper, 1997; Rothbaum, Rizzo, & Difede, 2010). Additionally, Eye Movement Desensitisation and Reprocessing (EMDR) therapy (Shapiro, 2017) has gained traction within PTSD research and has been recognised as an effective and recommended treatment for veterans with PTSD by the Department of Veteran Affairs (VA) (Hurley, 2018; Reisman, 2016). Despite this, EMDR is not recommended as a first line treatment for combat-related PTSD in the UK due to evidence suggesting EMDR is ineffective at treating military-related PTSD (De Jongh et al., 2019; NICE, 2018). Although evidence indicates promising results for these alternative treatments, Kitchiner et al. (2019) and Straud et al. (2019) recent meta-analyses revealed poorer outcomes for military populations compared to civilians when investigating PTSD psychotherapies, indicating the need for improved PTSD psychotherapies for military populations.

1.2.3 Self-Compassion Theory

Interestingly, literature has indicated increasing levels of self-compassion (SC) may be effective in reducing PTSD and trauma-related symptoms in veterans, adult populations, and fire-service personnel (Beaumont et al., 2016; Hiraoka et al., 2015; Thompson & Waltz, 2008). Drawing on Buddhist philosophy, Neff (2003a; 2022a) defines SC as relating to oneself with kindness, support, and non-judgmental understanding when experiencing suffering. Neff (2003a) proposes SC comprises of three separate components: (1) a response of kindness and concern for oneself when experiencing distress opposed to harsh self-judgement; (2) recognising life challenges are a shared human experience opposed to separate and isolated; (3) becoming mindfully aware of one's own pain

opposed to overidentification. Neff (2003b) argues these three distinct domains mutually impact one another, working as a dynamic and collaborative system to alleviate suffering. Further, Neff conceptualises SC as an emotionally positive self-attitude, protecting against consequences of negative self-judgement such as isolation and rumination (depression), thus increasing emotional regulation and overall well-being.

Alternatively, Gilbert (2014) defines compassion as a sensitivity to suffering in self and others, with a commitment to try and alleviate and prevent it. Thus, to engage self-compassionately, Gilbert proposes the requirement of two different mindsets in: (1) to notice and engage with the suffering; (2) to develop the skills and wisdom to alleviate the suffering. In contrast to Neff (2003a), Gilbert's model (2009) draws on social mentalities theory (Gilbert 2005), attachment theory (Bowlby, 1982), and neurophysiological approaches (Porges, 2007) to understand affect regulation. Gilbert (2009) proposes three key affect systems that regulate emotions: threat, drive, and soothe. The threat system targets threat-detection and protection and is associated with feelings of anxiety, anger, or disgust. The drive system relates to motivation, directing one to resources, and is associated with feelings of achievement and pleasure, and the soothe system is affiliative focused, resulting in feelings of safeness, social-connectedness, and contentment.

Gilbert (2005; 2009) suggests the soothe system is primarily developed through experiencing a secure attachment with a caregiver (typically a parent), whereby the caregiver responds compassionately when noticing distress to appropriately soothe the child. However, if an individual has not experienced this level of compassion and/or experiences excessive negativity during childhood, then this system may become underdeveloped, consequently resulting in high levels of self-criticism and shame which continue to develop into adulthood. Gilbert proposes that the soothe system can be developed by adopting a self-compassionate stance towards oneself and activating the parasympathetic nervous system via techniques such as compassionate imagery.

Consequently, this allows one to reduce self-criticism by soothing the threat system and instead foster feelings of self-kindness, self-warmth, and safety.

Numerous SC interventions have been developed and empirically evaluated (Ferrari et al., 2019) such as the Mindful Self-Compassion (MSC) programme (Neff & Germer, 2012) and Compassion Focused Therapy (CFT; Gilbert, 2014). The MSC programme aims to develop SC and manage emotions and relationships using techniques such as mindfulness, loving-kindness meditation (LKM), self-compassionate statements, and affectionate breathing (Neff & Germer, 2012). Whereas CFT involves numerous phases including a psychoeducation phase, a formulation phase focussing on the threat, drive, and soothe systems, and a skill-based phase using techniques such as compassionate imagery and breathing (Gilbert, 2014). Ferrari et al.'s (2019) meta-analysis exploring SC interventions and psychosocial outcomes in an adult population revealed these interventions produced moderate improvements in stress, self-criticism, depression, and anxiety outcomes.

SC has been proposed as a healthy alternative response to trauma, counteracting the symptoms of PTSD including hyperarousal, avoidance, self-criticism, and shame (e.g., Germer & Neff, 2015; Leskela, Dieperink, & Thuras, 2002; Thompson & Waltz, 2008). Specifically, shame has been linked to both reduced compassion, PTSD, and MI among veterans (Vermetten & Jetly, 2018). Shame has been found to result from a negative global evaluation of the self, resulting in behaviours such as avoidance and withdrawal due to a fear of facing rejection and/or condemnation by others as a consequence of one's actions (Farnsworth et al., 2014; Gunnarsson, 2020; Schwartz, Halperin, & Levi-Belz, 2021). Further, as a concept, shame has been defined as a distressing fear that other people perceive you negatively, and as a result, can be activated in the context of interpersonal relationships (Lee, 2009). Consequently, shame has been proposed as a socially

constructed emotion related to perceived threat such as rejection and/or abandonment in the context of one's social status within a group (Lee, 2009).

It may be argued that both shame and MI conceptually overlap due to both existing as social constructs associated with feelings of inadequacy, particularly in the context of social situations and/or interactions (Lee, 2009; Litz & Kerig, 2019). Moreover, shame flashbacks have been likened to re-experiencing symptoms of PTSD, including re-living of vivid and painful memories triggered by matching sensory stimuli which are associated with experiences of feeling exposed and inadequate by others (APA, 2013; Lee, 2009; Lee & James, 2013). Consequently, shame has been associated with strong emotional responses including fear, disgust, anger, and self-criticism, all of which are associated with MI (Lee, 2009; Jinkerson, 2016).

Given the conceptual overlap of shame and MI, it may be difficult to tease apart whether veterans experience shame flashbacks, shame-related to potential PTSD, or shame resulting from MI. Consequently, further research is required into defining and exploring MI as a concept, and further developing MI-related measures to help distinguish the idiosyncratic differences between the presentations of shame and MI among veterans (Jinkerson, 2016; Litz & Kerig, 2019; McEwen, Alisic, & Jobson, 2020). Despite this conceptual overlap of shame and MI, shame has been proposed as a transdiagnostic phenomenon prevalent across numerous disorders including PTSD and has been found to reduce via the use of compassion-based interventions (Au et al., 2017; Braeher & Neff, 2020; Lee, 2009).

1.2.4   Self-Compassion and PTSD

Developing a self-compassionate stance has been linked with reducing shame, self-blame, self-criticism, and increased adaptive coping styles (Gilbert & Procter, 2006; Neff,

2003a; Scoglio et al., 2015; Terry & Leary, 2011). Given this, SC has been proposed to help alleviate the secondary emotions resulting from cognitive appraisals following trauma, including negative self-evaluation, self-criticism, self-blame, and guilt (Lee et al., 2001; Winders et al., 2020).

A growing body of research has demonstrated SC as an efficacious intervention for the treatment of PTSD (e.g., Braehler & Neff., 2020). Himmerich and Orcutt (2021) found a one session SC meditation intervention resulted in fewer PTSD symptoms in university students. Similarly, Valdez and Lilly (2016) found greater self-kindness and mindfulness were associated with reduced PTSD symptoms, hyperarousal, and emotional numbing among female victims of violence. Moreover, Winders et al.'s (2020) systematic review examining SC, trauma, and PTSD in an adult population found a meaningful relationship between SC and trauma and/or PTSD, concluding that increased SC was associated with reduced PTSD symptomology.

Although in its infancy, numerous studies have started to explore the use of SC interventions in military veterans (Grodin et al., 2019; Hiraoka et al., 2015) demonstrating promising results for improving PTSD symptomology. For example, Grodin et al. (2019) examined the effectiveness of a CFT group for veterans with PTSD and comorbid anger, reporting reductions in PTSD and anger symptoms. Moreover, Steen et al's (2021) recent review explored SC and veteran's health, revealing an association between increased SC and reduced PTSD symptoms, anger, depression, anxiety, shame, and guilt among veterans.

1.2.5   Aims of the current review

Emerging evidence suggests increasing levels of SC may be effective in reducing PTSD symptoms among veterans (Hiraoka et al., 2015). One review has explored the

impact of SC on the overall mental health of veterans (Steen et al., 2020), and another

focused on SC, trauma, and PTSD in an adult population (Winders et al., 2020). No review

to date has systematically examined the relationship and effectiveness of SC on PTSD

symptoms among veterans. Therefore, the current review aims to critically evaluate and

synthesise the current available evidence on this topic in both cross-sectional and

intervention-based studies. The review aims to answer two questions: 1) Is SC associated

with PTSD symptoms in veterans? 2) Do SC-based interventions reduce PTSD symptoms

in veterans?

1.3 Methodology

1.3.1 Protocol

The current systematic review was conducted in accordance with the Preferred

Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Moher

et al., 2009) and registered with the international prospective register of systematic reviews

(PROSPERO) on 08/09/2022 (CRD42022354631).

1.3.2 Eligibility Criteria

Inclusion and exclusion criteria for the screening process is depicted in Table 1.

Eligibility criteria required published and unpublished literature, a quantitative design, and

written in English. Papers were excluded if they were books, book chapters,

dissertations/theses, commentaries, not written in English and were qualitative designs.

Intervention and cross-sectional studies were included so long as the intervention had a

core focus on SC and the paper explicitly analysed and commented upon the relationship

between SC and PTSD. Studies were excluded if the core focus of the intervention was not solely SC or there was no reference to the relationship between PTSD and SC.

Papers included clinical and non-clinical populations of military veterans across the lifespan. Papers were excluded if the population was not specific to military veterans or included actively serving military personnel. Studies were excluded if they did not include use of both a validated SC and PTSD measure.

Intervention-based studies were required to refer to SC theory and/or literature within the introduction based on Neff's (2003a) theory of SC or referred to SC within Gilbert's (2014) framework of compassion. Intervention-based studies using a CFT (Gilbert, 2014) framework were included alongside interventions using loving-kindness meditations. Alternative interventions such as CBT which investigated SC as an outcome were excluded. Similarly, interventions which briefly mention SC within the introduction and/or protocol (Skilbeck, Spanton, & Roylance., 2021) were excluded.

Table 1

Inclusion criteria used in screening process

Inclusion Criteria	Exclusion Criteria
Published (peer-reviewed papers) and unpublished papers	Dissertations and theses
Quantitative design (including mixed designs)	Qualitative design
Empirical design	Books, book chapters, letters, editorials, guidelines, dissertations, reviews, commentaries, and conference/meeting abstracts
Written in English	Not written in English

Military veteran population (those who have previously served in one of the known armed forces)	Non-military veteran population (e.g., civilians and actively serving military personnel)
Includes a validated SC measure	Does not include a validated SC measure
Includes a validated PTSD measure	Does not include a validated PTSD measure
Explicit reference to SC theory in introduction/protocol	No explicit focus on SC in introduction / protocol (e.g., CBT or mindfulness-based intervention without explicit focus on SC)
Explicit analysis of the relationship between PTSD and SC	Analysis of relationship between PTSD and SC is absent or not commented upon

1.3.3 Information Sources

Scoping searches on Google Scholar and PROSPERO took place on 19/08/2022. Following this, six electronic bibliographic databases (PsycINFO, MEDLINE, Web of Science, Google Scholar, EThOS, and ProQuest Dissertations and Theses Global) were searched for relevant published literature. Two additional databases (ProQuest Military and ProQuest PTSDpubs) specialising in military and PTSD research were searched to increase coverage. No time limits were placed on publication dates, and the search took place from 17/10/2022 until 27/10/2022.

1.3.4 Search Strategy

The final search strategy was devised and independently reviewed and piloted by an Expert Librarian. The search terms for SC, PTSD, and veterans were devised in accordance with Winders et al's (2020) systematic review and Steen et al's (2020) scoping review.

Key words used to search the phenomena of interest included "self compassion*" OR "self kindness" OR "self regard" OR "self worth" OR "self appreciation" OR "self warmth" OR "self love" OR "self gratitude" OR "compassion*". Subject headings related to the intervention included "Self-compassion" and "Compassion". Key words used to search outcomes of interest included "PTSD" OR "post traumatic stress disorder" OR "posttraumatic stress disorder" OR "post traumatic stress" OR "posttraumatic stress" OR "combat disorder" OR "psychotrauma" OR "traumatised" OR "traumatized". Subject headings related to PTSD included "Posttraumatic Stress Disorder", "Complex PTSD", and "DESNOS". Key words used to search the population of interest included "Military veteran" OR "veteran*" OR "ex-military" OR "ex-service" OR "soldier*" OR "troops". "Military Veterans" was used as a subject heading relating to the population of interest. Boolean Operator's 'OR' and 'AND' were used to combine search terms and provide the final set of result. See Appendix A for individual search strategies and syntax used for each database.

1.3.5   Selection Process

The screening and selection process was completed according to the PRISMA guidelines (Page et al., 2021), initially screening study titles and abstracts then full texts according to the eligibility criteria (see Table 1). To reduce bias, a second reviewer independently screened 10% of titles and abstracts of randomly selected studies to reach consensus regarding the study eligibility criteria. There was 96% agreement between the reviewers. To support with consensus, a third reviewer was consulted, and agreement was sought through discussion.

1.3.6   Data Collection Process

Study characteristics and key findings relevant to the current research question were extracted from all included studies and is depicted in Table 2.

1.3.7   Quality Assessment for Risk of Bias

The quality of all included studies was assessed according to the Standard Quality Assessment Criteria for Evaluating Primary Research from a Variety of Fields (SQAC; Kmet et al., 2004) (see Appendix B). Kmet et al. (2004) define the quality rating cut off scores as follows: 0.80> 'strong', 0.70-0.79 'good', 0.50-0.69 'adequate', and 0.50< 'limited'. To reduce potential bias, two reviewers independently assessed each study against the SQAC, calculated the total quality assessment score, and convened to discuss and compared scores. To support consensus, a third reviewer attended to consult cases of discrepancy in scores between three of the twelve studies. Once consensus was reached, the total quality assessment score for each study was calculated (see Table 2 & 3).

1.3.8   Synthesis Methods

Two meta-analyses were conducted to examine the association between SC and PTSD, and effectiveness of SC interventions for PTSD in military veterans respectively. The Comprehensive Meta-Analysis software (CMA Version 4; Borenstein, 2022) was used to conduct the meta-analyses, adopting a random-effects model to account for observed heterogeneity among the studies, for example, differing sample sizes and measures (Hedges & Vevea, 1998). A confidence level of 95% was employed.

To examine the association between SC and PTSD, Pearson's correlation coefficients (r) were extracted from all cross-sectional studies (see Table 2). To examine the effectiveness of SC interventions for PTSD, an effect size using Cohen's d was extracted and/or calculated from all intervention studies (see Table 3). Heterogeneity of studies was calculated using the Cochrane Q statistic, and the I^2 statistic, with an I^2 value of 25% indicating low heterogeneity, 50% indicating moderate, and 75% indicating considerate heterogeneity. To account for publication bias, a funnel plot for both meta-analyses were created alongside Egger's test (Egger, Lipa, & Buschbeck, 1997) to examine asymmetry.

1.4 Results

1.4.1 Study Selection

The database search yielded a total of 651 studies (see Figure 1). No additional studies were identified through hand searching of reference lists of relevant key papers and reviews. A total of 206 duplicates were identified and removed, resulting in 445 studies to screen. Screening of the titles and abstracts resulted in exclusion of 353 studies due to meeting the exclusion criteria. The full texts of the remaining 92 studies were screened against the inclusion/exclusion criteria and were excluded for the following reasons: lack of explicit focus on SC (e.g., no explicit focus on SC within introduction) (n = 42), wrong study design (n = 13), no validated PTSD measure (n = 9), no validated SC measure (n = 6), primary focus of intervention was not SC (n = 2), not written in English (n = 1). Two studies meeting the inclusion and exclusion criteria did not provide relevant statistical data to allow for calculation of effect sizes. The main authors of the studies were contacted for the relevant data, however, no response was received. The remaining 12 papers were included in the quantitative synthesis (see Figure 1).

Figure 1.

PRISMA Flow Diagram (Moher, 2009)
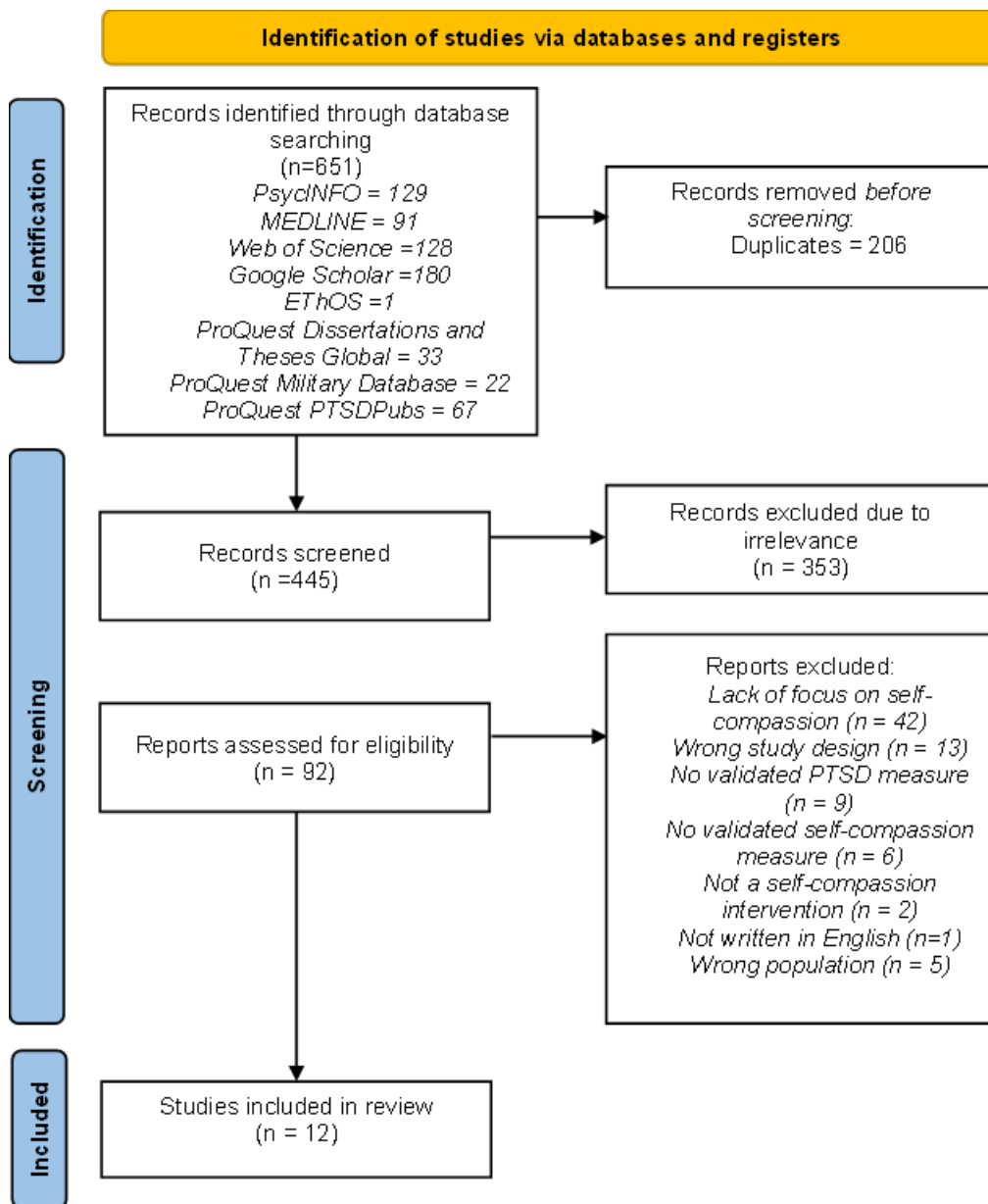
1.4.2 Study Characteristics

The 12 included studies were all published in peer-reviewed journals between 2013 and 2022 and took place in the U.S. Eight studies were of cross-sectional design (Cheng et al., 2021; Forkus, Breines, & Weiss, 2019; Forkus, Breines, & Weiss, 2020; Hiraoka et al., 2015; Meyer et al., 2018; Meyer et al., 2019; Rabon et al., 2019; Ramon, Possemato, & Bergen-Cico, 2022) (see Table 2) and the remaining four were intervention based research

(Eaton et al., 2020; Grodin et al., 2019; Held & Owens., 2015; Kearney et al., 2013) (see Table 3).

1.4.2.1 *Cross-Sectional Studies*

The eight cross-sectional studies included sample sizes ranging from 52 (Ramon et al., 2022) to 541 (Rabon et al., 2019). Three used an online platform to recruit (Forkus et al., 2019; Forkus et al., 2020; Rabon et al., 2019), four studies recruited through the VA Healthcare System, (Cheng et al., 2021; Hiraoka et al., 2015; Meyer et al., 2018; Meyer et al., 2019), and one study recruited via a community support programme (Ramon et al., 2022). Four studies took place online (Forkus, Breines, & Weiss, 2019; Forkus, Breines, & Weiss, 2020; Rabon et al., 2019; Ramon, Possemato, & Bergen-Cico, 2022) and the remaining four took place in a medical centre (Cheng et al., 2021; Hiraoka et al., 2015; Meyer et al., 2018; Meyer et al., 2019). All studies provided cross-sectional data on the relationship between SC and PTSD symptoms (see Table 2).

