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Effects of a group experiential therapy program on the psychological health of military veterans: a preliminary investigation

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ABSTRACT

This study examined the clinical effects of a brief group experiential therapy treatment centered on psychodrama in a sample of military veterans. The sample ($N = 72$) comprised male ($n = 54$) and female ($n = 18$) United States military veterans ($M_{age} = 44.19$, $SD_{age} = 12.51$) who completed the six-day treatment. Self-reported military-related posttraumatic stress (M-PTSD), anxiety, depression, and quality of life were assessed at baseline (T0), end of treatment (T1), three-month follow-up (T2), and six-month follow-up (T3). Prior combat exposure was also measured at T0, and acceptability and user satisfaction ratings were reported at T1. Within-subjects changes on all outcomes from T0 to T1, T2, and T3 were medium to large in effect size. After controlling for relevant demographic characteristics, prior combat exposure, and baseline multimorbidity, the results revealed significant improvements in clinical symptoms and quality of life from T0 to T1, T2, and T3. A majority of the participants who met criteria for M-PTSD, anxiety, or depression caseness at T0 attained recovery status at T1, T2, and T3. Acceptability and satisfaction ratings were high. The findings offer preliminary evidence supporting the efficacy of the group experiential treatment in sustaining reduced psychological symptoms and improving the quality of life of military veterans.

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Experiential therapy; mental health; military; psychodrama; PTSD; veterans

Effets d'un programme de thérapie de groupe expérientiel sur la santé psychologique de militaires vétérans. Une étude préliminaire.

Cette étude examine les effets cliniques d'un traitement de thérapie brève de groupe expérientiel centré sur le psychodrame avec un échantillon de militaires vétérans. L'échantillon (n = 72) était constitué d'hommes (n = 54) et de femmes (n = 18) militaires vétérans de l'armée des États-Unis (âge moyen 44.19 /12.51) et qui ont suivi six journées de traitement. Le stress post-

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traumatique en lien avec le cadre militaire (M-PTSD), l'anxiété, la dépression et la qualité de vie ont été mesurés en autoévaluation au début du traitement (T0), à la fin du traitement (T1), trois mois plus tard (T2) et six mois plus trad (T3). L'exposition antérieure au combat a par ailleurs été mesurée au T0. L'acceptabilité et un score de satisfaction de l'usager ont été rapportés au T1. Les changements intra-personnels constatés de T0 à T1, T2 et T3 étaient d'ampleur moyenne à élevée pour tous les facteurs évalués. Après contrôle des caractéristiques démographiques pertinentes, de l'exposition antérieure au combat et de la multimorbidité basale de référence, les résultats ont révélé des améliorations significatives des symptômes cliniques et de la qualité de vie de T0 à T1, T2 et T3. Une majorité des participants ne rencontraient plus les critères du M-PTSD, d'anxiété ou de dépression à T1, T2 et T3. Les taux d'acceptabilité et de satisfaction étaient élevés. Les constatations apportent des preuves préliminaires à l'efficacité du traitement de groupe expérientiel dans le maintien de symptômes psychologiques réduits et l'accroissement de la qualité de vie des militaires vétérans.

Effekte eines experienziellen Gruppentherapie-Programms auf die psychischen Gesundheit von Militärveteranen: eine Voruntersuchung

Zusammenfassung: Diese Studie untersucht die klinischen Effekte einer kurzen experienziellen Gruppentherapie-Behandlung mit einem Schwerpunkt auf Psychodrama anhand einer Stichprobe von Militärveteranen. Die Stichprobe ($N = 72$) umfasste männliche ($n = 54$) und weibliche ($n = 18$) Militärveteranen der Vereinigten Staaten ($M_{age} = 44.19$, $SD_{age} = 12.51$), welche die sechstägige Behandlung abschlossen. Mit dem Militär zusammenhängender posttraumatischer Stress (M-PTSD), wie ihn die Teilnehmenden selbst angaben, Angst, Depression und Lebensqualität wurden vor Behandlungsbeginn eingeschätzt (T0), am Ende der Behandlung (T1), bei einem 3-Monate-Follow-Up (T2) und mit einem Sechs-Monate-Follow-Up (T3). Die frühere Exposition in Bezug auf Kampfhandlungen wurde bei T0 ebenfalls erhoben; Akzeptanz und Zufriedenheits-Ratings bei den Teilnehmenden bei T1 festgehalten. Die inneren Veränderungen bei den einzelnen Teilnehmenden von T0 zu T1, T2 und T3 waren bei allen Ergebnissen von mittlerer bis grosser Effektstärke. Nach einer Kontrolle der relevanten demografischen Charakteristika, im Weiteren auch der vorausgegangenen Exposition in Bezug auf Kampfhandlungen sowie der Multimorbidität zu Beginn ergaben die Resultate signifikante Verbesserungen bei den klinischen Symptomen und der Lebensqualität von T0 zu T1, T2 und T3. Eine Mehrheit von Teilnehmenden wiesen keine Kriterien mehr für M-PTSD, Angst oder Depression bei T1, T2 und T3 auf. Akzeptanz und Zufriedenheitsraten waren hoch. Die Befunde liefern erste Hinweise, welche die Wirksamkeit experienzieller Gruppenbehandlung unterstreichen. Psychische Symptome reduzieren sich und die Lebensqualität der Militärveteranen verbessert sich.

