A Green and Pleasant Helping Hand – Examining the Phenomenological Effects of Outdoor Recreational Experiences on Military Veterans With Post-Traumatic Stress Disorder

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RESEARCH

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ABSTRACT

This article presents qualitative findings from interviews with participants in an outdoor activity programme aimed at assisting them to alleviate symptoms of military-related post-traumatic stress disorder (PTSD). Aside from exploring if and how participants felt the programme helped them manage their PTSD symptoms, the study also sought to identify factors that may help to inform future programme development. Thematic analysis of transcripts drawn from semi-structured interviews focused on respondents' reflections on programme participation, early life experiences, military and post-military experiences, and mental health issues. The results supported the conclusion that the outdoor activities in a natural environment provided participants with a setting redolent of previously positive military experience, in which these former soldiers felt they could safely reveal and discuss troubling mental health and military matters, without fear of stigma. They also reported the benefits of the calm, tranquil environment aiding not only openness with peers but providing immediate beneficial effects on feelings of safety, sleep, and subsequent wellbeing. Conclusions indicate that such nature-based interventions may be a useful adjunct in the toolbox of treatments striving to reduce military-related PTSD symptomology.

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Post-traumatic stress disorder (PTSD) is a mental health condition that may occur following a traumatic experience, which can be debilitating to the individuals concerned and their families, friends, and colleagues (American Psychological Association [APA], 2013). Symptoms include re-experiencing the trauma (e.g., flashbacks, nightmares), anxiety, avoidance of likely triggers, problems sleeping and negative mood. Military personnel are among the most at-risk populations for exposure to traumatic events and consequently, for the development of PTSD (Prigerson et al., 2001). Amongst veterans consulting specialist military mental health services in the United Kingdom (UK), up to 76% present with PTSD (van Hoorn et al., 2013). The established psychological treatments for PTSD available through the UK National Health Service include trauma-focused cognitive behavioural therapy (TFCBT) or eye movement desensitisation and reprocessing (EMDR; National Institute for Clinical Excellence, 2009). Outside of the UK, other therapeutic protocols are utilised. For example, in the United States (U.S.), the Veterans Health Administration (VHA) has launched a large scale initiative to promote prolonged exposure (PE) therapy (Peterson et al., 2011; Tuerk et al., 2011). Other approaches include Cognitive Processing Therapy (CPT), cognitive restructuring, stress management therapies, and pharmacological approaches (Cukor et al., 2009).

LIMITATIONS AND BARRIERS TO TREATMENT FOR VETERANS WITH PTSD

Although trauma focused psychological treatments are deemed effective (Bisson & Olff, 2021; Pukay-Martin et al., 2022; Seidler & Wagner, 2006), a number of lines of evidence have suggested that military veteran populations receive less benefit from these treatments compared to civilian populations (Bradley et al., 2005; Gros et al., 2011; Jacoby et al., 2022; Keyan et al., 2024). Veterans are also less likely to enter or to maintain therapy, even when offered (DeViva et al., 2016; Harpaz-Rotem et al., 2014; Milliken et al., 2007). Barriers to entry identified in the literature include stigma regarding acknowledgement of mental health difficulties, distrust of mental health care and civilian therapists, lack of emotional readiness for intervention, and logistical issues in attending treatment (Dickstein et al., 2010; Forbes et al., 2010; Hitch et al., 2023; Silverstrini & Chen, 2023; Williamson et al., 2019). In addition, the problem of comorbid psychological problems further complicates treatment (Murphy et al., 2017; Rytwinski et al., 2013; Sherman et al., 2015; Terhaag et al., 2022) and these, often coincident with anger reactions, extreme violence and loss of hope, can also lead to an early termination of treatment.

Group treatment approaches offered to peer groups of military veterans experiencing PTSD may address some of identified barriers to therapy. Rozynko and Dondershine (1991) suggested that the restoration of the "broken" military group relationship, the development of a sense of belonging and the overcoming of the feeling of isolation, which the COVID-19 pandemic may have exacerbated (Krause-Parello et al., 2021; Gugliucci et al., 2021), are key benefits to group treatment approaches for PTSD in military veterans. A pilot study investigated pairing veteran volunteers with lonely veterans to reduce veteran isolation. Despite the COVID-19 interruption, the pilot reported a downward trend in mental and physical illness, while qualitatively reporting the loss of the companion due to COVID-19 social restrictions was "strongly felt" (Gugliucci et al., 2021, p. 80). While inconclusive, partly due to COVID-19, this pilot demonstrates the value of veterans reconnecting with other veterans. Reconnection with other military veterans with PTSD may facilitate disclosure of military trauma and symptoms of PTSD, whereas disclosure to spouses, relatives, non-military friends, or civilian therapists may be perceived as inappropriate and unsupported, and may even exacerbate interpersonal stress (Laffaye et al., 2008). Bradley et al. (2005) noted that even if engaged in individual therapy, military veterans may have difficulty in disclosure outside of therapy, thereby limiting continued exposure and the therapeutic benefit, and removing important social support during therapy.

As a consequence of these potential therapeutic obstacles, several new approaches to treating PTSD in military veterans are being explored. One particularly promising avenue of research exploits the known beneficial effects of the natural environment on mental health and wellbeing (Bettmann et al., 2021; Gladwell et al., 2013; Perry et al., 2024; Pretty et al., 2007) to provide accessible, acceptable, and stigma-reduced interventions.

NATURE-BASED INTERVENTIONS

In the past two decades, researchers have explored the possibility that exposure to nature, and particularly recreational activity experiences taking place in nature, may have therapeutic benefits to military veterans with PTSD. Such interventions have attracted several different labels including 'green exercise' (Barton & Pretty, 2010; Gladwell et al., 2013), therapeutic recreation (Bennett, et al., 2017), forest bathing (Wen et al., 2019), forest medicine (Li, 2023), outdoor behavioral healthcare (Russell, 2003) peer outdoor support therapy (Bird, 2015), nature adventure rehabilitation (Gelkopf et al., 2013), nature-based therapy (Poulsen et al., 2016), and nature recreation experience

(Duvall & Kaplan, 2014). These nature-based interventions (NBIs) often combine the benefits of a natural environment with learning a new recreational skill from certified professionals. Recent systematic reviews have identified activities such as gardening, sailing, fishing, surfing, hiking, snow sports, falconry, rafting, and snowmobiling provided to small groups of veterans (Greer & Vin-Raviv, 2019; Genç & Alkar, 2025).

Several theories exist that aim to explain the underlying mechanisms between exposure to nature and improved mental health. For instance, psycho-evolutionary stress reduction theory hypothesises that being exposed to nature facilitates and promotes stress recovery (Herzog & Strevey, 2008; Ulrich et al., 1991; Ward Thompson et al., 2012). Exposure to natural environments offers individuals positive distractions from the daily stressors they encounter and raises a sense of interest, pleasantness, and calm, which in turn reduces the symptoms of stress and promotes a positive effect. Studies looking at the impact of so-called 'green exercise' (Barton & Pretty, 2010) have reported findings demonstrating reductions in stress indicators such as blood pressure, heart rate, and stress hormones (Ewert et al., 2010; Herzog & Strevey, 2008; Laumann et al., 2003; Ulrich et al., 1991; Ward Thompson et al., 2012).

Another mechanism thought to underlie the beneficial effects of exposure to nature is encapsulated in Attention Restoration Theory (ART; Kaplan, 1995). ART suggests that the natural environment restores fatigued attentional resources, which are important for information processing (Kaplan, 1995). ART hypothesises that in this context, there are two distinct types of attention: directed attention and involuntary attention. Directed attention necessitates mental effort and deliberation, and if overused, leads to directed attention fatigue. Urban environments require such directed attention and increased processing of stimuli, thereby increasing cognitive load and fatigue. Exposure to natural environments instigates the use of involuntary attention and consequently provides an opportunity for recovery from mental fatigue (Berman et al., 2008; Faber Taylor & Kuo, 2009; Rogerson & Barton, 2015).

Reviews by Poulsen et al. (2015) and Greer and Vin-Raviv (2019) have found that nature-based interventions have the potential to positively impact a variety of psychological outcomes with no identifiable negative effects. However, they also noted that the positive findings are constrained by several factors, including, differing definitions of nature, the variance introduced by different types of activities, the lack of RCT studies, and inconsistencies in outcome measurements, which make comparisons between studies difficult. The focus of these interventions, rather than being the active treatment of PTSD, was on recreation, in an attempt to circumvent potential feelings of shame or stigma and known barriers to therapy in this sub-population. Previous work has suggested that NBIs can indeed circumvent feelings of stigma (Forsyth et al., 2020). Wheeler et al. (2020), building on this literature, conducted a series of pilot studies and a randomised controlled trial (RCT) to examine the effects of different outdoor recreational activities on various aspects of mental health and wellbeing in UK military veterans with PTSD. The pilot studies examined the effects of one-day outdoor experiences in angling, falconry, or equine care on mental health and wellbeing. The RCT examined angling in more depth, involving a 2-day lakeside intervention where participants fished under the guidance of experienced angling coaches, slept in bivvies (1-person tents), ate communally, and experienced a tranquil, natural environment. Peer-support and the learning of new skills were encouraged (see Wheeler et al., 2020).

