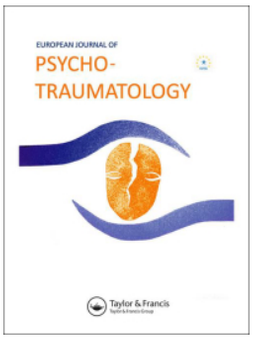

European Journal of Psychotraumatology

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/zept20

Mindful self-compassion for veteran women with a history of military sexual trauma: feasibility, acceptability, potential benefits, and considerations

Tosca D. Braun, Prachi H. Bhuptani, Bailey O'Keefe, Ana M. Abrantes, Eliza Marsh & Cathryn Glanton Holzhauer

To cite this article: Tosca D. Braun, Prachi H. Bhuptani, Bailey O'Keefe, Ana M. Abrantes, Eliza Marsh & Cathryn Glanton Holzhauer (2024) Mindful self-compassion for veteran women with a history of military sexual trauma: feasibility, acceptability, potential benefits, and considerations, European Journal of Psychotraumatology, 15:1, 2301205, DOI: 10.1080/20008066.2023.2301205

To link to this article: https://doi.org/10.1080/20008066.2023.2301205

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

Published online: 13 Feb 2024.

Submit your article to this journal

Article views: 602

View related articles

View Crossmark data

Full Terms & Conditions of access and use can be found at https://www.tandfonline.com/action/journalInformation?journalCode=zept20

EUROPEAN JOURNAL OF PSYCHOTRAUMATOLOGY
2024, VOL. 15, NO. 1, 2301205
https://doi.org/10.1080/20008066.2023.2301205

CLINICAL PRACTICE ARTICLE

OPEN ACCESS Check for updates

Mindful self-compassion for veteran women with a history of military sexual trauma: feasibility, acceptability, potential benefits, and considerations

Tosca D. Braun[a,b,c], Prachi H. Bhuptani[a,d], Bailey O'Keefe[b], Ana M. Abrantes[a,b], Eliza Marsh[b]* and Cathryn Glanton Holzhauer[c,e]

[a]Alpert Medical School of Brown University, Providence, RI, USA; [b]Butler Hospital, Providence, RI, USA; [c]VA Central Western Massachusetts, Leeds, MA, USA; [d]Rhode Island Hospital, Providence, RI, USA; [e]University of Connecticut School of Medicine, Farmington, CT, USA

ABSTRACT

Background: Military sexual trauma (MST) is reported by up to 74% of women veterans in the United States and is a driver of poor behavioural and physical health. Self-compassion is a transdiagnostic, protective factor linked with improved posttraumatic stress disorder (PTSD), depression, and health behaviours. Thus, Mindful Self-Compassion training (MSC) may help ameliorate MST-related impacts. However, MSC can also temporarily increase distress (i.e. backdraft). Delivering it with elective trauma-informed yoga (TIY), which regulates acute distress, may help address this issue.

Objective: This VA quality improvement project examined feasibility, acceptability, and reported benefits and challenges of a manualized 8-week MSC including within non-randomized subgroups: MSC ($n = 4$) and MSC+ elective TIY classes (MSC+; $n = 4$).

Methods: Nine women veterans with a history of MST at a Vet Center in the Northeastern U.S.A. enrolled; eight completed, excluding one MSC+ participant. Measures included attrition ($n = 9$), attendance ($n = 8$), weekly ($n = 8$) and posttreatment acceptability ($n = 6$), validated symptom severity assessments ($n = 7$), and an exit interview ($n = 8$).

Results: Among completers, MSC attendance was excellent (89%) and higher among in MSC+ vs. MSC (94% vs. 84% sessions completed). On average across the two groups, depressive and PTSD symptom severity decreased by 21% and 30%, respectively. In exit interviews, participants across groups described improved coping with distress and psychiatric symptoms, reduced stress, and improved self-care and health behaviours. Although women in both groups reported backdraft during the programme, MSC+ also reported healthier coping and improved emotional processing.

Conclusion: The results of this programme evaluation infer MSC may be feasible, acceptable, and beneficial for women survivors of MST in one Vet Center in the Northeastern USA. Further, temporary elevations in MSC-related distress may be ameliorated with adjunctive TIY. Given requests of women veterans in the USA. for additional complementary and integrative health treatment options, formal research on these approaches is warranted.

Mindfulness y autocompasión (mindful self-compassion) para mujeres veteranas con antecedentes de trauma sexual militar: viabilidad, aceptabilidad, beneficios potenciales y consideraciones

Antecedentes: Hasta el 74% de las mujeres veteranas de los Estados Unidos han sufrido traumas sexuales en el ejército (MST, en sus siglas en inglés), lo que provoca una mala salud física y conductual. La autocompasión es un factor protector transdiagnóstico relacionado con la mejora del trastorno de estrés postraumático (TEPT), la depresión y los comportamientos saludables. Así pues, el entrenamiento en Mindful Self-Compassion (MSC, en sus siglas en inglés) puede ayudar a mejorar los efectos relacionados con el MST. Sin embargo, el MSC también puede aumentar temporalmente la perturbación (es decir, el retroceso). Si se combina con el yoga informada en trauma (TIY, en sus siglas en inglés), que regula la angustia aguda, puede ayudar a resolver este problema.

Objetivo: Este proyecto de mejora de la calidad de VA examinó la viabilidad, la aceptabilidad y los beneficios y desafíos reportados de un MSC manualizado de 8 semanas incluyendo dentro de subgrupos no aleatorizados: MSC ($n = 4$) y MSC+ clases selectivas de TIY (MSC+; $n = 4$).

Métodos: Se inscribieron nueve mujeres veteranas con antecedentes de MST en un centro de veteranos del noreste de EE.UU.; ocho completaron el programa, excluida una participante MSC+. Las medidas incluyeron deserción ($n = 9$), asistencia ($n = 8$), aceptabilidad semanal ($n = 8$) y posterior al tratamiento ($n = 6$), evaluaciones validadas de la gravedad de los síntomas ($n = 7$) y una entrevista de salida ($n = 8$).

ARTICLE HISTORY

Received 2 June 2023
Revised 29 November 2023
Accepted 8 December 2023

KEYWORDS

Self-compassion; yoga; PTSD; MST; mental health

PALABRAS CLAVE

Autocompasión; yoga; TEPT; TMS; salud mental

HIGHLIGHTS

- This programme evaluation with women veterans with a history of military sexual trauma (MST) explored the preliminary feasibility, acceptability, and reported benefits and challenges of a Mindful Self-Compassion (MSC) programme, with or without trauma-informed yoga.
- Women across groups reported improved psychiatric symptoms, self-care, and health behaviours, although those in MSC+ yoga reported healthier coping and improved emotional processing.
- Results suggest MSC training may be feasible, acceptable, and potentially beneficial for women veterans with MST in one clinical setting in the Northeastern USA, with potential synergistic effects of adjunctive yoga.

CONTACT Tosca D. Braun tosca_braun@brown.edu Alpert Medical School of Brown University, Butler Hospital, 345 Blackstone Blvd., Providence, RI 02906, USA
*Present address: University of Pittsburgh, Pittsburgh, PA, USA

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial License (http://creativecommons.org/licenses/by-nc/4.0/), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

Resultados: Entre los participantes, la asistencia al MSC fue excelente (89%) y mayor en el MSC+ que en el MSC (94% frente a 84% de sesiones completadas). En promedio, en los dos grupos, la gravedad de los síntomas depresivos y de TEPT disminuyó un 21% y un 30%, respectivamente. En las entrevistas de salida, las participantes de todos los grupos describieron una mejora en el afrontamiento de la perturbación y los síntomas psiquiátricos, una reducción del estrés y una mejora en las conductas de autocuidado y salud. Aunque las mujeres de ambos grupos informaron de un retroceso durante el programa, MSC+ también informó de un afrontamiento más saludable y una mejora en el procesamiento emocional.
Conclusiones: Los resultados de esta evaluación del programa infieren que el MSC puede ser factible, aceptable y beneficioso para las mujeres sobrevivientes de MST en un Centro de Veteranos en el noreste de EE.UU. Además, las elevaciones temporales en la angustia relacionada con el MSC pueden mejorarse con TIY complementario. Dadas las necesidades de las mujeres veteranas en EE.UU. de opciones adicionales de tratamiento complementario e integrador de la salud, se justifica la investigación formal de estos enfoques.

Military sexual trauma (MST), a term used by the United States of America's Department of Veterans Affairs (VA), describes sexual assault or on-going threatening sexual harassment experienced while the veteran was on active duty (Kimerling et al., 2007; Stander & Thomsen, 2016). MST is prevalent (Gibson et al., 2016; Klingensmith et al., 2014), with a recent estimate ranging from 40% to 74% of women veterans (Hargrave et al., 2022). MST in women veterans is strongly linked to poor behavioural and physical health, including a five-fold increased risk of PTSD relative to those without a history of MST (Nichter et al., 2022). MST is also associated with increased negative affect (Luterek et al., 2011) and risk of depression (Baca et al., 2023), substance use (Goldberg et al., 2019), chronic pain (Turner et al., 2020), eating disorders (Breland et al., 2018), and having two or more physical health conditions (Sumner et al., 2021). In view of these and other health concerns, women veterans have requested more MST-specific treatment options than those commonly offered by the VA, particularly those involving meditation and coping with stress (Evans et al., 2019). Such approaches align with the VA's recent emphasis on Whole Health, including complementary and integrative approaches like mindfulness and yoga (Krejci et al., 2014).