Efectos de un programa de terapia experiencial grupal sobre la salud psicológica de los veteranos militares: una investigación preliminar

Resumen: Este estudio examinó los efectos clínicos de un breve tratamiento grupal de terapia experimental centrado en el psicodrama en una muestra de veteranos militares. La muestra (N = 72) estaba compuesta por hombres (n = 54) y mujeres (n = 18) veteranos militares de los Estados Unidos (M_{age} = 44.19, SD_{age} = 12.51) que completaron el tratamiento de seis días. El estrés postraumático reportado por el ejercito relaciono estrés postraumático (M-PTSD), ansiedad, depresión y calidad de vida se evaluaron al inicio (T0), al final del tratamiento (T1), a los tres meses de seguimiento (T2) y a los seis meses. seguimiento al mes (T3). La exposición previa al combate también se midió en T0, y las calificaciones de aceptabilidad y satisfacción del usuario se informaron en T1. Los cambios interindividuales en todos los resultados de T0 a T1, T2 y T3 tuvieron un efecto de mediano a grande. Después de controlar las características demográficas relevantes, la exposición previa al combate y la multimorbilidad inicial, los resultados revelaron mejoras significativas en los síntomas clínicos y la calidad de vida de T0 a T1, T2 y T3. La mayoría de los participantes ya no cumplían los criterios de Estrés Postraumático militar (M-PTSD), ansiedad o depresión en T1, T2 y T3. Los índices de aceptabilidad y satisfacción fueron altos. Los hallazgos ofrecen evidencia preliminar que respalda la eficacia del tratamiento experimental grupal en la reducción sostenida de los síntomas psicológicos y mejor calidad de vida de los veteranos militares.

Efeitos de um programa terapêutico experiencial de grupo na saúde psicológica de veteranos militares: investigação preliminar

Este estudo analisou os efeitos clínicos de uma terapia breve de grupo centrada no psicodrama de uma amostra de veteranos militares. A amostra (N = 72), incluía homens (n = 54) e mulheres (n = 18) veteranos do exército dos Estados Unidos (idade média = 44.19, desvio padrão da idade = 12.51) que completaram seis dias de tratamento. Stresse pós-traumático relacionado com a vida militar (SPT-M) relatado pelo próprio, ansiedade, depressão e qualidade de vida foram avaliados: à partida (T0), no final do tratamento (T1), no seguimento após três meses (T2) e no seguimento após seis meses (T3). A exposição anterior a combate foi também avaliada em T0 e a aceitabilidade e níveis de aceitação do utilizador foram relatados em T1. Verificaram-se diferenças intraindividuais médias a grandes em todas as medidas, em T0, T1, T2 e T3. Uma vez isoladas variáveis demográficas relevantes, experiência anterior de combate e multimorbilidade à partida, os resultados revelam uma melhoria significativa nos sintomas clínicos e qualidade de vida de T0 a T1, T2 e T3. Uma maioria de participantes deixou de preencher critérios de diagnóstico de SPT-M, ansiedade e depressão em T1, T2 e T3. Os níveis de aceitabilidade e satisfação foram elevados. Os resultados fornecem evidência preliminar que aponta para a eficácia de tratamentos experimentais de grupo na manutenção da redução de sintomas psicológicos e na melhoria da qualidade de vida de veteranos militares.

Introduction

Military service is a high-risk profession for experiencing adverse and traumatic events (Kitchiner et al., 2012) that can cause distress and interfere with psychosocial functioning long after termination of service. Recent 12-month prevalence estimates indicate that approximately one in four United States military veterans (personnel who formerly served in the military) have at least one diagnosed mental illness (Trivedi et al., 2015), the most prevalent being depression and posttraumatic stress disorder (PTSD). A key challenge to supporting the mental health of military veterans is that recommended approaches used to treat more prevalent mental health problems in this population are not always associated with optimal outcomes. In one review of randomized control trials focused primarily on first-line psychotherapeutic interventions for PTSD among military personnel (including veterans), Steenkamp et al. (2015) found that up to 72% of participants who received recommended treatments (e.g. cognitive processing therapy [CPT], prolonged exposure [PE]) still met diagnostic criteria for PTSD at the end of treatment. While existing treatment guidelines for PTSD and related psychopathology should not be overlooked, there is a need to develop and evaluate the efficacy of novel evidence-based approaches in treating psychological difficulties experienced by military veterans (Corry et al., 2016). The current study offers initial evidence for the clinical utility of a group experiential psychotherapeutic treatment program aimed at promoting the mental health and well-being of military veterans.

Unlike traditional 'talk therapy,' the fundamental orientation of experiential therapies is to promote change through direct experience (Pos et al., 2008). Experiential therapies make use of expressive tools and reflective activities (e.g. role-playing, imagery) to enhance clients' awareness and facilitate their experience and expression of unresolved emotions surrounding past, present, or future situations (Keulen-de Vos et al., 2017; Spira et al., 2006). Psychotherapists play a reflective role in helping clients become more aware of in-the-moment experience (e.g. perceptions, sensations, emotions). They also help clients reflect on and undertake in-depth exploration of subjective experience and create new meaning from information that becomes available during the therapeutic process (Greenberg, 2014; Pos et al., 2008; 2017). This psychotherapeutic context provides opportunities for clients to reconcile previously unprocessed or disintegrated emotionally laden features of their subjective experiences, which facilitates healing and promotes personal growth (Westwell, 2016). Accumulating literature documents the effectiveness of both individual and group experiential therapies for various mental health disorders (e.g. anxiety, depression) in diverse populations (for a meta-analysis, see Elliott et al., 2013).