In regard to demographic data, only one study stated percentages related to more than one gender (Cheng et al., 2021), whilst the remaining seven studies only reported percentages of males within their samples. All studies reported age, ethnicity, service, and deployment data, except for Cheng et al's (2021) study which did not provide military service or deployment data. Two studies only reported data related to White ethnicities (Forkus et al., 2019; 2020), with the remaining studies reporting data on a range of ethnicities (see Table 2). The sample mean ages in years ranged from 35.08 (Forkus et al., 2019; Forkus et al., 2020) to 54.6 (Cheng et al., 2021) (see Table 2).

1.4.2.2 *Intervention Studies*

The four intervention studies took place in the U.S. and included a total of 174 participants, with sample sizes ranging from 7 (Eaton et al., 2020) to 47 (Held & Owens, 2015). Three studies recruited via self-referral or referral via health care providers (Eaton et al., 2020; Grodin et al., 2019; Kearney et al., 2013) and Held & Owens (2015) study recruited participants via verbal announcements. Three studies took place in a medical setting linked to the VA Healthcare System (Eaton et al., 2020; Grodin et al., 2019; Kearney et al., 2013) and one study took place in a transitional housing facility (Held & Owens, 2015). All interventional studies provided baseline data relating to SC and PTSD symptoms (see Table 3).

Two studies only recruited male veterans (Eaton et al., 2020; Held & Owens, 2015), one study only reported the percentage of males in their sample (Grodin et al., 2019), whereas Kearney et al. (2013) reported data on both male and female genders. All studies reported ethnicity data (see Table 3). Three studies did not report military service or deployment data (Eaton et al., 2020; Grodin et al., 2019; Kearney et al., 2013). All studies reported mean age data in years which ranged from 47.86 years (Eaton et al., 2020) to 53.6 years (Kearney et al., 2013) (see Table 3).

1.4.3 Measures

1.4.3.1 *Self-Compassion*

The 26-item SCS (Neff et al., 2003b) measures emotions and cognitions associated with compassionate and uncompassionate responses comprising of six components: self-kindness, self-judgement, common humanity, isolation, mindfulness, and over-identification. The SCS is a validated measure, considered to have good internal reliability ($\alpha = 0.92$) and test-retest reliability ($\alpha = 0.93$) (Neff & Tóth-Király, 2022). The SCS-SF

(Raes et al., 2011) is a 12-item measure of SC measuring the aforementioned six SC subscales in the SCS (Neff, 2003). The SCS-SF is a reliable measure demonstrating adequate internal consistency ($\alpha = >0.86$) and near perfect correlation with the SCS ($r = 0.97$) (Neff & Tóth-Király, 2022).

All eight cross-sectional studies used a version of the Self-Compassion Scale (Neff, 2003) to measure SC; specifically, six used the 26-item version (SCS), and two used the 12-item short-form version (SCS-SF) (Cheng et al., 2021; Ramon et al., 2022). All intervention studies used the 26-item SCS (Neff, 2003b) to measure SC.

1.4.3.2 PTSD

A variety of PTSD measures were used across the cross-sectional studies; three studies used the PTSD checklist for DSM-5 (PCL-5; Weathers et al., 2013) (Cheng et al., 2021; Forkus et al., 2019; Forkus et al., 2020), three studies used the Clinician Administered PTSD Scale for DSM-5 (CAPS; Blake et al., 1995) (Hiraoka et al., 2015; Meyer et al., 2018; Meyer et al., 2019), and two studies used the PTSD Checklist Military Version (PCL-M; Weathers et al., 1991) (Rabon et al., 2019; Ramon et al., 2022). Across the intervention studies, two studies employed the PCL-5 (Weathers et al.,2013) (Eaton et al., 2020; Grodin et al., 2019), one study used the PTSD Checklist-Specific Stressor Version (PCL-S; Weathers et al., 1993) (Held & Owens, 2015), and one study used two measures of PTSD symptoms (Kearney et al., 2013); the Life Events Checklist (Blake et al., 1995), and the PTSD Symptom Scale Interview (PSS-I; Foa et al., 1993).

Table 2

Summary of cross-sectional study characteristics included in the meta-analysis

Study	Journal	Sample size and participant characteristics	Setting	Measures *	Summary of key findings/Effect size**	Quality assessment score
Cheng et al. (2021)	Journal of Contextual Behavioural Science	N= 200 veterans, mean age = 54.6, male = 71.0%, female = 25.5% Ethnicity: White (78.5%), mixed/other (10.0%), Latino (3.5%), African American (3%), Native American (1.5%), Asian American and Pacific Islander (0.5%) Service: not stated Deployment: not stated	Mental health clinics within VA Medical Centre. Took place in person. (U.S.)	SCS-SF, PCL-5	Sig. negative relationship between SC and PTSD ($r = -.50$, $p < .001$)	0.95 (strong)

Study	Journal	Sample size and participant characteristics	Setting	Measures *	Summary of key findings/Effect size**	Quality assessment score
Forkus et al. (2019)	Psychological Trauma: Theory, Research, Practice, and Policy	N = 203 deployed Iraq or Afghanistan veterans, mean age = 35.08, male = 77.30% Ethnicity: White (70.40%) Service: Army (52.20%), Air Force (19.20%), Navy (15.80%), Marine Corps (12.80%) Deployed – 100%	Online survey advertised on Amazon's Mechanical Turk (MTurk) platform (U.S.)	SCS, PCL-5	Sig. negative relationship between SC and PTSD (r = -.29, p < .001)	0.82 (strong)
Forkus et al. (2020)	Psychological Trauma: Research, Practice, and Policy	N = 203 Iraq or Afghanistan veterans, mean age = 35.08, male = 77.7% Ethnicity: White (72.20%) Service: Army (52.20%) Deployed: 100%	Online survey advertised on Amazon's Mechanical Turk platform. (U.S.)	SCS, PCL-5	Sig. negative relationship between SC and PTSD (r = -.288, p < .001)	0.95 (strong)

Study	Journal	Sample size and participant characteristics	Setting	Measures *	Summary of key findings/Effect size**	Quality assessment score
Hiraoka et al. (2015)	Journal of Traumatic Stress	N = 115 U.S. Iraq and Afghanistan veterans, mean age = 37.41 years, male = 83.5% Ethnicity: Caucasian (57.4%), African American (25.2%), American Indian/Alaska Native (4.3%), Asian American (2.6%), Hawaiian/Pacific Islander (1.7%), other (9.6%) Service: Army (86.1%), National Guard (13.9%), Marine Corps (9.6%), Navy (4.3%), Air Force (2.6%) Deployed: 100%	Recruited through direct mailing, advertising at enrolment sites, and presentations to clinical staff. Department of VA health care. Took place in person. (U.S.).	SCS, CAPS	Negative relationship between SC and PTSD ($r = -.64$)	0.86 (strong)

Study	Journal	Sample size and participant characteristics	Setting	Measures *	Summary of key findings/Effect size**	Quality assessment score
Meyer et al. (2018)	Journal of Clinical Psychology	N = 117 U.S. Iraq and Afghanistan veterans, mean age = 37.33, male = 83.8% Ethnicity: Caucasian (58.1%), African American (24.8%), Hispanic/Latino (30.8%) Service: Army (85.5%) Deployed: 76.1% deployed to Afghanistan or Iraq	Veterans registered under VA Healthcare System (U.S.), questionnaires took place in medical centre.	SCS, CAPS	Negative relationship between SC and PTSD (r = -.64)	0.95 (strong)
Meyer et al. (2019)	Behaviour Research and Therapy	N = 117 U.S. Iraq and Afghanistan veterans, mean age = 37.33, male = 83.8% Ethnicity: White (59.1%), Black/African American	Veterans registered under VA Healthcare System (U.S.), questionnaires took place in medical centre.	SCS, CAPS	Sig. negative relationship between SC and PTSD (r = -.63, p < .01)	0.95 (strong)

Study	Journal	Sample size and participant characteristics	Setting	Measures *	Summary of key findings/Effect size**	Quality assessment score
Meyer et al. (2019)	Behaviour Research and Therapy	(25.2%), Alaskan Native (4.3%), Asian/Asian American (2.6%), Pacific Islander (1.7%), other (4.3%), Hispanic/Latino (31.3%) Service: Army (86.2%), Marine Corps (9.5%), Navy (5.2%), Air Force (2.6%) Deployments: number of deployments: 2.11				
Rabon et al. (2019)	Mindfulness	N = 541 U.S. veterans, mean age = 49.90, male = 69.1% Ethnicity: White/Caucasian (85.2%), multiracial (6.7%), Hispanic/Latino (6.1%), Black African (1.5%), American	Recruited via online advertisements, veteran-relevant social media and facebook groups, and national veteran organisations.	SCS-SF, PCL-M	Sig. negative relationship between SC and PTSD (r = -.661, p<.01)	0.91 (strong)

Study	Journal	Sample size and participant characteristics	Setting	Measures *	Summary of key findings/Effect size**	Quality assessment score
Rabon et al. (2019)		Indian/Alaska Native (0.9%), Asian (0.2%), another race (1.1%), no ethnicity/race reported (4.4%). Service: Army (38.1%), Navy (16.8%), Air Force (16.1%), Marine Corps (7.5%), National Guard (2.6%), Army Reserves (1.6%), Coast Guard (0.9%), multiple branches (16.4%) Deployment: Operation Enduring Freedom/Operation Iraqui Freedom (39.2%), one combat zone (68.2%)	Online data collection. (U.S.)			

Study	Journal	Sample size and participant characteristics	Setting	Measures *	Summary of key findings/Effect size**	Quality assessment score
Ramon et al. (2022)	Military Psychology	N = 52 veterans, mean age = 40.9, male = 73.1% Ethnicity: White (84%), Black (8%), Hispanic (8%) Service: Army (50%), Marines (30%), Navy (7%), Air Force (6%), Army or Marine National Guard (6%) Deployed: 100%	Veterans enrolled in a community support programme for Veterans with PTSD from 2014-2017. Online data collection. (U.S.)	SCS-SF, PCL-M	Sig. negative relationship between SC and PTSD (r = -.43, p < .001)	0.86 (strong)

Note. U.S. = United States; U.K. = United Kingdom; SC = Self-compassion; Sig. = Significant; SCS = Self-Compassion Scale 26 item version (Neff, 2003); SCS-SF = Self-Compassion Scale – Short Form 12 item version (Raes et al., 2011); PTSD = Post-Traumatic Stress Disorder; PCL-5 = PTSD Checklist for DSM-5 (Weathers et al., 2013); CAPS = Clinician-Administered PTSD Scale for DSM-5 (Blake et al., 1995); PCL-M = The PTSD Checklist Military Version (Weathers et al., 1991); VA = Veteran Affairs.

8 of the 9 (88.89%) cross-sectional studies reported only male gender.

*Only measures relevant to self-compassion and PTSD are included in the table.

**Only findings relevant to self-compassion and PTSD are included in the table.

Table 3

Summary of intervention study characteristics included in the meta-analysis

Study	Journal	Sample size and participant characteristics	Setting	Type of intervention	Measures*	Summary of key findings/Effect size**	Quality assessment score
Eaton et al. (2020)	International Journal of Group Psychotherapy	N = 7 veterans, mean age = 47.86, males = 100% Ethnicity: Caucasian/White (85.7%), Hispanic or Latino 2 (28.6%) Service: Not stated Deployment: not stated	Referred by VA clinicians or via self-referral. Trauma Recovery Service at a VA Medical Centre (U.S.)	SCFT, 8 session group treatment	SCS, PCL-5	Clinically meaningful decrease in PTSD scores. (SC: $d = 0.16$) (PTSD: $d = 0.26$)	0.82 (strong)
Grodin et al. (2019)	Journal of Contextual	N = 22 veterans, mean age = 52.6 years, male = 96%	Recruited through PTSD speciality outpatient clinic	Pilot study, TSG, 12 sessions	SCS, PCL-5	Significant reduction in PTSD symptoms after intervention	0.86 (strong)

	Behavioral Science	Ethnicity: White and of non-Hispanic (82%), Black, non-Hispanic (5%), White, Hispanic (5%), unknown race and ethnicity (9%) Service: Not stated Deployment: Not stated	affiliated with VA medical centre (U.S.) Took place in the VA service.			SCS ($d = 0.17$) PTSD ($d = 0.53$, $p < .01$)	
Held & Owens (2015)	Journal of Clinical Psychology	N = 47 homeless male veterans, mean age = 51.30 Ethnicity: Caucasian (81%), African American (15%), and Native American (4%) Service: Army (56%), Air Force (22%), Navy (18%), Marine Corps (4%), Reserves (11%), National Guard (7%)	Recruited for participation through verbal announcements at the Transitional housing facility for homeless male veterans. Took place in the facility. (U.S.)	Self-directed workbooks. Randomly assigned to either self-compassion intervention (workbook) or stress inoculation intervention (workbook)	SCS, PCL-S	PTSD severity was not significantly different in SC intervention compared to stress inoculation intervention SCS ($d = 0.23$) PTSD ($d = 0.22$)	0.75 (good)

		Deployment: Never deployed (44%), deployed once (26%), deployed twice (19%), deployed three times (4%), not answered (7%)					
Kearney et al. (2013)	Journal of Traumatic Stress	N = 42 veterans with current PTSD, mean age = 53.6, male = 58.1%, female = 40.5% Ethnicity: White (83.3%), Black (7.1%), Hispanic (2.4%), Asian/Pacific Islander/Native American (2.4%), other (2.4%) Service: not stated Deployed: not stated	Self-referred or were referred by a health care provider. Took place in VA Hospital (U.S.)	LKM course, 12 weeks. Longitudinal study.	SCS, Life Events Checklist, PSS-I	Reliable change in PTSD scores at post intervention. SC sig. mediated changes in PTSD symptoms between baseline and post LKM intervention. SCS ($d = 0.80$) PTSD ($d = -0.75$, $p = .018$)	0.86 (strong)

Note. U.S. = United States; U.K. = United Kingdom; SC = Self-compassion; Sig. = Significant; SCS = Self-Compassion Scale 26 item version (Neff, 2003); SCS-SF = Self-Compassion Scale – Short Form 12 item version (Raes et al., 2011); PTSD = Post-Traumatic Stress Disorder; PCL-5 = PTSD Checklist for DSM-5 (Weathers et al., 2013); PCL-S = PTSD Checklist-Specific Stressor Version (Weathers et al., 1993); PSS-I = PTSD Symptom Scale Interview (Foa et al.,

1993); CAPS = Clinician-Administered PTSD Scale for DSM-5 (Blake et al., 1995); PCL-M = The PTSD Checklist Military Version (Weathers et al., 1991); VA = Veteran Affairs; NHS = National Health Service; LKM = Loving-Kindness Meditation; LKM-S = Loving-Kindness Meditation for the Self; TSG = True Strength Group; SCFT = Self-Compassion Focussed Treatment.

3 of the 5 (60%) interventional studies reported or used only male gender.

*Only measures relevant to self-compassion and PTSD are included in the table.

**Only findings relevant to self-compassion and PTSD are included in the table.

1.4.4   Risk of Bias

1.4.4.1   Cross-Sectional Studies

Overall, the quality of the cross-sectional studies varied from 0.82 – 0.95 indicating all included cross-sectional studies were of 'strong' methodological quality, as assessed by the SQAC (Kmet et al., 2004) (see Table 2). All studies employed standardised PTSD measures and sufficiently described the study objectives and design. Seven studies (87.5%) only reported on the male gender and did not report demographic data considering other genders. Three studies (37.5%) (Cheng et al., 2021; Hiraoka et al., 2015; Meyer et al., 2018) did not fully state their sampling method, and five studies (62.5%) specifically recruited U.S. veterans of Iraq or Afghanistan tours, indicating potential bias (Forkus et al., 2019; Forkus et al., 2020; Hiraoka et al., 2015; Meyer et al., 2018; Meyer et al., 2019).

All but two studies (Forkus et al., 2020; Rabon et al., 2019) reported sufficient sample demographics. All cross-sectional studies recruited adequate sample sizes and reported significant findings. All but three studies (62.5%) (Forkus et al., 2020; Hiraoka et al., 2015; Ramon et al., 2022) sufficiently controlled for confounding, and all but one study (Rabon et al., 2019) reported results in sufficient detail (see Table 2).

1.4.4.2   Intervention Studies

Overall, the methodological quality of the intervention studies varied from 0.75 ('good') – 0.86 ('strong') as indicated by the SQAC (Kmet et al., 2004) (See Table 3). Only one study (Kearney et al., 2013) reported on genders other than male. All four interventional studies sufficiently described the study objectives and design. Three studies

(75%) employed adequate sample sizes resulting in significant findings, whereas Eaton et al., (2020) employed a very small sample size (n = 5 intervention completers) and did not report any test of power, significant results, or results in full detail. All but one study (Grodin et al., 2019) reported sample characteristics in sufficient detail, and all but two studies (Held & Owens., 2015; Kearney et al., 2013) reported the sampling strategy in sufficient detail. Held & Owens (2015) study recruited homeless veterans from a particular housing facility, leading to potential bias, and did not specify whether randomisation or blinding took place. Two studies (40%) (Grodin et al., 2019; Held & Owens, 2015) only partially controlled for confounding.

1.4.5   Meta-Analyses

1.4.5.1   *Is SC associated with PTSD symptoms in veterans?*

The first model investigated whether there was an association between SC and PTSD in veterans using data extracted from the cross-sectional studies ($n = 8$). A total of eight effect sizes were reported across the eight studies and were included in the first meta-analysis model (see Table 2 for r values). All eight studies measured PTSD as a continuous variable and employed an independent random-effects design. Results from the first model indicate a large significant negative association between SC and PTSD in veterans, $r = -.525$ with a 95% confidence interval of -0.633 to -0.396, $p < .001$. Inspection of the forest plot (see Figure 2) suggests significant heterogeneity among the studies ($\tau = .219$, $\tau^2 = .048$; $I^2 = 89\%$; Q (7) = 66.153, $p < .001$) indicating significant variation between the data in the cross-sectional studies. To assess publication bias, a funnel plot and Egger's test was conducted indicating no significant bias ($\beta 0 = 2.549$, 95% CI [-5.935, 11.035], $t = 0.735$, $p = .245$). Overall, the first meta-analysis indicates higher levels of SC are

associated with lower levels of PTSD among veterans.

Figure 2

Forest plot displaying random effects meta-analysis of Pearson's r correlations for cross-sectional studies examining associations between SC and PTSD symptoms among military veterans.

Study name	Statistics for each study					Correlation and 95% CI
	Correlation	Lower limit	Upper limit	Z-Value	p-Value	
Cheng et al (2021)	-0.500	-0.597	-0.388	-7.710	0.000	
Forkus et al (2019)	-0.288	-0.409	-0.156	-4.192	0.000	
Forkus et al (2019a)	-0.290	-0.411	-0.159	-4.222	0.000	
Hiraoka et al (2015)	-0.640	-0.737	-0.518	-8.024	0.000	
Meyer et al (2018)	-0.640	-0.736	-0.519	-8.095	0.000	
Meyer et al (2019)	-0.630	-0.728	-0.506	-7.916	0.000	
Rabon et al (2019)	-0.661	-0.706	-0.611	-18.430	0.000	
Ramon et al (2022)	-0.430	-0.629	-0.178	-3.219	0.001	
	-0.525	-0.633	-0.396	-6.988	0.000	

1.4.5.2 *Do SC-based interventions reduce PTSD symptoms in veterans?*

The second model investigated the effectiveness of SC interventions on PTSD symptomology in veterans using data extracted from the intervention studies ($n = 4$). A total of four effect sizes were reported across the four studies and were included in the second model (see Table 3 for *d* values). All the studies measured PTSD as a continuous variable and used the same sample at pre and post intervention, thus an independent random-effects design was utilised. Results for the second model indicate a moderate effect size for PTSD scores, however the findings were non-significant, $d = -.398$ with a 95% confidence interval of -.810 to .013, $p = .058$. Inspection of the forest plot (see Figure 3) suggests a lack of heterogeneity among the studies ($\tau = .279$, $\tau^2 = .078$; $I^2 = 46\%$; Q (3) $= 5.506$, $p = .138$) indicating all intervention studies demonstrated a similar effect. A

funnel plot and Egger's test revealed no significant publication bias among the studies ($\beta0$ = 3.005, 95% CI (-2.412, 8.423], t = 2.387, p = .140). Results from the second meta-analysis indicate SC interventions do not reduce PTSD symptoms among veterans.

Figure 3

Forest plot displaying random effects meta-analysis of Hedge's g for interventional studies examining pre and post effects of SC interventions on PTSD symptoms among military veterans.