The results from this series of interventions are important because they demonstrate that exposure to various outdoor activities, particularly angling, had a beneficial effect on many aspects of mental health and wellbeing. These included symptoms of PTSD, depression, anxiety, and perceived stress, as well as a sense of general social functioning and psychological growth of the participants. Such changes were still apparent up to 4 months following the intervention. Notably, improvements in depression and anxiety, alongside those in PTSD symptoms, have also been observed for other NBIs; for instance, surfing (Moran et al., 2024), hiking, and wilderness exposure (Vella et al., 2023). In addition, these studies showed that military veterans with PTSD were able and willing to take part in such interventions and, importantly, did so with no associated negative outcomes.

This growing body of work has added greater credibility to the efficacy of nature-based interventions but leaves some unanswered questions regarding the mechanisms by which it is achieved. Several studies have suggested that nature likely impacts psychological outcomes via its inherent properties, which reduce stress, enhance attentional capacities, and restore mental fatigue (Littman et al., 2021; Rankins et al., 2024). Indeed, Poulsen et al. (2016) suggest that nature-based activities enable veterans to build a mental toolkit to employ in stressful situations. Additionally, another small qualitative study reported that the act of watching "nature regenerate itself" helped change participants' mindsets, either by recognising a regenerative quality within themselves or, at the very least, accepting their condition, allowing them to further their recovery (Shorer et al., 2023, p. 243).

However, Gelkopf et al. (2013) suggested that rather than being inherently restorative, nature simply serves to facilitate interventions. They attributed the benefit in

psychological outcomes to participation, in their case, in the sailing activity. Several NBIs are equine-based and have attributed the benefits attained from the intervention as a consequence of the bond between the participant and the animal (Willmund et al., 2021). Similarly, a review on equine-based NBIs includes nature exposure as a potential healing mechanism but strongly suggests the human-horse bond is the most promising mechanism for future exploration (Marchand et al., 2021). There is no direct measurement, and little consensus in the literature, as to which elements or mechanisms lead to psychological changes in participants. A better understanding of the mechanisms of an NBI would allow for greater standardisation and optimisation and ultimately maximising the benefits for participants.

AIMS OF THE STUDY

Whilst it is important to provide quantitative data to formally evaluate new potential interventions such as those undertaken by Wheeler et al. (2020), it is equally important to evaluate the phenomenological aspects of taking part, and to gauge not only the short to medium term impact of involvement but also the long-term subjective aspects of being a participant. Consequently, we interviewed a sample of veterans who participated in the studies reported by Wheeler et al. (2020). We aimed to gain a deeper insight into individuals' experience of taking part in the original study to understand how it affected their PTSD and other mental health symptoms. We also sought to gain insight into some of the potential underlying factors that may have influenced the development and maintenance of PTSD in these individuals. Thus, our main research questions were: What elements of taking part in the nature-based intervention did participants feel affected their wellbeing and mental health, and what individual differences may underly their experience of PTSD and the intervention? Such a breadth of understanding could help to inform and design future outdoor recreational activities.

METHOD

ETHICS

Ethical approval was obtained from the University of Essex Ethics Committee (UK; Reference Number: MW1505b). The COREQ guidelines for reporting qualitative data have been followed (Tong et al., 2007).

PARTICIPANTS

All the surviving participants from the original angling pilot study (see Wheeler et al., 2020) conducted in August 2014 (one participant had died) were considered eligible and approached and asked whether they would consent to an in-depth follow-up interview (N = 11). All those who agreed were interviewed (n = 4). Recruitment took place between January 2018 and August 2018. The participants agreed and provided written informed consent before the commencement of a face-to-face interview. The demographic characteristics of the participants were as follows: participant B, a 45-year-old man employed but currently off long-term sick; participant J, a 29-year-old woman employed; participant T, a 40-year-old man employed; and participant S, a 43-year-old man who was a student. All four of the participants had experienced traumatic events whilst serving in the military (participant B: vicarious trauma, participant J: combat trauma, participant S: physical bullying, and participant T: the onset of physical difficulties).

THE INTERVIEWS

The interviews were in-depth, semi-structured, and digitally recorded. They took place over a period of one week, 33 months after the original study date, in the participants' own homes. Consent was given for the interviews to be transcribed and then used for research and publication purposes. The interview schedule was intentionally broad-based and wide-ranging, and designed to encourage the interviewees to narrate their own stories as opposed to adhering to a strict structure. It was employed by utilising open-ended questions, with prompts and follow-up questions to help elicit a breadth and depth in the participant's responses (Breakwell, 2006). Prior to the study, a pilot interview using the schedule was conducted with a participant from a different fishing trip, lasting 45 minutes. All interviews were conducted by one of the authors (MW, a chartered psychologist, who had observed the original angling pilot study with the participants), before being transcribed and time-coded. This time coding was utilised in the analysis of the interview content by using it to reference where the participants made their statements during their interviews. The transcription was carried out using a simple orthographic notation as described and suggested by Banister (2011), and the analysis relied on organising sections of data into recurrent themes, utilising thematic analysis (TA; Braun & Clarke, 2006).

Due to the small number of interviews and the loose structure applied throughout the dialogues, it was not deemed appropriate to base the analysis on a quantification criterion. For the purposes of this study, the interest lay in the individuals' phenomenological experiences in relation to the military, PTSD, and the intervention that they had experienced. We identified and named themes from the datasets and took direct quotes from the transcripts to illustrate the type of data classified by each theme, as advocated by Breakwell (2006).

QUALITATIVE ANALYSIS APPROACH

Whilst qualitative approaches are incredibly diverse, complex, and nuanced (Holloway & Todres, 2003), thematic analysis (TA) is viewed as a foundational method for qualitative analysis (Braun & Clarke, 2006). Braun and Clarke (2006) defined it as a method for identifying and analysing patterns of meaning in a dataset. It is utilised as a system to demonstrate which themes are significant in the description of the phenomenon under review (Daly et al., 1997; Holloway & Todres, 2003).

Themes in TA refer to specific patterns of connotation that are found in the collected data. These meanings fall into two categories: manifest and latent content. Manifest content is directly observable across a series of interview transcriptions, whereas TA can contain latent content with references that are implicit themes as opposed to overt; TA tends to draw on both theme types. Another important difference in terms of the differentiation of a theme is whether it is drawn from a theoretical idea brought to the research by the researcher themselves (deductive), or alternatively, derived from the raw data alone (inductive). Boyatzis (1998) stated that whilst theoretically derived themes allow researchers to replicate, extend, and refute existing studies, there is little or no point in carrying out qualitative research if you do not want to draw on the organically arising themes evident in the data itself. One of the strengths of TA is the flexibility of its approach and its ability to utilise both deductive and inductive themes together, as was carried out in the current study.

TA is best suited to elucidating the specific nature of a given group's conceptualisation of the phenomenon under study (Joffe & Yardley, 2004). It has been used extensively not only in the arena of conceptualisations of illness (Joffe, 1999; 2003; Joffe & Haarhoff, 2002) but also in the field of social representations of mental health research (Morant, 2006). Therefore, it is well-suited to use with social phenomenology (Fereday & Muir-Cochrane, 2006) and appropriate for the research conducted here with military veterans.

Trustworthiness

Guba (1981) proposed four criteria that should be considered by qualitative researchers in pursuit of a trustworthy study: credibility (in preference to internal validity); transferability (in preference to external validity/generalisability); dependability (in preference to reliability); and confirmability (in preference to objectivity). In terms of credibility, we employed Shenton's (2004) preventative strategies to promote confidence that we have accurately recorded the phenomena under scrutiny. In terms of transferability and dependability, despite the small number of participants, we provide sufficient information to contextualise the data and detailed methodology to assist replication (Firestone, 1993; Marshall & Rossman, 1999). Additionally, participants were encouraged to go beyond the semi-structured interview questions to explore their own phenomenological understanding of their experiences, thereby minimising courtesy bias and demand characteristics.

RESULTS

Post-interview analysis revealed three interconnected key themes: interviewees' considerations of their 'early life'; 'military and post-military experiences, and mental health (MH) issues'; and participants' reflections on the nature-based interventions presented above. From these, several sub-themes also emerged, as represented in Table 1 below. These, too, demonstrated a degree of interconnectedness, as revealed by the sub-theme of military connection/interdependency.

KEY THEME 1: EARLY LIFE

In terms of early life experiences, the participants' interviews revealed three main sub-themes relating to attachment, educational experience, and early understanding of the military. The participants' reflections on these life experiences were mixed with some much less positive than others. These reflections merited representation here, given that they are the basis upon which participants took part in the programme under consideration, but also because they may indicate a link between these formative experiences and subsequent PTSD.