One intervention that has promise as a transdiagnostic approach to treating trauma-related disorders and symptoms, like those related to MST, is Mindful Self-Compassion (MSC) – an eight-week secular manualized intervention with stated ties to Buddhist origins (Neff, 2003). MSC trains (1) mindfulness of difficult emotions (vs. over-identification), (2) common humanity (vs. isolation), and (3) self-kindness (vs. self-judgment) (Neff & Germer, 2012). Growing research shows that MSC and other compassion-related interventions improve PTSD (Au et al., 2017; Serpa et al., 2021) and depressive symptoms (Egan et al., 2022; Ferrari et al., 2019), as well as shame (Valdez & Lilly, 2016; Winders et al., 2020). Similar findings have also been observed within armed service or veteran samples that are predominantly male (Held & Owens, 2015; Klich, 2016; Lang et al., 2019), including within a programme evaluation of MSC (Serpa et al., 2021). For instance, a recent randomized controlled trial within veterans observed loving-kindness meditation (a practice taught in MSC) to be non-inferior to Cognitive Processing Therapy (CPT) for reducing PTSD symptoms, and to yield greater improvements in depression (83% men) (Kearney et al., 2021). MSC and related interventions are also associated with improvement in MST-related health conditions in civilian samples, including stress, eating behaviours, and chronic pain (Schnepper et al., 2020; Torrijos-Zarcero et al., 2021).

1. MSC as an aspect of trauma-sensitive mindfulness training

As a compassion training programme, MSC contrasts with mindfulness programmes such as Mindfulness-Based Stress Reduction (MBSR) or Mindfulness-Based Cognitive Therapy (MBCT). MSC dedicates a single session to mindfulness, as being *mindful* of one's experience with discernment is theorized as an important precursor to the skilful practice of self-compassion (Neff, 2003). Additionally, Neff (2003) defines mindfulness in the context of self-compassion as primarily referring to mindfulness of *difficult* emotions rather than all emotions, given the predominant emphasis of self-compassion training on the former. By contrast, popular mindfulness discourse and training, including some within the context of clinical practice, can often emphasize 'bare' non-judgmental attention to present moment experience independent of broader context or adjunctive affect regulation strategies, an approach distinct from the application of mindfulness in Buddhist and related practice interventions that has been problematized (Rapgay & Bystrisky, 2009). Some evidence also suggests such an approach may be contraindicated for people with repetitive negative thinking and trauma survivors (Schlosser et al., 2019; Strand & Stige, 2021; Zhu

et al., 2019). Scholars have thus called for a move towards trauma-sensitive mindfulness, predicated on the observation that titrating mindfulness training and coupling it with agency, choice, affect regulation, and grounding strategies is critical for optimal benefit and to minimize maladaptive coping behaviours and practice disengagement (Treleaven, 2018). Self-compassion training like MSC has been identified as an important component of trauma-sensitive mindfulness (Strand & Stige, 2021; Treleaven, 2018; Wästlund et al., 2023).

2. Considerations for MSC training in survivors of violence

While lower self-compassion is linked to psychological distress in individuals with sexual victimization experiences (Bhuptani & Messman, 2022; Williamson, 2019), no work has piloted compassion meditation or MSC with this group or MST survivors. Self-compassion training is theorized to neurobiologically replicate the presence of a compassionate other (i.e. a warm and caring relational presence; Gilbert, 2005), thereby improving affect regulation and distress tolerance. Indeed, experimental research with female survivors of violence suggests self-kindness may promote distress tolerance during experiential trauma processing (Valdez & Lilly, 2016). MSC training could thus be a powerful transdiagnostic intervention and/or treatment adjunct to promote affect regulation and distress tolerance for MST survivors.

There is one major consideration when implementing MSC with trauma survivors. Self-compassion training can foster 'backdraft,' temporary increases in distress that can arise as a natural response when retraining one's inner dialogue to be more self-compassionate (Gerdes et al., 2022; Germer et al., 2020; Germer & Neff, 2014). As articulated in the MSC teacher manual, 'love reveals everything unlike itself' (Germer et al., 2020, p. 83). Backdraft can include re-experiencing old memories and emotions and be exacerbated in trauma survivors, including veterans (Gerdes et al., 2022; Germer & Neff, 2014; Neff & Germer, 2022). In contrast to CPT or Prolonged Exposure (PE), where affective processing or re-experiencing are posited central treatment mechanisms (Gallagher & Resick, 2012; Resick et al., 2002), backdraft in MSC is an important mechanism to train in self-compassion and adaptive emotion regulation, as it provides practice in broadening one's 'zone of tolerance' for difficult emotions. By encountering distress with mindfulness and compassion, including 'behavioral self-compassion' that involves adaptive coping strategies, individuals gradually learn to relate to difficult emotions in helpful new ways (Germer & Neff, 2019). Ultimately, this skillset is critical for stretching one's capacity to safely titrate and sustain contact with difficult emotions that can arise within the context of compassion and mindfulness training, CPT or PE, and daily life. Importantly, however, backdraft may also involve or lead to 'self-medication' (Germer & Neff, 2014), and increases in maladaptive coping such as binge eating or substance use. As these are noted concerns for MST survivors (Breland et al., 2018; Goldberg et al., 2019), delivering MSC in this context warrants the exploration of additional approaches for working with backdraft. Research shows yoga practice is associated with reduced negative affect, suggesting it may be one such approach (Albracht-Schulte & Robert-McComb, 2018; Benvenutti et al., 2017).

Hatha yoga is a multicomponent spiritual practice that originated in the wisdom traditions of ancient India (Barkataki & Fiske, 2020; Desikachar, 1999). Modern variants (henceforth 'yoga') often comprise postures (*āsana*) and, to a lesser degree, breathwork (*prāṇāyāma*), relaxation (*śavāsana*), and meditation (*dhyāna*) (NCCIH, 2020). Meta-analytic evidence and reviews of the literature suggest that yoga reduces distress among trauma-exposed individuals (Nolan, 2016; Taylor et al., 2020). Trauma-informed yoga (TIY) synergizes the benefits of relaxation, physical activity, and mindfulness training with trauma-relevant components (Cook-Cottone et al., 2017; Emerson et al., 2009). Among women veterans with a history of MST, TIY has been observed feasible, acceptable, and associated with reduced distress, including acute negative affect (Braun et al., 2021; Kelly et al., 2021; Zaccari et al., 2022). As such, TIY may help ameliorate backdraft among MST survivors during MSC.

The present 10-week quality improvement (QI) project used a pre–post, mixed-methods design to elucidate the preliminary feasibility, acceptability, and potential benefits and challenges associated with MSC participation among women veterans survivors of MST. Following an earlier evaluation our team conducted of TIY-only in this setting (Braun et al., 2021), we secondarily examined these parameters in women participating in elective TIY classes (MSC+) relative to women who elected participation in MSC alone. The overarching objective was to adapt the programme to future cohorts of women veterans in one Vet Center setting, although results will likely be of interest to clinicians and researchers at other sites.

3. Materials and methods

3.1. Participants

Participants ($N = 9$) were women veterans currently enrolled in mental healthcare with a VA or Vet Center therapist and a history of MST documented in their medical chart. Alongside MSC, five veterans elected to participate in once-weekly, optional, trauma-

informed yoga classes (MSC+). Given the small community of this setting, we report only general demographics, without reference to group membership or specific *n*'s, to ensure confidentiality. Participants were predominantly middle-aged (32–52) with diverse military service branches and ranks represented. Self-reported ethno-racial identities included non-Hispanic White and Black. Although PTSD was not required for inclusion in this QI project, all women presented with a VA or Vet Center diagnosis of PTSD with MST identified as their Criterion A traumatic stressor, and most presented with a diagnosis of major depressive disorder. In addition to MST, seven of nine women reported childhood and/or adulthood trauma, including sexual and physical abuse, neglect, or prior domestic violence.

All but one veteran were engaged in therapy with VA or Vet Center behavioural healthcare providers at the start of the project. Regarding VA-approved evidence-based therapies for PTSD, such as CPT or PE, within the MSC group, one veteran (MSC) completed PE and CPT during a residential inpatient programme prior to the evaluation. Within the MSC+ group, two veterans had previously initiated CPT or PE but discontinued (one immediately prior to MSC) and one underwent individual therapy for CPT during MSC and completed it during group participation. The remaining women (MSC, $n = 3$; MSC+, $n = 1$) reported no history of engagement with PE or CPT.

3.2. Procedure

All sessions were held at the regional Vet Center, a community-based counselling centre that is part of the VA and provides dedicated care for MST survivors as well as other eligible veterans (U.S. Department of Veterans Affairs, 2019). The QI project spanned 10 weeks. Optional TIY classes began Week 1 for women selecting MSC+ ($n = 5$); the first session was largely informational. Week 2 represents the QI project baseline, when MSC sessions started for all participants ($N = 9$) and baseline questionnaires were completed immediately prior to class. The eight MSC sessions were delivered across a nine-week timespan, with a two-week break between sessions six and seven. TIY classes continued weekly throughout the entire 10-week duration.

Recruitment occurred within the VA and Vet Center through direct contact between the investigator (first author) and therapists working with MST survivors. Therapists referred patients who expressed interest in the project and the investigator conducted an in-person clinical interview with those patients prior to session 1. The only eligibility criteria were a history of MST, as defined above, and participant self-identification as a woman.

Four components comprised the programme evaluation. First, attrition and attendance were tracked as measures of feasibility. Second, to assess acceptability, qualitative weekly evaluation forms as well as a standardized quantitative post-programme survey were administered. Third, symptom severity screeners for depression and PTSD were administered pre- and post-programme. Last, the investigator conducted exit interviews with all completers to elicit perceptions of therapeutic benefits or challenges. Interviews were conducted within two weeks of programme completion and ranged from 45 to 90 min.

Participants were not compensated or incentivized for their participation, other than the potential for therapeutic benefit and to help inform treatment for future women veterans. The present QI project was hosted at the Vet Center as part of treatment as usual and approved by the local VA Research and Development Office, which determined Institutional Review Board approval was not required as the project did not meet the definition of research. Other programme evaluations and naturalistic observational studies with veterans have followed a similar approach (Glover et al., 2016; Katz, 2016).