Study name	Outcome	Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value	Hedges's g and 95% CI
Eaton et al (2020)	PTSD	-0.208	0.480	0.230	-1.149	0.733	-0.433	0.665	
Grodin et al (2019)	PTSD	-0.516	0.268	0.072	-1.040	0.008	-1.929	0.054	
Held & Owens (2015)	PTSD	0.304	0.406	0.165	-0.491	1.099	0.749	0.454	
Kearney et al (2013)	PTSD	-0.714	0.195	0.038	-1.096	-0.332	-3.667	0.000	
		-0.398	0.210	0.044	-0.810	0.013	-1.896	0.058	

-1.00 -0.50 0.00 0.50 1.00
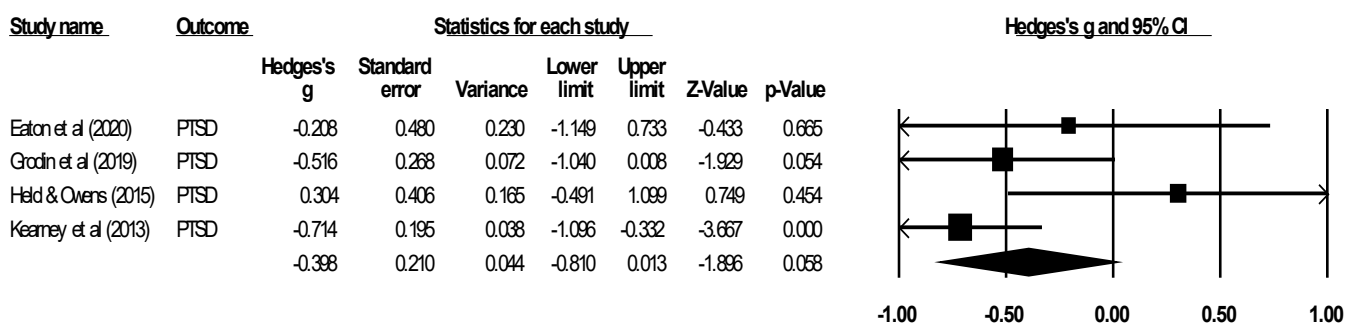
1.4.5.3 Additional Analyses

A further meta-analysis was conducted exploring whether SC interventions increased SC for veterans experiencing PTSD symptoms. The four effect sizes from the intervention studies were extracted (see Table 3 for *d* values) to conduct an independent random effects meta-analysis. Results indicate a significant increase in SC scores, d = -.369 with a 95% confidence interval of .013 to .725, p = .042, with a moderate effect size. Inspection of the forest plot (see Figure 4) suggests a lack of heterogeneity among the studies (τ = .101, τ^2 = .010; I^2 = 7%; Q (3) = 3.241, p = .356), indicating the included intervention studies found a similar effect. To assess publication bias, observation of a funnel plot and Egger's test indicates no significant bias ($\beta0$ = -1.822, 95% CI (-12.891,

9.248], $t = .708$, $p = .276$). Results from the additional meta-analysis reveal SC interventions are effective in increasing levels of SC among veterans with PTSD symptoms.

Figure 4

Forest plot displaying random effects meta-analysis of Hedge's g for interventional studies examining pre and post effects of SC intervention on SC levels among military veterans.

Study name	Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Eaton et al (2020)	0.126	0.529	0.279	-0.910	1.162	0.238	0.812
Grodin et al (2019)	0.105	0.299	0.090	-0.482	0.691	0.350	0.726
Held & Owens (2015)	0.211	0.392	0.154	-0.558	0.979	0.537	0.591
Kearney et al (2013)	0.785	0.288	0.083	0.220	1.350	2.725	0.006
	0.369	0.182	0.033	0.013	0.725	2.032	0.042
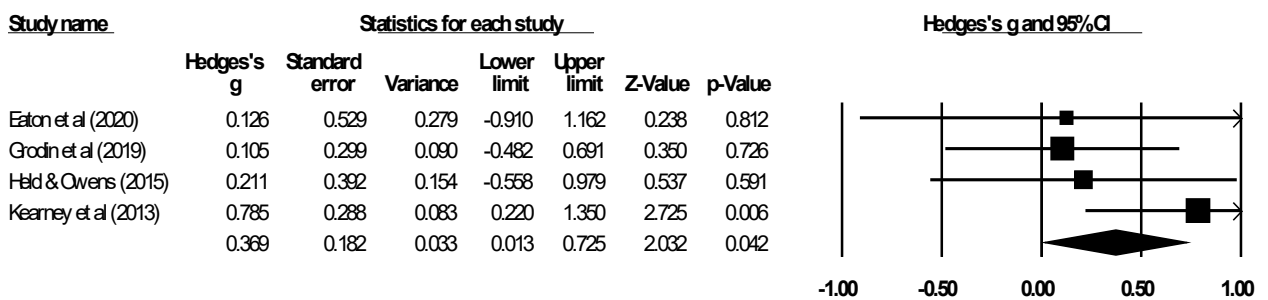
1.5 Discussion

1.5.1 Findings in Context

The current meta-analyses aimed to explore the relationship between SC and PTSD symptoms and investigate the effectiveness of SC interventions for PTSD in veterans. It builds upon existing evidence exploring the association between SC and PTSD (Winders, Murphy, Looney, & O'Reilly, 2020) by focusing on a veteran population and using a meta-analysis design. This is the first meta-analysis to date investigating the relationship between SC and PTSD symptoms and effectiveness of SC for PTSD among veterans.

1.5.2   Relationship between SC and PTSD

The results revealed that higher levels of SC were associated with a moderate reduction in PTSD symptoms among veterans, thus supporting previous research found in the general population (Braehler & Neff, 2020; Winders et al., 2020). All cross-sectional studies within the review measured PTSD according to the DSM-5 criteria which considers negative self-appraisals, guilt, and shame as core features of PTSD. Therefore, the current finding is consistent with Gilbert's (2005; 2009) theory of compassion, proposing increased SC is associated with reductions in threat-based emotions such as guilt and shame.

Alternatively, Neff (2003b) proposes to be self-compassionate, one needs to mindfully recognise their emotional distress, turn towards it, and non-judgementally self-soothe the pain (Braehler & Neff, 2020). Given avoidance of traumatic memories and difficult emotions is a key feature and exacerbator of PTSD, (DSM-5; APA, 2013) it is unlikely individuals will feel motivated to turn towards, and engage in their distress (Braheler & Neff, 2020). This has been supported by Thompson and Waltz (2008), who reported that SC was negatively associated with the avoidance cluster of PTSD in students. Therefore, according to Neff's theory, the current association found between reduced SC and PTSD may be reflective of veterans avoiding painful PTSD-related memories and emotions rather than compassionately turning towards them, in turn, leading to lower levels of SC.

When interpreting these findings, it is important to note all the cross-sectional studies employed a version of Neff's (2003b) SCS, and used the total score to determine levels of SC. The SCS continues to be the subject of an ongoing debate questioning the validity of the measure due to the total score representing both the compassionate (CS),

associated with self-kindness and protection and uncompassionate self (UCS) such as self-judgement and vulnerability (Muris & Otgaar, 2022). Consequently, several authors have argued that the inclusion of UCS components in the total score does not portray the true meaning of SC as being a protective construct and instead introduces elements of vulnerability (Brenner et al., 2017; Muris, 2016; Muris & Otgaar, 2022). In response to the criticisms of the SCS, Neff argues that SC is a bipolar continuum ranging from UCS to CS, where the UCS items on the SCS are reverse scored meaning higher levels of SC represent reduced UCS (Neff, 2022b). Although the SCS has been validated and most authors employ the total score (e.g., Muris & Otgaar, 2022; Neff & Tóth-Király, 2022), it is important to bear in mind the ongoing debate related to the SCS. In consideration of the current findings, it seems fair to propose that SC per se may be confounded by the inclusion of UCS components, indicating SC may instead relate to the negative self-appraisals associated with PTSD and heightened self-judgement found in veteran populations (Williamson, Greenberg, & Murphy, 2019).

1.5.3 SC Interventions for PTSD and Levels of SC

The second meta-analysis revealed SC interventions did not significantly reduce PTSD symptoms in veterans. None of the intervention studies included in the review incorporated exposure techniques within their SC-based interventions, which is not consistent with recommendations for PTSD treatment (NICE, 2018). The evidence-base for treating PTSD among veterans proposes that CBT principles alongside habituation, activation of fear structures, and emotional processing are required to effectively treat PTSD (Haagen et al., 2015; Rauch, Eftekharim & Ruzek., 2012; Sharpless & Barber, 2011), and may explain the current non-significant finding between SC interventions and

PTSD symptoms in veterans. Therefore, this review tentatively supports proposals suggesting that interventions which fail to incorporate these elements may not be as effective at reducing PTSD symptoms in veterans (Rauch, Eftekharim, & Ruzek., 2012).

Further analysis indicated that SC interventions significantly increased SC levels among veterans with PTSD symptoms. This finding supports the increasing evidence base demonstrating the effectiveness of using SC-based interventions for increasing SC among veterans (Held & Owens, 2015). Gilbert (2014) proposes emotion regulation can be understood via a three-system model consisting of a threat system, a drive system, and a soothe system. Gilbert's theory suggests activation of the soothing system via techniques such as breathing and mindfulness helps manage the threat system by alternatively eliciting feelings of safety and contentment, thus increasing levels of SC towards oneself.

In a similar vein, Neff (2022a) proposes being mindful of one's own suffering and kindly connecting with it via techniques such as mindfulness, helps to increase compassionate understanding of one's difficulties, consequently increasing SC, emotional connection, and resilience. Therefore, the current finding may be understood within the theoretical underpinnings of SC in developing non-judgemental awareness and a compassionate skillset (e.g., mindfulness and breathing) to effectively address difficult emotions and cognitions (Gilbert, 2014; Neff, 2022a). In the context of the review findings, it may be argued that SC interventions effectively buffer against PTSD-related distress by replacing feelings of self-blame, shame, and emotional avoidance with kindness and contentment to increase overall SC, but may not adequately expose veterans to trauma-related memories and/or re-appraisal of PTSD-related cognitions to allow for effective processing, thus, maintaining the presence of PTSD symptoms (e.g., re-living experiences) (Gilbert, 2014; Neff, 2022a; Sharpless & Barber, 2011).

MSC (Neff & Germer, 2012) and CFT (Gilbert, 2014) adopt a protocoled and manualised approach to delivering SC and have the strongest evidence-base for demonstrating efficacy within SC literature (Kirby et al, 2019). Although none of the included studies used the full MSC or CFT interventions, all four intervention studies included numerous experiential exercises derived from both the MSC (Neff & Germer, 2012) and CFT (Gilbert, 2014) interventions, highlighting these as potentially important components of SC interventions when treating veterans. Furthermore, experiential exercises have been proposed as an integral part of developing SC and may explain the current significant increase in SC levels among veterans (Gilbert, 2009).

All intervention studies employed a group design to deliver the SC interventions. Group interventions for veterans have been proposed to allow for social support, peer validation, decrease feelings related to lack of belonging, and have been found effective for reducing suicidal ideation, PTSD symptoms, and depression (Cox et al., 2014; Johnson et al., 2019; Lamp et al., 2019). Gilbert's theory of compassion highlights the vital role of building affiliative relationships with others to effectively develop compassion. This has been supported by prior research demonstrating group CFT as significantly effective in reducing psychological distress among the general population (Craig, Hiskey, & Spector, 2020). Therefore, adopting group settings to deliver SC interventions may be particularly beneficial for increasing SC in veterans, and may explain the current significant increase in SC for veterans. Furthermore, PTSD-treatments delivered in a group setting have been found less effective for reducing PTSD symptoms in veterans compared to individual treatment, potentially explaining the current non-significant finding between SC interventions and PTSD symptoms.

All participants within the intervention studies volunteered to partake in the research, with most participants being recruited from health care services (Eaton et al., 2020; Grodin et al., 2019; Kearney et al., 2013). Increased SC has been linked to one's motivation to improve and has consequently been associated with increased help seeking behaviour among men (Wasylki & Clairo, 2018). Furthermore, according to Gilbert's theory, increased access to support has been associated with increased SC, and taken together, may explain the current significant increase in levels of SC among veterans resulting from SC interventions.

1.5.4　　Strengths, Limitations, and Future Directions

A strength of the review is adopting a meta-analytic design which allowed for a critical and quantifiable integration of all relevant evidence investigating the relationship between SC and PTSD among veterans and facilitated a robust and objective appraisal of the evidence thus far (Mikolajewicz & Komarova, 2019). Additionally, all papers included in the review were of 'good' or 'strong' quality according to the SQAC (Kmet et al., 2004), increasing the reliability of the findings (Ahn & Kang, 2018). Furthermore, funnel plots and Eggers tests indicated that findings were unlikely to be influenced by publication bias increasing the overall quality and validity of the results (Thornton & Lee, 2000).

There are some notable methodological issues across the studies that require consideration. There were a limited number of studies investigating the relationship between SC and PTSD among veterans and significant heterogeneity was found across the cross-sectional studies indicating significant variability within the data. However, due to the limited cross-sections studies included in the analysis ($n = 8$), heterogeneity could not be reliably established (Hedges & Vevea, 1998). Additionally, the cross-sectional and

intervention studies included samples consisting of mainly White male veterans, all of which were recruited in the U.S. While the increased percentage of male compared to female veterans may be representative of the overall veteran population (Program, 2019), emerging research suggests there has been a substantial increase of female veterans over the past 20-30 years (Baechtold & De Sawal, 2009). Furthermore, evidence indicates gender differences in trauma exposure and PTSD rates between male and female veterans (Baechtold & De Sawal, 2009).

Therefore, recruitment methods employed in the included studies may cause limitations related to gender, ethnicity, and nationality, consequently limiting the generalisability of findings. Future research is required considering diverse characteristics among veterans including different genders, ethnicities, and deployments to assist in further understanding potential individual differences within SC and PTSD, as well as extending findings beyond a U.S. male sample. Extending on this, future research should consider confounding (or covariables) variables such as adverse childhood events, trauma-related shame, and moral injury which are more prevalent within veteran populations and have been found to impact levels of SC (Bannister et al., 2018; Frankfurt & Frazier, 2016; Kirby, Day, & Sagar, 2019; Xue et al., 2015).

Of importance, there is an overall lack of research exploring the relationship between SC and PTSD among veterans, as well as, investigating the effectiveness of SC interventions om PTSD in veterans. This is in keeping with previous meta-analyses (Ferrari et al., 2019; Kirby, Tellegen, & Steindl, 2017) researching SC in general populations. This lack of research is even more evident for veteran populations, with no study to date adopting RCT designs investigating the effectiveness of SC interventions for PTSD among veterans. Therefore, future research is required exploring both the association between SC and PTSD in veterans, as well as RCT's employing large sample

sizes to reliably investigate the effectiveness of SC interventions for PTSD among veterans. Future intervention studies should aim to compare group SC interventions to individual SC interventions to establish effectiveness of different SC-based treatment modalities in a veteran population.

Consideration needs to be made for numerous methodological issues within the included interventions studies. For example, Eaton et al's (2020) and Grodin et al's (2019) studies recruited relatively small sample sizes (see Table 3), increasing the likelihood of potential bias, thus, reducing the validity and reliability of findings (Grossman & Mackenzie, 2005). Of importance, there was a lack of consistency across all intervention studies regarding the length and type of the interventions employed (see Table 3). Specifically, Held and Owens' (2015) study employed a self-administered SC workbook, however, the number of times it was completed was not monitored.

Additionally, Held & Owen's (2015) study took place in a transitional housing facility for homeless veterans which was unlikely to be conducive for a safe and therapeutic environment (Veale et al., 2015). In support, Maslow's (1943) hierarchy, proposes individuals need a stable base and sense of safety to effectively address mental health difficulties which may not be the case for the homeless sample employed in the study. Therefore, this study may not have provided the emotional and physical safety required for addressing traumas, (Menschner & Maul, 2016), potentially contributing to the understanding of the current non-significant finding between SC interventions and PTSD among veterans.

1.5.5   Clinical Implications

The current review indicates increasing SC among veterans with PTSD may result in reductions of PTSD symptomology, thus highlighting it as an important protective factor to consider when treating veterans with PTSD. Based on this, clinicians should start interweaving experiential SC techniques drawn from manualised and evidence-based compassion interventions (e.g., MSC and CFT) within evidence-based treatments for PTSD when working with veterans. Specifically, clinicians should start interweaving SC techniques within the phase 1/stabilisation work for veterans with PTSD and to evaluate the use of SC techniques within PTSD interventions using validated measures of compassion such as the SCS (Neff, 2003b) and/or the Compassionate Engagement and Action Scale (Gilbert et al., 2017).

1.5.6   Conclusions

The current review aimed to integrate and critique the evidence base investigating the relationship between SC and PTSD, and effectiveness of SC interventions on PTSD symptoms among veterans. Overall, the review revealed promising results indicating increased levels of SC are associated with reduced PTSD symptoms among veterans. Moreover, the review revealed SC interventions were effective in increasing levels of SC in veterans, but not effective in reducing PTSD symptoms. These findings indicate the protective role of SC for veterans with PTSD, and suggest SC interventions are acceptable, feasible, and effective for increasing SC in veterans. Taken together, the review indicates the potential clinical utility of incorporating evidence-based SC techniques within PTSD treatments for veterans, whilst conducting service evaluations using validated SC measures to determine clinical efficacy. Future research adopting RCT designs is required to reliably determine the efficacy of SC interventions for veterans with PTSD, considering

confounding variables and diverse characteristics within the veteran community to help

advance veteran specific PTSD treatments.

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Chapter 2   The Role of Compassion in Moral Injury among Military Veterans: Implications for Treatment

2.1   Abstract

Objectives

The study investigated the relationship between psychological distress, alcohol use, the facilitators (self-reassurance) and inhibitors of compassion (shame, fears of compassion to self, to others, and from others, and self-criticism), as well as the three flows of compassion (self-compassion, compassion to others, and compassion from others) on moral injury (MI) in veterans.

Design

A cross-sectional design using an online survey to measure variables was employed.

Methods

A total of 127 participants (81.9% male, M_{age} = 51.24, SD = 13.98) completed measures of MI, psychological distress, alcohol use, shame, fears of compassion, self-criticising and self-reassurance, and the three flows of compassion. Bivariate correlations and a hierarchical multiple regression were conducted to determine relationships between psychological distress, alcohol use, and the facets of compassion (facilitators and inhibitors, and three flows of compassion) and MI, and whether psychological distress, alcohol use, and the facets of compassion predicted MI among veterans.

Results

Demographic variables of younger age and lower rank, alongside psychological distress, alcohol use, and all facets of compassion, apart from the compassion from other compassionate flow, were significantly related to MI in veterans. Age, rank, psychological distress, alcohol use, and the facets of compassion did not predict MI in veterans. However, shame was found to be the biggest predictor of MI in veterans, followed by lower rank.

Conclusions

The study supports prior research indicating MI as a shame-based presentation with younger age and lower rank posing as risk factors for MI in veterans. Additionally, the findings indicate strong relationships between the facets of compassion and MI in veterans, highlighting the potential clinical utility of including compassion within interventions designed to ameliorate MI.

Keywords: Military, veterans, moral injury, compassion

2.2 Introduction

2.2.1 Moral Injury

Since the COVID-19 pandemic, there has been a surge in recognition and research into moral injury (MI) (Griffin et al., 2019; Nash, 2019; Koenig & Al Zaben, 2021). MI, coined by Shay (1992), describes the intense feelings of guilt and shame experienced by military veterans after combat exposure (Frankfurt & Frazier, 2016). MI has been proposed to occur when one "acts in ways that transgress deeply held moral beliefs and expectations" (Litz et al., 2009, p.697). Although MI is not currently classified as a mental health disorder, it has been historically linked to military populations and is widely recognised as a syndrome related to increased shame, guilt, anger, self-injurious behaviours, and loss of trust in self and others (Frankfurt & Frazier, 2016; Koenig et al., 2017; Litz et al., 2009).

MI is still undergoing research due to the lack of consensus on both a firm definition of MI, and a gold-standard MI measure extending to populations beyond the military (Griffin et al., 2019). Although MI has been proposed to result from 'moral transgressions', the lack of a standardised definition and robust measure may reflect the conceptual understanding of MI involving a complex mix of biological, historical, psychological, cultural, and social dimensions (Litz & Kerig, 2019). Despite this, MI research and awareness is positively increasing, and has now been associated with populations beyond the military including healthcare professionals (Cartolovni et al.,

2021), firefighters and police officers (Lentz et al., 2021), and refugees (Nickerson et al., 2015). Moreover, research has consistently demonstrated a link between MI and adverse mental health and behavioural outcomes with a recent review indicating a link between MI and post-traumatic stress disorder (PTSD), depression, anxiety, suicide, substance abuse, sleep disturbances, work-related burnout, and chronic pain and disability (Hall et al., 2021).

Of importance, MI theoretically relates to PTSD (Koenig & Al Zaben, 2021; Litz et al., 2009) and shares some characteristics with PTSD limited to the affective domain within the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) criteria for PTSD (American Psychiatric Association [APA], 2013; Koenig & Al Zaben, 2021). PTSD is a fear-based disorder characterised by hyperarousal and avoidance following exposure to traumatic events (APA, 2013; Jinkerson, 2016), whereas MI is characterised by guilt and shame resulting from exposure to morally injurious events (MIE). The distinct differences (i.e., guilt and shame) between PTSD and MI are supported by research revealing differences in neuropsychological mechanisms (Barnes et al., 2019), and the development of questionnaires measuring each construct separately (Blevins et al., 2015; Currier et al., 2017).