Sub-theme 1.1: Abandonment and Poor Attachment

In focusing on their early lives, two participants (50%) indicated challenging formative experiences. For instance, Participant B confided that his mother effectively delegated

KEY THEMES	SUB-THEMES		
1. Early life	**1.1** Abandonment and poor attachment	**1.2** Poor school experience	**1.3** Military connection
2. Military and post-military experiences, and MH issues	**2.1** Military interdependency	**2.2** MH stigma and lack of support	**2.3** Violence and suicidal tendencies
3. Reflections on outdoor activities	**3.1** Peer support and safety	**3.2** Relaxation and tranquillity	**3.3** Military re-connection

Table 1 Key and Sub-themes Emerging from Interview Transcripts.

Note. MH = mental health.

his care to his older sister, resulting in a view that his mother had no interest in him and that he had been abandoned. While similarly feeling neglected during his early years, participant T also revealed poor attachment, along with incidences of violence. He recalled an abusive relationship with his father, who was also reportedly violent towards T's mother and brother, before that relationship broke down, only then to result in a sense of abandonment when his subsequent stepfather also left the relationship, causing participant T to go 'off the rails a little bit'.

Sub-theme 1.2: Poor School Experience

Three participants (75%) also reflected on their school experiences, with J stating that she "hated her time in school", while participant B stated that they "changed schools every three years," which resulted in a very broken education due to attending six different primary and five secondary institutions. Meanwhile, T, in connecting school to his experiences of violence, indicated, "I couldn't read, and I felt embarrassed about it. So, I lashed out basically. But for five years, they didn't even click that it was dyslexia. For all my school life, I didn't get anything done."

Sub-theme 1.3: Military Connection

While challenging early life and school experiences for three (75%) of the participants were prevalent, at least two of these also suggested what might be regarded as favourable influences in terms of their leading to military careers, some aspects of which were regarded as positive. For example, Participant J shared that their father served as a part-time soldier in the Army Reserve, which encouraged her to join the army. What participant S shared was also compelling:

> I was looking up to my cousins and uncles who had been in the army…as a youngster, I always played army and things like that. I remember my cousin mainly because he was in the artillery, coming back, and getting married. All his colours. He had a good life and good career. That was an influence because he really enjoyed his time. He'd done 24 years.

However, while all participants went on to serve in the military and indicated that the sense of kinship that afforded could be positive, this military experience was also the backdrop to trauma and other difficulties for some, including the cause of their PTSD.

KEY THEME 2: MILITARY AND POST-MILITARY EXPERIENCES, AND MENTAL HEALTH ISSUES

Under this key theme, three sub-themes emerged. The first relates to the development of a degree of military interdependency and the subsequent impact of its loss. The second concerned a stigmatised reluctance to acknowledge mental health issues whilst in the military, including PTSD, coupled with a reported lack of institutional support. The third sub-theme related to a propensity for violence and suicidal tendencies after leaving the military.

Sub-theme 2.1: Military Interdependency

All participants (100%) spoke passionately about the sense of camaraderie, kinship, bonding, and support they encountered while in the military ambit, which created a sense of military family among them. This generated an ability to quickly connect with others from a military background and to feel safe when doing so. More crucially for Participant S, this sense of kinship, while serving in the army, was regarded as instrumental in preventing him from taking his own life and enjoying the latter part of his military career, S stated:

> There was a fella [in the Army] who was like my father. He saved my life. Without him I would have committed suicide. Having him in my life was fantastic. So, I did have that bond, I did get it. The last five years of my career were brilliant.

However, the end of that career was more problematic for S, who then shared:

> Coming out and becoming a civilian was hard. Once I was out, it was out. Back then there wasn't any help. I literally drove out of the [the military base] gates…they shut the gates, and that was it. I looked about and that was all I had known from a young age. I ended up…working on and off and sleeping in the car. Whatever I could do to try and find myself…I spent a lot of time homeless because the council wouldn't help me at the time. The army didn't want to know…The transition was hard.

Participant T reported similar transition difficulties, stating:

> I even miss having the sergeant major shout and scream at me and then ask me to go and make him a cup of coffee. Just stupid little things…I miss all of that…What it is, is that you've gotten used to something, and that gets taken away from you. You are not capable. Nobody has taught you how to pay the bills, how to cope with money. Because you've never had to do it before!…It's like being in prison. You've been in prison for seven years, and now you're out. The world has changed, and you don't know what to do. That's exactly what's happened to you. You can't deal with things because you've never had to deal with them before."

Sub-theme 2.2: Stigma Surrounding Mental Health Issues and Lack of Institutional Support

Concerning a sense of stigmatisation surrounding the onset of mental health issues, all four participants (100%) spoke extensively of a sense of institutionalised stigma and how this had led to reluctance to seek out help while serving in the military. This contrasted with the sense of ease participants felt in discussing their experiences during the outdoor activities programme once they had left the military. Participant S described his experiences, stating:

> No, you wouldn't admit any difficulties that you're feeling to anybody else. It's a weakness. When you do get scared, or you get lonely or depressed, that's all seen as weakness in the Army. You're a man, you're a fighting machine, get up. Shrug it off… carry on…You would be looked at differently. You can't, you just don't do it.

With regards to a perception of lack of support, T added, "I didn't get any help whatsoever…I think everybody should be checked…Whether it's medical grounds, or kicked out, they should always be checked for PTSD." Similar sentiments were expressed by Participant J:

> There's a massive stigma in the Army where you don't go sick…if you've got PTSD you're sort of damaged; you couldn't handle your job. I think that's the main thing, you couldn't handle what the Army could throw at you really and I didn't want to be associated with PTSD. I thought, 'Oh God, I don't want all this PTSD stuff to come up.'

In response to that sense of reluctance to expose mental health issues, Participant J recalled it took her "about a month to pluck up the courage" to seek help regarding her experience of PTSD. When finally doing so, she found herself admitting to a superior officer, whilst in tears, that she had arrived at the point where she did not want to wear uniform and bear arms, which in effect meant she was refusing 'to soldier,' an admission that can lead to significant punitive penalty in the UK military. According to J's testimony, the superior's response—presumably offered based on a recognition that the breakdown was linked to mental health—was that 'maybe it's time that you left the Army'. This contrasted with the response J indicated she desired, which was for someone to tell her 'you'll be alright, [PTSD] happens to everybody because [of what] you've been through'.

In relation to the in-service cause and subsequent experience of trauma and PTSD, a sense of isolation from the wider military collective among the interviewees appeared as a recurrent additional sub-theme. Participant S described such an experience of trauma and accompanying estrangement as "quite a lonely thing". While pointing to wider effects, T explained:

> I didn't have any self-worth. I was stuck somewhere I didn't want to be. I had no family around me. All my mates were going to work. I wasn't allowed to do anything. It was in a massive black hole, slowly sucking me in, further and further and further. I wasn't right then. I was nowhere near right then, looking back…I don't really go out now…I never left the flat for about a year.

During his interview, Participant B indicated, "I feel very isolated a lot of the time, very withdrawn," while, in hers, J also expressed a sense of isolation:

> I was isolating myself. Usually, I would go down the NAAFI [military dining, shopping and social facility], sit with the lads and have a drink. People would go out for the weekend, and stuff like that and I just didn't do that. I'd rather sit in my room, lock the door, and watch telly…I wouldn't go to dos after work and stuff like that…I wouldn't even eat in the scoff house [canteen] anymore because that's another form of socialising in the army. I wouldn't go there, I would buy food, and I would sit in my room.

Sub-theme 2.3: Violence and Suicidal Tendencies

Finally, and perhaps of greatest concern under this key theme, three participants (75%) also talked of a propensity for violence and suicidal tendencies after their time in the military, with Participant S explaining that after leaving the service:

> I was violent to the extent that I was going to kill my mum and dad. I went to do that…If I was having a fight or there was a violent situation, that person must die. It's not just giving him a dig. He must die; I've got to kill him. I did do some bad things. I stabbed people and did things. It wasn't to warn them. I wanted them to die. For me, PTSD was horrendous…I thought, if I put myself in a really violent situation, if I get killed, then happy days.

However, S admitted that he was not able to kill himself, despite trying. In response, he appeared to 'feel better' if he physically hurt other people, which led him to seek employment as a mercenary and then as an unofficial debt collector associated with criminal activity. The latter involvement caused him to

> ...[break into] people's houses at four o'clock in the morning and causing some harm to them over collecting money. If it came to it, holding people or families in rooms to get what they owe. There was no remorse; it was what it was.

Participant T also revealed violent outbreaks after leaving the army during the interview. At the same time, B admitted to becoming uncontrollably violent while still serving. B stated, "Yes, I had extreme anger issues. I ended up being dragged away from a private soldier that I was beating the crap out of by two warrant officers." Reflecting on their experience of PTSD, Participant S offered the view that the condition was linked to additional health problems they encountered, such as personality disorder, depression, high anxiety, [and] social anxiety, accompanied by massive amounts of violence. They concluded that they felt no emotion at all towards anything, stating, "[n]ot my parents, nothing", while their symptoms included hyperarousal and nightmares. The latter included dreaming about:

> [n]ot being able to protect the people that I loved. I think for the first few years, flashbacks of the beatings. After that, the dreams would be of me being violent towards them. Violent dreams where I'd wake up ripping pillows. I've punched my partner and attacked her in the night. Very aware of everything that goes on around you. I couldn't go to pubs, couldn't go drinking. I was getting to a stage where the only place I felt good and safe was my house.

