



A review of literature on the therapeutic use of music with military populations experiencing post-traumatic stress disorder

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ABSTRACT

Background: Post-traumatic stress disorder (PTSD) is frequent among military populations. Symptoms range from physical to behavioural, and emotional difficulties. Loneliness and feeling misunderstood are common among military personnel, particularly veterans. Service members returning from duty often experience a lack of support and this predisposes them to an increased risk for suicide. Music can be therapeutically used with military populations through a range of methods, especially in mental health settings. Participating in music can be a meaningful occupation for many but there is a scarcity of literature on the therapeutic use of music in occupational therapy.

Objectives: The purpose of this literature review was to synthesize current qualitative evidence on the perceptions and experiences of the military population who engage in music therapy.

Materials and methods: A scoping review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis extension for Scoping Reviews (PRISMA-ScR) checklist guidelines. Varied databases were searched to retrieve qualitative papers on the lived experiences of the therapeutic use of music among people in the military published between January 2012 and December 2022. Following the quality appraisal, data from the included papers were collated in a data abstraction form before being synthesized thematically.

Results: Seven studies met the inclusion criteria and were included in this scoping review. Three themes were identified: emotional regulation, engaging with others, and mental health stigma. Therapeutic use of music was found to be beneficial and service members expressed that they have managed to overcome mental health challenges, find new connections, and engage with others. However ethical challenges and the delivery of therapeutic use of music must be carefully monitored.

Conclusion: Overall, the therapeutic use of music within military populations with PTSD is perceived to be beneficial and worth continuing with however, careful monitoring during treatments should be a priority to prevent outbursts, relapse, or aggressive behaviours. Combining occupational therapy and music therapy could maximize the benefits of music to people with mental health conditions.

Introduction:

Post-traumatic stress disorder (PTSD) is frequent among military populations.¹ This stress-related disorder develops after a traumatic event usually in a combat zone. It involves a combination of symptoms that are unique to the individual. Symptoms range from physical to behavioural, and emotional difficulties.² Executive functions can also be impacted resulting in communication difficulties and memory problems.³ Without effective interventions the

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military population can experience a loss of identity and struggle to find meaning in daily activities. Sustaining a family role can be challenging.³ Loneliness and feeling misunderstood are common amongst military personnel, particularly veterans. Veterans often need further support outside of interventions targeted at military populations.⁴ Female military personnel are 4% more likely to develop PTSD compared to their male peers. One in five women reported PTSD caused by military sexual trauma, these numbers are thought to be higher, however, the true statistics are not known as some women did not access the Departments of Veterans Affairs for support due to fear of stigma.⁵

Lack of support for service members returning from duty has been reported to put them at increased risk of suicide.⁴ This emphasizes the need for the military population to be offered a unique variety of meaningful opportunities that can help express their emotions and needs successfully.¹ Publication on the therapeutic value of music began in the 18th century.⁶ Since then, music therapy has been delivered across military populations by a range of different methods which involve song writing, musical instruments, and video technology.⁷

Occupational Therapists have knowledge in neurological science, habituation, rehabilitation, and mental health as well as fulfillment of well-being through meaningful occupation. Limited studies have been conducted on the use of music therapy from an occupational therapy perspective.⁸ A better understanding of how occupational therapists can use music therapy combined with their expertise to support people with symptoms of PTSD in the military is lacking. Likewise, the delivery of music therapy sessions and their environment play a key part in how successful the treatment can be.⁷ Music therapy can be delivered through telecommunication or face-to-face. Therapy can be conducted in a group or one-to-one depending on the individual needs. The use of music in therapy consists of song writing, playing musical instruments, and singing.⁹ This review aimed to synthesize literature on the perceptions and experiences of the therapeutic use of music with military populations with PTSD.

Materials and methods

A scoping review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Extension for Scoping Reviews (PRISMA-ScR) checklist.^{10,11} A wide range of databases were searched including APA PsycInfo, Academic Search Ultimate, MEDLINE Complete, CINAHL Complete, APA PsycArticle, Art & Architecture Complete, SocINDEX covering the period from January 2012 to December 2022.

The search terms used included: *military OR veterans OR soldiers OR armed forces OR service members OR army OR navy OR air force OR marine Corp OR active duty AND music therapy OR music intervention OR musical therapy OR music-based intervention OR therapeutic music OR music OR singing AND PTSD OR post-traumatic stress disorder OR posttraumatic stress disorder OR post-*

traumatic symptoms OR mental illness.