2.2.2 Moral Injury and Veterans

MI research is rooted within the military due to the large number of MIEs military personnel experience (Litz et al., 2009). MIEs within this context include failures of leadership, killing/injuring in combat, betrayal by others, and witnessing mistreatment of civilians (Bryan et al., 2014; Currier et al., 2015; Shay et al., 2002; Williamson et al., 2019). Consequently, veterans are at high-risk for developing MI (Hamrick et al., 2020). Koenig et al. (2018) found over 90% of 373 U.S veterans and serving personnel reported at

least one MI symptom, with 59% reporting five or more symptoms. Additionally, Maguen et al. (2020) found 27.9% of 7200 post 9/11 veterans witnessed MIE's, 18.8% perpetrated MIE's, and 41.1% experienced MIE-related betrayal.

Research investigating MI in veterans has consistently revealed adverse mental health outcomes including increased PTSD symptoms (Bryan et al., 2016; Koenig et al., 2019), suicidal ideation (Ames et al., 2018; Hamrick et al., 2019), depression (Currier et al., 2014), and alcohol misuse (Davies et al., 2019). Alcohol misuse in particular has been shown to be higher among veterans compared to the general public (Fuehrlein et al., 2016) and has further been related to MI among veterans (Battles et al., 2018; Held et al., 2018). In particular, alcohol use has been proposed as a coping strategy among veterans to avoid or numb complex emotions related to MI such as guilt (Held et al., 2018; Maguen et al., 2021). Furthermore, hazardous alcohol use has been found particularly prevalent in veterans exposed to MIE's (Battles et al., 2018).

As well as alcohol use, evidence indicates MI in veterans leads to increased shame, guilt, self-loathing, and hopelessness (Bryan et al., 2016; Williamson et al., 2021). Interestingly, Nieuwsma et al. (2021) evaluated different MI measures revealing that MI robustly correlated with increased PTSD, depression, suicidality, and alcohol abuse. From this, research recommendations were made to investigate MI as a distinct presentation from PTSD to advance MI treatments among veterans (Nieuwsma et al., 2021).

2.2.3   Treatment for Moral Injury

Research has focused on applying evidence-based treatments for PTSD, including cognitive processing therapy and prolonged exposure to the treatment of MI, revealing reductions in trauma-related guilt (Held et al., 2018; Paul et al., 2014). However, these findings are limited due to small sample sizes and a lack of MI measures, leaving debate as

to the appropriateness of PTSD treatments for MI (Maguen & Burkman, 2013).

Furthermore, it has been argued that fear-based models of PTSD do not sufficiently

address MI-related processes and emotions (e.g., guilt, shame) (Griffin et al., 2019; Litz et

al., 2017). Therefore, research investigating alternative treatments focusing on the

distinctly different characteristics of MI (e.g., shame and guilt) from the fear-based aspects

of PTSD is required (Frankfurt & Frazier, 2016; Griffin et al., 2019).

Emerging research indicates that Adaptive Disclosure (Litz et al., 2017),

Acceptance and Commitment Therapy (Hayes et al., 1999; Nieuwsma et al., 2015),

spiritual groups (Cenkner et al., 2021), and Cognitive Behavioural-based interventions

(e.g., Impact of Killing treatment) (Purcell et al., 2018) may be beneficial for MI among

veterans. Of interest, these alternative treatments share a focus on targeting guilt and

shame via compassion (Griffin et al., 2019; Koenig & Al Zaben, 2021).

2.2.4 Compassion Theory: Three Flows, and Inhibitors and Facilitators of Compassion

Gilbert (2014) defines compassion as "a sensitivity to the suffering in self and

others, with a commitment to try and alleviate and prevent it" (Gilbert, 2014, p.19). Gilbert

et al. (2017) propose compassion as an evolved care-based motivational process of

stimulus detection and behavioural response to alleviate suffering. This is depicted within a

three-system model consisting of a threat system, a drive system, and a soothing system

(Gilbert, 2009). According to Gilbert's theory, compassion can be understood as an

integrated tri-directional flow of compassion to self (SC), to others (CtO), and from others

(CfO). Gilbert et al. (2017) suggests the three compassionate flows function distinctly

differently, yet all influence one another. Therefore, compassion-focused interventions

must aim to activate and develop each flow in equibalance to effectively address mental health difficulties (Gilbert, 2017).

Rooted within attachment theory (Bowlby, 1982), Gilbert (2011) proposes that attachment insecurities and early abuse/neglect from significant others activates fear responses to compassion, resulting in inhibition of the three compassionate flows. Consequently, fears of compassion (FoC) can inhibit the ability for effective engagement in compassion-focused treatment (Gilbert, 2010). Contrastingly, self-reassurance (SR) has been linked with warmth and safeness, helpfully activating the soothe system, and acting as a facilitator of compassion (Gilbert, 2009). SR has been associated with reduced depression, anxiety, and stress (Kotera et al., 2022).

Kirby et al.'s (2019) meta-analysis exploring the three FoC (fears of compassion to self [FCTS], fears of compassion to others [FCTO], and fears of compassion from others [FCFO]) and psychological functioning, found FCTS, FCTO, and FCFO were related to depression, shame, and self-criticism. Further, the meta-analysis revealed FCTS and FCFO had the greatest impact on mental health (Kirby et al., 2019). Interestingly, Forkus et al. (2019) found FCTS mediated the association between PTSD symptoms and alcohol misuse in veterans, indicating FCTS increased PTSD symptoms and alcohol misuse among veterans. However, only one study to date has researched the three FoC in veterans, and no research thus far has explored this in relation to MI.

Derived from evolutionary psychology (Darwin, 1872), neurophysiology (Porges, 2007), attachment theory (Bowlby, 1982), and Buddhist traditions (Gilbert, 2009), Gilbert (2020) developed Compassion Focused Therapy (CFT) to support individuals with shame and self-criticism. CFT adopts a transdiagnostic approach to reduce threat-based responses, address emotional dysregulation, and promote soothing behaviours (Gilbert, 2014; Leaviss

& Uttley, 2015). Numerous reviews have supported the use of CFT for self-criticism, shame, depression, psychosis, and trauma (Beaumont & Hollins-Martin, 2015; Craig et al., 2020; Leaviss & Uttley, 2015). Additionally, Millard et al.'s (2023) meta-analysis found CFT reduced clinical symptomology and FCTS in individuals with mental health difficulties.

2.2.5 Applying Compassion to Moral Injury

Compassion has consistently been associated with reduced features related to MI including shame, self-criticism, and alcohol use (Irons & Lad, 2017; Phelps et al., 2018; Zhang et al., 2017). Given this, compassion-based therapies have been proposed for treating MI in veterans (Farnsworth et al., 2014; Williamson et al., 2019). Emerging evidence has demonstrated efficacy of using SC interventions for PTSD in veterans (Dahm et al., 2015; Eaton et al., 2020). For example, Held and Owens (2015) revealed a SC workbook increased levels of SC and decreased trauma-related guilt, Hiraoka et al. (2015) found SC was negatively associated with PTSD symptoms among Iraq and Afghanistan U.S. veterans, and Steen et al.'s (2021) recent review revealed SC reduced PTSD symptoms and trauma-related guilt in veterans.

A promising body of research has explored the use of CFT and/or CFT principles for veterans (Grodin et al., 2019; Lang et al., 2019). Grodin et al. (2019) investigated the feasibility and effectiveness of group CFT for veterans with PTSD and anger, revealing reductions in PTSD symptoms, anger, and FoC. Moreover, a Cognitively Based Compassion Training programme focusing on developing SC and CtO found reductions in PTSD symptoms, depression, and anxiety among veterans (Lang et al., 2019). However, research is lacking into exploring how CfO may present in a veteran population.

Due to theoretical underpinnings of CFT in targeting shame, alongside the promising emerging evidence investigating compassion-focused interventions for veterans, it may be beneficial to explore the different facets of compassion and their relationship to MI in veterans. One preliminary study exploring MIEs, mental health, and SC in veterans revealed SC moderated the relationship between MIE's, PTSD, depression, and self-harm (Forkus et al., 2019). In contrast, Kelley et al. (2019) found no moderating effects of SC on MI and suicidality in veterans, highlighting the need for future research to explore the varying facets of compassion for MI in veterans, whilst considering confounders such as FCTS, FCTO, and FCFO.

2.2.6   The Present Study

There is increasing recognition of MI in veteran populations, however, the evidence-base for MI treatments is limited (Cenkner et al., 2021; Nieuwsma et al., 2015; Purcell et al., 2018). The proposed treatments for MI thus far are based on evidence-based interventions for PTSD, even though MI has been proposed as a shame-based presentation separate to PTSD (Jinkerson, 2016; Koenig & Al Zaben, 2021). CFT has been found promising for targeting key features of MI (i.e., guilt and shame) (Gilbert, 2014). Given the theoretical suitability of using compassion for MI (Gilbert, 2014), it may be beneficial to explore the facets of compassion and their relationship with MI among veterans. This would provide a better understanding of MI as a construct and subsequently support development of appropriate treatments.

The current study therefore aims to investigate the association between psychological distress, alcohol use, the inhibitors of compassion (shame, FCTS, FCTO, FCFO, self-criticism), facilitators of compassion (SR), and the three flows of compassion

(SC, CtO, and CfO) on MI among veterans. The study hypothesises that (1) Psychological

distress, alcohol use, and the inhibitors of compassion (shame, FCTS, FCTO, FCFO, and

self-criticism) will be positively related to MI; (2) The facilitators of compassion (SR) will

be negatively related to MI; (3) Lower levels of SC and CtO will be associated with

increased MI; (4) SC and CtO will predict MI after accounting for the contributions of

psychological distress, alcohol use, and the inhibitors (shame, FCTS, FCTO, FCFO, and

self-criticism) and facilitators (SR) of compassion. Due to scarcity of evidence in the

literature, no directional hypothesis could be made for CfO and MI.

2.3   Materials and Methodology

2.3.1   Design

A correlational design using internet-mediated research was used to quantitatively

explore the research hypotheses. A G*power (Faul et al., 2009) calculation was conducted

to determine the sample size and power. A medium effect size was chosen based on

previous quantitative research (Aldridge et al., 2019). For a multiple regression using a

medium effect size with an alpha value of 0.05 and power of 0.80, a total of 103

participants were required for the study.

2.3.2   Participants

Participants included 127 military veterans who met the study inclusion criteria

(see Table 4). The sample comprised 81.9% males and 17.3% females with a mean age of

51.24 years ($SD = 13.98$), ranging from 25-84 years. Most participants identified as White

British/Scottish/Irish/Gypsy, or Irish Traveller (92.9%), with the remaining identifying as

Black (1.6%), Asian (1.6%), or Mixed (2.4%) ethnicities. Most participants were in full-

time employment (52.8%), followed by retired (26%), part-time employed (15%), in

volunteer work (3.1%), or not stated (3.1%).

Participants were predominantly in non-commissioned ranks (lower rank) (78.0%)

compared to commissioned ranks (higher rank) (18.9%). Most participants had been

deployed (86.6%), 51.2% spent 0-10 years in service, and 48.8% spent 11 or more years in

service. Most participants had experienced past or current physical and mental health

problems (35.4%), with 32.3% of participants receiving past psychological and medical

treatment, and 17.3% receiving current psychological and medical treatment. Demographic

information is presented in Table 5 (see Appendix P).

Table 4

Participant Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Military veterans who have served in the armed forces of their country	Individuals who have not served in the armed forces of their country (i.e., civilians) or are actively serving for an armed force
Has access to a device with internet (e.g., laptop, mobile phone, or tablet)	Does not have access to a device with internet
Ability to read, write, and understand English	Cannot read, write, or understand English

Table 5

Participant demographic and military characteristic information (N = 127)

Characteristic	M(SD)	N	%

Gender		
Male	104	81.9%
Age	51.24 (13.98)	
Military Service		
Army	82	64.1%
Royal Air Force	10	7.8%
Royal Navy	23	18.0%
Royal Marines	2	1.6%
Volunteer Military Service	5	3.9%
Special Forces	1	0.8%
Not stated	4	3.1%
Rank		
Commissioned	24	18.9%
Non-commissioned	99	78.0%
Not stated	4	3.1%
Deployed		
Yes	110	86.6%
No	17	13.4%
Length of time in service		
0-4 years	35	27.6%
5-10 years	30	23.6%
11-15 years	26	20.5%
16-20 years	14	11.0%
Above 20 years	22	17.3%
Past or current mental or physical health problems		
Mental health	31	24.4%
Physical health	32	25.2%
Both	45	35.4%
None	18	14.2%
Not stated	1	0.8%
Past psychological or medical treatment		
Psychological treatment	20	15.7%
Medical treatment	32	25.2%

Both	41	32.3%
None	34	26.8%
Current psychological or medical treatment		
Psychological treatment	16	12.6%
Medical treatment	31	24.4%
Psychological and medical treatment	22	17.3%
None	56	44.1%
Not stated	2	1.6%

2.3.3   Measures

2.3.3.1   *Demographics questionnaire*

Based on prior military-based research (Forkus, Breines, & Weiss, 2019; Gerdes, Williams, & Karl, 2021 Hiraoka et al., 2015), demographic characteristics included age, gender, ethnicity, employment, relationship status, and military service. Risk factors associated with MI were assessed including rank, deployment, length of service, discharge reason, past or current physical and/or mental health problems, and past or current psychological and/or pharmacological treatment (see appendix E).

2.3.3.2   *Moral Injury*

The Expressions of Moral Injury Scale-Military Version (EMIS-M; Currier et al., 2017) (see appendix F) is a self-report 17 item questionnaire assessing MI in military populations. The EMIS-M assesses self-directed and other-directed MI. Items are rated on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example item is "I am an unforgivable person because of things that I did/saw in the military". There are no clinical cut-offs for the EMIS-M, although higher scores indicate increased levels of MI. The EMIS-M has demonstrated strong internal consistency, Cronbach α = .95 (Currier et

al., 2017). The total score was used to capture MI as an overall factor (Currier et al., 2017; Currier et al., 2019).

2.3.3.3   *Shame*

The External and Internal Shame Scale (EISS; Ferreira et al., 2020) (see appendix G) is an 8-item self-report measure assessing global shame and the external and internal dimensions of shame (e.g., "I am isolated" and "Other people see me as uninteresting"). Each item is rated on a 5-point Likert scale ranging from 0 (never) to 4 (always). Scores vary between 0 and 32 points, with higher values indicating higher levels of shame. The EISS demonstrated good internal consistency, Cronbach α =.89 (Ferreira et al., 2020).

2.3.3.4   *Self-criticising and self-reassuring*

The forms of self-criticising/attacking, and self-reassuring scale (FSCRS; Gilbert et al., 2004) (see appendix H) is a 44 item self-report measure assessing self-criticism (e.g., "I am easily disappointed with myself") and SR (e.g., "I find it easy to forgive myself"). The questionnaire is split into two sub-scales (self-criticism and SR). The self-criticism subscale measures two forms of self-criticism: inadequate self (IS) and hated self (HS). Items are scored on a 5-point Likert scale ranging from 0 (not at all like me) to 4 (extremely like me). Scores are summed on three subscales (inadequate self, hated self and self-reassurance) with higher scores indicating worse outcomes. The FSCRS demonstrated good internal consistency, with Cronbach α =.91 for inadequate self, Cronbach α =.87 for hated self, and .85 for reassured self (Gilbert et al., 2014).

2.3.3.5 Alcohol Use

The Alcohol Use Disorders Identification Test (AUDIT; Saunders et al., 1993) (see appendix K) is a 10-item self-report questionnaire assessing alcohol consumption, drinking behaviour, and alcohol related problems. An example item is "How often do you have a drink containing alcohol?". Items are scored on a 0–4-point scoring system. Scores are summed and range from 0-40. Scores of 8 or more indicate harmful alcohol use. The measure has been validated across numerous studies demonstrating good internal consistency with a Cronbach α score falling in the =.80s (Reinert & Allen, 2002).

2.3.3.6 Psychological Distress

The Clinical Outcomes in Routine Evaluation (CORE-10; Barkham et al., 2013) (see appendix I)10-item self-report questionnaire screened for anxiety, depression, trauma, physical problems, general functioning, and risk to self. An example item is "I have felt unhappy". Each item is rated on a 5-point Likert scale ranging from 0 (not at all) to 4 (most or all the time). Higher scores indicate greater mental distress. A clinical cut off score of 11 is indicative of requiring mental health support (Barkham et al., 2013). The CORE-10 has demonstrated good psychometric properties and good internal consistency, Cronbach α = .90 (Barkham et al., 2013).

2.3.3.7 Fears of Compassion

FoC was assessed using the Fears of Compassion Scale (FCS; Gilbert et al., 2011) measure (see appendix J). The FCS measures comprises of three subscales measuring three different FoC: fear of compassion for self, for others, and from others. Participants respond to each item (e.g., "I fear that being too compassionate makes people an easy target") on a

5-point Likert scale ranging from 1 (don't agree at all) to 5 (completely agree). Scores for each subscale are summed with higher scores indicating greater fears of compassion. The FCS has demonstrated good internal consistency, Cronbach α = .79 (Asano et al., 2017).

2.3.3.8 *Three Flows of Compassion*

Gilbert et al's (2017) Compassionate Engagement and Action Scales (CEAS) questionnaire (see appendix L) assessed SC (e.g., "I tolerate the various feelings that are part of my distress"), CtO (e.g., "I notice and am sensitive to distress in others when it arises"), and CfO (e.g., "Others are emotionally moved by my distressed feelings"). The three respective scales comprise of 13 items on a 10-point Likert scale ranging from 1 (never) to 7 (always). For each three scales, two subscales can be calculated (engagement and actions) by summing items related to each subscale. A total scale score for each scale is derived from the sum of scale items. Reverse items are not included in the scoring. Higher scores represent higher levels of compassion. The CEAS has demonstrated good internal reliability, Cronbach α from .67 to .94 (Murfield et al., 2020).

2.3.4 *Procedure*

The study was approved by the University of Southampton Ethics and Research Governance board (ERGO number 69915) on 01/06/2022 (see Appendix C). Participants were recruited via an anonymous survey link and two advertisements that were shared on social media platforms including Facebook, Twitter, and online military-based groups (e.g., Veterans UK) (see appendix N and O).

All participants were required to provide informed consent via the online consent form within the survey (see appendix D) prior to completing the battery of questionnaires. All measures were self-report and administered online to enhance the likelihood of

obtaining a larger and more diverse sample (Carlbring et al., 2007). To ensure

standardisation and enhance replicability, all measures were administered in the following

order: demographics questionnaire, EMIS-M, EISS, FSCRS, AUDIT, CORE-10, FCS, and

CEAS. The EMIS-M was firstly chosen as a priming questionnaire to activate potential

MI-based symptoms, beliefs, and/or mindsets in order to gain a more valid representation

of the true relationship between MI and the facets of compassion (Van de Walle & Van

Ryzin, 2011). To account for potential participant fatigue, shorter questionnaires such as

the CORE-10 and AUDIT were administered between longer questionnaires such as the

CEAS. Moreover, to address for any potential distress elicited by more sensitive

questionnaires such as the EMIS-M, a compassion measure was chosen as the final

questionnaire to help participants end the survey with a more compassion-based mindset.

Participants were provided with online links and telephone numbers to NHS and

military based support services at the beginning and end of the survey (see Appendix D

and Appendix M). Participants were debriefed at the end (see Appendix M). Upon survey

completion, participants had the opportunity of entering a prize draw to win one of four

£50 Amazon vouchers.

2.3.5   *Data Analysis*

Analyses were performed using SPSS (Version 29) and statistical significance was

set at $p = .05$. Data were screened for missing values, outliers, and unusual values. A total

of 239 participants completed a minimum of 5% of the measures. Those who completed

<86% of the full set of measures were removed as this resulted in zero CEAS data. This

resulted in the removal of 40.6% of data. Participants who completed at least one of the

three parts of the CEAS were included in the analyses. This resulted in 93.7% ($n = 119$) of

the sample with full data sets, 2.4% ($n = 3$) of the sample with CtO missing, and 3.9% ($n =$

5) with CfO missing. Histograms, scatterplots, and boxplots indicated the assumptions of homoscedasticity, normality, and linearity were met.

Bivariate Pearson correlations examined the relationships between the predictors (demographics, psychological distress, alcohol use, shame, FCTS, FCTO, FCFO, self-criticism, and SR), MI and the three flows of compassion (SC, CtO, CfO) (see Table 6). A hierarchical multiple regression examined the unique contribution of the aforementioned predictor variables on MI. Age, and rank (commissioned or non-commissioned) were entered at Step 1, psychological distress (CORE-10) was entered at Step 2, the inhibitors and facilitators of compassion (EISS, FSCRS, AUDIT, FCS) were entered at Step 3, and the three flows of compassion (CEAS) were entered at Step 4.