During their interview, Participant T described reaching 'rock bottom' and thence attempting suicide by consuming an excessive amount of vodka and pills; thwarted only after taking a second handful of tablets by the arrival of his mother, who banged on the [kitchen] window when she viewed him mid-attempt from outside the house. In reflecting on his experience of suicidal ideation, Participant B speculated as to the cause of his mental health concerns:

> One suspected site we went to was a farm. It had a brand-new concrete floor in its shed. Under the concrete floor, there were 56 bodies. I was there; I was part of the team exhuming those bodies and then trying to identify them. I actually fainted. I actually passed out. Mentally, I was stuck with a lot of the images. I still now can't listen to somebody using a jackhammer...I got to the point where I didn't want to live anymore. The best thing I could do for the world was end it all.

KEY THEME 3: REFLECTIONS ON OUTDOOR ACTIVITIES

Aside from their reflections on early life and the military, participants were also asked to consider their experiences of participation in the nature-based outdoor activities. Emerging from their reflections were identifiable sub-themes, centring predominantly on a notion of peer support and safety among fellow military veterans who attended the programme. In addition, it emerged that the outdoor setting in which the activities took place reminded participants of positive aspects of their previous military experiences, further bolstered by a sense of safety and familiarity among comprehending and supportive peers. The extracts below point to these themes and their interconnections.

Sub-theme 3.1: Peer Support and Safety

In terms of the experience of the outdoor activities, enabling a sense of safely reconnecting with peers, and aiding discussion of traumatic experiences and incidences of mental ill health, Participant S stated:

> I met such a variety of people, from being mentally ill, to people having their legs missing...I realised [that] there are other people that are the same as me...no matter where you've been and what sort of things are going on...from being bullied to being depressed or having had bad times in the army—everyone is the same...in a situation where you feel safe.

Accordingly, Participant S concluded that he found it easier to discuss his experiences of trauma with fellow ex-military attendees, as he perceived this facilitated less guarded and therefore more fluid disclosure and discussion of these encounters, stating, "[i]nstead of talking to somebody that gets paid for listening to you." Linked to this, Participant B revealed he had experienced a change in medical care, which required him to re-explain his experiences to a new practitioner, one whom he felt did not understand his background. Similarly, Participant T offered the opinion that:

> As soon as you know they're a squaddie [member, or former member of the military] ...I've known [them] all my life. You can never do that with a counsellor... only a squaddie can say anything to another squaddie. Just take it on the chin and have a laugh about it.

Sub-theme 3.2: Relaxation and Tranquillity in an Outdoor Environment

This sense of openness and security was seemingly bolstered by virtue of the connections and activities being

forged in an outdoor environment. While discussing waking up early and viewing the 'perfect [outdoor] scenery', Participant S remarked:

> I hadn't seen anything like that for so many years. I always concentrated on the bad [events/trauma]. I didn't realise people actually smiled and said, 'Good morning'. All I had seen was bad. Waking up and seeing that was good.

S added that another participant revealed that while he had not felt safe for two decades, it took just two days at that fishing lake to enable him to sleep for "the first time…in 20 years." Participant B also stated he "[f]ound the peace and tranquillity [of being outdoors] beneficial," while Participant J reflected on her ability to feel:

> …[p]eaceful…[to] look at a lake and think of absolutely nothing…I didn't think…your mind could feel like that…It gives you space, and because you're there for say all day, all night, it's just peaceful. You can just answer questions, you think about stuff, and you sort of work them out for yourself. I can forget about everything.

Sub-theme 3.3: Military Re-Connection

Beyond the connectedness of previous experiences, participants also reflected on the links between the outdoor activities and environments on offer and their former military service. For example, Participant T remarked:

> I love it. Getting back to nature and all that. The best sleep I'll ever have is when I'm sitting in the bivvy [military tent-like shelter], and it's raining…It's so soothing. It just reminds me that the best sleep I ever had was when I was in the Army. Sleeping outside in holes and under waterproof blankets. It was brilliant.

adding that,

> I feel at home outside. When I go fishing, that's why I like night fishing with yourselves. It's just, one it's a right good crack. But two, I can forget about everything and just sleep.

DISCUSSION

The main aim of this study was to gain qualitative, experiential data from individuals who had previously taken part in an outdoor, nature-based, recreational intervention for military veterans with PTSD (Wheeler et al., 2020). We hoped that it would afford a greater understanding of both the impact of the intervention and also of some of the underlying factors that may have influenced the development and maintenance of PTSD in these individuals. It was evident from the data analysed that participants' military experiences and subsequent incidences of trauma—along with their development of PTSD—had profound consequences in their later lives. Although individual experiences differed, areas of commonality also emerged from the data.

VIOLENT TENDENCIES AND PTSD

The participants interviewed in this study revealed a propensity towards violence during and after military service. Research conducted in the U.S. by the Institute of Medicine US Committee (2010) has indicated that such violent tendencies among military personnel and veterans are not uncommon. Studies have also revealed that in the UK, like the U.S., many UK veterans have returned from conflicts in Iraq and Afghanistan diagnosed with PTSD and traumatic brain injury (Fear et al., 2009) and these conditions have been linked to criminality, antisocial behaviour, and violence (Calhoun et al., 2005; Dutton et al., 2006; Elbogen et al., 2012; Golding, 1999; Grafman et al., 1996; Greenberg & Rosenheck, 2009; Pandiani et al., 2003; Saxon et al., 2001; Shaw et al., 1987). With that said, a recent systematic review indicated higher rates of intimate partner violence (IPV) in veterans (31.8%) compared to active-duty personnel (5.2%). While there may be several reasons for this, the authors suggested the link between PTSD and substance abuse with violent behaviours as one such reason. However, the authors also suggested that comorbid alcohol abuse with PTSD may indirectly lead to violence in veterans via difficulties keeping employment, leading to financial stressors, which increase the risk of violence (Cowlishaw et al., 2022). Furthermore, Terhaag et al. (2022) reported that the comorbidity of PTSD and other mental health issues, including anger, increases with increased rates of alcohol consumption. Thus, any suggested directional relationship between violent tendencies and the development of PTSD is unclear.

ATTACHMENT & EARLY EXPOSURE TO VIOLENCE

Of note in our data is that only one of the four participants indicated early-life exposure to violence. Furthermore, the same participant, plus one other, revealed a sense of abandonment during their early life experiences. These two, plus one other, also indicated they did not have positive experiences at school. Given the small sample sizes and the disparity of experience, it has not been possible to directly link childhood development, attachment, and a propensity to be more susceptible to PTSD and violence after trauma from these interviews alone. Nevertheless, analysis of interviews with 102 former military personnel conducted

by Ghafoori and colleagues (2008) suggests that veterans with contemporaneous PTSD had lower secure attachment and higher insecure attachment compared to those without PTSD. Similarly, research has also found a negative correlation between secure attachment and all subscales of current and lifetime, Harvard Trauma Questionnaire, suggesting that secure attachment may have a protective effect against the development of PTSD (O'Connor & Elklit, 2008). Indeed, cross-sectional (Tamman et al., 2021) and longitudinal (Tamman et al., 2022) evidence indicates that secure adult attachment style buffers against the development of PTSD even in those with a high polygenic risk score for PTSD, which is very strong evidence of the protective factors of a secure attachment style. These studies also indicated, in keeping with all interviewees' responses, that military bonds and attachments generated during services in the armed forces are an important contributor to the ability to cope with traumatic memories and to subsequently manage the PTSD symptomology.

TRAUMA AND PEER SUPPORT

All four participants experienced traumatic events whilst serving. For three of the four, this was stated as the principal cause of their eventual discharge from their military careers. Concerning the fourth, and while it is impossible to state a definitive link between her trauma and subsequent departure from the Army, it is adjudged likely to have been a contributory factor. Furthermore, simultaneously coping with PTSD and an already challenging work and life transition might amplify this period of often difficult change (Cowlishaw et al., 2022). Just as all interviewees highlighted the positive effects of discussing their traumatic and military experiences with former military peers, the importance of peer support in navigating such challenging periods of trauma has been seen to be beneficial across many areas. These benefits include: reducing psychological stress (Richardson et al., 2008); destigmatising mental illness (Greden et al., 2010; McGrane, 2011); building trust levels of non-military mental health professionals (Westwood et al., 2010); normalisation of symptoms and increased hope (Hundt et al., 2015); and other perceived gains such as fostering camaraderie, stimulating deeper connections and countering the negative effects of PTSD (Caddick et al., 2015; Gugliucci et al., 2021).