Psychodrama is one model of group experiential psychotherapy. It involves the use of guided role-play to provide clients the opportunity to explore and acquire insight into thoughts, emotions, and behaviors related to past issues, present difficulties, and future potentialities (Orkibi & Feniger-Schaal, 2019). Classic psychodramatic vignettes are executed in three distinct phases (i.e. warm-up, action, sharing), during which a range of techniques (e.g. role reversal, sculpture) may be used by the psychotherapist to assist the protagonist (i.e. the person whose scene is being enacted) in setting the scene and dramatizing the conflict (e.g. an internal process or experience, problematic intrapersonal or interpersonal patterns) needing resolution (Cruz et al., 2018). The remaining group members are invited to take on different roles as significant people related to the protagonist's issue (i.e. auxiliary

egos) or as representatives of the broader community (i.e. audience members). Psychodramatic sessions are intended to invite self-awareness and promote a mindful, present-focused opportunity to engage patterns, experiences, or other personal difficulties from a new vantage point. This process is thought to relieve psychological distress, promote healing, and nurture clients' ability to live more fully in the present. The findings of several reviews (e.g. Kipper & Ritchie, 2003; Wieser, 2007) support the effectiveness of psychodrama in treating a range of psychological problems in clients of all ages. However, intervention research on the clinical effects of psychodrama is still in its relative infancy, and there is a dearth of longitudinal evidence on the efficacy of experiential treatments centered on psychodrama in military personnel or veterans (for a recent review, see Orkibi & Feniger-Schaal, 2019).

In the present study, we assess the effectiveness and medium-term mental health benefits of a brief residential group experiential treatment for addressing psychological difficulties in military veterans. The treatment program is structured around experiential therapy sessions. Psychodrama theory and techniques are predominantly used to facilitate therapeutic change. Because the treatment occurs within a residential setting, therapy sessions are complemented by ancillary components (e.g. psychoeducation, connecting activities) that are integrated into the program to support change (for details on this model, see Klontz et al., 2001; Wegscheider-Cruse et al., 1990). Prior studies (e.g. Klontz et al., 2001; 2005) have reported preliminary evidence supporting the efficacy of this model in reducing psychological symptoms (e.g. anxiety, depression) and improving psychological well-being in adults with various presenting issues (e.g. PTSD). The utility of this approach has yet to be examined in military veterans. Thus, the purpose of the present study was to evaluate the efficacy of the group experiential treatment for promoting the psychological health and well-being of military veterans. The following hypotheses summarize the research questions addressed in this study:

(1) Participants would report improvements in psychological symptoms (i.e. military-related posttraumatic stress [M-PTSD], anxiety, depression) and overall well-being from baseline to the end of treatment.
(2) End of treatment improvements in psychological symptoms and overall well-being would be maintained at three- and six-month follow-ups.

Method

Participants

Of the 88 United States military veterans who attended and completed the brief residential psychotherapeutic treatment program, $N = 72$ consented to participate in this study. Sample characteristics at baseline are reported in Table 1. Participants ranged from 26 to 75 years in age ($M = 44.19$, $SD = 12.51$) and were mostly male (75.00%) and White (92.67%). A majority of the sample had completed a bachelor's degree or higher (63.89%), were currently employed (72.22%), and affiliated religiously with Christianity (58.33%). Veterans primarily served during the post-Vietnam or Persian Gulf eras (91.67%). All branches of the United States military were represented in the sample, although most

Table 1. Sample characteristics at baseline ($N = 72$).

Characteristic	$M \pm SD$ (range)	n (%)
Age (years)	44.19 ± 12.51 (26–75)	
Length of military service (years)[c]	10.78 ± 9.02 (1–37)	
Severity of combat exposure (CES scores)	11.57 ± 10.28 (0–40)	
Sex		
Female		18 (25.00)
Male		54 (75.00)
Race		
White		66 (92.67)
Minority[a]		6 (8.33)
Highest education		
High school diploma or equivalent		20 (27.78)
Associate's degree		6 (8.33)
Bachelor's degree		22 (30.56)
Graduate degree (e.g. MA, MD, PhD)		24 (33.33)
Marital status		
Single (never married)		11 (15.28)
Married or in a domestic partnership		40 (55.56)
Divorced		18 (25.00)
Separated		3 (4.17)
Employment status		
Employed part- or full-time		52 (72.22)
Unemployed		4 (5.56)
Retired		15 (20.83)
Homemaker		1 (1.39)
Religious affiliation		
No religion		14 (19.44)
Atheist		2 (2.78)
Buddhist		2 (2.78)
Christian		42 (58.33)
Spiritualist		8 (11.11)
Other unclassified		1 (1.39)
Unspecified		3 (4.17)
Period of military service		
Vietnam		6 (8.33)
Post-Vietnam		18 (25.00)
Persian Gulf		48 (66.67)
United States military branch		
Air Force		8 (11.11)
Army		38 (52.78)
Coast Guard		2 (2.78)
Marine Corps		14 (19.44)
Navy		8 (11.11)
Unspecified		2 (2.78)
Multimorbidity		
Yes		37 (51.39)
No		35 (48.61)

[a]Minority subgroup comprised the following race categories: Black or African American ($n = 2$), Asian ($n = 1$), Middle Eastern or North African ($n = 1$), Two or more race groups ($n = 2$).

participants had served in the Army (52.78%). Length of military service ranged from 1 to 37 years ($M = 10.78$, $SD = 9.02$).

Treatment program

The six-day residential group experiential therapy program drew on an existing treatment model, which is grounded in a transtheoretical framework involving existential-humanistic, developmental, and family systems perspectives of psychology (see Klontz et al., 2001; Wegscheider-Cruse et al., 1990). To ensure the treatment addressed the psychological needs

specific to military veterans, a team of licensed mental health professionals who had relevant clinical competencies (e.g. expertise in the use of experiential therapy with military personnel) collaboratively evaluated and made appropriate modifications to content-related aspects (e.g. psychoeducation curriculum) of the treatment program. Psychodrama theory and techniques form the core of treatment (Klontz, 2004), with other experiential tools, Gestalt techniques, and motivational interviewing integrated into the process to allow group members to explore their lives with curiosity, compassion, and self-efficacy. An essential component of the treatment involves meeting clients where they are without an agenda of where they 'should be.' The immersive environment of the residential setting, the psychological safety of the group community, and the guidance of the clinician create a therapeutic climate that enables clients to become their own most effective change agents.