2.4   Results

2.4.1   Hypothesis 1: Psychological distress, alcohol use, and the inhibitors of compassion (shame, FCTS, FCTO, FCFO, and self-criticism) will be positively related to MI

All correlations and descriptive statistics are reported in Table 6. As depicted in Table 3, bivariate analyses indicated strong significant positive correlations between psychological distress ($r = .737$), alcohol use ($r = .337$), shame ($r = .765$), FCTS ($r = .702$), FCTO ($r = .548$), FCFO ($r = .704$), and self-criticism as indicated by IS ($r = .712$) and HS ($r = .759$), and MI. Interestingly, age ($r = -.327$) and commissioned ranks ($r = -.226$) were also significantly correlated to MI, indicating veterans younger in age and lower in rank are likely to experience increased MI (see Table 6).

2.4.2   Hypothesis 2: The facilitators of compassion (SR) will be negatively related to MI

In support of hypothesis two, SR was found to be significantly negatively associated with MI (r = -.474) indicating that veterans who are higher in SR are likely to experience lower MI symptoms (see Table 6).

2.4.3   Hypothesis 3: Lower levels of SC and CtO will be associated with increased MI

Bivariate correlations revealed SC (r = -.347) and CtO (r = -.204) was significantly associated with increased MI, indicating veterans who are lower in SC and CtO experience increased MI symptoms. Interestingly, CfO was not significantly correlated with MI (r = -.115) supporting the proposed null hypothesis (see Table 6).

Table 6

Means (standard deviations), N (%), and correlations for demographics, military characteristics, main predictors, and three flows of compassion.

	M (SD)	*N (%)*	Moral Injury (*r*) *n* = 127	SC (*r*) *n* = 127	CtO (*r*) *n* = 124	CfO (*r*) *n* = 119
Demographics						
Gender						
Male		104 (81.9%)	.098	-.008	-.167	.014
Age	51.24 (13.98)		-.327**	-.034	.120	-.032
Military Background						
Army		82 (64.1%)	-.001	.055	-.104	-.144
Royal Air Force		10 (7.8%)	-.061	.016	.134	.039
Royal Navy		23 (18.0%)	-.083	-.074	.441	.100
Rank						

Commissioned	24 (18.9%)	-.226*	-.017	-.065	-.011
Deployment					
Deployed	110 (86.6%)	.114	-.009	-.137	-.061
Main Predictors					
Psychological Distress (CORE-10)	28.49 (7.40)	.737**	-.402**	-.056	-.067
Alcohol use	9.58 (7.80)	.337**	-.103	-.251**	-.160
Inhibitors of Compassion					
Shame (EISS)	14.94 (7.33)	.765**	-.419**	-.114	-.242**
Inadequate Self (FSCRS)	19.24 (10.00)	.712**	-.505**	-.097	-.258**
Hated Self (FSCRS)	7.34 (5.72)	.759**	-.425**	-.136	-.073
Fear of Compassion to Others (FCS)	21.11 (8.85)	.548**	-.363**	-.280**	-.311**
Fear of Compassion from Others (FCS)	36.82 (13.10)	.704**	-.429**	-.255**	-.310**
Fear of Compassion to Self (FCS)	41.39 (17.28)	.702**	-.521**	-.238**	-.281**
Facilitators of Compassion					
Reassured Self (FSCRS)	15.61 (7.53)	-.474**	.673**	.186*	.403**
Three Flows of Compassion					
SC (n = 127)	58.02 (19.80)	-.347**	-	-	-
CtO (n = 124)	68.16 (19.50)	-.204*	.407**	-	-
CfO (n = 119)	52.21 (21.70)	-.115	.574**	.350**	-
Moral Injury	48.22 (17.01)	-	-	-	-

Note. EISS = External and Internal Shame Scale; AUDIT = Alcohol Use Disorders Identification Scale; CORE-10; Clinical Outcomes in Routine Evaluation 10; FSCRS-IS= Forms of Self-criticising/Attacking and Self-reassuring Scale – Inadequate Self; FSCRS RS = Forms of Self-criticising/Attacking and Self-reassuring Scale – Hated Self; Forms of Self-criticising/Attacking and Self-reassuring Scale – Reassured Self; FCS-TO = Fears of Compassion Scale – To Others; FCS-FO = Fears of Compassion Scale – From Others; FCS-S = Fears of Compassion Scale – Self; SC = Self-compassion; CtO = Compassion To Others; CfO = Compassion From Others; MI = Moral Injury

*p<0.05 (two-tailed)
**p<0.01 (two-tailed)

2.4.4 **Hypothesis 4: SC and CtO will predict MI after accounting for the contributions of psychological distress, alcohol use, and the inhibitors (shame, FCTS, FCTO, FCFO, and self-criticism) and facilitators (SR) of compassion**

A hierarchical multiple linear regression examined the role of the three flows of compassion (SC, CtO, CfO) on MI symptoms whilst controlling for age, rank, psychological distress, alcohol use, and the inhibitors (shame, FCTS FCTO, FCFO, and self-criticism) and facilitators (SR) of compassion. Overall, the model was found significant (F (14,118) = 19.12, p < .001), accounting for 72% of the variance of MI. The model indicated SC [β =.090], CtO [β =-.121], CfO [β =.083] did not significantly predict MI in veterans after accounting for age (β = .023), rank (β = -.112), psychological distress (β = .116), alcohol use (β =.071), and the inhibitors (shame [β = .425] FCTS [β = .050], FCTO [β = .064], FCFO [β = -.017], and self-criticism as indicated by IS [β = .093] and HS [β = .166]) and facilitators (SR [β = -.052) of compassion (see Table 7).

However, upon closer inspection of the individual predictors (age, rank, psychological distress, shame, alcohol use, FCS, FCTO, FCFO, SR, SC, CtO, and CfO), only shame and rank remained significant predictors of MI (see Table 4). The analysis revealed shame as the most prominent predictor of MI (β = .425), followed by rank (β = -.112) (see Table 7).

Table 7

Hierarchical multiple regression analysis predicting MI (N = 127)

Predictor Variables	*B*	SEB	*β*	*t*	Sig.	*sr²*	95% CI
Step 1							
Age	-.375	.101	-.316	-3.701	<.001**	−.099	-.576 to -.174
Rank	-9.558	3.724	-.219	-2.566	.012*	−.048	-16.934 to -2.181
Step 2							
Age	.003	.077	.002	.035	.972	−.019	-.150 to .156
Rank	-4.630	2.722	-.106	-1.701	.092	−.011	-10.021 to .761
Psychological distress	1.549	.148	.675	10.437	<.001**	.410	1.255 to 1.843
Step 3							
Age	.003	.077	.002	.035	.972	.000	-.150 to .156
Rank	-4.826	2.339	-.111	-2.064	.041*	−.012	-9.462 to -.190
Psychological distress	.255	.249	.111	1.025	.308	.003	-.239 to .749
Shame	.900	.256	.391	3.519	<.001**	.034	.393 to 1.407
Inadequate Self	.093	.215	.055	.435	.664	.001	-.332 to .519
Reassured Self	.001	.166	.000	.006	.996	.000	-.329 to .331
Hated Self	.643	.344	.217	1.866	.065	.010	-.040 to 1.326
Alcohol use	.166	.130	.076	1.278	.204	.004	-.091 to .423
Fear of self-compassion	.008	.126	.008	.062	.951	.000	-.241 to .257
Fear of compassion to others	.116	.156	.060	.739	.461	.002	-.195 to .426
Fear of compassion from others	.040	.179	.031	.222	.825	.000	-.316 to .395
Step 4							
Age	.028	.077	.023	.357	.721	.000	-.125 to .181
Rank	-4.887	2.325	-.112	-2.102	.038*	−.012	-9.498 to -.276

Psychological distress	.266	.258	.116	1.032	.304	.003	-.245 to .778
Shame	.977	.255	.425	3.833	<.001**	.040	.472 to 1.483
Inadequate self	.158	.217	.093	.727	.469	.001	-.273 to .589
Reassured self	-.119	.188	-.052	-.635	.527	−.001	-.492 to .253
Hated self	.493	.357	.166	1.382	.170	.005	-.215 to 1.202
Alcohol use	.155	.134	.071	1.160	.249	.004	-.110 to .420
Fear of self-compassion	.050	.130	.050	.382	.703	.000	-.208 to .307
Fear of compassion to others	.124	.156	.064	.791	.431	.002	-.186 to .434
Fear of compassion from others	-.022	.186	-.017	-.117	.907	-.000	-.391 to .347
Self-compassion	.077	.078	.090	.992	.323	.003	-.077 to .232
Compassion to others	-.106	.055	-.121	-1.937	.056	−.01	-.214 to .003
Compassion from others	.065	.059	.083	1.107	.271	.003	-.052 to .182

Note. sr^2 = small effect size = 0.02, medium effect size = 0.13, large effect size = 0.26
*$p<0.05$ (two-tailed)
**$p<0.01$ (two-tailed)

2.5   Discussion

2.5.1   Findings in Context

The current study aimed to investigate the association between psychological distress, alcohol use and the various facets of compassion as proposed by Gilbert (2020) (facilitators and inhibitors, and three flows of compassion), and MI among veterans. The study revealed psychological distress, alcohol use, and the inhibitors of compassion (shame, FoC, and self-criticism) were strongly associated with increased MI symptoms, whereas the facilitator of compassion (SR) was found to be related with reduced MI symptoms. In consideration of the three flows, lower levels of SC and CtO was found to be associated with increased MI, whereas CfO was not related to MI. Further, results revealed the three flows of compassion did not predict MI after accounting for the contributions of psychological distress, alcohol use, and the inhibitors (shame, FC, and self-criticism) and facilitator (SR) of compassion. Interestingly, the study revealed lower age and rank were significantly related with MI, with shame as the primary predictor of MI in veterans.

2.5.2   Inhibitors and Facilitators of Compassion and MI

The current study found shame and self-criticism were positively associated with MI among veterans, with shame as the primary predictor of MI. This supported Litz et al. (2009) who propose MI produces feelings of shame and self-loathing. Additionally, FCTS, FCTO, and FCFO were all strongly related to increased MI which may be understood through shame-related literature (Litz et al., 2009; Vermetten & Jetly, 2018). Shame is associated with a perceived negative evaluation from others and the self, resulting in high self-criticism and increased psychological distress (Litz et al., 2009; Gilbert & Irons, 2008). Consequently, individuals experiencing shame and self-criticism can withdraw from

others due to believing they are undeserving of compassion, leading to the development of FoC (Gilbert, 2009; Litz et al., 2009; Naismith et al., 2017). This may be particularly pertinent for veterans who may have experienced MIE whilst serving, where extensive withdrawal from others serves as a coping strategy for shame, fears of rejection and/or condemnation related to the MIE's (Zerach & Levi-Belz, 2018). Subsequently, this avoidance maintains MI-related shame and the three FoC (Litz et al., 2009). Alternatively, SR has been proposed as an antidote to self-criticism, acting as a protective factor against psychopathology, and may explain the current significant relationship between increased SR and reduced MI in veterans (Gilbert, 2006).

As an emotion, shame has been defined as a negative global evaluation of the self, accompanied by feelings of worthlessness, powerlessness, and vulnerability, playing a critical role in the development of one's sense of self and in social and moral behaviour (Farnsworth et al., 2014; Ferreira et al., 2020; Tangney et al., 2007). Moreover, shame has been proposed to arise when individuals perceive their behaviour to transgress internal moral standards, resulting in self-condemnation and withdrawal from others (Nazarov et al., 2015). In a similar vein, MI has been proposed as an experience of shame occurring from actions and/or exposure to acts that violate one's moral beliefs, disrupting one's moral sense of the world (Dickinson, 2023). Despite the current lack of an operationalised definition for MI, there is a strong theoretical and conceptual overlap between shame and MI, alongside an increasing evidence-base indicating increased shame and MI among veterans (Nazarov et al., 2015). Therefore, the strong relationship found between shame and MI in the current study may be understood through the theoretical overlap and conceptual frameworks proposed for both MI and shame.

2.5.3   Psychological Distress, Alcohol Use, Military Characteristics and MI

Previous research has indicated MI is closely linked with depression, suicidal ideation, anxiety (Ames et al., 2018; Bryan et al., 2016; Currier et al., 2014; Williamson et al., 2021), and alcohol use (Davies et al., 2019). Therefore, this study partially replicated prior research revealing increased psychological distress and alcohol use were significantly associated with MI. Furthermore, increased alcohol use has historically served as a coping strategy within the military and has more recently been linked to MI-related self-harming behaviours (Jones & Fear, 2011; Murphy & Turgoose, 2019). The current finding further evidences the prevalence of alcohol use in military population.

Interestingly, the study revealed veterans younger in age and lower in rank are at increased likelihood of experiencing MI symptoms. Moreover, findings from the current regression analysis revealed rank as the second biggest predictor of MI among veterans. This supports previous research demonstrating a link between MI and less social empowerment (e.g., younger age), highlighting the importance of considering age and rank as risk factors for MI among veterans (Nieuwsma et al., 2022).

2.5.4   The Three Flows of Compassion and MI

MI within the military has been proposed to develop by either acts committed by oneself, or acts committed by others (including betrayals) (Currier et al., 2014; Litz et al., 2009; Shay, 2014). Based on this, the SC and CtO flows may relate to the two respective forms of MIE that occur in the military. If one experiences shame and distrust resulting from transgressive acts committed by oneself or others, then resistances and FCTS and FCTO may arise (Gilbert et al., 2017; Kirby et al., 2019; Litz et al., 2009). These resistances may include shame, avoidance, and reduced empathy for others, potentially

explaining the current association between reduced SC and CtO and increased MI among veterans.

Interestingly, CfO was not related to increased MI among veterans. CfO has been linked to the quality of care received during early life, with increased CfO relating to positive and caring relationships, and reduced CfO relating to a lack of social support and neglectful relationships during early childhood (Gilbert et al., 2017). Early life experiences such as adverse childhood experiences (ACE's) were not measured in the current study, therefore, factors such as access to support during early life may contribute to the understanding of the current finding. Moreover, research suggests each flow of compassion can differ in relation to different mental health presentations (Kirby et al., 2019). Given the novelty of these findings, further research is required to establish how CfO relates to MI, a veteran population, or whether this finding is idiosyncratic to MI in veterans.

Of note, SC, CtO and CfO did not predict MI after accounting for the effects of age, rank, psychological distress, alcohol use, and the inhibitors (shame, FCTS, FCTO, FCFO, and self-criticism), and facilitators (SR) of compassion. However, the findings from the regression analysis revealed that together, age, rank, psychological distress, alcohol use, and the facets of compassion (Gilbert, 2020) play a large role in MI among veterans, potentially indicating the clinical utility of using CFT within the treatment for veterans experiencing MI (Gilbert, 2009).

2.5.5 Strengths, Limitations and Suggestions for Future Research

This is the first study exploring the facets of compassion and MI among veterans, contributing to the novel emerging evidence-base (Kelley et al., 2019). The study included a large sample with a diverse range of characteristics, enhancing generalisability of the findings (Fox et al., 2009). Additionally, the study employed standardised validated

measures to enhance the reliability and validity of the findings (Fox et al., 2009). The study provides further evidence for the conceptual understanding of MI as a predominantly shame-based presentation, supporting evidence that PTSD interventions using fear-based models may not appropriately target shame-based processes relating to MI among veterans (Griffin et al., 2019; Litz et al., 2009).

Despite a strong positive relationship between shame and MI among veterans found in the current study and a robust theoretical rationale, there is a general lack of empirical support evidencing the relationship between shame and MI (Jinkerson, 2016). Furthermore, given the conceptual overlap of both shame and MI and research indicating high prevalence among military populations, future research is required into investigating whether shame alone is increased in veteran populations whilst controlling for MI, in addition to further exploring the distinct relationship between shame and MI among veterans. To support with this, research is required into further developing and evaluating MI-based measures alongside establishing a standardised definition of MI, as well as investigating both the external and internal dimensions of shame among veterans (Ferreira et al., 2022).

In consideration of the limitations, the cross-sectional and correlational nature of the data limits the ability to draw causal inferences (Kesmodel, 2018). Future research adopting longitudinal designs are required to determine causal inferences. Moreover, the findings tentatively indicate the need for future research to start exploring the utility of CFT for MI in veterans, adopting randomised controlled trial (RCT) designs to establish its effectiveness. Furthermore, more research is needed into whether compassion differs in relation to the two different forms of MI among veterans to further guide treatment.

Further, there were a larger number of questionnaires included within the study, potentially leading to increased levels of attrition. Although results were found significant,

order effects such as fatigue and/or boredom may have impacted the validity and reliability of data later on in the survey such as data derived from the CEAS (Lucas, 1992). Although psychological distress, alcohol use, and the facets of compassion, with the exclusion of CfO, were significantly related and theoretically related to MI, future research should consider reducing the number of questionnaire when exploring the facets of compassion and MI in veterans to those variables which are under-researched, such as FoC and the three flows of compassion. Furthermore, future research should consider alternative designs such as between and within-subject comparison designs to account for potential order effects such as fatigue via a counterbalancing approach (Lucas, 1992).

The participants comprised mainly White males who had been deployed at least once. Therefore, these findings may not generalise to female veterans, and those from other cultures and ethnic backgrounds. Future research should aim to investigate these variables to develop a deeper understanding in this area. Additionally, factors which impact shame, fears of compassion, and the three flows of compassion such as ACEs were not accounted for in the study (Gilbert, 2014; Lucre & Clapton, 2021), which is another potential avenue for future research.

2.5.6   Clinical Implications

The findings tentatively support the clinical utility of using CFT for MI among veterans, which adopts a transdiagnostic approach to increase compassion, reduce shame and self-criticism, and address FoC (Gilbert, 2009). Taken together, the findings indicate fear-based PTSD treatments may not adequately target MI-related distress including shame, psychological distress, alcohol use, FoC and reduced SC and CtO. Therefore, services should routinely screen for MI in veterans, start trialling the use of CFT for MI

among veterans, and evaluate the effectiveness of this. Furthermore, services should routinely consider rank and age as risk factors when assessing veterans experiencing MI.

To appropriately address the inhibitors of compassion among veterans with MI, Gilbert (2009) emphasises the role of the therapist in supporting the client to feel safe to explore potential FoC. Therefore, clinicians should allow for extended assessments, focusing on building a good therapeutic rapport to facilitate a 'safe space' for effective exploration of FoC (Gilbert, 2009; Lucre & Corten, 2013). Moreover, as alcohol use appears to be related to MI, substance misuse workers should routinely assess for MI when working with veterans.

2.5.7 Conclusions

The current study indicates MI as a shame-based presentation among veterans and provides an initial insight into the complex relationships between the various facets of compassion and MI in veterans. Moreover, the findings highlight age and rank as potential risk factors for MI, and alcohol use and psychological distress as MI-related comorbidities. The findings tentatively support the potential value of utilising CFT for veterans with MI. highlighting the need for future research in this area. Additionally, the interesting non-significant finding between CfO and MI in veterans needs further consideration from a theoretical and research perspective to explore whether this is idiosyncratic to this study, to MI and/or the veteran population. Clinical services should aim to routinely assess for MI, shame, compassion, inhibitors and facilitators of compassion, and consider age and rank as risk factors, with the consideration of using CFT approaches for MI in male veterans.