Peer Support and NBIs

In terms of analysing the interviews under consideration in this study, the theme of peer support and the sense of safety it generated was the most frequently referred to benefit of the outdoor activities discussed. In particular, with regard to its rekindling of otherwise broken military bonds and the linked ability for participants to relax and reduce their guard among former military peers. With the additional sense of safety and reduction in isolation this afforded them, participants felt they were able and encouraged to narratively expose and discuss their experiences, along with linked traumatic memories. This was found to contrast with the keenly expressed sense of stigma all four participants previously felt, and that the literature has also identified (Greene-Shortridge et al., 2007; Hoge et al., 2004; Nash et al., 2009; Pietrzak et al., 2009; Silvestrini & Chen, 2023; Vogt, 2011).

This barrier to recovery, alongside the documented poor engagement by military veterans in formal therapy (DeViva et al., 2016; Harpaz-Rotem et al., 2014; Milliken et al., 2007) and reduced benefit compared to civilian samples (Jacoby et al., 2022), makes the provision of an alternative solution to ease the symptoms experienced when suffering PTSD more pressing, especially given the evidence that NBIs can reduce the feelings of stigma in veterans (Forsyth et al., 2020). This could potentially be seen as one of the major strengths of the outdoor activities studied here, both as a vehicle to reduce PTSD symptomology, but also as a soft conduit into more formal therapy through signposting other services. It could be argued that the group aspect of the intervention might align with the assertion by Gelkopf et al. (2013) and the suggestion by Marchand et al. (2021), that being in nature facilitates the intervention, but it is not necessarily therapeutic in itself. However, the inferences drawn from theme 3—particularly 3.2—lead one to reflect on the beneficial qualities of nature per se (see Shorer et al., 2023) along with their interaction with participant expectation and predisposition.

THE OUTDOOR EXPERIENCE

Regarding the activities participants undertook, it was revealed that the outdoor environment in which they took place appeared to have a positive effect on their own well-being. Being in nature was reported to be calming, with subsequent improvements in sleep and wellbeing. The mechanisms behind the beneficial effects of being in nature are unclear, but several hypotheses exist in the literature, including Biophilia (Wilson, 1984) and Attention Restoration Theory (Kaplan, 1995). Rogerson and Barton (2015) posit that the combination of physical activity and contact with nature is likely to enhance the level of restoration.

In addition to the benefits of nature per se, it appears involvement in outdoor activities in a natural environment can also have a beneficial impact on participants, by facilitating a less stigmatising, peer-supported opportunity to expose and discuss trauma memories, assisted, in part at least, by re-establishing a sense of valued military connectedness, safety, and security. By linking the beneficial environment and changes to the participants' wellbeing to existing theories, a significant improvement in symptoms can begin to be understood (Wheeler et al., 2020). Correspondingly, these

positive elements can induce recovery momentum and increase socialisation, while stimulating an increased level of behavioural activation and reduction of PTSD symptomology, as well as improved psychological well-being.

LIMITATIONS

It is important that issues such as trustworthiness and bias in such qualitative studies as ours are recognised and addressed. For example, the semi-structured interview approach adopted for our study, based around an interview schedule, may have affected confirmability by potentially biasing some of the responses, insofar as it led the interviewees into predetermined areas. However, the subsequent freedom and support provided by the interviewer allowed participants to explore their own phenomenological understanding of their experiences, thereby minimising courtesy bias and demand characteristics. This approach was also employed to provide a counterbalance for any potential sampling bias, thereby reducing the possibility that those with particularly positive experiences with the intervention, or who are more motivated to discuss mental health, may skew the findings.

FUTURE RESEARCH

The findings presented here derive from a small number of military veterans previously diagnosed with PTSD. Clearly, replication in a larger sample is both needed and warranted. Further work is also needed to investigate any psychological mechanisms that may underlie the putative benefits of nature on those undertaking outdoor recreational activities, such as those described here. However, useful data have been collected that are particularly interesting when viewed in parallel with the quantitative data previously collected from a larger group (see Wheeler et al., 2020).

CONCLUSION

The findings of this study point to several important conclusions regarding how veterans feel that outdoor experiences benefit their wellbeing. To summarise, all participants in the outdoor activities considered in this study reported that the sense of social support engendered when undergoing the peer-supported and military-connected programme countered their previous sense of isolation. In turn, the sense of safety and security this afforded encouraged them to mutually share and discuss their experiences of trauma narratives without fear of stigma and, perhaps more openly, than they might with mental health professionals. This ability to discuss the trauma with others and therefore expose themselves to the traumatic memory might have a further beneficial effect by fostering habituation and extinction, potentially leading to a revision of previous interpretations of events. This self-exposure to the traumatic memory can be key to cognitively creating a change in the perception of the trauma, which may initiate habituation and reduce symptomology. During the intervention under discussion, the beneficial exposure to trauma occurred in a relaxing, natural environment, further enhanced within the destigmatising framework of peer-supported and military-connected security; all of which appeared to be embraced, valued, and positively enjoyed by the participants who took part in this study.

DATA ACCESSIBILITY STATEMENT

The original data, in the form of the transcribed interviews, are available from the corresponding author upon request.

ETHICS AND CONSENT

Ethical approval was sought and agreed via the University of Essex Ethics Committee (UK; reference number: MW1505b). The COREQ guidelines for reporting qualitative data have been followed.

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COMPETING INTERESTS

To provide more nature-based interventions for more veterans, emergency service personnel and others living with the after-effects of trauma, two authors (MW & NC) have set up a Community Interest Company (iCARP CIC). MW receives compensation from iCARP. All other authors declare no potential conflict of interest.

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REFERENCES

American Psychological Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders: DSM-5™* (5th ed.). Arlington, VA: American Psychiatric Association. https://doi.org/10.1176/appi.books.9780890425596

Banister, P. (2011). *Qualitative Methods in Psychology: a research guide*. Open University Press, McGraw-Hill Education (UK). ISBN: 9780335243051.

Barton, J. L., & **Pretty, J.** (2010). What is the best dose of nature and green exercise for improving mental health? A multi-study analysis. *Environmental Science & Technology*, 44(10), 3947–3955. https://doi.org/10.1021/es903183r

Bennett, J. L., Piatt, J. A., & **Van Puymbroeck, M.** (2017). Outcomes of a Therapeutic Fly-Fishing Program for Veterans with Combat-Related Disabilities: A Community-Based Rehabilitation Initiative. *Community Mental Health Journal*, *53*(7), 756–765. https://doi.org/10.1007/s10597-017-0124-9

Berman, M. G., Jonides, J., & **Kaplan, S.** (2008). The cognitive benefits of interacting with nature. *Psychological Science*, *19*(12), 1207–1212. https://doi.org/10.1111/j.1467-9280.2008.02225.x

Bettmann, J. E., Prince, K. C., Ganesh, K., Rugo, K. F., Bryan, A. O., Bryan, C. J., Rozek, D. C., & **Leifker, F. R.** (2021). The effect of time outdoors on veterans receiving treatment for PTSD. *Journal of Clinical Psychology*, *77*(9), 2041–2056. https://doi.org/10.1002/jclp.23139

Bird, K. (2015). Research evaluation of an Australian peer outdoor support therapy program for contemporary veterans' wellbeing. *International Journal of Mental Health*, 44(1–2), 46–79. https://doi.org/10.1080/00207411.2015.1009752

Bisson, J. I., & **Olff, M.** (2021). Prevention and treatment of PTSD: the current evidence base. *European Journal of Psychotraumatology*, *12*(1), 1824381. https://doi.org/10.1080/20008198.2020.1824381

Boyatzis, R. E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*. SAGE Publications. ISBN: 9780761909613.

Bradley, R., Greene, J., Russ, E., Dutra, L., & **Westen, D.** (2005). A multidimensional meta-analysis of psychotherapy for PTSD. *American Journal of Psychiatry*, *162*(2), 214–227. https://doi.org/10.1176/appi.ajp.162.2.214

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

Breakwell, G. M. (2006). Interviewing methods. *Research Methods in Psychology*, *3*, 232–253. ISBN: 9781412911276.

Caddick, N., Phoenix, C., & **Smith, B.** (2015). Collective stories and well-being: using a dialogical narrative approach to understand peer relationships among combat veterans experiencing post-traumatic stress disorder. *Journal of Health Psychology*, *20*(3), 286–299. https://doi.org/10.1177/1359105314566612

Calhoun, P. S., Malesky, L. A., Jr, Bosworth, H. B., & **Beckham, J. C.** (2005). Severity of posttraumatic stress disorder and involvement with the criminal justice system. *Journal of Trauma Practice*, *3*(3), 1–16. https://doi.org/10.1300/J189v03n03_01

Cowlishaw, S., Freijah, I., Kartal, D., Sbisa, A., Mulligan, A., Notarianni, M., ... & **Hosseiny, F.** (2022). Intimate partner violence (IPV) in military and veteran populations: A systematic review of population-based surveys and population screening studies. *International journal of environmental research and public health*, *19*(14), 8853. https://doi.org/10.3390/ijerph19148853

Cukor, J., Spitalnick, J., Difede, J., Rizzo, A., & **Rothbaum, B. O.** (2009). Emerging Treatments fort PTSD. *Clinical Psychology Review*, *29*(8), 715–726. https://doi.org/10.1016/j.cpr.2009.09.001

Daly, J., Kellehear, A., & **Gliksman, M.** (1997). *The Public Health Researcher: A Methodological Guide*. Oxford University Press. ISBN: 0195540751, 9780195540758.