Eligibility criteria for attendance included status as a military veteran, at least two weeks of abstinence from alcohol and recreational substance use prior to program attendance, absence of active psychosis, and a sufficient command of English to partake in program activities without needing an interpreter. Individuals who did not meet the eligibility criteria were referred to alternative treatments. There were 12 therapy groups split across two cohorts, with each cohort comprising six therapy groups. Six to eight clients were included in each therapy group. Groups participated in 30 hours of experiential group therapy over the six-day period. Group therapy sessions were evenly split across mornings and afternoons, except on the final day where only a single session of group therapy took place in the morning. Each session ranged from 120 to 210 minutes; longer sessions were reserved for the afternoons. In group therapy sessions, experiential activities were paced and scaffolded to accommodate differences in group members' levels of recovery, readiness for change, and comfort with the emotional intensity of group activities. Group therapy sessions used psychodramatic techniques to (a) restore group members' sense of self, (b) process and reshape their internal scripts associated with traumatic experiences that occurred over the life course, and (c) promote their successful return to daily life by assisting them with generalizing their treatment experience to life outside of therapy. Other experiential techniques (e.g. sociometry, empty chair) were used as warm-up and focusing mechanisms, as well as to emphasize salient themes or enhance emotional experiences that arose during the action phase of psychodramatic vignettes (Klontz et al., 2001). By the end of treatment, each group member had enacted three psychodramatic vignettes as the protagonist. The first was structured around identifying and establishing an internal resource (e.g. a higher power). The second was a family sculpt related to their family of origin. The third involved reenacting a significant life event or relationship.

Outside of the group therapy sessions, attendees participated in start-of-the-day warm-up and focusing activities (e.g. meditation) for approximately 15 to 30 minutes. Six psychoeducational sessions were delivered on topics related to therapeutic issues relevant to the program (Klontz et al., 2001). All attendees completed psychoeducational sessions each morning before group therapy sessions began. Psychoeducational sessions lasted between 75 and 90 minutes. The psychoeducational component was facilitated by the program supervisor, a licensed mental health professional with over 20 years of experience facilitating similar kinds of group experiential therapy programs. During the

evenings, attendees participated in connection-promoting activities focused on building relationships and fostering a sense of community. For the duration of the program, attendees were required to (a) stay within the property boundary of the treatment facilities, (b) abstain from mood-altering substances (e.g. alcohol, tobacco), and (c) have all electronic devices secured. They were also offered behavioral advice to minimize potential chemical (e.g. caffeine), habitual (e.g. exercising excessively), and social (e.g. treatment romances) influences (Klontz et al., 2001).

Each therapy group was facilitated by a single clinician. Group facilitators were licensed mental health practitioners (e.g. licensed professional counselor) with a master's degree or higher in counseling or a related field. Prior clinical experience in experiential therapy ranged from 10 to 37 years ($M = 21.44$, $SD = 10.88$). Alongside requisite clinical experience, eligibility as a group facilitator was contingent on previously completing at least two comparable short-term experiential treatment programs, one as an attendee and another as a trainee. Practitioners had facilitated between 1 and 18 comparable residential short-term group experiential therapy programs within the past two years ($M = 6.00$, $SD = 5.98$). The program supervisor facilitated supervision sessions and monitored adherence to the program protocol. Supervision sessions occurred twice daily after group therapy sessions, each lasting between 30 and 45 minutes. During supervision sessions, group facilitators were offered an opportunity to report, discuss, and receive input on clinical concerns, group dynamics, group progress against the program protocol, and clinical support they needed.

Design

This study used a within-subjects pre-post design. Self-report baseline measures (T0) were completed prior to the initiation of treatment. The treatment was delivered in a residential setting and ran for six days. Participants responded to the end of treatment measures immediately after completion of the treatment (T1), which also included items to assess their ratings of the acceptability and level of satisfaction with the treatment. Follow-up measures were completed at three-month (T2) and six-month (T3) post-treatment intervals.

Procedure

This study was granted ethical approval by an independent review board (protocol number 2018/01/4). Program attendees were recruited using flyers that were distributed via e-mail to an existing database of mental health professionals, as well as through recruitment campaigns that were run on several social networking platforms. Upon arrival to the facility where the program was delivered, attendees were invited to participate in the study. Interested individuals were directed to a large group room where they were told about the nature of the study and their participation in it. Those who agreed to participate provided written informed consent. They then completed the survey. Because the treatment occurred over the course of six days, we adjusted the timeframes participants referenced when completing the assessment at T1 to ensure they did not overlap with T0. Specifically, instructions for the Generalized Anxiety Disorder-7 and Patient Health Questionnaire-

9 were adjusted so that participants rated each item at T1 with reference to the last few days. Three- and six-month follow-up surveys (T2 and T3) were completed electronically via a secure weblink. At each follow-up assessment, a standardized procedure combining e-mail and telephone communications was followed to remind participants to complete the survey. On average, participants completed T2 and T3 assessments approximately 3.48 months (*SD* = 0.25) and 6.55 months (*SD* = 0.26) after the end of treatment, respectively. Other than travel-related expenses, there were no costs associated with attending the program. Research participants did not receive compensation for participating in the study. With the exception of socio-demographic items and the Combat Exposure Scale (administered only at T0), participants completed a randomized ordering of all measures at each assessment.

Measures

Measures were selected to evaluate the efficacy of the treatment program in supporting the specific mental health needs of military veterans, many of which capture the most common mental health issues (i.e. PTSD, anxiety, depression) that affect military veterans (see Trivedi et al., 2015). Other measures were included to assess the impact of the program on broader psychosocial functioning (i.e. quality of life) and to control for potential confounding (i.e. exposure to military combat).