The inclusion criteria included qualitative papers published in English on the lived experiences of the therapeutic use of music among people in the military. The search strategy yielded 180 papers, duplicates were excluded and further screening by title, abstract, and full text was conducted. Finally, seven papers were judged to be addressing the research question and they scored highly in the quality assessment process using Critical Appraisal Skills Programme (CASP) tools.¹²

A data extraction table was developed to capture details such as the study aims, design, participants, type of musical intervention, and key findings from the included papers. Thematic analysis was then used to analyze the collated data to identify codes. The codes were then synthesized based on similarities into descriptive sub-themes. Further synthesis of the sub-themes yielded three main themes.

Results

All seven studies were appropriate qualitative methodology studies providing evidence of the perceptions and lived experiences of the participants who were involved. Figure 1 (adapted from Page *et al*¹⁰) shows the PRISMA diagram and how the retrieved papers were systematically screened. The study aimed to focus on the thoughts and perspectives of military veterans, therefore, a qualitative approach was the best method for this study.² Due to scarcity of literature, all included studies were from Western countries with most being from the USA, one from Denmark, one from Canada, and one a collaboration between participants from USA and Uganda. The included studies had more male than female service members or veterans as study participants.

The studies focused not only on musical performance but also included song writing and listening. The approach of having songs created by military service members was reported and this demonstrates meaningful occupation beyond just singing.^{3,7,9,13,14} Themes that came from the data synthesis were emotional regulation, engaging with others, and mental health stigma. Table 1 presents the summarised data extraction table showing the key findings that informed the themes, followed by a description of each theme.

Emotional regulation

Findings reveal that therapeutic use of music provided veteran service users the ability to understand and regulate their emotions. This was associated with reducing destructive behaviours and negative emotions.^{2,5,7,9} An understanding of emotions enabled clients to describe feelings in a better way, control their choices and express the struggles that they have felt or are feeling.^{2,5,7} This regulation is especially important when breaking down fronts or "warrior" culture and being true to oneself.¹⁵ Songs facilitated the expression of the inner struggles and hope for the future among veterans which enabled the improvement of their emotional well-being.³ In addition, other participants found music to have a calming effect