DeViva, J. C., Sheerin, C. M., Southwick, S. M., Roy, A. M., Pietrzak, R. H., & **Harpaz-Rotem, I.** (2016). Correlates of VA mental health treatment utilization among OEF/OIF/OND veterans: Resilience, stigma, social support, personality, and beliefs about treatment. *European Journal of Psychotraumatology*, *8*(3), 310–318. https://doi.org/10.1037/tra0000075

Dickstein, B. D., Vogt, D. S., Handa, S., & **Litz, B. T.** (2010). Targeting self-stigma in returning military personnel and veterans: A review of intervention strategies. *Military Psychology*, *22*(2), 224–236. https://doi.org/10.1080/08995600903417399

Dutton, M. A., Green, B. L., Kaltman, S. I., Roesch, D. M., Zeffiro, T. A., & **Krause, E. D.** (2006). Intimate partner violence, PTSD, and adverse health outcomes. *Journal of Interpersonal Violence*, *21*(7), 955–968. https://doi.org/10.1177/0886260506289178

Duvall, J., & **Kaplan, R.** (2014). Enhancing the well-being of veterans using extended group-based nature recreation experiences. *Journal of Rehabilitation Research & Development*, *51*(5), 685–696. https://doi.org/10.1682/JRRD.2013.08.0190

Elbogen, E. B., Johnson, S. C., Newton, V. M., Straits-Troster, K., Vasterling, J. J., Wagner, H. R., & **Beckham, J. C.** (2012). Criminal justice involvement, trauma, and negative affect in Iraq and Afghanistan war era veterans. *Journal of Consulting and Clinical Psychology*, *80*(6), 1097. https://doi.org/10.1037/a0029967

Ewert, A., Frankel, J., Van Puymbroeck, M., & **Luo, Y.-C.** (2010). The impacts of participation in Outward Bound and military service personnel: The role of experiential training. *The Journal of Experiential Education*, *32*(3), 313. https://doi.org/10.1177/105382590903200318

Faber Taylor, A., & **Kuo, F. E.** (2009). Children with attention deficits concentrate better after walk in the park. *Journal of Attention Disorders*, *12*(5), 402–409. https://doi.org/10.1177/1087054708323000

Fear, N. T., Jones, E., Groom, M., Greenberg, N., Hull, L., Hodgetts, T. J., & **Wessely, S.** (2009). Symptoms of post-concussional syndrome are non-specifically related to mild traumatic brain injury in UK Armed Forces personnel on return from deployment in Iraq: an analysis of self-reported data. *Psychological Medicine*, *39*(8), 1379–1387. https://doi.org/10.1017/S0033291708004595

Fereday, J., & **Muir-Cochrane, E.** (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, *5*(1), 80–92. https://doi.org/10.1177/160940690600500107

Firestone, W. A. (1993). Alternative Arguments for Generalizing from Data as Applied to Qualitative Research. *Educational Researcher*, *22*(4), 16–23. https://doi.org/10.3102/0013189X022004016

Forbes, D., Creamer, M., Bisson, J. I., Cohen, J. A., Crow, B. E., Foa, E. B., Friedman, M. J., Keane, T. M., Kudler, H. S., & **Ursano, R. J.** (2010). A guide to guidelines for the treatment of PTSD and related conditions. *Journal of Traumatic Stress*, *23*(5), 537–552. https://doi.org/10.1002/jts.20565

Forsyth, A., Lysaght, R., Aiken, A., & **Cramm, H.** (2020). Wilderness adventure program may help combat perceptions of stigma among veterans. *Ecopsychology*, *12*(1), 8–18. https://doi.org/10.1089/eco.2019.0031

Gelkopf, M., Hasson-Ohayon, I., Bikman, M., & **Kravetz, S.** (2013). Nature adventure rehabilitation for combat-related posttraumatic chronic stress disorder: a randomized control trial. *Psychiatry Research*, *209*(3), 485–493. https://doi.org/10.1016/j.psychres.2013.01.026

Genç, M., & **Alkar, O. Y.** (2025). The Effectiveness of Nature-Based Interventions in Combating PTSD: A Meta-Analysis and Systematic Review. *Journal of Environmental Psychology*, *104*, 102627. https://doi.org/10.1016/j.jenvp.2025.102627

Ghafoori, B., Hierholzer, R. W., Howsepian, B., & **Boardman, A.** (2008). The role of adult attachment, parental bonding, and spiritual love in the adjustment to military trauma. *Journal of Trauma & Dissociation*, *9*(1), 85–106. https://doi.org/10.1080/15299730802073726

Gladwell, V. F., Brown, D. K., Wood, C., Sandercock, G. R., & **Barton, J. L.** (2013). The great outdoors: how a green exercise environment can benefit all. *Extreme Physiology & Medicine*, *2*(3). https://doi.org/10.1186/2046-7648-2-3

Golding, J. M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence*, *14*(2), 99–132. https://doi.org/10.1023/A:1022079418229

Grafman, J., Schwab, K., Warden, D., Pridgen, A., Brown, H., & **Salazar, A. M.** (1996). Frontal lobe injuries, violence, and aggression a report of the vietnam head injury study. *Neurology*, *46*(5), 1231–1231. https://doi.org/10.1212/wnl.46.5.1231

Greden, J. F., Valenstein, M., Spinner, J., Blow, A., Gorman, L. A., Dalack, G. W., Marcus, M., & **Kees, M.** (2010). Buddy-to-Buddy, a citizen soldier peer support program to counteract stigma, PTSD, depression, and suicide. *Annals of the New York Academy of Sciences*, *1208*(1), 90–97. https://doi.org/10.1111/j.1749-6632.2010.05719.x

Greenberg, G. A., & **Rosenheck, R. A.** (2009). Mental health and other risk factors for jail incarceration among male veterans. *Psychiatric Quarterly*, *80*(1), 41–53. https://doi.org/10.1007/s11126-009-9092-8

Greene-Shortridge, T. M., Britt, T. W., & **Castro, C. A.** (2007). The stigma of mental health problems in the military. *Military Medicine*, *172*(2), 157–161. https://doi.org/10.7205/milmed.172.2.157

Greer, M., & **Vin-Raviv, N.** (2019). Outdoor-based therapeutic recreation programs among military veterans with posttraumatic stress disorder: Assessing the evidence. *Military Behavioral Health*, *7*(3), 286–303. https://doi.org/10.1080/21635781.2018.1543063

Gros, D. F., Yoder, M., Tuerk, P. W., Lozano, B. E., & **Acierno, R.** (2011). Exposure therapy for PTSD delivered to veterans via telehealth: predictors of treatment completion and outcome and comparison to treatment delivered in person. *Behavior Therapy*, *42*(2), 276–283. https://doi.org/10.1016/j.beth.2010.07.005

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Technology Research and Development*, *29*(2), 75–91. https://doi.org/10.1007/BF02766777

Gugliucci, M. R., Weaver, S. A., & **Lin, A.** (2021). Vet to Vet Maine: A pilot study measuring effectiveness of a veteran companion program in reducing social isolation and

loneliness. *Journal of Veterans Studies*, *7*(1), 77. https://doi.org/10.21061/jvs.v7i1.198

Harpaz-Rotem, I., Rosenheck, R. A., Pietrzak, R. H., & **Southwick, S. M.** (2014). Determinants of prospective engagement in mental health treatment among symptomatic Iraq/Afghanistan veterans. *The Journal of Nervous and Mental Disease*, *202*(2), 97–104. https://doi.org/10.1097/NMD.0000000000000078

Herzog, T. R., & **Strevey, S. J.** (2008). Contact with nature, sense of humor, and psychological well-being. *Environment and Behavior*, *40*(6), 747–776. https://doi.org/10.1177/0013916507308524

Hitch, C., Toner, P., & **Armour, C.** (2023). Enablers and barriers to military veterans seeking help for mental health and alcohol difficulties: A systematic review of the quantitative evidence. *Journal of Health Services Research & Policy*, *28*(3), 197–211. https://doi.org/10.1177/13558196221149930

Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & **Koffman, R. L.** (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine*, *351*(1), 13–22. https://doi.org/10.1056/NEJMoa040603

Holloway, I., & **Todres, L.** (2003). The status of method: flexibility, consistency and coherence. *Qualitative Research*, *3*(3), 345–357. https://doi.org/10.1177/1468794103033004

Hundt, N. E., Robinson, A., Arney, J., Stanley, M. A., & **Cully, J. A.** (2015). Veterans' perspectives on benefits and drawbacks of peer support for posttraumatic stress disorder. *Military Medicine*, *180*(8), 851–856. https://doi.org/10.7205/MILMED-D-14-00536