Mississippi Scale for Combat-Related Posttraumatic Stress Disorder (Mississippi PTSD; Keane et al., 1988)

The Mississippi PTSD consists of 35 items that measure symptoms and associated features of PTSD in military personnel. Items reflect salient domains of PTSD (i.e. withdrawal and numbing, reexperiencing and situational avoidance, arousal and lack of behavioral or emotional control, self-persecution), along with features that occur frequently alongside PTSD in combat veterans (e.g. suicidality). Participants rate each item (e.g. 'It seems as if I have no feelings') on a five-point scale (e.g. 1 = *Never true*; 5 = *Frequently true*). The convergent validity of the Mississippi PTSD has been supported in studies that have evaluated the measure alongside psychometric and interview measures of PTSD (e.g. McFall et al., 1990). Group differences in Mississippi PTSD scores between military veterans with and without a PTSD diagnosis support the discriminating power of the measure (Bhattarai et al., 2020). The Mississippi PTSD has also yielded high temporal stability (.97), internal consistency of scores (.85 to .94), sensitivity (.93 to 1.00), and specificity (.89 to .93) in clinical and community samples of military veterans (Hyer et al., 1992; Keane et al., 1988). In the current study, omega total (ω_t) ranged from .91 to .94 across all four measurements.

Combat Exposure Scale (CES; Keane et al., 1989)

The CES contains seven items that retrospectively assess exposure to stressful experiences during military combat. Items (e.g. 'Were you ever under enemy fire?') are rated on a five-point scale (e.g. 1 = *Never;* 5 = *7+ months*), each of which is weighted for severity. Evidence from previous research supports the reliability (i.e. internal consistency, temporal stability) and construct validity of the CES (Keane et al., 1989; Rodin et al., 2017). In the present study, internal consistency reliability for the CES was ω_t = .92.

Generalized Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006)

The GAD-7 is a self-report measure of generalized anxiety symptoms experienced over the preceding two weeks. The instrument contains seven items (e.g. 'Feeling nervous, anxious or on edge'), each of which is rated on a four-point scale (0 = *Not at all*; 3 = *Nearly every day*). The GAD-7 has strong internal consistency of scores, and evidence of its construct validity has been reported in previous research (Kertz et al., 2013; Löwe et al., 2008). In this study, ω_t for the GAD-7 across the four measurements ranged from .88 to .94.

Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001)

The PHQ-9 is a nine-item instrument that measures frequency of depressive symptoms experienced during the past two weeks. The items (e.g. 'Feeling down, depressed, or hopeless') are rated on a four-point scale (0 = *Not at all*; 3 = *Nearly every day*). The findings of various studies support the reliability (i.e. internal consistency, test-retest) and validity (e.g. convergent, criterion) of the PHQ-9 (Kroenke et al., 2001; Löwe et al., 2004). In the present study, ω_t ranged from .91 to .93 for the PHQ-9 across the four measurement points.

EUROHIS-QOL 8-item index (EUROHIS-QOL; Power, 2003)

The EUROHIS-QOL is a self-report index of quality of life derived from the 26-item World Health Organization Quality of Life-BREF (WHOQOL-BREF; The WHOQOL Group, 1998). The items (e.g. 'Do you have enough energy for everyday life?') capture the four quality of life domains (i.e. environmental, physical, psychological, social) of the original WHOQOL-BREF (da Rocha et al., 2012). Participants rate the items on a five-point scale (e.g. 1 = *Not at all*; 5 = *Completely*), which are combined for a total score. Evidence from several studies involving cross-national samples supports the validity (e.g. structural, convergent, discriminant) and internal consistency of scores on the EUROHIS-QOL (Power, 2003; da Rocha et al., 2012; Schmidt et al., 2006). In this study, ω_t for the EUROHIS-QOL ranged from .90 to .92 across the four assessments.

Acceptability and satisfaction

Four closed-ended items were used to assess participants' acceptability and satisfaction with the program. Items assessed participants' perceptions of the program (1 = *Very poor*; 7 = *Perfect*), how it compared to their prior therapeutic experiences (1 = *It was worse than any other I have had*; 7 = *It was better than any other I have had*), how they personally felt after completing the program (1 = *I feel worse*; 6 = *I feel a great deal better*), and whether they felt the program had assisted them with developing solutions to their problems (1 = *Definitely not*; 3 = *Yes*).

Statistical analyses

Preparatory analyses

Data were analyzed in R (R Core Team, 2018). Only those participants who completed the baseline assessment (T0) and the treatment program were included in the analysis (N = 72). A total of n = 64 completed the end of treatment assessment (T1); n = 52 completed the three-month follow-up (T2); n = 51 completed the six-month follow-up (T3); and n = 47

completed all three post-treatment assessments. Age, sex, and ethnicity were examined as potential predictors of non-response to post-treatment assessments using a series of multilevel logistic regression analyses with random intercepts. None predicted non-response (all *p*-values ≥ .161). Of the submitted surveys, missing data diagnostics revealed a negligible quantity of item-level values were missing (T0 = 0.23%; T1 = 0.05%; T2 = 0.42%; T3 = 0.13%). With the *missForest* package, a random forest multiple imputation approach (10,000 replications) was used to replace missing values (Stekhoven & Bühlmann, 2012). To assess the performance of this approach, the proportion of falsely classified values corresponding with each measurement point were reviewed. The estimated imputation error was low (T0 = .07; T1 = .02; T2 = .12; T3 = .03).