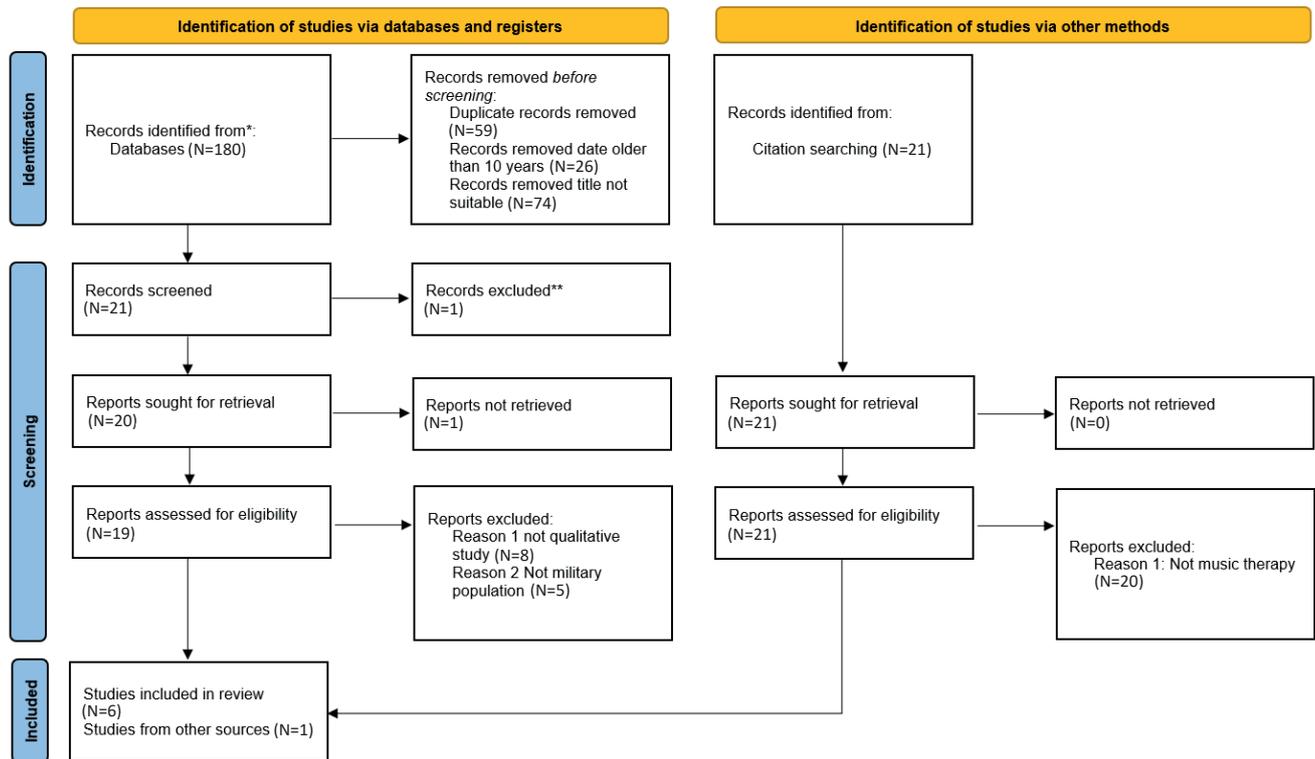


Figure 1 PRISMA diagram.

Table 1 Data extraction table.

Study	Aims	Design	Participants	Type of intervention	Key Findings
Story, and Beck, 2017 (Denmark)	Female veterans' experiences with guided music and imagery	Qualitative design-semi structured interviews and focus group	5 Female veterans	Guided imagery and music therapy	<ul style="list-style-type: none"> Increased self-awareness through recognizing feelings and reactions to music was a learning process. Understanding music choices was in their control. Lack of reporting of mental health issues due to fear and shame Music helpful to regulate feelings. Music as a means to connect with others. Addressing PTSD symptoms and expression of repressed feelings Therapeutic guiding was considered to be empowering
Lauber, D. E., Estes, S., & Sherr, M. 2022 (USA)	To explore the experience of a song writing program for military veterans with posttraumatic stress disorder (PTSD).	Qualitative design- semi structured interview	6 Veterans (5 male, 1 female)	Song writing programme	<ul style="list-style-type: none"> Catalyst to invoke change and expression. Comfortable atmosphere to talk about things otherwise repressed. Peer conversation and engagement helped them make sense of the experience more so than in clinical settings. Involvement of empathic and compassionate professional song writers helped participants to confidently tell their story. Enabled participants to share the stories with their families and others. A sense of belonging and emotional catharsis through listening to each other's songs. Motivator for quitting smoking and mood stabilizing medication.

Study	Aims	Design	Participants	Type of intervention	Key Findings
Vaudreuil <i>et al.</i> 2019 (USA and Uganda)	To explore the therapeutic use of music via telehealth	Qualitative evaluation of 3 case studies	Case examples of 3 projects conducted with veterans	Example 1: MUSIC health pilot project for sustained social engagement through music Example 2: Individual and group therapy programme to ensure continuity of care and morale building Example 3: Integration of music therapy into telehealth	<ul style="list-style-type: none"> • Answers a need to deliver services remotely to patients who have been discharged or live remotely. • Music Therapy promotes creative processes that break down the warrior culture myth and assist with disclosure and sustained social engagement. • Decreased perception of symptoms - pain, depression, and anxiety • Music therapy telehealth, the patients conveyed positive responses to clinical services, endorsed that telehealth was not a deterrent to continued engagement in music therapy and convenient as it allows them to integrate therapy into their daily routines. • Patients requested continued music therapy via telehealth and reported that they would recommend music therapy via telehealth to their peers.
Lightstone <i>et al.</i> 2015 (Canada)	To review and report the experience of a military veteran with PTSD's receiving remote music therapy intervention.	Qualitative retrospective case study	1 Male military veteran	Remote music therapy	<ul style="list-style-type: none"> • Gained greater insight into emotional states. • Expanded limited emotional vocabulary Identified that therapies and treatment team were his only source of social and emotional support. • Was able to use the music interventions to express rage.
Vetro-Kalseth <i>et al.</i> 2021 (USA)	Experiences of active-duty service members in a phased music treatment programme during transitioning to veteran status	Qualitative case study report	3 Male service members transitioning to veteran status	Phased group music therapy	<ul style="list-style-type: none"> • Phased group Music Therapy can build meaningful relationships and peer support. • Finding self-acceptance, coping, and finding happiness again. • Performance increasing community understanding of veterans. • Symptom management, social connections, military transition, and emotional support improved from music therapy.
Bradt <i>et al.</i> 2019 (USA)	Thematic analysis of songs written during music therapy	Qualitative retrospective analysis	11 Active-duty service members with PTSD. (10 male, 1 female)	Individual music therapy sessions	<ul style="list-style-type: none"> • Songs facilitate expression of struggles with injuries and invisible wounds of war. • Lyrics reflect resilience and love for family and friends. • Songs include motivating messages aimed at providing hope for other service members. • Lowering threshold for seeking mental health services in military. • Improves emotional wellness. • Mental health stigma and difficulties with interpersonal relationships.
Liebowitz <i>et al.</i> 2015 (USA)	Exploring the sense of engagement experienced by veterans participating in group music therapy	Qualitative semi-structured interviews	6 Veterans (4 male, 2 female)	Group music therapy	<ul style="list-style-type: none"> • Opportunities to connect with others through shared interests contributing to a sense of engagement. • Feeling anxious at first, being resilient and then enjoying participation. • Calming or mood elevating effect. • Diversion from pressing concerns.