3.3. Interventions

3.3.1. Mindful self-compassion (MSC)

MSC is an eight-week manualized intervention that runs 2.75–3 h per once-weekly session. Each session includes guided meditations, psychoeducation, experiential exercises, group discussion, and a recommended daily home practice of 10–20 min. Each session is themed as follows: (1) Discovering Mindful Self-Compassion, (2) Practising Mindfulness, (3) Practising Loving-Kindness, (4) Discovering Your Compassionate Voice (self-compassionate reappraisal), (5) Living Deeply, (6) Meeting Difficult Emotions, (7) Exploring Challenging Relationships, and (8) Embracing Your Life. A detailed overview of the standardized MSC intervention can be viewed in Germer and Neff (2019).

MSC is not specifically tailored for veterans or survivors of trauma/MST, although the intervention is trauma-informed. To address the clinical indication that backdraft can be more severe among trauma survivors (Germer & Neff, 2014) and increase acceptability for trauma survivors and veterans, several aspects of the MSC manual were emphasized and/or adapted. Consistent with the MSC programme, adaptations did not involve recall, discussion, or processing of traumatic events (common in existing PTSD or MST treatments). Participants were encouraged to work with trauma-salient content, as needed, in their individual therapy.

Additionally, although fidelity was not assessed in this programme evaluation, the described adaptations were minor, occurred primarily in the first few sessions, and did not impact the delivery of the MSC curriculum. Content was delivered consistent with the MSC manual guidelines, which state that MSC session lengths can range from 2.5 to 3 h (Germer & Neff, 2019). Session content includes both required and optional curricular components. In the present evaluation, each weekly session spanned a full three hours, and per instructor report, no required content was excluded.

Adaptations were three-fold. First, to provide additional support for working with backdraft, certain MSC coping skills were emphasized when distress arose during group exercises. For instance, a stronger emphasis was placed on allowing participants to 'close' as needed (i.e. intentionally mentally disengage or avoid an exercise or practice) or keep one's eyes open during exercises if feeling emotionally overwhelmed, thereby supporting a more rapid return to one's 'zone of tolerance.' Second, to increase trauma-sensitivity while helping participants better understand the function of backdraft, in session one increased attention was given to the concept of 'parts,' or varied aspects of oneself, already included in the MSC manual and inspired by Internal Family Systems therapy (Schwartz, 1995, 2001). For a detailed overview of the Internal Family Systems model for the treatment of PTSD in veteran populations, please see Lucero et al. (2018). Third, veteran-specific adaptations were implemented that have been recommended by others in the field (E. Eaton via G. Serpa, personal communication, 1 April 2019). For instance, the name of one exercise was changed to 'supportive touch' rather than 'soothing touch,' as the latter was reported less acceptable among veterans.

3.3.2. Trauma-informed yoga (TIY)

Mindful Yoga Therapy, an existing manualized TIY intervention designed for use with veterans with PTSD, was used as the adjunctive yoga component in the present evaluation (Manafort & Gilmartin, 2013). Classes were 75 min, once per week. TIY classes were offered the day after MSC sessions. Each class comprised a 10–15 min centring/grounding segment (breathing exercises, meditations) in a supine position, 45–50 min of yoga postures that ranged from gentle to moderate in intensity, and 8–15 min of cool-down postures, including final relaxation and meditation. In this context, class content was slightly adapted for MST survivors by the first author as an intervention facilitator, paralleling that described by Braun et al. (2021). All MSC and yoga sessions were facilitated in-person by the first author – a then-predoctoral intern in clinical psychology, trained teacher of MSC, and certified yoga therapist (International Association of Yoga Therapists).

3.4. Quantitative measures

3.4.1. Posttreatment measure of acceptability

A standardized form developed by the Center for MSC (2022) was administered, with two items reported here: programme satisfaction ('Please rate how satisfied you were with the MSC program') and likelihood of recommending the MSC programme to others ('How likely are you to recommend the MSC to others program after having experienced it yourself?'). Items were rated on a five-point Likert scale ranging from 1 (*very satisfied* or *highly likely*) to 5 (*very dissatisfied* or *highly unlikely*).

3.4.2. Posttraumatic stress disorder (PTSD) symptom severity

The 20-item Posttraumatic Stress Checklist (PCL-5) with Life Events Checklist and Criterion A for DSM-5 (27 items) (Weathers et al., 2013) was used to assess posttraumatic stress disorder symptom severity. Total scores range from 0 to 80 with scores of 31–33 representing a cut-point of probable PTSD. Reliable and clinically meaningful change are respectively captured by changes of 5–10 and 10–20 points. The PCL-5 has shown convergent and discriminant validity and excellent internal consistency ($\alpha = .96$) in prior research (Bovin et al., 2016).

3.4.3. Depressive symptom severity

The nine-item Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001) evaluated depressive symptom severity. Total scores range from 0 to 27 with respective scores of 5, 10, 15, and 20 representing cut-points for mild, moderate, moderately severe, and severe depression (Kroenke et al., 2010). Clinically significant change on the PHQ-9 is represented by a magnitude of 5 points or more. This measure has been determined to have good construct and external validity as well as internal consistency ($\alpha = .89$) (Kroenke et al., 2001).

3.5. Qualitative measures

3.5.1. Weekly feedback form

An open-ended, weekly, written feedback form was administered at the start and end of each MSC session. Participants were asked in open-text fields about anything they'd like to share about their day or week, and their current emotional state.

3.5.2. Exit interview

The interview protocol was designed to capture relevant themes for the intervention, MST population,

and setting, and included semi-structured and open-ended questions. For parsimony, the present work reports on themes related to benefits and challenges of participating in the programme. The interviews were conducted by the first author, an MSC teacher in the present evaluation, cisgender female, experienced qualitative interviewer, and supervised VA clinical psychology intern who was training in MST and trauma psychology. Three interviews were conducted in-person and five over the phone. Interviews were not recorded in view of the sensitive population (Rutakumwa et al., 2020) as well as the clinical setting and non-research nature of this QI project. All participants provided verbal permission for the investigator to live transcribe responses and take field notes during the interview; further field notes were taken immediately following. Questions were paced to provide sufficient time for transcription and the interviewer checked transcribed responses with participants to ensure they captured participants' intent. Every effort was made to ensure transcription was as verbatim as possible with minimal efforts towards summarization, and to mitigate recall bias, the script was prepared on the same day as the interview (Bachiochi & Weiner, 2004).

3.6. Data analysis

3.6.1. Posttreatment measure of acceptability

A simple mean score was generated for each of the two items assessing programme satisfaction and likelihood of recommending the MSC programme to others, respectively.

3.6.2. Symptom severity assessments

Symptom severity assessments are reported in terms of per cent change from pre- to posttreatment. We also report the number of participants reporting clinically meaningful, reliable (PCL-C), and significant (PHQ-9) changes, as defined in the Measures section. Given the lack of statistical power to detect change across participants in this sample and the intent of this QI project to inform clinical care, all other data are reported individually for each participant. Raw scores for all quantitative measures are also presented graphically by participant to visualize trajectories of change over time.

3.6.3. Weekly feedback form

Form responses were reviewed for any indication of major life stressors or events, or mention of adverse events or contraindication following each class.

3.6.4. Exit interview

The thematic analysis approach by Braun and Clarke (2006, 2012) was followed to code and analyse the interview data for benefits and challenges of participating in the programme. This involved utilizing a combination of a deductive and inductive approach; deductive as we drew on knowledge from the MST and sexual assault literature to articulate the presence of constructs or processes that were not explicitly named by participants, and inductive given that we supplemented this with coding based on participants' direct reported experiences (Braun & Clarke, 2006, 2012). All eight interviews were initially coded by both the first and fifth authors, the latter a cisgender female and experienced research coordinator. The interviews were then coded a second time by each coder, with the coding structure iteratively refined and expanded to incorporate new material throughout the coding process. After any discrepancies were resolved, final coded transcripts were agreed upon by both coders and were entered into the NVivo (2012) qualitative data analysis software. Next, codes and data were reviewed and themes were generated by the first and third authors, the latter a female cisgender experienced qualitative research coordinator. Finally, to confirm themes, the second author – a cisgender female clinical psychologist with qualitative research experience and no role in project implementation – reviewed all themes and quotes.

4. Results

4.1. Feasibility and acceptability

One veteran (MSC+; P9) discontinued and was lost to follow-up after attending the first two sessions of MSC and the first four sessions of yoga, yielding an overall retention rate of 89% for MSC and 80% for those participating in optional yoga. P9 did not provide a reason for discontinuing, however, her final weekly evaluation form noted that she was feeling 'conflicted and torn between wanting to heal [*sic*] not wanting to feel.' Attendance rates and results henceforth refer to intervention completers only ($n = 8$). For MSC sessions, there was an overall attendance rate of 89% (on average as a group, attending seven of eight classes). However, participants in optional yoga classes attended 94% of MSC sessions compared to 84% among those who did not. For yoga sessions, there was an attendance rate of 80% (on average, attending 8 of 10 sessions).

For MSC, adverse events were queried indirectly through weekly open-ended written feedback forms as well as in the exit interview, completed by all eight programme completers. In their weekly forms as well as study sessions, women reported the onset of major life stressors that they specified were unrelated to the study interventions, including family, work, and health challenges. In exit interviews, as anticipated most veterans reported temporary elevations in distress during MSC, many of whom linked some distress to learning self-compassion (i.e.

backdraft; see Theme 2). As described, this was an expected non-serious adverse event for this intervention with this population. For yoga, musculoskeletal adverse events were verbally queried by the teacher before and after each class, with none reported.

Acceptability survey data were available for six of eight completers. One participant (P8; MSC) declined to complete quantitative post-surveys, citing her Attention Deficit Hyperactivity Disorder. The other participant (P3; MSC+) did not return it with her survey packet. The acceptability measure was administered separately from the other quantitative measures, potentially contributing to its missingness. In her qualitative interview, P3 reported mixed benefits from MSC, similar to the participant who declined completion of post-surveys (P8). Thus, it is probable the exclusion of their data could have impacted acceptability ratings. Among the six completers for this measure, all indicated being 'very satisfied' and 'highly likely' to recommend MSC to others (both scales $M = 5.0$ out of a range of 1–5).