Multilevel modeling of dimensional outcomes

To assess the efficacy of the treatment program, a series of multilevel models were computed for each outcome variable (i.e. M-PTSD, anxiety, depression, and quality of life). All available outcome data were analyzed using multilevel modeling with maximum likelihood estimation via the *nlme* package, which is a useful approach for accommodating nested data structures. Because repeated measurement points (Level 1) were nested within individuals, and individuals (Level 2) were nested within therapy group (Level 3), a series of unconditional three-level models were estimated to decompose variance in the time-varying outcomes of M-PTSD, anxiety, depression, and quality of life between Level 1 (repeated measures), Level 2 (individuals), and Level 3 (therapy group). Intraclass coefficients (ICCs) representing the proportion of variance between individuals (ICCs ≥ .27) and therapy groups (all ICCs ≤ .06) indicated that a low proportion of variation occurred in the mean score of each outcome for all therapy groups. Nested model comparisons of the three-level and two-level unconditional means models for all outcomes indicated that inclusion of the Level 3 clustering effect did not improve model fit (all *p*-values ≥ .871). We proceeded by estimating two-level models consisting of repeated measures (Level 1) nested within individuals (Level 2).

We tested four separate multilevel models, with each outcome at T0, T1, T2, and T3 as the respective repeated measures. Time was treated as a categorical fixed effect consisting of four categories: baseline (T0), end of treatment (T1), three-month follow-up (T2), and six-month follow-up (T3). In each model, baseline was treated as the reference category, which represented the average initial self-reported outcome at T0. Dummy indicators for T1, T2, and T3 were used to estimate mean outcome differences between each post-treatment measure and baseline. Random clustering effects were specified at the individual level. Models included age as a time-varying covariate, whereas sex, race, military combat exposure measured at T0, and multimorbidity present at T0 were specified as time-invariant covariates. Multimorbidity (0 = *Absent*, 1 = *Present*) was defined as those who met commonly applied cutoff criteria on more than one of the clinical outcomes (i.e. M-PTSD, anxiety, depression). Because most of the sample (91.67%) had served in the military during the post-Vietnam or Persian Gulf eras, the clinical range of M-PTSD was defined as a score of ≥ 107 on the Mississippi PTSD (Bhattarai et al., 2020). A score of 10 is considered an optimal cutoff point for maximizing the sensitivity and specificity of both the GAD-7 and PHQ-9 (see Kroenke et al., 2007; Mitchell et al., 2016). Thus, a criterion of ≥ 10 was used to identify individuals who reported symptoms in the clinical range for anxiety and depression on the GAD-7 and PHQ-9, respectively. Sets of Wallyplots (Ekstrøm, 2014) were

generated to visually assess whether the residuals associated with each model adhered to assumptions of normality, linearity, and homoscedasticity. Plots suggested that all models complied appropriately with the aforementioned assumptions of multilevel modeling.

Clinically significant change

Two indices were used to evaluate clinically significant change in functioning from baseline to end of treatment and both follow-ups. First, the *recovery status* of participants at post-treatment assessments was evaluated against baseline caseness. Scores of ≥ 107 on the Mississippi PTSD (Bhattarai et al., 2020), ≥ 10 on the GAD-7 (Plummer et al., 2015), and ≥ 10 on the PHQ-9 (Levis et al., 2019) were used as the threshold values for determining M-PTSD, anxiety, and depression caseness, respectively. Participants who met criteria for caseness on a clinical outcome at baseline were classified as recovered if symptoms reported at post-treatment assessments were below the threshold for caseness. Second, *responder status* was used to evaluate clinically meaningful changes in functioning across multiple outcomes in combination. Participants were classified as responders if they reported a ≥ 20% reduction in symptoms from baseline on at least two of the three clinical outcomes.

Results

Multilevel modeling of dimensional outcomes

Descriptive statistics for each outcome across all measurement points are reported in Table 2. Using Cohen's (1988) classification of effect sizes, all within-subjects changes in outcomes from baseline to each of the post-treatment assessments were medium to large in effect size (see Table 2). Anxiety and depression displayed the largest effects. Somewhat smaller effects were found for M-PTSD and quality of life. Results of the multilevel model analyses for all outcomes are reported in Table 3. After controlling for relevant demographic characteristics, prior combat exposure, and baseline multimorbidity, significant improvements were evidenced for M-PTSD, anxiety, depression, and quality of life from baseline to end of treatment, three-month follow-up, and six-month follow-up (all *p*-values < .001). Overall, the results support post-therapeutic improvements in psychological symptoms and quality of life that were largely maintained at three- and six-month follow-up.

Table 2. Descriptive statistics for outcome variables across time.

	M-PTSD		Anxiety		Depression		Quality of life	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
T0 (*n* = 72)	91.22[a]	18.15	10.83[a]	5.69	11.89[a]	6.25	25.46[a]	5.95
T1 (*n* = 64)	80.38[b]	15.27	3.81[b]	3.03	5.06[b]	4.49	30.50[b]	5.09
T2 (*n* = 52)	79.33[b]	17.70	5.67[b]	4.19	6.27[b]	4.77	29.73[b]	5.53
T3 (*n* = 51)	80.80[b]	17.74	5.12[b]	3.98	6.04[b]	4.74	28.90[b]	5.57
	Cohen's *d* [95% CI]							
T0 vs. T1	−0.65 [−0.84, −0.46]		−1.54 [−1.98, −1.09]		−1.25 [−1.61, −0.89]		0.89 [0.65, 1.14]	
T0 vs. T2	−0.67 [−0.92, −0.42]		−0.96 [−1.39, −0.53]		−0.98 [−1.35, −0.61]		0.73 [0.44, 1.02]	
T0 vs. T3	−0.60 [−0.88, −0.32]		−1.07 [−1.48, −0.67]		−1.02 [−1.36, −0.67]		0.59 [0.34, 0.85]	

M-PTSD, military-related PTSD; T0, baseline; T1, end of treatment; T2, three-month follow-up; T3, six-month follow-up.
[a, b] T1, T2, and T3 differ significantly from T0 at $p < .001$, as indicated by paired samples *t*-tests.

Table 3. Parameter estimates for multilevel models of response to treatment.