on their mood; allowing diversion from their stressors and increasing their emotional vocabulary.^{7,13} The ethical challenge in the use of music to regulate emotions is for professionals to know the implications of using music to enable veterans to express rage and not pose a risk of harm.⁷

Engaging with others

Veterans and military populations often experience difficulties with feelings of loneliness, isolation, loss of identity, and being misunderstood.² The use of music in therapy showed an ability to enable the patients to improve the way they communicated and participated. Participating in musical therapy with loved ones was found to be beneficial in the reviewed papers.⁹ Music enabled participants to show love for their loved ones and improved understanding with each other thereby strengthening the relationships. In group music therapy clients built meaningful relationships and peer support and forged connections through increased recognition associated with performances and shared interests.^{9,12} Through music performance and creation participants were able to increase the community's understanding of veterans and veterans utilized their voices to motivate other service members to participate in music as a meaningful occupation.^{2,9}

Mental health and stigma

Lack of support puts military populations at high risk of suicide, the warrior culture within the military is a significant factor found to be preventing service members from asking for support.^{2,16} Furthermore, findings indicate that the military population finds it difficult to seek support.⁴ This was further backed up by woman members stating that they do not want to speak out due to fear, stigma, and shame⁵. Reviewed papers show that song writing gave a strong way for veterans to describe those feelings in a psychotherapeutic way.^{3,7, 9,13} This gave an alternative route to recovery, rather than traditional mental health services that are often stigmatized.⁵ Participants reported experiencing a decrease in symptoms of pain, depression, and anxiety following engagement in music sessions.¹⁵ However, the stigma associated with mental health hindered interpersonal relationships and the process of finding happiness again.^{3,9}

Discussion and conclusion

Occupational therapists, through their clinical reasoning, and understanding of the ethical of challenges can support mental health service users through recovery using expert knowledge of occupational identity, engagement, participation, and understanding of the individual's life experiences and how these can impact behaviour.^{8,14} In a case report the participant made significant therapeutic progress with music therapy compared to the previous eight years of standard treatment. Combining occupational therapy and music therapy could maximize the benefits of music to people with mental health conditions.¹⁶ All the papers included in this review did not discuss the role of

occupational therapy in supporting mental health in the military. However, the participants' involvement in music as a meaningful occupation indicates the potential and value that occupational therapy can bring to this service user group.

PTSD survivors tend to look to the future or be stuck in the past inducing a sense of loss of control which causes further distress and panic. Therapeutic use of music has a way of grounding individuals in the present moment creating either calm or catharsis to release negative emotions.^{4,14} However, the therapist needs to have the ethical skills to be able to understand that in certain situations re-traumatization can occur through the use of music. Having the appropriate skill set to navigate through these challenges is essential.^{15,17} Song writing has been proven to develop a sense of mastery through improving confidence, self-esteem, and sense of self. Being able to tell their story in a written way is more beneficial for some individuals depending on their personality and the trauma experienced.^{2,14,18} Giving service members more opportunities to express their needs and feelings can support some of the common barriers to recovery. The therapeutic use of music can encourage military populations to move forward, find value, remain productive, and achieve goals. For example, through music, some participants with a history of drug and alcohol use reported discussing substance abuse less and looked forward to their music treatment sessions and healthy relationships.^{9,12}

Further research is required to gain a deeper insight into the perspectives of occupational therapists delivering music therapy to a military population and how this can support those with PTSD. The authors acknowledge the limitations that a few studies were available for inclusion in this review and that the sample sizes used in the studies were small and mainly focused on men. All the studies included in this paper focused on Western countries except one which limits the transferability of findings. Nevertheless, the therapeutic use of music within military populations appears beneficial and worth continuing with however, careful monitoring during treatments should be a priority to prevent outbursts, relapse, or aggressive behaviour.

Conflict of interest

The authors declare no conflict of interest and the review did not require ethical clearance as it was a review of published literature.

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