Institute of Medicine (US) Committee. (2010). The Initial Assessment of Readjustment Needs of Military Personnel, Veterans, and Their Families. *Returning Home from Iraq and Afghanistan: Preliminary Assessment of Readjustment Needs of Veterans, Service Members, and Their Families*. Washington, DC: National Academies Press. PMID: 25032369. https://doi.org/10.17226/12812

Jacoby, V. M., Straud, C. L., Bagley, J. M., Tyler, H., Baker, S. N., Denejkina, A., Sippel, L. M., Kaya, R., Rozek, D. C., Fina, B. A., & **Dondaville, K. A.** (2022). Evidence-based posttraumatic stress disorder treatment in a community sample: Military-affiliated versus civilian patient outcomes. *Journal of Traumatic Stress*, *35*(4), 1072–1086. https://doi.org/10.1002/jts.22812

Joffe, H. (1999). *Risk and 'the Other'*. Cambridge University Press. https://doi.org/10.1017/CBO9780511489846

Joffe, H. (2003). Risk: From perception to social representation. *British Journal of Social Psychology*, *42*(1), 55–73. https://doi.org/10.1348/014466603763276126

Joffe, H., & **Haarhoff, G.** (2002). Representations of far-flung illnesses: The case of Ebola in Britain. *Social Science & Medicine*, *54*(6), 955–969. https://doi.org/10.1016/S0277-9536(01)00068-5

Joffe, H., & **Yardley, L.** (2004). Content and thematic analysis. *Research Methods for Clinical and Health Psychology*, *56*, 68. https://doi.org/10.4135/9781849209793.n4

Kaplan, R. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology*, *15*(3), 169–182. https://doi.org/10.1016/0272-4944(95)90001-2

Keyan, D., Garland, N., Choi-Christou, J., Tran, J., O'Donnell, M., & **Bryant, R. A.** (2024). A systematic review and meta-analysis of predictors of response to trauma-focused psychotherapy for posttraumatic stress disorder. *Psychological bulletin*, *150*(7), 767. https://doi.org/10.1037/bul0000438

Krause-Parello, C. A., Pratt, B. A., Meyer, E., & **Browne-Banic, L.** (2021). Veterans and animals: A review of the literature on well-being and social isolation and recommendations during COVID-19. *Journal of Military Veteran and Family Health*, *73*, 86–99. https://doi.org/10.3138/jmvfh-2020-0059

Laffaye, C., Cavella, S., Drescher, K., & **Rosen, C.** (2008). Relationships among PTSD symptoms, social support, and support source in veterans with chronic PTSD. *Journal of Traumatic Stress*, *21*(4), 394. https://doi.org/10.1002/jts.20348

Laumann, K., Gärling, T., & **Stormark, K. M.** (2003). Selective attention and heart rate responses to natural and urban environments. *Journal of Environmental Psychology*, *23*(2), 125–134. https://doi.org/10.1016/S0272-4944(02)00110-X

Li, Q. (2023). New concept of forest medicine. *Forests*, *14*(5), 1024. https://doi.org/10.3390/f14051024

Littman, A. J., Bratman, G. N., Lehavot, K., Engel, C. C., Fortney, J. C., Peterson, A., Jones, A., Klassen, C., Brandon, J., & **Frumkin, H.** (2021). Nature versus urban hiking for Veterans with post-traumatic stress disorder: a pilot randomised trial conducted in the Pacific Northwest USA. *BMJ Open*, *11*(9), e051885. https://doi.org/10.1136/bmjopen-2021-051885

Marchand, W. R., Andersen, S. J., Smith, J. E., Hoopes, K. H., & **Carlson, J. K.** (2021). Equine-assisted activities and therapies for veterans with posttraumatic stress disorder: current state, challenges and future directions. *Chronic Stress* (Thousand Oaks). https://doi.org/10.1177/2470547021991556

Marshall, C., & **Rossman, G. B.** (1999). *Designing Qualitative Research* (3rd Ed.) Thousand Oaks, CA: Sage. https://psycnet.apa.org/record/1999-02689-000

McGrane, M. (2011). Post-traumatic stress disorder in the military: The need for legislative improvement of mental health care for veterans of operation Iraqi freedom and operation enduring freedom. *Journal of Law & Health*, *24*, 183. https://engagedscholarship.csuohio.edu/jlh/vol24/iss1/8/

Milliken, C. S., Auchterlonie, J. L., & **Hoge, C. W.** (2007). Longitudinal assessment of mental health problems among active and reserve component soldiers returning

from the Iraq war. *JAMA*, *298*(18), 2141–2148. https://doi.org/10.1001/jama.298.18.2141

Moran, R., Sperandei, S., Peel, N., Gray, T., & **Reis, A.** (2024). The long-term effect of surf therapy on posttraumatic stress, depression, and anxiety symptomology among current and former australian defence force members – A nonrandomised controlled longitudinal study in a community setting. *Mental Health and Physical Activity*, *27*, 100629. https://doi.org/10.1016/j.mhpa.2024.100629

Morant, N. (2006). Social representations and professional knowledge: The representation of mental illness among mental health practitioners. *British Journal of Social Psychology*, *45*(4), 817–838. https://doi.org/10.1348/014466605x81036

Murphy, D., Ashwick, R., Palmer, E., & **Busuttil, W.** (2017). Describing the profile of a population of UK veterans seeking support for mental health difficulties. *Journal of Mental Health*, *28*, 654–661. https://doi.org/10.1080/09638237.2017.1385739

Nash, W. P., Silva, C., & **Litz, B.** (2009). The historic origins of military and veteran mental health stigma and the stress injury model as a means to reduce it. *Psychiatric Annals*, *39*(8), 789. https://doi.org/10.3928/00485713-20090728-05

National Institute for Clinical Excellence. (2009). Depression: the treatment and management of depression in adults (update). *Clinical Guideline*, *90*. https://www.nice.org.uk/guidance/cg90

O'Connor, M., & **Elklit, A.** (2008). Attachment styles, traumatic events, and PTSD: A cross-sectional investigation of adult attachment and trauma. *Attachment & Human Development*, *10*(1), 59–71. https://doi.org/10.1080/14616730701868597

Pandiani, J. A., Rosenheck, R., & **Banks, S. M.** (2003). Elevated risk of arrest for Veteran's Administration behavioral health service recipients in four Florida counties. *Law and Human Behavior*, *27*(3), 289. https://doi.org/10.1023/a:1023483807731

Perry, D. J., Crawford, S. L., Mackin, J. M., Averka, J. J., & **Smelson, D. A.** (2024). The feasibility of wildlife immersion experiences for Veterans with PTSD. *Frontiers in Veterinary Science*, *11*. https://doi.org/10.3389/fvets.2024.1290668

Peterson, A. L., Foa, E. B., & **Riggs, D. S.** (2011). Prolonged exposure therapy. In B. A. Moore & W. E. Penk (Eds.), *Treating PTSD in Military Personnel: A Clinical Handbook* (pp. 42–58). The Guilford Press. ISBN-13: 9781609186357, 9781462538447.

Pietrzak, R. H., Johnson, D. C., Goldstein, M. B., Malley, J. C., & **Southwick, S. M.** (2009). Perceived stigma and barriers to mental health care utilization among OEF-OIF veterans. *Psychiatric Services*, *60*(8), 1118–1122. https://doi.org/10.1176/ps.2009.60.8.1118

Poulsen, D. V., Stiggsdottir, U. K., Djernis, D. D., & **Sidenius, U.** (2016). 'Everything just seems much more right in nature': How veterans with post-traumatic stress disorder experience nature-based activities in a forest therapy garden. *Health Psychology Open*, *3*(1), 1–14. https://doi.org/10.1177/2055102916637090

Poulsen, D. V., Stigsdotter, U. K., & **Refshage, A. D.** (2015). Whatever happened to the soldiers? Nature-assisted therapies for veterans diagnosed with post-traumatic stress disorder: A literature review. *Urban Forestry & Urban Greening*, *14*(2), 438–445. https://doi.org/10.1016/j.ufug.2015.03.009

Pretty, J., Peacock, J., Hine, R., Sellens, M., South, N., & **Griffin, M.** (2007). Green exercise in the UK countryside: Effects on health and psychological well-being, and implications for policy and planning. *Journal of Environmental Planning and Management*, *50*(2), 211–231. https://doi.org/10.1080/09640560601156466

Prigerson, H. G., Maciejewski, P. K., & **Rosenheck, R. A.** (2001). Combat trauma: trauma with highest risk of delayed onset and unresolved posttraumatic stress disorder symptoms, unemployment, and abuse among men. *The Journal of Nervous and Mental Disease*, *189*(2), 99–108. https://doi.org/10.1097/00005053-200102000-00005