4.2. Validated symptom severity assessments

4.2.1. Baseline symptom severity

At baseline, among participants with available quantitative data ($n = 7$), PHQ-9 scores fell in the moderately severe range while PCL scores exceeded the threshold for probable PTSD. Within sub-groups on average, MSC participants reported PHQ-9 scores that fell in the moderately severe category (15–20), whereas MSC+ participants reported scores that fell in the moderate range (10–15). Regarding the PCL, only one woman (in MSC+) did not meet the cut-point for a positive PTSD screen (≥33). See Table 1 for symptom severity scores by group, sub-group, and by participant.

4.2.2. Change in symptom severity pre–post-MSC programme

See Table 1 for symptom severity scores and per cent change in those scores from pre- and post-MSC within the overall group, MSC and MSC+, and by participant. Trajectories of change in these measures by participant can be seen in Figure 1. On average among participants across the two treatment groups, depressive symptom severity decreased by 21% and PTSD symptom severity decreased by 30%. A review of measure score thresholds (see Measures section) revealed clinically significant decreases in depressive symptoms and clinically meaningful decreases in PTSD among five of seven veterans for each outcome, with a sixth veteran reporting clinically reliable change in PTSD. The average reduction in depressive symptoms was greater in MSC ($n = 3$; 30%) relative to MSC+ ($n = 4$; 15%), with a similar, if attenuated, pattern for PTSD symptoms (34% vs. 28%, respectively).

Table 1. Depressive and PTSD symptoms pre- and post-Mindful Self-Compassion (MSC) programme ($N = 7$), on average, by group (MSC-only vs. MSC+ Trauma-Informed Yoga; MSC+ TIY) and by participant, with per cent change in pre- to posttreatment scores.

Clinical endpoint	Pseudonyms	Group	Pretreatment *M* (±SD)	Posttreatment *M* (±SD)	Change in scores *M* (±SD)	% Change
Depressive symptoms	Average group scores					
		All participants ($n = 7$)	15.43 (±3.21)	12.29 (±5.12)	−3.14 (±1.92)	20.3%
		MSC+ ($n = 4$)[a]	14.25 (±3.77)	12.50 (±7.05)	−1.75 (±3.72)	12.3%
		MSC ($n = 3$)	17.00 (±1.73)	12.00 (±2.00)	−5.00 (±0.27)	29.4%
	Individual scores					
	P1	MSC+	11	5	**6**	54.5%
	P2	MSC+	17	22	**−5**	−29.4%
	P3	MSC+	18	12	**6**	33.3%
	P4	MSC+	11	11	0	0.0%
	P5	MSC	16	10	**6**	37.5%
	P6	MSC	19	14	**5**	26.3%
	P7	MSC	16	12	4	25.0%
PTSD symptoms	Average group scores					
		All participants ($n = 7$)	45.57 (±14.52)	32.00 (±16.57)	−13.57 (±11.50)	29.8%
		MSC+ ($n = 4$)[a]	45.00 (±19.95)	32.75 (±22.25)	−12.25 (±15.46)	27.2%
		MSC-only ($n = 3$)	45.57 (±14.52)	31.00 (±8.89)	−15.33 (±5.51)	33.1%
	Individual scores					
	P1	MSC+	20	14	6	30.0%
	P2	MSC+	63	65	−2	−3.2%
	P3	MSC+	59	25	**34**	57.6%
	P4	MSC+	38	27	**11**	28.9%
	P5	MSC	42	21	**21**	50.0%
	P6	MSC	53	38	**15**	28.3%
	P7	MSC	44	34	**10**	22.7%

Note: Bolded numbers under 'Change' column denote clinically significant or meaningful change. Grey highlight denotes clinically reliable change in PTSD. *M* = mean, SD = standard deviation. PTSD symptom severity was assessed with the PTSD Checklist for DSM-5 (PCL-5). A 5-to-10-point change in PCL-C scores is considered reliable, and a change of 10- to 20-points is considered clinically meaningful (Weathers et al., 2013). Depressive symptom severity was assessed with the Patient Health Questionnaire-9 (PHQ-9). Clinically significant change is represented by a 5-point or more change in PHQ-9 scores (Kroenke et al., 2010).

[a]One participant in the MSC+ condition was enrolled in concurrent CPT during the programme evaluation, which may have contributed to her subthreshold scores and reduced symptom severity from pre- to post-MSC. A second MSC+ participant reported experiencing a traumatic life event at the time MSC ended, to which she attributed her elevated posttreatment scores.

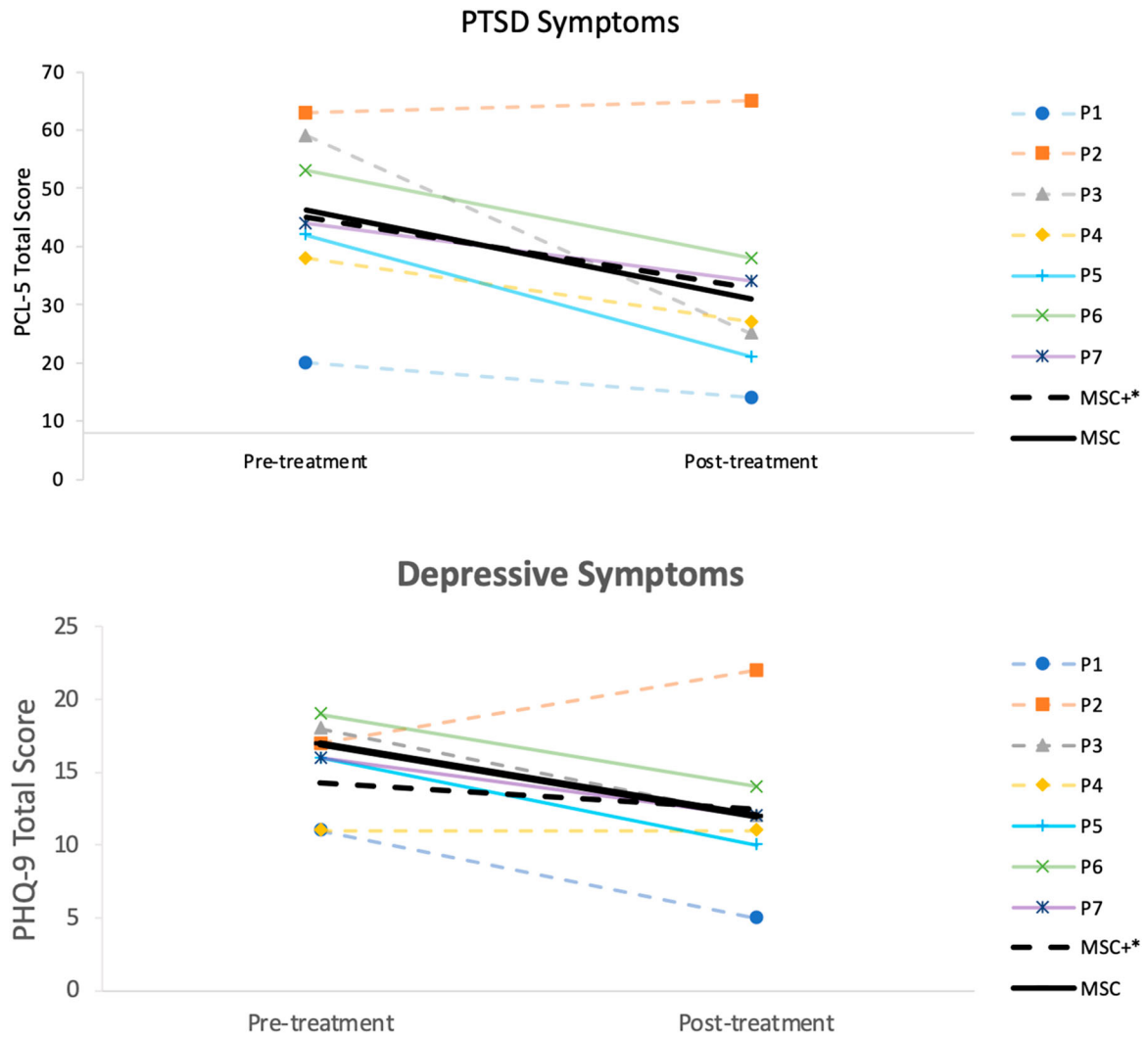

Figure 1. Changes in clinical symptoms from pre- to post-MSC programme, by group and by participant.

Note: MSC+ = Mindful Self-Compassion + Trauma-Informed Yoga. PCL-5 = Posttraumatic Stress Disorder Checklist-5; PHQ-9 = Patient Health Questionnaire-9. The MSC programme took place over 8 weeks.

*One participant in MSC+ condition was enrolled in concurrent CPT during the programme evaluation, which may have contributed to her subthreshold scores and reduced symptom severity from pre- to post-MSC. A second MSC+ participant reported experiencing a traumatic life event at the time MSC ended, to which she contributed to her elevated posttreatment scores.

4.3. Interview themes

Here qualitative themes are presented that directly relate to the associated benefits and challenges of the MSC programme. See Table 2 for representative quotes related to each theme.

4.3.1. Theme 1: General benefits related to MSC

Most women across groups reported improved coping and the ability to work with difficult emotions (Subtheme 1.1) as well as stress reduction alongside improvements in self-care (Subtheme 1.2) and health behaviours (Subtheme 1.3) that they related to MSC participation. Specifically, most participants reported improved coping with psychiatric symptoms and distress, as well as reduced avoidance thereof and increased confidence in being able to manage unpleasant emotions. Reduced stress, increased ability to manage stress, and practising self-care during periods of elevated stress were also reported by most women across groups. Lastly, most veterans reported improvement in health behaviours, with the majority of these indicating healthier dietary or eating behaviours. Several also reported improvement in exercise and/or chronic pain.