	M-PTSD		Anxiety		Depression		Quality of life	
Parameter	Estimate (*SE*)	[95% CI]	Estimate (*SE*)	[95% CI]	Estimate (*SE*)	[95% CI]	Estimate (*SE*)	[95% CI]
Intercept	88.00*** (8.54)	[71.14, 104.85]	8.65*** (1.70)	[5.30, 12.00]	9.34*** (2.05)	[5.30, 13.39]	25.72*** (2.70)	[20.39, 31.05]
Age	0.19 (0.12)	[−0.06, 0.43]	0.03 (0.02)	[−0.02, 0.07]	0.07* (0.03)	[0.01, 0.12]	−0.02 (0.04)	[−0.10, 0.06]
Male	−8.60* (3.73)	[−16.05, −1.16]	−0.81 (0.74)	[−2.28, 0.66]	−1.04 (0.90)	[−2.83, 0.75]	0.97 (1.18)	[−1.39, 3.32]
Non-minority	−8.54 (5.92)	[−20.35, 3.28]	−0.88 (1.16)	[−3.20, 1.43]	−2.36 (1.41)	[−5.17, 0.45]	1.65 (1.87)	[−2.08, 5.38]
Multimorbidity	10.81** (3.32)	[4.18, 17.44]	4.61*** (0.65)	[3.32, 5.90]	5.97*** (0.79)	[4.40, 7.54]	−5.46*** (1.05)	[−7.56, −3.37]
Combat exposure	0.32* (0.16)	[0.01, 0.64]	0.00 (0.03)	[−0.06, 0.07]	−0.05 (0.04)	[−0.12, 0.03]	0.11* (0.05)	[0.01, 0.21]
T1	−10.70*** (1.53)	[−13.72, −7.68]	−6.92*** (0.75)	[−8.39, −5.45]	−6.71*** (0.77)	[−8.22, −5.19]	5.02*** (0.60)	[3.84, 6.20]
T2	−11.89*** (1.86)	[−15.57, −8.21]	−5.12*** (0.75)	[−6.60, −3.64]	−5.57*** (0.75)	[−7.06, −4.09]	4.34*** (0.70)	[2.96, 5.72]
T3	−10.97*** (2.12)	[−15.17, −6.78]	−5.59*** (0.75)	[−7.06, −4.11]	−5.77*** (0.73)	[−7.22, −4.32]	3.36*** (0.64)	[2.09, 4.62]

M-PTSD, military-related PTSD; T1, end of treatment; T2, three-month follow-up; T3, six-month follow-up. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 4. Clinical status of participants at end of treatment, three-month follow-up, and six-month follow-up.

	T0 to T1	T0 to T2	T0 to T3
Clinical status index	*n* (%)	*n* (%)	*n* (%)
Recovery status			
M-PTSD			
Not recovered	4 (30.77)	2 (22.22)	3 (30.00)
Recovered	9 (69.23)	7 (77.78)	7 (70.00)
Anxiety			
Not recovered	2 (5.71)	4 (14.29)	4 (15.38)
Recovered	33 (94.29)	24 (85.71)	22 (84.62)
Depression			
Not recovered	8 (20.51)	8 (25.00)	11 (35.48)
Recovered	31 (79.49)	24 (75.00)	20 (64.52)
Responder status			
Non-responders	16 (25.00)	20 (38.46)	19 (37.25)
Responders	48 (75.00)	32 (61.54)	32 (62.75)

M-PTSD, military-related PTSD; T0, baseline; T1, end of treatment; T2, three-month follow-up; T3, six-month follow-up.

Clinically significant change

Results of the clinically significant change analyses are reported in Table 4. A majority of the participants who met criteria for caseness at baseline attained recovery status at the end of treatment (M-PTSD = 69.23%; anxiety = 94.29%; depression = 79.49%). The percentages of participants who were categorized as recovered on each clinical outcome fluctuated at three- and six-month follow-up assessments, but recovery from baseline M-PTSD caseness (T2 = 77.78%; T3 = 70.00%), anxiety caseness (T2 = 85.71%; T3 = 84.62%), and depression caseness (T2 = 75.00%; T3 = 64.52%) remained high. Most participants were classified as responders at the end of treatment (75.00%), with somewhat lower percentages of participants found to have met the status of responder at both three- and six-month follow-ups (T2 = 61.54%; T3 = 62.75%).

Program acceptability and satisfaction

A majority of participants endorsed the terms *perfect* (20.63%) or *excellent* (52.38%) as descriptors of how they felt about the program (M = 5.73, SD = 0.99, range = 1–7). Most participants rated the treatment as *one of the best* (43.75%) or *better than any other* (43.75%) prior therapeutic experience they have had (M = 6.23, SD = 0.83, range = 1–7), and felt *a great deal better* (35.94%) or *a lot better* (34.38%) after completing the treatment (M = 4.91, SD = 1.11, range = 1–6). Nearly all of the participants (98.44%) felt the treatment had helped them to solve some of their problems (M = 2.95, SD = 0.18, range = 1–3).

Discussion

A growing body of literature supports the utility of experiential modalities for treating a range of psychological problems (see Elliott et al., 2004; Elliott et al., 2013), yet the efficacy of specific experiential treatments centered on psychodrama has yet to be explored in military samples. In this study, we conducted a preliminary investigation to estimate the medium-term clinical effects of a brief residential group experiential

treatment in military veterans. The results supported both hypotheses. Participants reported improvements in each area of psychological symptomology (i.e. M-PTSD, anxiety, depression) and overall well-being from baseline to the end of treatment, with therapeutic gains maintained at three- and six-month follow-ups.