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Appendix A - Search Terms

Psychinfo

Date of search: 17/10/2022
Total number of results: 129

1. Phenomena of Interest: Self-Compassion	
Key words:	S1 "Self compassion*" OR "self kindness" OR "self regard" OR "self worth" OR "self appreciation" OR "self warmth" OR "self love" OR "self gratitude" OR "compassion*"
Subject Headings:	DE "Self-Compassion" OR DE "Compassion"
AND	
2. Outcome of Interest: PTSD	
Key words:	S2 "PTSD" OR "post traumatic stress disorder" OR "posttraumatic stress disorder" OR "post traumatic stress" OR "posttraumatic stress" OR "combat disorder" OR "psychotrauma" OR "traumatised" OR "traumatized"
Subject Headings:	DE "Posttraumatic Stress Disorder" OR DE "Complex PTSD" OR DE "DESNOS"
AND	
3. Population: Military Veterans	
Key words:	S3 "Military veteran" OR "veteran*" OR "ex-military" OR "ex-service" OR "soldier*" OR "troop*"
Subject Headings:	DE "Military Veterans"

1. Phenomena of Interest: Self-Compassion	
Key words:	S1 "Self compassion*" OR "self kindness" OR "self regard" OR "self worth" OR "self appreciation" OR "self warmth" OR "self love" OR "self gratitude" OR "compassion*"
Subject Headings:	MM "Self-Compassion"
AND	
2. Outcome of Interest: PTSD	
Key words:	S2 "PTSD" OR "post traumatic stress disorder" OR "posttraumatic stress disorder" OR "post traumatic stress" OR "posttraumatic stress" OR "combat disorder" OR "psychotrauma" OR "traumatised" OR "traumatized"
Subject Headings:	MM "Stress Disorders, Post-Traumatic"
AND	
3. Population: Military Veterans	
Key words:	S3 "Military veteran" OR "veteran*" OR "ex-military" OR "ex-service" OR "soldier*" OR "troop*"
Subject Headings:	MM "Veterans" OR "Military Personnel"

MEDLINE

Date of search: 17/10/2022
Total number of results: 91

Web of Science

1. **Phenomena of Interest: Self-Compassion**	
Key words:	"Self compassion*" OR "self kindness" OR "self regard" OR "self worth" OR "self appreciation" OR "self warmth" OR "self love" OR "self gratitude" OR "compassion*"
AND	
2. **Outcome of Interest: PTSD**	
Key words:	"PTSD" OR "post traumatic stress disorder" OR "posttraumatic stress disorder" OR "post traumatic stress" OR "posttraumatic stress" OR "combat disorder" OR "psychotrauma" OR "traumatised" OR "traumatized"
AND	
3. **Population: Military Veterans**	
Key words:	"Military veteran" OR "veteran*" OR "ex-military" OR "ex-service" OR "soldier*" OR "troop*"

Date of search: 26/10/2022
Total number of results: 128

Google Scholar

1. Phenomena of Interest: Self-Compassion	
Key words:	"Self compassion*"
AND	
2. Outcome of Interest: PTSD	
Key words:	"PTSD"
AND	
3. Population: Military Veterans	
Key words:	"Military veteran*"

Date of search: 26/10/2022
Total number of results: 180

EThOS

4. Phenomena of Interest: Self-Compassion	
Key words:	"Self compassion*" OR "compassion*"
AND	
5. Outcome of Interest: PTSD	
Key words:	"PTSD"
AND	
6. Population: Military Veterans	
Key words:	"veteran*"

Date of search: 26/10/2022
Total number of results: 1

Proquest Dissertations & Theses Global (Doctoral dissertations only)

1. Phenomena of Interest: Self-Compassion	
Key words:	noft("self compassion") OR "self kindness" OR "self regard" OR "self worth" OR "self appreciation" OR "self warmth" OR "self love" OR "self gratitude" OR "compassion*")
AND	
2. Outcome of Interest: PTSD	
Key words:	noft("PTSD" OR "post traumatic stress disorder" OR "posttraumatic stress disorder" OR "post traumatic stress" OR "posttraumatic stress" OR "combat disorder" OR "psychotrauma" OR "traumatised" OR "traumatized")
AND	
3. Population: Military Veterans	
Key words:	noft("Military veteran" OR "veteran*" OR "ex-military" OR "ex-service" OR "soldier*" OR "troops")

Date of search: 27/10/2022

Total number of results: 33

Proquest Military & PTSDpubs

1. Phenomena of Interest: Self-Compassion	
Key words:	noft("self compassion") OR "self kindness" OR "self regard" OR "self worth" OR "self appreciation" OR "self warmth" OR "self love" OR "self gratitude" OR "compassion*")
AND	
2. Outcome of Interest: PTSD	
Key words:	noft("PTSD" OR "post traumatic stress disorder" OR "posttraumatic stress disorder" OR "post traumatic stress" OR "posttraumatic stress" OR "combat disorder" OR "psychotrauma" OR "traumatised" OR "traumatized")
AND	
3. Population: Military Veterans	
Key words:	noft("Military veteran" OR "veteran*" OR "ex-military" OR "ex-service" OR "soldier*" OR "troops")

Date of search: 27/10/2022

Total number of results: 89

Appendix B - Quality Assessment

Study: *Cheng et al. (2021)*

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – stated in the abstract, aims and hypotheses stated in introduction (pg. 3)			
2. Study design evident and appropriate?	Yes, clearly stated in abstract and is appropriate to address study objective			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – Subject group not stated until participants section, sampling was not stated e.g., volunteer sampling		
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – demographic info included alongside MH outcomes and			

	intervention factors			
5. If interventional and random allocation was possible, was it described?				N/A
6. If interventional and blinding of investigators was possible, was it reported?				N/A
7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – well defined			
9. Sample size appropriate?	Yes – sample size seems adequate for study, significant results found			
10. Analytic methods described/justified and appropriate?	Yes – well defined (ANVOVA's, regression etc.)			
11. Some estimate of variance is reported for the main results?	Yes – appropriate (means and standard dev reported in table 2)			
12. Controlled for confounding?	Yes – clearly stated and considered in			

	intro and analyses (pg 3 and 4)			
13. Results reported in sufficient detail?	Yes – clear tables and interpretation of analyses			
14. Conclusions supported by the results?	Yes – conclusions based on results			
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22 **21/22 = 0.95 (strong)**				

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – objectives and hypotheses clearly defined in intro			
2. Study design evident and appropriate?	Yes – pg. 461			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – selection methods not completely described (does not state where sample has come from e.g. clinical setting)		
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – ethnicity, gender, and mean age			
5. If interventional and random allocation was possible, was it described?				N/A
6. If interventional and blinding of investigators was possible, was it reported?				N/A
7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to	Yes – well defined			

measurement/misclassification bias? Means of assessment reported?				
9. Sample size appropriate?	Yes – Sample size seems appropriate – large effect sizes found.			
10. Analytic methods described/justified and appropriate?	Yes			
11. Some estimate of variance is reported for the main results?	Yes – Variance is reported (R2) in tables 1 and 2			
12. Controlled for confounding?	Yes – dependencies for variables fully accounted for			
13. Results reported in sufficient detail?		Partial – small paragraph of results, preliminary analyses not stated. Significance not stated.		
14. Conclusions supported by the results?	Yes			
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22 **20/22 = 0.91 (strong)**				

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – clearly stated in introduction			
2. Study design evident and appropriate?	Yes – stated in the 'present study' section of the introduction.			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?	Yes – defined in 'participants' and 'procedure' sections.			
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – sufficient relevant demographic and baseline info. collected and presented in table 1.			
5. If interventional and random allocation was possible, was it described?				N/A
6. If interventional and blinding of investigators was possible, was it reported?				N/A

7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – well defined in measures section.			
9. Sample size appropriate?			No– Sample size very small (7 with 5 completers) but appropriate for study design. No mention of power/effect size. Had clinically significant results (not statistically sig)	
10. Analytic methods described/justified and appropriate?	Yes – based on study design (case study) and small sample size, clinically meaningful change was used.			
11. Some estimate of variance is reported for the main results?		Partial – Variance		

		estimates not provided for main results/outcome. SD reported, comparisons between completers and non-completers on demographic variables considered.		
12. Controlled for confounding?	Yes – considered within exclusion criteria. Comparisons between completers and non-completers based on demographics, considered adverse events.			
13. Results reported in sufficient detail?		Partial – did not report comparisons between treatment completers and non-completers on demographic		

		and clinical variables.			
14. Conclusions supported by the results?	Yes – limitations also discussed in discussion.			128	
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22 **18/22 = 0.82 (strong)_**					

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – well formulated and defined in the introduction.			
2. Study design evident and appropriate?	Yes – stated clearly in abstract, appropriately addresses objective.			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?	Yes – selection strategy described and was relevant to the clinical target population.			
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – demographic data well described, baseline PTSD scores considered.			
5. If interventional and random allocation was possible, was it described?				N/A

6. If interventional and blinding of investigators was possible, was it reported?				N/A
7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – well defined			
9. Sample size appropriate?	Yes – statistically significant results foun.			
10. Analytic methods described/justified and appropriate?	Yes – well defined and appropriate.			
11. Some estimate of variance is reported for the main results?	Yes – appropriate variance estimates are provided)			
12. Controlled for confounding?		Partial – considered to an extent (e.g., combat exposure), but did not measure other factors e.g., low mood and anxiety – joint variables not considered.		

13. Results reported in sufficient detail?	Yes – sufficient detail.			
14. Conclusions supported by the results?	Yes			
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22 **21/22 = 0.95 (strong)**				

Study: *Forkus et al. (2019b)*

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – sufficiently described at the end of the intro			
2. Study design evident and appropriate?	Yes – appropriate to address objectives			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – described well but potential bias (only U.S veterans who were deployed to Iraq of Afghan)		
4. Subject (and comparison group, if applicable) characteristics sufficiently described?		Partial – only reported data on males, white ethnicity, army, and active duty. No reporting of missing demographic data e.g. other ethnicities, and military forces.		

5. If interventional and random allocation was possible, was it described?				N/A
6. If interventional and blinding of investigators was possible, was it reported?				N/A
7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – defined according to variables.			
9. Sample size appropriate?	Yes – large sample size and statistically significant results.			
10. Analytic methods described/justified and appropriate?	Yes – clearly described.			
11. Some estimate of variance is reported for the main results?	Yes –means, SD and range reported.			
12. Controlled for confounding?	Yes – dependencies between variables accounted for.			
13. Results reported in sufficient detail?	Yes – major outcomes are accounted for			
14. Conclusions supported by the results?	Yes			
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22				

18/22 = 0.82 (strong)

Study: *Gerdes et al. (2020)*

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – sufficiently described at end of intro section.			
2. Study design evident and appropriate?	Yes – design is easily identified and addresses the study objectives.			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?	Yes – described and appropriate (unbiased recruitment via online and NHS) Inclusion and exclusion outlined.			
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – sufficient and relevant demographic info.			
5. If interventional and random allocation was possible, was it described?				N/A

6. If interventional and blinding of investigators was possible, was it reported?				N/A
7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – defined and measured according to reproducible and objective criteria.			
9. Sample size appropriate?	Yes – mention of G power tests and significant results fount.			
10. Analytic methods described/justified and appropriate?	Yes – analytic methods are described.			
11. Some estimate of variance is reported for the main results?	Yes – confidence intervals and variance are included			
12. Controlled for confounding?	Yes – accounts for PTSD severity and emotional suppression. Consideration of outliers in boxplots (pg 6)			

13. Results reported in sufficient detail?	Yes – results include all major and secondary outcomes. Results presented in figures as well as text (pg 7)			
14. Conclusions supported by the results?	Yes – conclusions are supported by the data (pg. 8-10)			
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22 **22/22 = 1 (strong)**				

Study: *Grodin et al. (2019)*   COMPASSION FOR MORAL INJURY IN VETERANS

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – sufficiently stated at the end of intro (pg. 28)			
2. Study design evident and appropriate?	Yes – design is easily identified at the end of the intro (pg. 28) and addresses the objectives			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – selection described but likely bias due to sample being recruited from VA (clinical population only), two authors worked within VA		
4. Subject (and comparison group, if applicable) characteristics sufficiently described?		Partial – gender and ethnicity stated to an extent. Military branches and		

		"era's" were not specified (pg. 28)		
5. If interventional and random allocation was possible, was it described?				N/A – Pilot study
6. If interventional and blinding of investigators was possible, was it reported?				N/A
7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – sufficiently defined (pg. 30)			
9. Sample size appropriate?	Yes – deemed appropriate for study design and objectives. Significant results found (pg. 30-31)			
10. Analytic methods described/justified and appropriate?	Yes – Described and stated.			
11. Some estimate of variance is reported for the main results?	Yes – variance is accounted for (means and standard deviations reported)			

12. Controlled for confounding?		Partial – Bonferroni tests stated.		
13. Results reported in sufficient detail?	Yes – includes results for all major and secondary outcomes			
14. Conclusions supported by the results?	Yes – conclusions are supported by the data and limitations are discussed			
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22 **19/22 = 0.86 (strong)**				

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – stated at the end of intro. Specified population in first part of methodology (pg. 515)			
2. Study design evident and appropriate?	Yes – stated as pilot study and described within title and intro.			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – selection methods not completely described (does not state if volunteer sampling etc.). Potential bias due to targeting homeless male veterans only through one housing facility (pg. 515)		

4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – sufficiently detailed demographic data with baseline's included (pg. 515, 516, and 518)			
5. If interventional and random allocation was possible, was it described?		Partial – Randomisation is mentioned but method is not.		
6. If interventional and blinding of investigators was possible, was it reported?			No – blinding would have been possible (during initial meeting), but is not reported (pg. 518)	
7. If interventional and blinding of subjects was possible, was it reported?			No – blinding would have been possible and possibly done but not reported (pg. 518)	

8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – defined sufficiently (pg. 516-517)			
9. Sample size appropriate?	Yes – seems appropriate for study design and outcome. Significant results reported			
10. Analytic methods described/justified and appropriate?	Yes – analytic methods are described (MANOVA's etc.)			
11. Some estimate of variance is reported for the main results?	Yes – means, standard deviations, and CI are reported			
12. Controlled for confounding?		Partially – demographics for each group were compared as similar but no reporting of this. Other confounders such as the effects of receiving treatment as		

		usual and substance misuse was not controlled for.		
13. Results reported in sufficient detail?	Yes – results include major and secondary outcomes (pg. 518-521)			
14. Conclusions supported by the results?	Yes – Conclusions supported by the results.			
Total summary quality score: 28- (N/A x 2) = 28 – 0 = 28 **21/28 = 0.75 (good)**				

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – clearly defined at the end of the intro (pg. 128)			
2. Study design evident and appropriate?	Yes – design easily identified at the end of intro and is appropriate to address study objectives (pg. 128)			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – Selection methods not completely described (does not state if volunteer sampling). Possible bias due to recruitment from Central Texas health care system – some of the authors worked		

		in the service (pg. 128, 129)			
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – sufficient relevant demographic information (pg. 129)				
5. If interventional and random allocation was possible, was it described?					N/A – cross-sectional
6. If interventional and blinding of investigators was possible, was it reported?					N/A
7. If interventional and blinding of subjects was possible, was it reported?					N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – well defined and reproducible (pg. 129)				
9. Sample size appropriate?	Yes – statistical significance for one however effect sizes stated and appropriate sample size.				
10. Analytic methods described/justified and appropriate?	Yes – analytic methods are described (pg. 130)				

11. Some estimate of variance is reported for the main results?	Yes – means and standard deviations table, effect sizes accounted for (pg. 130)			
12. Controlled for confounding?		Partial – excluded other mental health problems, did not account for depression, or other traumas that may have happened over the 12 month follow-up period which may have impacted the CAPS (pg. 129)		
13. Results reported in sufficient detail?	Yes – include all major and secondary outcomes (pg. 130, 131)			
14. Conclusions supported by the results?		Partial – Some of the major conclusions are supported by the data, some are not – weak		

		associations and unclear relationships (pg. 131)	148	
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22 **19/22 = 0.86 (strong)**				

Study: *Kearney et al. (2013)*

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – easily identified and stated at the end of the intro			
2. Study design evident and appropriate?	Yes – Design easily identified in method and appropriate to study objectives			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – Setting of recruitment described, however sampling strategy unclear (pg. 3)		
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – demographic data presented in table (pg. 3)			
5. If interventional and random allocation was possible, was it described?				N/A – pilot trial
6. If interventional and blinding of investigators was possible, was it reported?				N/A

7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?		Partial – response options on some questionnaires are unclear (pg. 3)		
9. Sample size appropriate?	Yes – seems reasonable with respect to study design (pilot). Significant results stated (pg. 6)			
10. Analytic methods described/justified and appropriate?	Yes – described well (pg. 5)			
11. Some estimate of variance is reported for the main results?	Yes – standard mean differences (CIs) included			
12. Controlled for confounding?	Yes – accounted for joint variables e.g., suicidal ideation, substance misuse. Mediation analysis.			

13. Results reported in sufficient detail?	Yes – all major and secondary outcomes accounted for (pg. 6-7)			
14. Conclusions supported by the results?		Partial – some major outcomes supported, feasibility of intervention is assumed through attendance data. QA for acceptability of intervention would have been helpful (pg. 7)		

Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22

19/22 = 0.86 (strong)

Study: *Meyer et al. (2018)*   COMPASSION FOR MORAL INJURY IN VETERANS

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – easily identified in intro (pg. 1274)			
2. Study design evident and appropriate?	Yes – easily identified and relevant to study objective (pg. 1274)			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – Selection methods not completely described – states 'parent study' – this is confusing. Potential bias to Irag and Afghan veterans within VA healthcare system (pg. 1274)		
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – stated characteristics in results.			
5. If interventional and random allocation was possible, was it described?				N/A

6. If interventional and blinding of investigators was possible, was it reported?				N/A
7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – defined, clear description of questionnaire content and response (pg. 1275)			
9. Sample size appropriate?	Yes – seems reasonable with respect to study design, significant results found (pg. 1276)			
10. Analytic methods described/justified and appropriate?	Yes – analytic methods described (pg. 1275)			
11. Some estimate of variance is reported for the main results?	Yes – means, SD, variance accounted for (pg. 1276)			
12. Controlled for confounding?	Yes – tests for multicollinearity, accounts for dependencies between variables			
13. Results reported in sufficient detail?	Yes- results include major and secondary			

	outcomes (pg. 1276-1277)				
14. Conclusions supported by the results?	Yes – include all major outcomes (pg. 1277)			154	

Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22

21/22 = 0.95 (strong)

Study: *Meyer et al. (2019)*

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – easily identified in introduction (pg. 4)			
2. Study design evident and appropriate?	Yes – design is easily identified and appropriate to study objectives (pg. 4)			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – Setting and inclusion/exclusion criteria included, however, potential bias due to only recruiting veterans serving in post 9/11 conflicts in Iraq and Afghan who were registered in VA healthcare system (pg.5)		
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – sufficient demographic info (table 1)			
5. If interventional and random allocation was possible, was it described?				N/A

6. If interventional and blinding of investigators was possible, was it reported?				N/A
7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – Defined and measured according to reproducible criteria (pg. 6)			
9. Sample size appropriate?	Yes – seems reasonable with respect to design and outcomes. Significant results found.			
10. Analytic methods described/justified and appropriate?	Yes – analytic methods are described (pg. 7)			
11. Some estimate of variance is reported for the main results?	Yes – means, standard deviations, and percentages of variance (pg. 8)			
12. Controlled for confounding?	Yes – study accounted for known predictors of PTSD			

	chronicity. Hierarchichal regressions also used.			
13. Results reported in sufficient detail?	Yes – Results include all major and secondary outcomes (pg. 8-9)			
14. Conclusions supported by the results?	Yes – all major and secondary outcomes mentioned (pg.10-11)			
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22 **21/22 = 0.95 (strong)**				

Study: *Rabon et al. (2019)*   COMPASSION FOR MORAL INJURY IN VETERANS

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – easily identified at the end of intro (pg. 2546)			
2. Study design evident and appropriate?	Yes – design is easily identified and is appropriate to research objectives (pt. 2546)			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?	Yes – described and appropriate (pg. 2546)			
4. Subject (and comparison group, if applicable) characteristics sufficiently described?		Partial – incomplete demographic info (gender and age were missing) – Pg. 2546)		
5. If interventional and random allocation was possible, was it described?				N/A
6. If interventional and blinding of investigators was possible, was it reported?				N/A

7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – clear description of questionnaires and responses (pg. 2547-2548)			
9. Sample size appropriate?	Yes – large sample size and statistically significant results reported			
10. Analytic methods described/justified and appropriate?	Yes – defined and appropriate (pg. 2548)			
11. Some estimate of variance is reported for the main results?	Yes – means, standard deviations, CI (pg. 2548)			
12. Controlled for confounding?	Yes – outlier's considered, correlations between variables, consideration of demographic details (pg. 2548)			

13. Results reported in sufficient detail?		Partial – not fully described (pg. 2548)		
14. Conclusions supported by the results?	Yes – well described (pg. 2549)			

Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22

20/22 = 0.91 (strong)

Criteria	Met – Yes (2)	Met – Partially (1)	Met- No (0)	N/A
1. Question/objective sufficiently described?	Yes – easily identified at the end of intro (pg. 123)			
2. Study design evident and appropriate?	Yes – design is easily identifiable and appropriate to research objectives (pg. 123)			
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?		Partial – Inclusion and exclusion criteria missing. Potential bias as recruiting only from community support programme for canine training (pg. 123)		
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	Yes – sufficient and relevant baseline info (pg. 123)			

5. If interventional and random allocation was possible, was it described?				N/A
6. If interventional and blinding of investigators was possible, was it reported?				N/A
7. If interventional and blinding of subjects was possible, was it reported?				N/A
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	Yes – clear description of questionnaires (pg. 123)			
9. Sample size appropriate?	Yes – seems appropriate for study objectives and number of questionnaires. Statistically significant results found (pg. 124)			
10. Analytic methods described/justified and appropriate?	Yes – analytic methods are described (pg. 123-124)			
11. Some estimate of variance is reported for the main results?	Yes – means, standard deviations, CI's.			
12. Controlled for confounding?		Partial – consideration of joint variables in study,		

		however, other variables e.g., depression, anxiety, alcohol misuse not accounted for in methodology.		
13. Results reported in sufficient detail?	Yes – Includes all major outcomes (pg. 124)			
14. Conclusions supported by the results?		Partial – few significant results found, lack of control for other confounders		
Total summary quality score: 28- (N/A x 2) = 28 – 6 = 22 **19/22 = 0.86**				

Appendix C – Ergo Ethics Approval

Southampton
UNIVERSITY OF

ERGO II – Ethics and Research Governance Online https://www.ergo2.soton.ac.uk

Submission ID: 69915.A1
Submission Title: Thesis (Amendment 1)
Submitter Name: Leanne Morgan

Your submission has now been approved by the Faculty Ethics Committee. You can begin your research unless you are still awaiting any other reviews or conditions of your approval.

Comments:

-

- Thanks for highlighting the changes. Good luck with your research.

Click here to view the submission

Tld: 23011_Email_to_submitter___Approval_from_Faculty_Ethics_committee__cat_B___C_ Id: 546430

L.Morgan@southampton.ac.uk coordinator

Combined Participant Information Sheet and Consent Form for Anonymous Online Surveys for Adult Participants

Study Title: Exploring the Relationship between the Components of Compassion and Moral Injury in Military Veterans.
Researcher(s): Leanne Morgan
University email: L.morgan@southampton.ac.uk
Ethics/ERGO no: 69915
Version and date: Version 4 – 01/08/2022

What is the research about?
My name is Leanne Morgan and I am a Doctorate student studying to become a Doctor in Clinical Psychology at the University of Southampton in the United Kingdom. As part of my doctorate, I conduct research into an area of interest and write this up as a thesis.