4.3.2. Theme 2: Challenges related to MSC

As anticipated, during MSC all women reported the onset of major life stressors with most also reporting intermittent increases in distress and/or physical tension related to MSC (i.e. backdraft; Subtheme 2.1). A majority also indicated experiencing some form of avoidance or maladaptive coping (Subtheme 2.2). Regarding backdraft, women described that MSC participation specifically brought forth old feelings or temporarily stirred things up, including psychiatric symptoms, shame, and self-criticism. A few also related experiencing temporarily increased physical pain and/or tension during or following class that they attributed to increased MSC-related distress. Of those reporting avoidance or maladaptive coping

(sleeping, disordered eating, smoking cannabis), several associated it with backdraft. Notably, all women reporting challenges during MSC – irrespective of whether it was related to MSC or life in general – also reported that what they learned in MSC helped them work with difficult emotions and/or develop healthy coping strategies.

4.3.3. Theme 3: Benefits of MSC+

Among MSC+ participants, all women described the two practices as complementary and synergistic (Subtheme 3.1) and that yoga helped them to reduce acute distress (Subtheme 3.2). Relevant comments were also offered by yoga-experienced veterans in the MSC group (Subtheme 3.3). MSC+ veterans indicated that yoga provided them with the space and internal resources to implement the skills learned in MSC. As anticipated and intended, they also reported that yoga helped them to cope with and process difficult emotions or tension, including backdraft related to MSC. Women recommended formally combining MSC and yoga in future interventions and practising both regularly. Additionally, two yoga-relevant comments were shared by MSC participants who experienced substantial backdraft and were experienced yoga practitioners (although they did not practice during the MSC programme). Because yoga had helped them to release emotional tension in the past, they expressed feeling that yoga would have helped them better process emotions and benefit from the MSC programme.

5. Discussion

The overall finding of this quality improvement (QI) project was that Mindful Self-Compassion (MSC) was feasible and acceptable for women veterans with a history of military sexual trauma (MST) in one Vet Center setting. Women described several benefits related to their participation, and highlighted some notable challenges that should be addressed by providers. Those participating in elective trauma-informed yoga (TIY) showed improved attendance and reported added potential acceptability and benefit relative to women in MSC.

5.1. Feasibility and acceptability

Retention and attendance rates for MSC were excellent. Surprisingly, women participating in MSC+, compared to MSC alone attended more MSC sessions, despite expectations that the time to attend a second in-person weekly class (TIY) could feasibly reduce attendance in MSC sessions. MSC+ participants' reports that MSC and TIY felt synergistic may have contributed to their improved attendance, although MSC+ (vs. MSC) may also have been more likely to enrol in and attend the two classes due to baseline or other unmeasured differences. Improved attendance in MSC+ may also have been related to increased contact time in this group, as participants met for one TIY class prior to MSC, potentially increasing rapport and engagement. Of note, the one participant to discontinue participation was in the MSC+ group. She cited experiencing backdraft in her last session, countering the hypothesis that TIY helps ameliorate backdraft and increases the acceptability of MSC. This incident suggests the potential importance of tailored treatment approaches, in light of recent TIY research with MST survivors indicating strong acceptability in this group (Zaccari et al., 2022). When coupled with the limitations of programme evaluation approaches, this observation underscores a need for formal MSC research using controlled designs.

However, as a whole, women in both groups reported high satisfaction with the MSC programme. While this finding is consistent with research and evaluations showing MSC and related interventions are acceptable in veterans (Kearney et al., 2013; Lang et al., 2019; Serpa et al., 2021), to our knowledge this is the first such inference among veteran women with a history of MST. Findings should be considered with caution, as available acceptability data were from only six women. Yet while most participants also reported the expected adverse event of backdraft, this did not generally mitigate overall perceptions of programme benefit. The majority of women also reported the onset of major life stressors during their participation, consistent with reports of increased daily hassles and overall stress in the aftermath of sexual violence (Stensvehagen et al., 2019). This finding suggests a continued need for MST interventionists to accommodate the likelihood that stress management and coping skills may be crucial not only for trauma-related affect but for coping with life stressors that might otherwise derail treatment engagement.

5.2. Potential benefits of MSC with MST survivors

Across groups, most women in our evaluation reported improved symptom severity on assessments, corroborated by qualitative reports of improved coping with psychiatric symptoms. These findings echo formal research on MSC in clinical populations that shows improvements in psychopathology and distress (Friis et al., 2016; Guo et al., 2020). Participants also endorsed reduced symptoms of avoidance and increased confidence in managing symptoms, aligning with prior experimental research that found self-kindness associated with increased tolerance of unpleasant internal experiences among survivors of sexual violence (Valdez & Lilly, 2016). Challenges regulating

Table 2. Representative quotes by theme and subtheme.

Theme 1: General benefits related to MSC
Subtheme 1.1: Improved coping with psychiatric symptoms
'I think it actually helped me to control and mitigate my symptoms because again, coping skills are very helpful' (P1, MSC+)
'I was not as annoyed about my [anxiety] symptoms as I have [been] in the past … now it's more like, oh that's how I feel, and you know why that's happening, just take a breath and it'll be over soon … anxiety still happens, but … even with all the stress … I didn't get panic attacks' (P2, MSC+)
'I'm handling symptoms better' (P6, MSC)
'I have Complex PTSD. I had fewer bad days in general' (P7, MSC)
Subtheme 1.2: Reduced stress and improved self-care during stress
'[Self-compassion practices] were really very beneficial so, to help me get past or actually just handle the stress level' (P2, MSC+)
'It did help [with stress]. There was something stressful yesterday and I wanted to fly off the handle but I kind of let it go and went with it' (P3, MSC+)
'I was feeling really stressed out, and guilty, about … how I use my time every day … so now I'm just saying, ok, it's ok that I take time for me, and I can be compassionate towards myself' (P6, MSC)
'[I realized] the importance of taking care of myself, especially during a difficult period. Historically I tend to do the opposite, I shove it down and say, I'll deal with this on the back end. [Now] I feel less burnt out' (P7, MSC)
Subtheme 1.3: Improved health behaviors
'I've been slowly changing what I eat and really trying to incorporate things to take better care of myself … I haven't [binged or overeaten] in a while' (P1, MSC+; pre-diabetes diagnosis)
'[Following a binge] I really wanted to make myself sick [purge]. And I was trying to talk myself out of it … I don't need to punch myself or beat me up, I know it's not good for me for so many reasons … and I did talk myself out of it' (P6, MSC; bulimia nervosa diagnosis)
'I would definitely feel a difference in the pain level, it would go down … I usually feel more centered, and so I think that feeling of … control, helped with the pain that I feel' (P4, MSC+)
'[Exercise has] become more important to me as a means of taking care of myself, and if I exercise, I feel much better and I'm more inclined to eat [healthier]' (P5, MSC)
Theme 2: Challenges related to MSC
Subtheme 2.1: Backdraft
'When we delved into the shame … it brings up a lot of stuff' (P3, MSC+)
'It's painful! You're picking scabs. At times the program increased stress' (P5, MSC)
' … my headaches were coming back, my tension in my neck and back was high … the days that were more emotional, I would feel probably high[er] pain than I normally would' (P4, MSC+)
'[Right now] my hand is on my neck trying to rub out a knot. I think that when I talk about these things it definitely shows up in my muscles as increased pain' (P8, MSC)
Subtheme 2.2: Avoidance, including maladaptive coping behaviors
'[During in-class meditations] I would go to sleep … I was uncomfortable and didn't want to deal with those particular [exercises] … Well that's definitely avoidance, but I don't understand why I wouldn't want or be able to receive that kind of kindness' (P1, MSC+)
'I'm supposed to be working on [eating more food and cutting back alcohol use], and supposed to be nice to myself and I'm mad at myself for not doing well at this because I'm supposed to be nice' (P5, MSC)
'[Smoking cannabis] would take that stress [related to learning in MSC] down a little and make me be like ok, I can do this, read the book, read the manual, that type of thing … I experienced both increases and decreases [in use during MSC] … now I've leveled back out again to [the same level of baseline use]' (P4, MSC+)
'Some of the compulsive behaviors I used to do are starting to show up again [such as chewing and spitting] … that's a way of avoidance for me so I don't have to deal with anything' (P8, MSC)
Theme 3: Benefits of MSC+
Subtheme 3.1: MSC+ complementary
'If I don't practice yoga every day, then I don't get the benefits of it every day, but what we learned in the MSC class is something I can use every day' (P1)
'My brain still thinks it's one class … they work for me … symbiotically … I felt like one [MSC] was didactic and the other [yoga] was … a safe space to practice it before I could incorporate it into my life' (P2)
'[I prefer yoga as] it gets me moving [and] helps a lot with my pain and depression … [although MSC] teaches a lot of skills that definitely can be used during yoga' (P3)
'MSC opened up my mind up to be able to think about things to think about things completely differently, and yoga opened my body to be able to do that [and] … provided the strength to do what you need to do for MSC' (P4)
Subtheme 3.2: Improved coping with distress and tension, including backdraft
'[Yoga helped to] breathe out some of the tension that [MSC] had brought up' (P1)
'[Yoga helps me] process my feelings faster [and] find my triggers … if I start getting flustered about something I can pause for a second and breathe and close my eyes' (P2)
'Yoga helps with difficult emotions and helps me feel better even if I'm having [a hard day]' (P3)
'Without the yoga [to physically release MSC-related stress] I would have had a lot more pain … I don't think things would have moved [i.e. beneficially changed] like they did' (P4)
Subtheme 3.3: Yoga-relevant comments among MSC experienced yoga practitioners
'[After reporting increased stress] I have to get back to my yoga. I was doing it every day [before MSC] and I had a dental emergency, and I haven't done yoga since' (P5)
'[Yoga's] been missing … [it might have helped with backdraft] because it will help me get it out of my body and release it … the anger and the emotions need to come out … for many years they've been trapped inside of me … Sometimes during the yoga practice that is when I can release emotions' (P8)

distress have been identified as a contributor to drop-out in PE and CPT (Alpert et al., 2020; Belleau et al., 2017). While purely conjectural, it is possible MSC could be a useful precursor or adjunct to evidence-based treatments for PTSD by increasing distress tolerance and thereby retention and treatment completion rates.