The within-subjects changes in outcomes from baseline to end of treatment (d = |0.65 to 1.54|), three-month follow-up (d = |0.67 to 0.98|), and six-month follow-up (d = |0.59 to 1.07|) assessments revealed improvements in M-PTSD, anxiety, depression, and quality of life that were medium to large in effect size. Clinically significant change analyses involving recovery and responder status indices supported durable reductions in psychological symptoms from baseline to six-month follow-up. The amount of baseline to end-of-treatment change achieved was similar for anxiety, depression, and quality of life, but was smaller for M-PTSD, as compared to within-subjects changes reported in prior studies that have evaluated the efficacy of first-line treatment approaches (i.e. CPT, PE) for PTSD and related psychopathologies (e.g. Goodson et al., 2013; Monson et al., 2006; Nacasch et al., 2011; Rauch et al., 2015). A particularly promising finding of this study is that ≤ 30.77% of treatment completers retained their diagnostic status of M-PTSD at each post-treatment. This is lower than what has been reported in previous research that has evaluated the effectiveness of trauma-focused therapies (including gold-standard approaches) among military veterans (for a review, see Steenkamp et al., 2015). Although controlled designs are needed before more detailed comparisons can be made with alternative treatment approaches for targeting PTSD in military veterans, the change in diagnostic status trend found for M-PTSD in this study is noteworthy because longitudinal outcome studies involving therapeutic treatments for military veterans are underrepresented in the literature (see Steenkamp et al., 2015).

Another encouraging finding is the high proportion of participants who reported reliable improvements on two or more clinical outcomes at the end of treatment and follow-up assessments. The trend of therapeutic gains across multiple outcomes suggests that the group experiential therapy program has the potential to affect different symptoms (or symptom clusters). A prior study (Klontz et al., 2001) on the efficacy of this experiential treatment model found evidence of symptom changes in multiple clinical outcomes (e.g. anxiety, depression, obsessive-compulsive symptoms), but further research using gold-standard diagnostic methods (e.g. structured clinical interviews) is needed to determine the transdiagnostic utility of this particular treatment. With estimated lifetime triple comorbidity rates of PTSD, anxiety, and depression in military veterans approaching 50% (see Ginzburg et al., 2010), the group experiential approach may offer a fruitful avenue for effectively treating comorbid clinical conditions in this population.

The rate of client retention found for this treatment approach is also of interest. Although the participants in this study did not include all program attendees, each person who initiated the six-day treatment successfully completed it. The reported dropout rate of military veterans seeking mental health services in some studies has exceeded 38% (see Garcia et al., 2011; Kehle-Forbes et al., 2016), which provides some support for the structural setup of the experiential treatment model used in this study. The rate of client attrition found in this study also resonates with the notion that using brief, intensive approaches to treat mental health issues in military veterans may increase engagement and promote retention of those who seek support from mental health professionals (Watkins et al., 2018). Coupled with the high rate of acceptability and satisfaction with

the treatment reported by the participants, the results indicate that a follow-up randomized controlled study would be both feasible and warranted. Such a study should be sufficiently powered to detect medium to large effects and account for a sample attrition rate of approximately 30% from the point of consent.

Limitations and future research directions

The findings of this study are limited for several reasons. Although it is not uncommon for uncontrolled designs to be utilized when a sample of participants is selected from individuals who voluntarily sought a specific type of treatment, the implication of using a within-subjects pre-post design is that we were unable to empirically control for the potential effects of other factors (e.g. maturation, other in-patient experiences during the treatment) that might have affected the treatment outcomes. The methodological approach selected was considered an appropriate first step toward establishing the efficacy of the experiential treatment, but future randomized controlled studies are needed to provide conclusive evidence of the effectiveness of this treatment approach for military veterans. Receipt of other mental health services following the end of treatment was unrestricted and unmonitored. As a result, the extent to which maintenance of clinical improvements over time is attributable to alternative treatments is unknown. Assessments included a strategically selected set of measures that aligned with the targeted outcomes of the treatment program, but we did not screen or statistically control for other relevant variables (e.g. non-combat related PTSD) that have the potential to confound treatment effects. All outcomes were based entirely on self-report data, and it would be useful in subsequent research to acquire complementary behavioral, physiological, and multi-informant data alongside subjective ratings of functioning.

In the present study, we focused on outcome data rather than on attributes of participants, processes, or psychotherapist skills that might have influenced outcomes. It would be necessary for future research on the effectiveness of this experiential approach to explore psychological components (e.g. self-compassion) and therapeutic processes (e.g. flow of delivery of interventions) that may be involved in promoting therapeutic change, given the importance of further understanding the mechanisms of change that distinguish psychodrama treatments from traditional psychotherapies (Orkibi & Feniger-Schaal, 2019). A portion of program attendees did not consent to participate in the study, and there was an increase in non-response rate over time to approximately 30% at six-month follow-up. It is uncertain whether the clinical effects of the treatment were similar among program attendees who elected not to participate in the study and if the stability in outcomes observed over time were consistent among participants who did not complete one or more post-treatment assessments. The findings of this study also need to be interpreted in light of the small sample size, particularly descriptive trends that emerged when group comparisons involved variables (e.g. recovery status) that contained subgroups comprised of few participants. In short, although the results are promising, we await future randomized controlled trials prior to making definitive judgments about the efficacy of this therapeutic approach.

Conclusion

In an uncontrolled field trial, we found preliminary evidence that the group experiential treatment approach was effective in reducing psychological symptoms and improving quality of life in a sample of military veterans. Durable and clinically significant therapeutic gains were found for all outcomes, with effect sizes from baseline to each post-treatment assessment ranging from medium to large. The treatment approach was acceptable to participants, received high satisfaction ratings, and achieved a high level of engagement. The experiential treatment offers a promising therapeutic approach for supporting the mental health of military veterans. However, further research using methodologically rigorous designs is needed to test the replicability of the findings and perhaps build on the emerging evidence that supports the efficacy of this and other experiential treatments that are centered on psychodrama.

Disclosure statement

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