My area of interest is the mental health experiences of military veterans and psychological interventions to treat these. Specifically, the current study aims to explore and understand an emerging mental health problem called moral injury (MI) within military veterans, and whether using compassion as a psychological intervention would be beneficial in treating MI.

MI in veterans is now being more widely recognised and there has been some promising results looking at using self-compassion interventions to treat MI in veterans. However, the research base in this area is limited and further research is needed to explore the different components of compassion and how it can be a helpful treatment for MI.

Some of the components of compassion are explained in more detail below, however, the different components of compassion are:

1. Self-compassion

2. Compassion to others

3. Compassion from others

4. Fear of compassion

5. Shame

6. Self-attacking/self-reassuring behaviours

Currently, no one to date has explored whether there is a relationship between military veterans experiencing MI and the different components of compassion (as stated above). Therefore, the current study aims to explore whether the components of compassion are affected by levels of MI in military veterans. Once we explore this, it means we can think about whether compassion-based treatments are helpful for treating MI in military veterans and if so, what components of compassion would be important to consider in treatment.

By taking part in the research, you will be contributing to a body of evidence researching the use of compassion-based therapy for MI in veterans. This means that hopefully in the near future, there will be a well-supported psychological treatment approach for treating MI in military veterans. By completing the study, you will also receive access to compassion-based resources and have the opportunity to enter a prize draw of winning one of four £50 Amazon vouchers.

What is Moral Injury?
In military service, military personnel are presented with moral and ethical dilemmas which can put them into difficult positions of decision-making. Military personnel may experience situations where they are unable to prevent, and/or bear witness to acts that go against their moral beliefs. This may consequently force them to act in ways that go against their moral beliefs and values. These situations have now been recognised as morally injurious and can cause a person to develop MI.

MI has been linked to difficult feelings of intense guilt, shame, increased suicidal ideation, and post-traumatic stress disorder (PTSD).

What is Compassion?
Often, we tend to think about compassion as being kind towards ourselves, otherwise known as self-compassion, however there are in fact many layers to compassion. In compassion focussed treatment we need to think about the ability to be compassionate towards ourselves, as well as the ability to accept compassion from others and be compassionate towards others. Being self-compassionate, accepting of compassion from others, and being compassionate towards others isn't always easy and barriers can get in the way. These barriers might include feelings of shame, feeling fearful of receiving compassion, and falling into habits of being unkind towards ourselves.

For military veterans experiencing MI, we tend to find that some of these barriers to self-compassion are heightened. As explained above, MI can cause feelings of shame, distrust, and self-harmful behaviour which might make it tricky for us to be compassionate towards ourselves, others, and in accepting compassion from others.

Ethical Considerations
This study was approved by the Faculty Research Ethics Committee (FREC) at the University of Southampton (Ethics/ERGO Number: 69915).

What will happen to me if I take part?
This study involves completing an anonymous questionnaire which should take approximately 30 minutes of your time. If you are happy to complete this survey, you will need to tick (check) the box below to show your consent. As this survey is anonymous, I will not be able to know what answers you have provided if you agree to take part.

Why have I been asked to participate?
You have been asked to take part because you are a military veteran who has previously served for one of the armed forces. Each participant completing this study will have their own unique experiences throughout their military career as well as in their personal life. Therefore, the only requirement for taking part in this study is that you are a military veteran over the age or 18 years old and are not currently actively serving in one of the military armed forces.

I am aiming to recruit around 103 participants for this study.

What information will be collected?
The questions in this survey ask for information in relation to your demographics, (for example, if you're male or female, which force you served in), your experience of potential MI, your mental well-being, alcohol use, and your levels of compassion. Some of the questionnaires in the research may explore sensitive or personal issues and therefore there may be the possibility that you experience some psychological discomfort or distress.

What are the possible benefits of taking part?
If you decide to take part in this study, the main benefit will be to help improve our current understanding and treatment approach to helping military veterans with MI. Another benefit of taking part in the study is having the chance to enter a prize draw of winning one of four £50 Amazon vouchers.

Are there any risks involved?
There is a possibility that taking part in this study could cause you some psychological discomfort and/or distress. If this happens, you can contact the following resources for support:

• *Your registered GP* – We recommend you contact your registered GP to discuss any concerns and seek advice. Your GP should be able to either signpost you to a helpful service or make a referral.

• *Samaritans* - Samaritans is a registered charity aimed at providing emotional support to anyone in emotional distress, struggling to cope, or at risk of suicide throughout Great Britain and Ireland.
Telephone: 116 123
Website: https://www.samaritans.org/

• *Combat Stress* - Combat Stress is a registered charity in the United Kingdom offering therapeutic and clinical community and residential treatment to former members of the British Armed Forces who are suffering from a range of mental health conditions; including post traumatic stress disorder.
Telephone: 0800 1381619
Text: 07537 173683
Email: helpline@combatstress.org.uk
Website: https://combatstress.org.uk/

• *Help for Heroes* - Help for Heroes is a British charity which provides lifelong recovery support to British Armed Forces service personnel who have been wounded or injured in the line of duty, and to their families.
Telephone: 0300 303 9888
Website: https://www.helpforheroes.org.uk/get-support/

• *Veterans Welfare Service*- The Veterans Welfare Service (VWS) provides a professional help and advice service to veterans or anyone supporting a veteran, their families and dependants.
Telephone: 0808 1914 218
Email: veterans-uk@mod.gov.uk
Website: https://www.gov.uk/guidance/veterans-welfare-service

If you feel you are in a crisis and need urgent support, please contact the following:

• *NHS111***:** Please dial 111 on your telephone (UK).

• *Local A&E department* **–** Please go straight to your local A&E department should you feel you require urgent support and attention.

- *Samaritans -* Samaritans is a registered charity aimed at providing emotional support to anyone in emotional distress, struggling to cope, or at risk of suicide throughout Great Britain and Ireland.
Telephone: 116 123
Website: https://www.samaritans.org/

- *All Call Signs -* All Call Signs is an award-winning peer support network for veterans, serving military personnel and their families.
Telephone: 023 9438 7914
Website: https://allcallsigns.org/contact-us/

Please note, the above services are based in the United Kingdom. For international / non-UK based participants, please contact your local healthcare provider.

What will happen to the information collected?
All information collected for this study will be stored securely on a password protected computer and backed up on a secure server. In addition, all data will be pooled and only compiled into data summaries or summary reports. Your participation and the information we collect about you during the course of the research will therefore be kept strictly confidential.

As I will not be asking for any identifiable information before or whilst you complete the questionnaires, all your data will be unidentifiable and anonymous. If you would like to be entered into the prize draw, then you will be asked to provide your email address for us to contact you should you win. These email addresses will be stored in a file separate to your data, therefore it will be impossible for me to link your email address with your questionnaires and your data will remain anonymous. Only the researcher and their supervisor will have access to this information.

The information collected will be analysed and written up as part of the thesis. The research project will also be put forward for publishing meaning that the results may be published in a journal and/or forum for people to access. The University of Southampton conducts research to the highest standards of ethics and research integrity. In accordance with our Research Data Management Policy, data will be held for 10 years after the study has finished when it will be securely destroyed.

What happens if there is a problem?
If you are unhappy about any aspect of this study and would like to make a formal complaint, you can contact the Head of Research Integrity and Governance, University of Southampton, on the following contact details: Email: rgoinfo@soton.ac.uk, phone: + 44 2380 595058. Please quote the Ethics/ERGO number above. Please note that by making a complaint you might be no longer anonymous.

More information on your rights as a study participant is available via this link:
https://www.southampton.ac.uk/about/governance/participant-information.page

Thank you for reading this information sheet and considering taking part in this research.Thank you for reading this information sheet and considering taking part in this research.

☐ Please tick (check) this box to indicate that you have read and understood information on this form, are aged 18 or over and agree to take part in this survey.

Appendix E – Demographic Information Questionnaire

1.) What is your age in years?

___

2.) What is your gender?
   a.) Male
   b.) Female
   c.) Non-binary
   d.) Prefer not to say
   e.) Not stated

3.) What is your ethnicity?
a.) White – British
b.) White – Irish
c.) White – Gypsy or Irish Traveller
d.) White – Other White background
e.) Black or Black British – African
f.) Black or Black British – Caribbean
g.) Black or Black British – Other Black background
h.) Asian or Asian British – Bangladeshi
i.) Asian or Asian British – Indian
j.) Asian or Asian British – Pakistani
k.) Asian or Asian British – Other Asian background
l.) Chinese
m.) Mixed – White and Asian
n.) Mixed – White and Black African
o.) Mixed – White and Black Caribbean
p.) Mixed – Other mixed background
q.) Prefer not to disclose my ethnicity
r.) Ethnicity not stated – Please describe your ethnicity below:

4.) What is your employment status?
   a.) Full time employment
   b.) Part time employment
   c.) Voluntary work
   d.) Retired
   e.) Prefer not to say

5.) What is your relationship status?
   a.) Married
   b.) Single
   c.) Widowed
   d.) Divorced

e.) Separated

f.) In a domestic partnership or civil union

g.) Single but cohabiting with a significant other

6.) What military service did you serve for?

___

7.) What rank were you, in the military?

___

8.) Were you deployed?

a.) Yes

b.) No

9.) How many years did you serve in the military? (Please round up to the closest year)

___

10.) For what reason were you discharged from the military?

_____

11.) Have you had past or current physical or mental health problems?

a.) Yes – Mental health problems

b.) Yes – Physical health problems

c.) Yes – Both physical and mental health problems

d.) No

e.) Prefer not to say

12.) Have you had psychological or medical treatment for mental health or physical problems in the past?

a.) Yes – psychological treatment

b.) Yes – medical treatment

c.) Yes – psychological and medical treatment

d.) No

e.) Prefer not to say

13.) Are you currently receiving psychological or medical treatment for a mental health or physical health problem?

a.) Yes – psychological treatment

b.) Yes – medical treatment

c.) Yes – psychological and medical treatment

d.) No

e.) Prefer not to say

Military service can entail doing or witnessing acts that may affect one's emotional well-being, relationships, and later quality of life. When considering your own feelings, beliefs, and behaviors related to things that you did/saw in the military, **please indicate how much you personally agree or disagree with each statement.**

Strongly Disagree   **Disagree**   **Neutral**   **Agree**   **Strongly Agree**

1   **2**   **3**   **4**   **5**

1. I am ashamed of myself because of things that I did/saw during my military service.

2. I feel anger over being betrayed by someone who I had trusted while I was in the military.

3. My military experiences have taught me that it is only a matter of time before people will betray my trust.

4. Because of things that I did/saw in the military, I doubt my ability to make moral decisions.

5. In order to punish myself for things that I did/saw in the military, I often neglect my health and safety.

6. I sometimes enjoy thinking about having revenge on persons who wronged me in the military.

7. I feel guilt about things that happened during my military service that cannot be excused.

8. Because of things that I did/saw in the military, I am no longer worthy of being loved.

9. My military experiences have caused me to seriously doubt the motives of people in authority.

10. The moral failures that I witnessed during my military service have left a bad taste in my mouth.

11. I sometimes feel so bad about things that I did/saw in the military that I hide or withdraw from others.

12. Because of things that I did/saw in the military, I sabotage my best efforts to achieve my goals in life.

13. No matter how much time passes, I resent people who betrayed my trust during my military service.

14. I am an unforgivable person because of things that I did/saw in the military.

15. Things I saw/did in the military have caused me at times to lose faith in the basic goodness of humanity.

16. I sometimes lash out at others because I feel bad about things I did/saw in the military.

17. When I look back on my military service, I feel disgusted by things that other people did.

Appendix G – The External and Internal Shame Scale

Below are a series of statements about feelings people may usually have, but that might be experienced by each person in a different way. Please read each statement carefully and circle the number that best indicates how often you feel what is described in each item.

Please use the following rating scale

0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Always

In relation to several aspects of my life, I FEEL THAT:

0 1 2 3 4

1 other people see me as not being up to their standards 0 1 2 3 4

2 I am isolated 0 1 2 3 4

3 other people don't understand me 0 1 2 3 4

4 I am different and inferior to others 0 1 2 3 4

5 other people are judgmental and critical of me 0 1 2 3 4

6 other people see me as uninteresting 0 1 2 3 4

7 I am unworthy as a person 0 1 2 3 4

8 I am judgmental and critical of myself 0 1 2 3 4

Appendix H – Forms of Self Criticising/Attacking and Self-Reassuring Scale

When things go wrong in our lives or don't work out as we hoped, and we feel we could have done better, we sometimes have *negative and self-critical thoughts and feelings*. These may take the form of feeling worthless, useless or inferior etc. However, people can also try to be supportive of them selves. Below are a series of thoughts and feelings that people sometimes have. Read each statement carefully and circle the number that best describes how much each statement is true for you.

Please use the scale below. Not at all like me	A little bit like me	Moderately like me	Quite a bit like me	Extremely like me
0	1	2	3	4

When things go wrong for me:

1. I am easily disappointed with myself. (is)

2. There is a part of me that puts me down. (is)

3. I am able to remind myself of positive things about myself. (rs)

4. I find it difficult to control my anger and frustration at myself. (is)

5. I find it easy to forgive myself. (rs)

6. There is a part of me that feels I am not good enough. (is)

7. I feel beaten down by my own self-critical thoughts. (is)

8. I still like being me. (rs)

9. I have become so angry with myself that I want to hurt or injure myself. (hs)

10. I have a sense of disgust with myself. (hs)

11. I can still feel lovable and acceptable. (rs)

12. I stop caring about myself. (hs)

13. I find it easy to like myself. (rs)

Appendix K

14. I remember and dwell on my failings. (is)

15. I call myself names. (hs)

16. I am gentle and supportive with myself. (rs)

17. I can't accept failures and setbacks without feeling inadequate. (is)

18. I think I deserve my self-criticism. (is)

19. I am able to care and look after myself. (rs)

20. There is a part of me that wants to get rid of the bits I don't like. (is)

21. I encourage myself for the future. (rs)

22. I do not like being me. (hs)

KEY FOR SUBSCALES:

is = inadequate self,

rs = reassured self,

hs = hated self

Appendix I – Clinical Outcomes in Routine Evaluation Questionnaire

IMPORTANT - PLEASE READ THIS FIRST

This form has 10 statements about how you have been OVER THE LAST WEEK.
Please read each statement and think how often you felt that way last week.

Then tick the box which is closest to this.

Over the last week…

Not at all **(0)**   Only occasionally **(1)**   Sometimes **(2)**   Often **(3)**   Most or all of the time **(4)**

1. I have felt tense, anxious or nervous

2. I have felt I have someone to turn to for support when needed

3.   I have felt able to cope when things go wrong

4. Talking to people has felt too much for me

5.   I have felt panic or terror

6. I made plans to end my life

7.   I have had difficulty getting to sleep or staying asleep

8.   I have felt despairing or hopeless

9. I have felt unhappy

10. 10. Unwanted images or memories have been distressing me

Appendix J – The Fears of Compassion Scale

FEARS OF COMPASSION SCALE

Different people have different views of compassion and kindness. While some people believe that it is important to show compassion and kindness in all situations and contexts, others believe we should be more cautious and can worry about showing it too much to ourselves and to others. We are interested in your thoughts and beliefs in regard to kindness and compassion in three areas of your life:

1. Expressing compassion for others

2. Responding to compassion from others

3. Expressing kindness and compassion towards yourself

Below are a series of statements that we would like you to think carefully about and then circle the number that best describes how each statement fits you.

SCALE

Please use this scale to rate the extent that you agree with each statement

Don't agree at all 0   1   2   3   4   Completely agree

Somewhat agree

Scale 1: Expressing compassion for others

1. People will take advantage of me if they see me as too compassionate 0 1 2 3 4

2. Being compassionate towards people who have done bad things is letting them off the hook 0 1 2 3 4

3. There are some people in life who don't deserve compassion 0 1 2 3 4

4. I fear that being too compassionate makes people an easy target 0 1 2 3 4

5. People will take advantage of you if you are too forgiving and compassionate 0 1 2 3 4

6. I worry that if I am compassionate, vulnerable people can be drawn to me and drain my emotional resources 0 1 2 3 4

7. People need to help themselves rather than waiting for others to help them 0 1 2 3 4

8. I fear that if I am compassionate, some people will become too dependent upon me 0 1 2 3 4

9. Being too compassionate makes people soft and easy to take advantage of 0 1 2 3 4

10. For some people, I think discipline and proper punishments are more helpful than being compassionate to them 0 1 2 3 4

Scale 2: Responding to the expression of compassion from others

1. Wanting others to be kind to oneself is a weakness 0 1 2 3 4

2. I fear that when I need people to be kind and understanding they won't be 0 1 2 3 4

3. I'm fearful of becoming dependent on the care from others because they might not always be available or willing to give it 0 1 2 3 4

4. I often wonder whether displays of warmth and kindness from others are genuine 0 1 2 3 4

5. Feelings of kindness from others are somehow frightening 0 1 2 3 4

6. When people are kind and compassionate towards me I feel anxious or embarrassed 0 1 2 3 4

7. If people are friendly and kind I worry they will find out something bad about me that will change their mind 0 1 2 3 4

8. I worry that people are only kind and compassionate if they want something from me 0 1 2 3 4

9. When people are kind and compassionate towards me I feel empty and sad 0 1 2 3 4

10. If people are kind I feel they are getting too close 0 1 2 3 4

11. Even though other people are kind to me, I have rarely felt warmth from my relationships with others 0 1 2 3 4

12. I try to keep my distance from others even if I know they are kind 0 1 2 3 4

13. If I think someone is being kind and caring towards me, I 'put up a barrier' 0 1 2 3 4

Scale 3: Expressing kindness and compassion towards yourself

1. I feel that I don't deserve to be kind and forgiving to myself 0 1 2 3 4

2. If I really think about being kind and gentle with myself it makes me sad 0 1 2 3 4

3. Getting on in life is about being tough rather than compassionate 0 1 2 3 4

4. I would rather not know what being 'kind and compassionate to myself' feels like 0 1 2 3 4

5. When I try and feel kind and warm to myself I just feel kind of empty 0 1 2 3 4

6. I fear that if I start to feel compassion and warmth for myself, I will feel overcome with a sense of loss/grief 0 1 2 3 4

7. I fear that if I become kinder and less self-critical to myself then my standards will drop 0 1 2 3 4

8. I fear that if I am more self compassionate I will become a weak person 0 1 2 3 4

9. I have never felt compassion for myself, so I would not know where to begin to develop these feelings 0 1 2 3 4

10. I worry that if I start to develop compassion for myself I will become dependent on it 0 1 2 3 4

11. I fear that if I become too compassionate to myself I will lose my self-criticism and my flaws will show 0 1 2 3 4

12. I fear that if I develop compassion for myself, I will become someone I do not want to be 0 1 2 3 4

13. I fear that if I become too compassionate to myself others will reject me 0 1 2 3 4

14. I find it easier to be critical towards myself rather than compassionate 0 1 2 3 4

15. I fear that if I am too compassionate towards myself, bad things will happen 0 1 2 3 4

Simply sum the items for each of the 3 scales

DESCRIPTION

Compassion Evaluation Scales

We developed three scales for this study, measuring *Fear of compassion for self* (compassion we have for ourselves when we make mistakes or things go wrong in our lives), *Fear of compassion from others* (the compassion that we experience from others and flowing into the self) and *Fear of compassion for others* (the compassion we feel for others, related to our sensitivity to other people's thoughts and feelings). We generated a series of items based on various fears of compassion for each of these scales. Many of these items were inspired by PGs discussions with patients, ideas generated in the psychotherapy literature (e.g. Arieti & Bemporad, 1980) and in the attachment literature (Bowlby, 1969, 1973, 1980).

We generated twenty items for each domain and then asked the research team to rank the items according to face validity and selected the items which were rated to be the most valid. Those items for which there was general agreement that they had low face validity or were difficult to understand were rejected. The final subscales consisted of: Compassion *for Self* comprised 15 items (e.g. "I worry that if I start to develop compassion for myself I will become dependent on it"); compassion *from others* comprised 13 items (e.g. "I try to keep my distance from others even if I know they are kind"); compassion *for Others* comprised 10 items (e.g. "Being too compassionate makes people soft and easy to take advantage of"). The items were rated on a five-point Likert scale (0 = Don't agree at all, 4 = Completely agree). The Cronbach's alphas for this scale are 0.85 for fear of compassion for self; 0.87 for fear of compassion from others and 0.78 for fear of compassion for others.