Most participants in both groups also reported a range of improvements related to health behaviours, particularly diet/eating behaviours and to a lesser extent, chronic pain and physical activity. These findings mirror existing research or programme evaluations that have linked MSC, TIY, and a related approach to improvement in diet/eating behaviours and pain-related outcomes (Braun et al., 2021; Palmeira et al., 2017; Serpa et al., 2021; Torrijos-Zarcero et al., 2021). While findings are at best preliminary for this QI project, improved health behaviours could have substantial implications for health in those with a history of MST or other sexual violence.

5.3. Backdraft and its amelioration: a role for trauma-informed yoga (TIY)?

Despite indications of feasibility, acceptability, and overall benefit, as expected, most participants reported experiencing backdraft (increased distress related to the MSC programme and practices) as well as avoidance behaviours. However, most women also reported that the coping skills taught in MSC helped them deal with their distress. In addition, MSC+ participants reported synergistic effects of the two practices and improved coping with backdraft relative to their MSC peers, suggesting this may be a particularly promising approach for enhancing emotional processing. Of consideration for interventionists, evaluators, and researchers interested in whole health, research shows yoga not only regulates acute negative affect but has myriad additional benefits, including stress reduction (Wang & Szabo, 2020) and improvement in stress-linked biomarkers, such as systolic blood pressure and lipid profiles (Li et al., 2021; Ramamoorthi et al., 2019). It is possible this adjunctive TIY approach with multi-system health impacts may prove more acceptable and beneficial when compared to interventions that focus solely on coping- or interpersonal skills training, or at minimum a promising alternative or adjunct for those who would prefer it. Indeed, women veterans with a history of MST have explicitly called for more comprehensive treatment options for MST, including approaches that integrate complementary and integrative health (Evans et al., 2019). MSC+ may represent one such promising approach alongside other longer-standing options, such as the multicomponent Warrior Renew programme for MST (Katz, 2016).

5.4. Strengths and limitations

To our knowledge, the present work is among the first efforts to explore the implementation of MSC as well as elective adjunctive TIY for women veterans with a history of MST. However, a number of limitations warrant mention. First, this QI project was not a research study and thus did not involve randomization. Consequently, findings cannot be generalized to other groups of women veterans with a history of MST. Relatedly, it may be tempting to view weaker declines in symptom severity among MSC+ relative to MSC as a sign that TIY might have rendered the programme less effective in improving these endpoints. Yet because the groups in this programme evaluation were non-randomized, other factors may have influenced participant scores. For instance, one MSC+ participant was simultaneously engaged in CPT and another experienced a traumatic stressor that was heightened during exit data collection. Underlying differences between participants self-selecting to MSC vs. MSC+ may also have accounted for any differences in scores or responses, pointing to a need for formal randomized and controlled research designs that can account for confounding factors.

We also did not audio-record exit interviews to protect the confidentiality of this sensitive patient population and because this was not a formal research study. While this may be viewed as a limitation, our approach is consistent with others who work with sensitive and invisible populations (Rutakumwa et al., 2020). Research has also shown that data quality in interview scripts written directly following an interview is comparable to audio-recorded transcripts (Rutakumwa et al., 2020). In the present evaluation, interviews were live-transcribed during the interview and checked with participants for accuracy, with the script refined immediately following – further increasing confidence in our findings. Nonetheless, future formal research would benefit from considering the use of elective audio-recorded interviews with verbatim transcription where appropriate.

Mirroring several research studies (Pence et al., 2014; Zaccari et al., 2022), this QI project focused on women survivors of MST as this group has expressed hesitations seeking care in male-dominated VA environments as well as a desire for yoga and meditation (Evans et al., 2019). However, growing evidence suggests this approach could be equally helpful for individuals of other genders (Bluth et al., 2023; Serpa et al., 2021) indicating a need for continued investigation in formal research. A final limitation is that our sample size of eight (and four per group for MSC vs. MSC+) was very modest, with even less available data for quantitative acceptability and symptom severity assessments. Along with the nature of this non-generalizable QI project, this sample size limits the inference of our findings. However, prior evaluations of TIY with trauma survivors have enrolled half the number of participants yet observed similar qualitative themes (Braun et al., 2021; Justice & Brems, 2019; Ong et al., 2019). To rectify this limitation, larger sample sizes are needed in future formal research to elucidate differences between MSC, MSC +, and varied responses to each by sociodemographic and trauma characteristics.

5.5. Conclusion

MSC training with minor trauma-informed adaptations appears feasible and acceptable among women veterans with a history of MST in one New England Vet Center setting. It is also associated with decreased depressive and PTSD symptom severity and reports of improvement in coping with psychiatric symptoms, stress reduction and self-care, and health behaviours. Although temporary increases in distress, avoidance, and/or maladaptive coping behaviours were also reported by most women, they

reported that coping skills learned in MSC helped ameliorate these concerns. Moreover, women taking adjunctive trauma-informed yoga (MSC+) attended more MSC classes and reported synergistic effects of the two practices, as well as improved ability to process difficult emotions. Formal research is needed to better understand the synergy between MSC and yoga among MST survivors and the implications for their psychological, behavioural, and physical health.

Acknowledgements

The authors acknowledge with gratitude the honourable service of USA military service members and the women veterans who participated in this quality improvement project. The authors would like to thank VACWM and Vet Center providers for their Veteran referrals to the project. Additionally, they appreciatively acknowledge the Vet Center where this project took place for their generous allocation of space and other resources to support this project, and Dr. Rochelle Rosen for her early consultation on qualitative methodology. These contents do not represent the views of the US Department of Veterans Affairs or the United States Government.

Disclosure statement

Dr Braun receives occasional payments for courses, workshops, and presentations related to her roles as a certified yoga therapist, Mindful Self-Compassion teacher, and teacher of Mindfulness-Based Stress Reduction. All other authors report no conflicts of interest.

Funding

The project described was supported by the National Center for Complementary and Integrative Health (NCCIH) under grants K23 AT011917 and L30 AT011637, as well as Institutional Development Award Number U54GM115677 from the National Institute of General Medical Sciences of the National Institutes of Health, which funds Advance Clinical and Translational Research (Advance RI-CTR). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

References

Albracht-Schulte, K., & Robert-McComb, J. (2018). The effects of yoga and quiet rest on subjective levels of anxiety and physiological correlates: A 2-way crossover randomized trial. *BMC Complementary and Alternative Medicine*, *18*(1), 1–11. https://doi.org/10.1186/s12906-018-2343-1

Alpert, E., Hayes, A. M., Barnes, J. B., & Sloan, D. M. (2020). Predictors of dropout in cognitive processing therapy for PTSD: An examination of trauma narrative content. *Behavior Therapy*, *51*(5), 774–788. https://doi.org/10.1016/j.beth.2019.11.003

Au, T. M., Sauer-Zavala, S., King, M. W., Petrocchi, N., Barlow, D. H., & Litz, B. T. (2017). Compassion-based therapy for trauma-related shame and posttraumatic stress: Initial evaluation using a multiple baseline design. *Behavior Therapy*, *48*(2), 207–221. https://doi.org/10.1016/j.beth.2016.11.012

Baca, S. A., Crawford, J. N., & Allard, C. B. (2023). PTSD, depression, and suicidality among survivors of childhood sexual trauma (CST), military sexual trauma (MST), and sexual revictimization (CST + MST). *Psychological Trauma: Theory, Research, Practice, and Policy*, *15*(8), 1271–1279. https://doi.org/10.1037/tra0001149

Bachiochi, P. D., & Weiner, S. P. (2004). Qualitative data collection and analysis. In S. G. Rogelberg (Ed.), *Handbook of research methods in industrial and organizational psychology* (pp. 161–183). Blackwell.

Barkataki, S., & Fiske, S. (2020). *Embrace yoga's roots: Courageous ways to deepen your yoga practice*. Ignite Yoga and Wellness Institute. https://www.amazon.com/Embrace-Yogas-Roots-Courageous-Practice/dp/1734318112/ref=asc_df_1734318112/?tag=hyprod-20&linkCode=df0&hvadid=475751751114&hvpos=&hvnetw=g&hvrand=11655610176052607995&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9003335&hvtargid=pla-1008292076149&psc=1

Belleau, E. L., Chin, E. G., Wanklyn, S. G., Zambrano-Vazquez, L., Schumacher, J. A., & Coffey, S. F. (2017). Pre-treatment predictors of dropout from prolonged exposure therapy in patients with chronic posttraumatic stress disorder and comorbid substance use disorders. *Behaviour Research and Therapy*, *91*, 43–50. https://doi.org/10.1016/j.brat.2017.01.011

Benvenutti, M. J., Alves, E. d. S., Michael, S., Ding, D., Stamatakis, E., & Edwards, K. M. (2017). A single session of hatha yoga improves stress reactivity and recovery after an acute psychological stress task—A counterbalanced, randomized-crossover trial in healthy individuals. *Complementary Therapies in Medicine*, *35*(September), 120–126. https://doi.org/10.1016/j.ctim.2017.10.009

Bhuptani, P. H., & Messman, T. L. (2022). Self-compassion and shame among rape survivors. *Journal of Interpersonal Violence*, *37*(17–18), NP16575–NP16595. https://doi.org/10.1177/08862605211021994

Bluth, K., Lathren, C., Clepper-Faith, M., Larson, L. M., Ogunbamowo, D. O., & Pflum, S. (2023). Improving mental health among transgender adolescents: Implementing mindful self-compassion for teens. *Journal of Adolescent Research*, *38*(2), 271–302. https://doi.org/10.1177/07435584211062126