Pukay-Martin, N. D., Fredman, S. J., Martin, C. E., Le, Y., Haney, A., Sullivan, C., Monson, C. M., & **Chard, K. M.** (2022). Effectiveness of cognitive behavioral conjoint therapy for posttraumatic stress disorder (PTSD) in a US Veterans Affairs PTSD clinic. *Journal of Traumatic Stress*, *35*(2), 644–658. https://doi.org/10.1002/jts.22781

Rankins, E. M., McKeever, K. H., & **Malinowski, K.** (2024). Behavioral and physiological responses of horses to ground-based adaptive horsemanship lessons for veterans with post-traumatic stress disorder (PTSD). *Journal of Equine Veterinary Science*, *135*, 105049. https://doi.org/10.1016/j.jevs.2024.105049

Richardson, J. D., Darte, K., Grenier, S., English, A., & **Sharpe, J.** (2008). Operational Stress Injury Social Support: a Canadian innovation in professional peer support. *Canadian Military Journal*, *9*(1), 57–64. https://ir.lib.uwo.ca/osircpub/34

Rogerson, M., & **Barton, J.** (2015). Effects of the visual exercise environments on cognitive directed attention, energy expenditure and perceived exertion. *International Journal of Environmental Research and Public Health*, *12*(7), 7321–7336. https://doi.org/10.3390/ijerph120707321

Rozynko, V., & **Dondershine, H. E.** (1991). Trauma focus group therapy for Vietnam veterans with PTSD. *Psychotherapy: Theory, Research, Practice, Training*, *28*(1), 157. https://doi.org/10.1037/0033-3204.28.1.157

Russell, K. C. (2003). An assessment of outcomes in outdoor behavioral healthcare treatment. *Child and Youth Care Forum*, *32*, 355–381. https://doi.org/10.1023/B:CCAR.0000004507.12946.7e

Rytwinski, N. K., Scur, M. D., Feeny, N. C., & **Youngstrom, E. A.** (2013). The co-occurrence of major depressive disorder among individuals with posttraumatic stress disorder: a

meta-analysis. *Journal of Traumatic Stress*, *26*(3), 299–309. https://doi.org/10.1002/jts.21814

Saxon, A. J., Davis, T. M., Sloan, K. L., McKnight, K. M., McFall, M. E., & **Kivlahan, D. R.** (2001). Trauma, symptoms of posttraumatic stress disorder, and associated problems among incarcerated veterans. *Psychiatric Services*, *52*(7), 959–964. https://doi.org/10.1176/appi.ps.52.7.959

Seidler, G. H., & **Wagner, F. E.** (2006). Comparing the efficacy of EMDR and trauma-focused cognitive-behavioral therapy in the treatment of PTSD: a meta-analytic study. *Psychological Medicine*, *36*(11), 1515–1522. https://doi.org/10.1017/S0033291706007963

Shaw, D. M., Churchill, C. M., Noyes, R., & **Loeffelholz, P. L.** (1987). Criminal behavior and post-traumatic stress disorder in Vietnam veterans. *Comprehensive Psychiatry*, *28*(5), 403–411. https://doi.org/10.1016/0010-440x(87)90057-5

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, *22*(2), 63–75. https://doi.org/10.3233/EFI-2004-22201

Sherman, M. D., Larsen, J., & **Borden, L. M.** (2015). Broadening the focus in supporting reintegrating Iraq and Afghanistan veterans: Six key domains of functioning. *Professional Psychology: Research and Practice*, *46*, 355–365. https://doi.org/10.1037/pro0000043

Shorer, S., Shacham, M., & **Bloch, B.** (2023). Long-term group nature-assisted therapy for veterans diagnosed with chronic PTSD. *Social Work with Groups*, *46*(3), 235–248. https://doi.org/10.1080/01609513.2023.2173358

Silvestrini, M., & **Chen, J. A.** (2023). "It's a sign of weakness": Masculinity and help-seeking behaviors among male veterans accessing posttraumatic stress disorder care. *Psychological Trauma: Theory, Research, Practice, and Policy*, *15*(4), 665. https://doi.org/10.1037/tra0001382

Tamman, A. J., Wendt, F. R., Pathak, G. A., Krystal, J. H., Montalvo-Ortiz, J. L., Southwick, S. M., Sippel, L. M., Gelernter, J., Polimanti, R., & **Pietrzak, R. H.** (2021). Attachment style moderates polygenic risk for posttraumatic stress in United States military veterans: Results from the National Health and Resilience in Veterans Study. *Biological Psychiatry*, *89*(9), 878–887. https://doi.org/10.1016/j.biopsych.2020.09.018

Tamman, A. J., Wendt, F. R., Pathak, G. A., Krystal, J. H., Southwick, S. M., Sippel, L. M., Gelernter, J., Polimanti, R., & **Pietrzak, R. H.** (2022). Attachment style moderates polygenic risk for incident posttraumatic stress in US military veterans: A 7-year, nationally representative, prospective cohort study. *Biological Psychiatry*, *91*(7), 637–646. https://doi.org/10.1016/j.biopsych.2021.09.025

Terhaag, S., Cowlishaw, S., Steel, Z., Brewer, D., Howard, A., Armstrong, R., Human, B., Forbes, D., & **Phelps, A.** (2022). Psychiatric comorbidity for veterans with posttraumatic stress disorder (PTSD): A latent profile analysis and implications for treatment. *Psychological Trauma: Theory, Research, Practice, and Policy*, *14*(5), 831. https://doi.org/10.1037/tra0000520

Tong, A., Sainsbury, P., & **Craig, J.** (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, *19*(6), 349–357. https://doi.org/10.1093/intqhc/mzm042

Tuerk, P. W., Yoder, M., Grubaugh, A., Myrick, H., Hamner, M., & **Acierno, R.** (2011). Prolonged exposure therapy for combat-related posttraumatic stress disorder: An examination of treatment effectiveness for veterans of the wars in Afghanistan and Iraq. *Journal of Anxiety Disorders*, *25*(3), 397–403. https://doi.org/10.1016/j.janxdis.2010.11.002

Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & **Zelson, M.** (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*, *11*(3), 201–230. https://doi.org/10.1016/S0272-4944(05)80184-7

van Hoorn, L., Jones, N., Busuttil, W., Fear, N., Wessely, S., Hunt, E., & **Greenberg, N.** (2013). Iraq and Afghanistan veteran presentations to Combat Stress, since 2003. *Occupational Medicine*, *63*(3), 238–241. https://doi.org/10.1093/occmed/kqt017

Vella, E. J., Lyman, T., & **Lovering, T.** (2023). Pilot Study: The Effects of a Mountain Wilderness Experience on Combat Veteran Psychosocial Wellness. *Military Behavioral Health*, *11*(1–2), 54–65. https://doi.org/10.1080/21635781.2023.2221463

Vogt, D. (2011). Mental health-related beliefs as a barrier to service use for military personnel and veterans: a review. *Psychiatric Services*, *62*(2), 135–142. https://doi.org/10.1176/ps.62.2.pss6202_0135

Ward Thompson, C., Roe, J., Aspinall, P., Mitchell, R., Clow, A., & **Miller, D.** (2012). More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns. *Landscape and Urban Planning*, *105*(3), 221–229. https://doi.org/10.1016/j.landurbplan.2011.12.015

Wen, Y., Yan, Q., Pan, Y., Gu, X., & **Liu, Y.** (2019). Medical empirical research on forest bathing (Shinrin-yoku): a systematic review. *Environmental Health and Preventative Medicine*, *24*(1), 70. https://doi.org/10.1186/s12199-019-0822-8

Westwood, M. J., McLean, H., Cave, D., Borgen, W., & **Slakov, P.** (2010). Coming home: A group-based approach for assisting military veterans in transition. *The Journal for Specialists in Group Work*, *35*(1), 44–68. https://doi.org/10.1080/01933920903466059

Wheeler, M., Cooper, N. R., Andrews, L., Hacker Hughes, J., Juanchich, M., Rakow, T., & **Orbell, S.** (2020). Outdoor recreational activity experiences improve psychological wellbeing of military veterans with post-traumatic stress disorder: Positive findings from a pilot study and a randomised controlled trial. *PLoS ONE*, *15*(11), e0241763. https://doi.org/10.1371/journal.pone.0241763

Williamson, V., Greenberg, N., & **Stevelink, S. A. M.** (2019). Perceived stigma and barriers to care in UK Armed Forces personnel and veterans with and without probable mental disorders. *BMC Psychology*, *7*(1), 75. https://doi.org/10.1186/s40359-019-0351-7

Willmund, G., Zimmermann, P., Alliger-Horn, C., Varn, A., Fischer, C., Parent, I., Sobottka, A., Bering, R., Rose, C., Ströhle, A., & **Köhler, K.** (2021). Equine-assisted psychotherapy with traumatized couples—improvement of relationship quality and psychological symptoms. *Journal of Marital and Family Therapy*, *47*(4), 925–944. https://doi.org/10.1111/jmft.12485

Wilson, E. O. (1984). *Biophilia*. Harvard University Press. ISBN 9780674074422. https://doi.org/10.4159/9780674045231

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