REFERENCES

Gilbert, P., McEwan, K., Catarino, F., & Baião, R. (2014). Fears of compassion in a depressed population: Implications for psychotherapy. *Journal of Depression and Anxiety*, http://dx.doi.org/10.4172/2167-1044.S2-003

Gilbert, P., McEwan, K., Catarino, F., & Baião, R. (2014). Fears of negative emotions in relation to fears of happiness, compassion, alexithymia and psychopathology in a depressed population: A preliminary study. *Journal of Depression and Anxiety*, http://dx.doi.org/10.4172/2167-1044.S2-004

Gilbert, P., McEwan, K., Gibbons, L., Chotai, S., Duarte, J., & Matos, M. (2012). Fears of compassion and happiness in relation to alexithymia, mindfulness and self-criticism. *Psychology and Psychotherapy*, *85*, 374–390. DOI:10.1111/j.2044-8341.2011.02046.x

Appendix K – The Alcohol Use Disorders Identification Test

AUDIT is a comprehensive 10 question alcohol harm screening tool. It was developed by the World Health Organisation (WHO) and modified for use in the UK and has been used in a variety of health and social care settings.

Questions	Scoring system				
	0	**1**	**2**	**3**	**4**
How often do you have a drink containing alcohol?	Never	Monthly or less	2 to 4 times per month	2-3 times per week	4 times or more per week
How many units of alcohol do you drink on a typical day when you are drinking?	0 to 2	3 to 4	5 to 6	7 to 9	10 or more
How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you failed to do what was normally expected from you because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily

How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
Have you or somebody else been injured as a result of your drinking?	No		Yes, but not in the last year		Yes, during the last year
Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested that you cut down?	No		Yes, but not in the last year		Yes, during the last year

Appendix L – The Compassionate Engagement and Action Scales

Self-compassion

When things go wrong for us and we become distressed by setbacks, failures, disappointments or losses, we may cope with these in different ways. We are interested in the degree to which people can be compassionate with themselves. We define compassion as "a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it." This means there are two aspects to compassion. The *first* is the ability to be motivated to engage with things/feelings that are difficult as opposed to trying to avoid or supress them. The *second* aspect of compassion is the ability to focus on what is helpful to us. Just like a doctor with his/her patient. The first is to be motivated and able to pay attention to the pain and (learn how to) make sense of it. The second is to be able to take the action that will be helpful. Below is a series of questions that ask you about these two aspects of compassion. Therefore read each statement carefully and think about how it applies to you if you become distressed. Please rate the items using the following rating scale:

Never   **Always**

1   2   3   4   5   6   7   8   9   10

Section 1 – These are questions that ask you about how motivated you are, and able to engage with distress when you experience it. So:

When I'm distressed or upset by things…

1. I am *motivated* to engage and work with my distress when it arises.

2. I *notice,* and am *sensitive* to my distressed feelings when they arise in me.

(r)3. I avoid thinking about my distress and try to distract myself and put it out of my mind.

4. I am *emotionally moved* by my distressed feelings or situations.

5. I *tolerate* the various feelings that are part of my distress.

6. I *reflect on* and *make sense* of my feelings of distress.

(r)7 I do not tolerate being distressed.

8. I am *accepting, non-critical and non-judgemental* of my feelings of distress.

Section 2 – These questions relate to how you actively cope in compassionate ways with emotions, thoughts and situations that distress you. So:

When I'm distressed or upset by things…

1. I direct my *attention* to what is likely to be helpful to me.

2. I *think* about and come up with helpful ways to cope with my distress.

(r)3. I don't know how to help myself.

4. I take the *actions* and do the things that will be helpful to me.

5. I create inner feelings of *support, helpfulness and encouragement*.

Compassion to Others

When things go wrong for other people and they become distressed by setbacks, failures, disappointments or losses, we may cope with their distress in different ways. We are interested in the degree to which people can be compassionate to others. We define compassion as "a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it." This means there are two aspects to compassion. The *first* is the ability to be motivated to engage with things/feelings that are difficult as opposed to trying to avoid or supress them. The *second* aspect of compassion is the ability to focus on what is helpful. Just like a doctor with his/her patient. The first is to be motivated and able to pay attention to the pain and (learn how to) make sense of it. The second is to be able to take the action that will be helpful. Below is a series of questions that ask you about these two aspects of compassion. Therefore read each statement carefully and think about how it applies to you when people in your life become distressed. Please rate the items using the following rating scale:

Never   **Always**

1   2   3   4   5   6   7   8   9   10

Section 1 – These are questions that ask you about how motivated you are, and able to engage with other people's distress when they are experiencing it. So:

When others are distressed or upset by things…

1. I am *motivated* to engage and work with other peoples' distress when it arises.

2. I *notice* and *am sensitive* to distress in others when it arises.

(r)3. I avoid thinking about other peoples' distress, try to distract myself and put it out of my mind.

4. I am *emotionally moved* by expressions of distress in others.

5. I *tolerate* the various feelings that are part of other people's distress.

6. I *reflect on* and *make sense* of other people's distress.

(r)7 I do not tolerate other peoples' distress.

8. I am *accepting, non-critical and non-judgemental* of others people's distress.

Section 2 – These questions relate to how you actively respond in compassionate ways when other people are distressed. So:

When others are distressed or upset by things…

1. I direct *attention* to what is likely to be helpful to others.

2. I *think about and come up* with helpful ways for them to cope with their distress.

(r)3. I don't know how to help other people when they are distressed.

4. I take the *actions* and *do the things* that will be helpful to others.

5. I express feelings of *support, helpfulness and encouragement* to others.

Compassion from Others

When things go wrong for us and we become distressed by setbacks, failures, disappointments or losses, others may cope with our distress in different ways. We are

interested in the degree to which you feel that important people in your life can be compassionate to your distress. We define compassion as "a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it." This means there are two aspects to compassion. The *first* is the ability to be motivated to engage with things/feelings that are difficult as opposed to trying to avoid or supress them. The *second* aspect of compassion is the ability to focus on what is helpful to us or others. Just like a doctor with his/her patient. The first is to be motivated and able to pay attention to the pain and (learn how to) make sense of it. The second is to be able to take the action that will be helpful. Below is a series of questions that ask you about these two aspects of compassion. Therefore read each statement carefully and think about how it applies to the important people in your life when you become distressed. Please rate the items using the following rating scale:

Never   **Always**

1   2   3   4   5   6   7   8   9   10

Section 1 – These are questions that ask you about how motivated you think others are, and how much they engage with your distress when you experience it. So:

When I'm distressed or upset by things…

1. Other people are actively *motivated* to engage and work with my distress when it arises.

2. Others *notice* and *are sensitive* to my distressed feelings when they arise in me.

(r)3 Others avoid thinking about my distress, try to distract themselves and put it out of their mind.

4. Others are *emotionally moved* by my distressed feelings.

5. Others *tolerate* my various feelings that are part of my distress.

6. Others *reflect on* and *make sense* of my feelings of distress.

(r)7. Others do not tolerate my distress.

8. Others are *accepting, non-critical and non-judgemental* of my feelings of distress.

Section 2 – These questions relate to how others actively cope in compassionate ways with emotions and situations that distress you. So:

When I'm distressed or upset by things…

1. Others direct their *attention* to what is likely to be helpful to me.

2. Others *think about* and come up with helpful ways for me to cope with my distress.

(r)3. Others don't know how to help me when I am distressed

4. Others take the *actions* and do the things that will be helpful to me.

5. Others treat me with feelings of *support, helpfulness and encouragement.*

NOTE FOR USERS: REVERSE ITEMS (r) ARE NOT INCLUDED IN THE SCORING

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Debriefing Statement: *01.08.2022, Version number 3*

ERGO ID: 69915

Exploring the Relationship between the Components of Compassion and Moral Injury in Military Veterans.

The aim of this research was to explore whether the components of compassion (compassion to self, to others, from others, fear of compassion, levels of shame, and self-attacking/self-reassuring) are affected by levels of moral injury (MI) in military veterans. It is expected that higher levels of MI in military veterans will predict significantly lower levels of self compassion and self-reassurance, higher levels of self-criticism, higher levels of shame, and higher levels of anxiety and depression.

Due to the lack of research investigating fear of compassion in military veterans with MI, it is expected that there will be a relationship between levels of MI and fear of compassion as well as a relationship between levels of moral injury and receiving compassion from others in military veterans.

Your data will help our understanding of whether self-compassion treatment is helpful for military veterans experiencing MI and how compassion-focussed psychological treatment needs to be targeted and tailored for military veterans experiencing MI.

Once again results of this study will not include your name or any other identifying characteristics. The research did not use deception. You may have a copy of this summary if you wish and summary of research findings will be available once the research project is completed and submitted. If you would like a summary of the findings or have any further questions please contact me, Leanne Morgan, at L.morgan@southampton.ac.uk.

Thank you for your participation in this research.

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the University of Southampton Head of Research Integrity and Governance (023 8059 5058, rgoinfo@soton.ac.uk).

Support Services

If participation in the study has lead to experiencing some distressing thoughts, feelings, or potential behaviours then please contact one of the following support services:

• *Your registered GP* – We recommend you contact your registered GP to discuss any concerns and seek advice. Your GP should be able to either signpost you to a helpful service or make a referral.

• *Samaritans* - Samaritans is a registered charity aimed at providing emotional support to anyone in emotional distress, struggling to cope, or at risk of suicide throughout Great Britain and Ireland.
Telephone: 116 123
Website: https://www.samaritans.org/

• *Combat Stress* - Combat Stress is a registered charity in the United Kingdom offering therapeutic and clinical community and residential treatment to former members of the British Armed Forces who are suffering from a range of mental health conditions; including post traumatic stress disorder.
Telephone: 0800 1381619
Text: 07537 173683
Email: helpline@combatstress.org.uk
Website: https://combatstress.org.uk/

• *Help for Heroes* - Help for Heroes is a British charity which provides lifelong recovery support to British Armed Forces service personnel who have been wounded or injured in the line of duty, and to their families.
Telephone: 0300 303 9888
Website: https://www.helpforheroes.org.uk/get-support/

• *Veterans Welfare Service*- The Veterans Welfare Service (VWS) provides a professional help and advice service to veterans or anyone supporting a veteran, their families and dependants.
Telephone: 0808 1914 218
Email: veterans-uk@mod.gov.uk
Website: https://www.gov.uk/guidance/veterans-welfare-service

If you feel you are in a crisis and need urgent support, please contact the following:

• *NHS111*: Please dial 111 on your telephone (UK).

• *Local A&E department* – Please go straight to your local A&E department should you feel you require urgent support and attention.

• *Samaritans -* Samaritans is a registered charity aimed at providing emotional support to anyone in emotional distress, struggling to cope, or at risk of suicide throughout Great Britain and Ireland.
Telephone: 116 123
Website: https://www.samaritans.org/

• *All Call Signs -* All Call Signs is an award-winning peer support network for veterans, serving military personnel and their families.
Telephone: 023 9438 7914
Website: https://allcallsigns.org/contact-us/

__Please note, the above services are based in the United Kingdom. For international / non-UK based participants, please contact your local healthcare provider.__

Appendix N – Study Advertisement 1
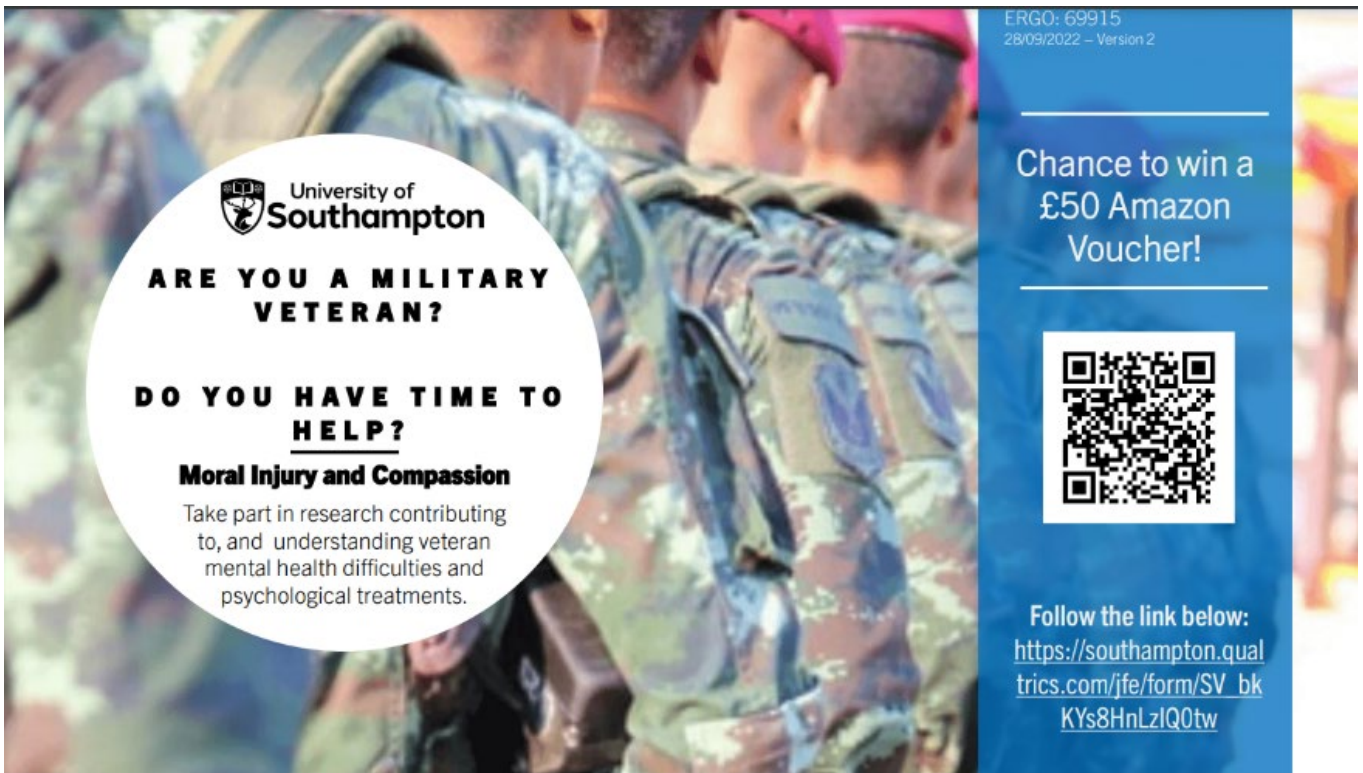
Appendix O – Study Advertisement 2

Table 2. Participant demographic and military characteristic information (n=127)

Characteristic	M(SD)	*N*	%
Gender			
Male		104	81.9%
Female		22	17.3%
Not stated		1	0.8%
Age	51.24 (13.98)		
Ethnicity			
White British/Scottish/Irish/Gypsy, or Irish Traveller		118	92.9%
White – Other background		2	1.6%
Black or Black British - African		1	0.8%
Black or Black British -Caribbean		1	0.8%
Asian or Asian British - Bangladeshi		1	0.8%
Asian or Asian British Pakistani		1	0.8%
Mixed – White and Asian		3	2.4%
Relationship Status			
Married		81	63.8%
Single		11	8.7%
Divorced or separated		23	18.1%
Domestic partnership or civil union		2	1.6%
Single but cohabiting with significant other		10	7.9%
Employment Status			
Full time employment		67	52.8%
Part time employment		19	15.0%
Voluntary work		4	3.1%
Retired		33	26.0%
Not stated		4	3.1%
Military Service			
Army		82	64.1%
Royal Air Force		10	7.8%
Royal Navy		23	18.0%
Royal Marines		2	1.6%
Volunteer Military Service		5	3.9%
Special Forces		1	0.8%
Not stated		4	3.1%
Rank			
Captain (Army)/Lieutenant (Royal Navy)		9	7.1%
Major/Lieutenant Commander/Squadron Leader		11	8.7%
Captain (Royal Navy)/Colonel (Army)		2	1.6%
Second Lieutenant		2	1.6%
Warrant Officer 1		1	0.8%
Warrant Officer 2/Chief Petty Officer		9	7.1%
Master Sergeant/Sergeant/Petty Officer		33	26.0%
Lance Corporal/Technician		10	7.9%
Corporal/Leading Hand		29	22.8%
Private/Able Seaman		17	13.4%
Not stated		4	3.1%

Commissioned	24	18.9%
Non-commissioned	99	78.0%
Not stated	4	3.1%
Deployed		
Yes	110	86.6%
No	17	13.4%
Length of time in service		
0-4 years	35	27.6%
5-10 years	30	23.6%
11-15 years	26	20.5%
16-20 years	14	11.0%
Above 20 years	22	17.3%
Past or current mental or physical health problems		
Mental health	31	24.4%
Physical health	32	25.2%
Both	45	35.4%
None	18	14.2%
Not stated	1	0.8%
Past psychological or medical treatment		
Psychological treatment	20	15.7%
Medical treatment	32	25.2%
Both	41	32.3%
None	34	26.8%
Current psychological or medical treatment		
Psychological treatment	16	12.6%
Medical treatment	31	24.4%
Psychological and medical treatment	22	17.3%
None	56	44.1%
Not stated	2	1.6%

Appendix Q – Chapter 1 Author Guidelines

1. SUBMISSION

Authors should kindly note that submission implies that the content has not been published or submitted for publication elsewhere except as a brief abstract in the proceedings of a meeting or symposium.

Data Protection: By submitting a manuscript to or reviewing for this publication, your name, email address, and affiliation, and other contact details the publication might require, will be used for the regular operations of the publication, including, when necessary, sharing with the publisher (Wiley) and partners for production and publication. The publication and the publisher recognize the importance of protecting the personal information collected from users in the operation of these services, and have practices in place to ensure that steps are taken to maintain the security, integrity, and privacy of the personal data collected and processed. You can learn more at https://authorservices.wiley.com/statements/data-protection-policy.html.

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This is a journal for those who want to inform and be informed about the challenging field of clinical psychology and psychotherapy.

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Before you submit, you will need:

- Your manuscript: this should be an editable file including text, figures, and tables, or separate files – whichever you prefer. All required sections should be contained in your manuscript, including abstract (which does need to be correctly styled), introduction, methods, results, and conclusions. Figures and tables should have legends. Figures should be uploaded in the highest resolution possible. [OPTIONAL TEXT, if the journal is running image checks: If the figures are not of sufficiently high quality your manuscript may be delayed.] References may be submitted in any style or format, as long as it is consistent throughout the manuscript. Supporting information should be submitted in separate files. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers, and the editorial office will send it back to you for revision. Your manuscript may also be sent back to you for revision if the quality of English language is poor.
- An ORCID ID, freely available at https://orcid.org. (Why is this important? Your article, if accepted and published, will be attached to your ORCID profile. Institutions and funders are increasingly

and published, will be attached to your ORCID profile. Institutions and funders are increasingly requiring authors to have ORCID IDs.)
- The title page of the manuscript, including:
  - Your co-author details, including affiliation and email address. (Why is this important? We need to keep all co-authors informed of the outcome of the peer review process.)
  - Statements relating to our ethics and integrity policies, which may include any of the following (Why are these important? We need to uphold rigorous ethical standards for the research we consider for publication):
    - data availability statement
    - funding statement
    - conflict of interest disclosure
    - ethics approval statement
    - patient consent statement
    - permission to reproduce material from other sources
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2. MANUSCRIPT CATEGORIES AND REQUIREMENTS

Research Article: Substantial articles making a significant theoretical or empirical contribution (submissions should be limited to a maximum of 5,500 words excluding captions and references).

Comprehensive Review: Articles providing comprehensive reviews or meta-analyses with an emphasis on clinically relevant studies (review submissions have no word limit).

Measures Article: Articles reporting useful information and data about new or existing measures (assessment submissions should be limited to a maximum of 3,500 words).

Clinical Report: Shorter articles (a maximum of 2,000 words excluding captions and references) that typically contain interesting clinical material. These should use (validated) quantitative measures and add substantially to the literature (i.e. be innovative).

3. PREPARING THE SUBMISSION

Parts of the Manuscript

The manuscript should be submitted in separate files: main text file; figures.

File types

Submissions via the new Research Exchange portal can be uploaded either as a single document (containing the main text, tables and figures), or with figures and tables provided as separate files. Should your manuscript reach revision stage, figures and tables must be provided as separate files. The main manuscript file can be submitted in Microsoft Word (.doc or .docx) or LaTex (.tex) formats.

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If submitting your manuscript file in LaTex format via Research Exchange, select the file designation "Main Document – LaTeX .tex File" on upload. When submitting a Latex Main Document, you must also provide a PDF version of the manuscript for Peer Review. Please upload this file as "Main Document - LaTeX PDF." All supporting files that are referred to in the Latex Main Document should be uploaded as a "LaTeX Supplementary File."

Cover Letters and Conflict of Interest statements may be provided as separate files, included in the manuscript, or provided as free text in the submission system. A statement of funding (including grant numbers, if applicable) should be included in the "Acknowledgements" section of your manuscript.

The text file should be presented in the following order:

1. A short informative title containing the major key words. The title should not contain abbreviations (see Wiley's best practice SEO tips);
2. A short running title of less than 40 characters;
3. The full names of the authors;
4. The authors' complete institutional affiliations where the work was conducted (Institution Name, Country, Department Name, Institution City, and Post Code), with a footnote for an author's present address if different from where the work was conducted;
5. Conflict of Interest statement;
6. Acknowledgments;
7. Data Availability Statement
8. Abstract, Key Practitioner Message and 5-6 keywords;
9. Main text;
10. References;
11. Tables (each table complete with title and footnotes);
12. Figure legends;

Figures and appendices and other supporting information should be supplied as separate files.

Authorship

On initial submission, the submitting author will be prompted to provide the email address and country for all contributing authors.

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Acknowledgments

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