Bovin, M. J., Marx, B. P., Gallagher, M. W., Schnurr, P. P., Weathers, F. W., Rodriguez, P., & Keane, T. M. (2016). Psychometric properties of the PTSD checklist for diagnostic and statistical manual of mental disorders–fifth edition (PCL-5) in veterans. *Psychological Assessment*, *28*(11), 1379–1391. https://doi.org/10.1037/pas0000254

Braun, T. D., Uebelacker, L. A., Ward, M., Glanton, C., Mccallister, K., & Abrantes, A. (2021). "We really need this": Trauma-informed yoga for veteran women with a history of military sexual trauma. *Complementary Therapies in Medicine*, *59*(April), 102729. https://doi.org/10.1016/j.ctim.2021.102729

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp. 57–71). American Psychological Association. https://doi.org/10.1037/13620-004

Breland, J. Y., Donalson, R., Li, Y., Hebenstreit, C. L., Goldstein, L. A., & Maguen, S. (2018). Military sexual trauma is associated with eating disorders, while combat exposure is not. *Psychological Trauma: Theory, Research, Practice, and Policy*, *10*(3), 276–281. https://doi.org/10.1037/tra0000276

Center for Mindful Self-Compassion (MSC). (2022). *Center for mindful self-compassion*. https://centerformsc.org/

Cook-Cottone, C., LaVigne, M., Guyker, W., Travers, L., Lemish, E., & Elenson, P. (2017). Trauma-informed yoga: An embodied, cognitive-relational framework. *International Journal of Complementary & Alternative Medicine*, *9*(1), 1–10. https://doi.org/10.15406/ijcam.2017.09.00284

Desikachar, T. K. V. (1999). *The heart of yoga: Developing a personal practice*. Inner Traditions International.

Egan, S. J., Rees, C. S., Delalande, J., Greene, D., Fitzallen, G., Brown, S., Webb, M., & Finlay-Jones, A. (2022). A review of self-compassion as an active ingredient in the prevention and treatment of anxiety and depression in young people. *Administration and Policy in Mental Health and Mental Health Services Research*, *49*(3), 385–403. https://doi.org/10.1007/s10488-021-01170-2

Emerson, D., Sharma, R., & Chaudhry, S. (2009). Trauma-sensitive yoga: Principles, practice, and research. *International Journal of Yoga Therapy*, *19*(19), 123–128. https://doi.org/10.17761/ijyt.19.1.h6476p8084l22160

Evans, E. A., Tennenbaum, D. L., Washington, D. L., & Hamilton, A. B. (2019). Why women veterans do not use VA-provided health and social services: Implications for health care design and delivery. *Journal of Humanistic Psychology*, *64*(2), 1–30.

Ferrari, M., Hunt, C., Harrysunker, A., Abbott, M. J., Beath, A. P., & Einstein, D. A. (2019). Self-compassion interventions and psychosocial outcomes: A meta-analysis of RCTs. *Mindfulness*, *10*(8), 1455–1473. https://doi.org/10.1007/s12671-019-01134-6

Friis, A. M., Johnson, M. H., Cutfield, R. G., & Consedine, N. S. (2016). Kindness matters: A randomized controlled trial of a mindful self-compassion intervention improves depression, distress, and HbA1c among patients with diabetes. *Diabetes Care*, *39*(11), 1963–1971. https://doi.org/10.2337/dc16-0416

Gallagher, M. W., & Resick, P. A. (2012). Mechanisms of change in cognitive processing therapy and prolonged exposure therapy for PTSD: Preliminary evidence for the differential effects of hopelessness and habituation. *Cognitive Therapy and Research*, *36*(6), 750–755. https://doi.org/10.1007/s10608-011-9423-6

Gerdes, S., Williams, H., & Karl, A. (2022). Psychophysiological responses to a brief self-compassion exercise in armed forces veterans. *Frontiers in Psychology*, *12*, 780319. https://doi.org/10.3389/fpsyg.2021.780319

Germer, C. K., & Neff, K. D. (2015). Cultivating self-compassion in trauma survivors. In V. M. Follette, J Briere, D. Rozelle, J. W. Hopper, & D. I. Rome (Eds.), *Mindfulness-oriented interventions for trauma: Integrating contemplative practices* (pp. 43–58). Guilford Publications.

Germer, C., & Neff, K. (2019). *Teaching the mindful self-compassion program: A guide for professionals*. Guilford Press.

Germer, C., Neff, K., Becker, M., and Hickman, S. (2020). *Mindful self-compassion teacher guide*. Center for Mindful Self-Compassion.

Gibson, C. J., Gray, K. E., Katon, J. G., Simpson, T. L., & Lehavot, K. (2016). Sexual assault, sexual harassment, and physical victimization during military service across age cohorts of women veterans. *Women's Health Issues*, *26*(2), 225–231. https://doi.org/10.1016/j.whi.2015.09.013

Gilbert, P. (2005). Compassion and cruelty: A biopsychosocial approach. In P. Gilbert (Ed.), *Compassion and cruelty* (pp. 9–74). Routledge.

Glover, N. G., Sylvers, P. D., Shearer, E. M., Kane, M. C., Clasen, P. C., Epler, A. J., Plumb-Vilardaga, J. C., Bonow, J. T., & Jakupcak, M. (2016). The efficacy of focused acceptance and commitment therapy in VA primary care. *Psychological Services*, *13*(2), 156–161. https://doi.org/10.1037/ser0000062

Goldberg, S. B., Livingston, W. S., Blais, R. K., Brignone, E., Suo, Y., Levahot, K., Simpson, T. L., Fargo, J., & Gundlapalli, A. V. (2019). A positive screen for military sexual trauma is associated with greater risk for substance use disorders in women veterans. *Psychology of Addictive Behaviors*, *33*(5), 477–483. https://doi.org/10.1037/adb0000486

Guo, L., Zhang, J., Mu, L., & Ye, Z. (2020). Preventing postpartum depression with mindful self-compassion intervention: A randomized control study. *Journal of Nervous & Mental Disease*, *208*(2), 101–107. https://doi.org/10.1097/NMD.0000000000001096

Hargrave, A. S., Maguen, S., Inslicht, S. S., Byers, A. L., Seal, K. H., Huang, A. J., & Gibson, C. J. (2022). Veterans health administration screening for military sexual trauma may not capture over half of cases among midlife women veterans. *Women's Health Issues*, *32*(5), 509–516. https://doi.org/10.1016/j.whi.2022.06.002

Held, P., & Owens, G. P. (2015). Effects of self-compassion workbook training on trauma-related guilt in a sample of homeless veterans: A pilot study. *Journal of Clinical Psychology*, *71*(6), 513–526. https://doi.org/10.1002/jclp.22170

Justice, L., & Brems, C. (2019). Bridging body and mind: Case series of a 10-week trauma-informed yoga protocol for veterans. *International Journal of Yoga Therapy*, *29*(1), 65–79. https://doi.org/10.17761/D-17-2019-00029

Katz, L. S. (2016). Efficacy of warrior renew group therapy for female veterans who have experienced military sexual trauma. *Psychological Services*, *13*(4), 364–372. https://doi.org/10.1037/ser0000103

Kearney, D. J., Malte, C. A., McManus, C., Martinez, M. E., Felleman, B., & Simpson, T. L. (2013). Loving-kindness meditation for posttraumatic stress disorder: A pilot study. *Journal of Traumatic Stress*, *26*(4), 426–434. https://doi.org/10.1002/jts.21832

Kearney, D. J., Malte, C. A., Storms, M., & Simpson, T. L. (2021). Loving-kindness meditation vs cognitive processing therapy for posttraumatic stress disorder among veterans: A randomized clinical trial. *JAMA Network Open*, *4*(4), e216604. https://doi.org/10.1001/jamanetworkopen.2021.6604

Kelly, U., Haywood, T., Segell, E., & Higgins, M. (2021). Trauma-sensitive yoga for post-traumatic stress disorder in women veterans who experienced military sexual trauma: Interim results from a randomized controlled trial. *The Journal of Alternative and Complementary Medicine*, *27*(S1), S-45–S-59. https://doi.org/10.1089/acm.2020.0417

Kimerling, R., Gima, K., Smith, M. W., Street, A., & Frayne, S. (2007). The veterans health administration and military sexual trauma. *American Journal of Public Health*, *97*(12), 2160–2166. https://doi.org/10.2105/AJPH.2006.092999

Klich, U. (2016). Clinical use of self-compassion within mindfulness-based biofeedback in the treatment of

veterans and spouses: A case study. *Biofeedback*, *44*(3), 138–144. https://doi.org/10.5298/1081-5937-44.3.08

Klingensmith, K., Tsai, J., Mota, N., Southwick, S. M., & Pietrzak, R. H. (2014). Military sexual trauma in US veterans: Results from the national health and resilience in veterans study. *Journal of Clinical Psychiatry*, *75*(10), e1133–e1139. https://doi.org/10.4088/JCP.14m09244

Krejci, L. P., Carter, K., & Gaudet, T. (2014). Whole health: The vision and implementation of personalized, proactive, patient-driven health care for veterans. *Medical Care*, *52*(12), S5–S8. https://doi.org/10.1097/MLR.0000000000000226

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validation of a brief depression severity measure. *Journal of General Internal Medicine*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kroenke, K., Spitzer, R. L., Williams, J. B. W., & Löwe, B. (2010). The patient health questionnaire somatic, anxiety, and depressive symptom scales: A systematic review. *General Hospital Psychiatry*, *32*(4), 345–359. https://doi.org/10.1016/j.genhosppsych.2010.03.006

Lang, A. J., Malaktaris, A. L., Casmar, P., Baca, S. A., Golshan, S., Harrison, T., & Negi, L. (2019). Compassion meditation for posttraumatic stress disorder in veterans: A randomized proof of concept study. *Journal of Traumatic Stress*, *32*(2), 299–309. https://doi.org/10.1002/jts.22397

Li, J., Gao, X., Hao, X., Kantas, D., Mohamed, E. A., Zheng, X., Xu, H., & Zhang, L. (2021). Yoga for secondary prevention of coronary heart disease: A systematic review and meta-analysis. *Complementary Therapies in Medicine*, *57*, 102643. https://doi.org/10.1016/j.ctim.2020.102643

Lucero, R., Jones, A. C., & Hunsaker, J. C. (2018). Using internal family systems theory in the treatment of combat veterans with post-traumatic stress disorder and their families. *Contemporary Family Therapy*, *40*, 266–275.

Luterek, J. A., Bittinger, J. N., & Simpson, T. L. (2011). Posttraumatic sequelae associated with military sexual trauma in female veterans enrolled in VA outpatient mental health clinics. *Journal of Trauma & Dissociation*, *12*(3), 261–274. https://doi.org/10.1080/15299732.2011.551504

Manafort, S., & Gilmartin, R. (2013). *Mindful yoga therapy for veterans: Practice guide*. Give Back Yoga Foundation.

NCCIH. (2020). *Yoga*. National Institutes of Health, National Institute for Complementary and Integrative Medicine (NCCIH). https://nccih.nih.gov/health/yoga

Neff, K. (2003). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2*(2), 85–101. https://doi.org/10.1080/15298860309032

Neff, K. D., & Germer, C. K. (2012). A pilot study and randomized controlled trial of the mindful self-compassion program. *Journal of Clinical Psychology*, *69*(1), 28–44. https://doi.org/10.1002/jclp.21923

Neff, K., & Germer, C. (2022). The role of self-compassion in psychotherapy. *World Psychiatry*, *21*(1), 58–59. https://doi.org/10.1002/wps.20925

Nichter, B., Holliday, R., Monteith, L. L., Na, P. J., Hill, M. L., Kline, A. C., Norman, S. B., & Pietrzak, R. H. (2022). Military sexual trauma in the United States: Results from a population-based study. *Journal of Affective Disorders*, *306*, 19–27. https://doi.org/10.1016/j.jad.2022.03.016

Nolan, C. R. (2016). Bending without breaking: A narrative review of trauma-sensitive yoga for women with PTSD. *Complementary Therapies in Clinical Practice*, *24*, 32–40. https://doi.org/10.1016/j.ctcp.2016.05.006

Ong, I., Cashwell, C. S., & Downs, H. A. (2019). Trauma-sensitive yoga: A collective case study of women's trauma recovery from intimate partner violence. *Counseling Outcome Research and Evaluation*, *10*(1), 19–33. https://doi.org/10.1080/21501378.2018.1521698

Palmeira, L., Cunha, M., & Pinto-Gouveia, J. (2017). Processes of change in quality of life, weight self-stigma, body mass index and emotional eating after an acceptance-, mindfulness- and compassion-based group intervention (Kg-free) for women with overweight and obesity. *Journal of Health Psychology*, *24*(8), 1056–1069. https://doi.org/10.1177/1359105316686668

Pence, P. G., Katz, L. S., & Conjucar, G. (2014). Delivering integrative restoration-yoga nidra meditation (iRest®) to women with sexual trauma at a veteran's medical center: A pilot study. *International Journal of Yoga Therapy*, *24*(24), 53–62. https://doi.org/10.17761/ijyt.24.1.u7747w56066vq78u

Ramamoorthi, R., Gahreman, D., Skinner, T., & Moss, S. (2019). The effect of yoga practice on glycemic control and other health parameters in the prediabetic state: A systematic review and meta-analysis. *PLoS One*, *14*(10), e0221067. https://doi.org/10.1371/journal.pone.0221067

Rapgay, L., & Bystrisky, A. (2009). Classical mindfulness: An introduction to its theory and practice for clinical application. *Annals of the New York Academy of Sciences*, *1172*(1), 148–162. https://doi.org/10.1111/j.1749-6632.2009.04405.x

Resick, P. A., Nishith, P., Weaver, T. L., Astin, M. C., & Feuer, C. A. (2002). A comparison of cognitive-processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims. *Journal of Consulting and Clinical Psychology*, *70*(4), 867–879. https://doi.org/10.1037/0022-006X.70.4.867

Rutakumwa, R., Mugisha, J. O., Bernays, S., Kabunga, E., Tumwekwase, G., Mbonye, M., & Seeley, J. (2020). Conducting in-depth interviews with and without voice recorders: A comparative analysis. *Qualitative Research*, *20*(5), 565–581.

Schlosser, M., Sparby, T., Vörös, S., Jones, R., & Marchant, N. L. (2019). Unpleasant meditation-related experiences in regular meditators: Prevalence, predictors, and conceptual considerations. *PLoS One*, *14*(5), 1–18. https://doi.org/10.1371/journal.pone.0216643

Schnepper, R., Reichenberger, J., & Blechert, J. (2020). Being my own companion in times of social isolation – A 14-day mobile self-compassion intervention improves stress levels and eating behavior. *Frontiers in Psychology*, *11*(October), 1–9. https://doi.org/10.3389/fpsyg.2020.595806

Schwartz, R. C. (1995). *Internal family systems therapy*. The Guilford Press.

Schwartz, R. C. (2001). *Introduction to the internal family systems model*. The Center for Self-Leadership.

Serpa, J. G., Bourey, C. P., Adjaoute, G. N., & Pieczynski, J. M. (2021). Mindful self-compassion (MSC) with veterans: A program evaluation. *Mindfulness*, *12*(1), 153–161. https://doi.org/10.1007/s12671-020-01508-1

Stander, V. A., & Thomsen, C. J. (2016). Sexual harassment and assault in the U.S. military: A review of policy and research trends. *Military Medicine*, *181*(1S), 20–27. https://doi.org/10.7205/MILMED-D-15-00336

Stensvehagen, M. T., Bronken, B. A., Lien, L., & Larsson, G. (2019). How women experience and cope with daily hassles after sexual abuse – A retrospective qualitative study. *Scandinavian Journal of Caring Sciences*, *33*(2), 487–497. https://doi.org/10.1111/scs.12649

Strand, M., & Stige, S. H. (2021). Combining mindfulness and compassion in the treatment of complex trauma – A theoretical exploration. *European Journal of Trauma & Dissociation*, *5*(3), 100217. https://doi.org/10.1016/j.ejtd.2021.100217

Sumner, J. A., Lynch, K. E., Viernes, B., Beckham, J. C., Coronado, G., Dennis, P. A., Tseng, C., & Ebrahimi, R. (2021). Military sexual trauma and adverse mental and physical health and clinical comorbidity in women veterans. *Women's Health Issues*, *31*(6), 586–595. https://doi.org/10.1016/j.whi.2021.07.004

Taylor, J., McLean, L., Korner, A., Stratton, E., & Glozier, N. (2020). Mindfulness and yoga for psychological trauma: Systematic review and meta-analysis. *Journal of Trauma & Dissociation, 21*(5), 536–573.

Torrijos-Zarcero, M., Mediavilla, R., Rodríguez-Vega, B., Del Río-Diéguez, M., López-Álvarez, I., Rocamora-González, C., & Palao-Tarrero, Á. (2021). Mindful self-compassion program for chronic pain patients: A randomized controlled trial. *European Journal of Pain*, *25* (4), 930–944. https://doi.org/10.1002/ejp.1734

Treleaven, D. A. (2018). *Trauma-Sensitive mindfulness*. WW Norton.

Turner, A. P., Harding, K. A., Brier, M. J., Anderson, D. R., & Williams, R. M. (2020). Military sexual trauma and chronic pain in veterans. *American Journal of Physical Medicine & Rehabilitation*, *99*(11), 1020–1025. https://doi.org/10.1097/PHM.0000000000001469

U.S. Department of Veterans Affairs. (2019). *Vet centers (readjustment counseling)*. https://www.vetcenter.va.gov/About_US.asp

Valdez, C. E., & Lilly, M. M. (2016). Self-compassion and trauma processing outcomes among victims of violence. *Mindfulness*, *7*(2), 329–339. https://doi.org/10.1007/s12671-015-0442-3

Wang, F., & Szabo, A. (2020). Effects of yoga on stress among healthy adults: A systematic review. *Alternative Therapies in Health and Medicine*, *26*(4), 58–64.

Wästlund, M., Salvesen, K. T., & Stige, S. H. (2023). Clients' experiences with a trauma-sensitive mindfulness and compassion group intervention: A first-person perspective on change and change mechanisms. *Psychotherapy Research*, 1–15. https://doi.org/10.1080/10503307.2023.2170295

Weathers, F. W., Litz, B. T., Keane, T.M., Palmieri, P. A., Marx, B. P., & Schnurr, P. P. (2013). The PTSD Checklist for *DSM-5* (PCL-5). Scale available from the National Center for PTSD at www.ptsd.va.gov

Williamson, J. R. (2019). Self-compassion differences in women who have experienced sexual assault and non-sexual assault trauma. *Gender and Women's Studie*s, 2 (3), 1–12. https://doi.org/10.31532/GendWomensStud.2.3.003

Winders, S. J., Murphy, O., Looney, K., & O'Reilly, G. (2020). Self-compassion, trauma, and posttraumatic stress disorder: A systematic review. *Clinical Psychology & Psychotherapy*, *27*(3), 300–329. https://doi.org/10.1002/cpp.2429

Zaccari, B., Sherman, A. D. F., Higgins, M., & Kelly, U. A. (2022). Trauma center trauma-sensitive yoga versus cognitive processing therapy for women veterans with PTSD who experienced military sexual trauma: A feasibility study. *Journal of the American Psychiatric Nurses Association*. Advance online publication. https://doi.org/10.1177/10783903221108765.

Zhu, J., Wekerle, C., Lanius, R., & Frewen, P. (2019). Trauma- and stressor-related history and symptoms predict distress experienced during a brief mindfulness meditation sitting: Moving toward trauma-informed care in mindfulness-based therapy. *Mindfulness*, *10* (10), 1985–1996. https://doi.org/10.1007/s12671-019-01173-z