

CREATIVE FORCES

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Includes Published Research and Scholarly Manuscripts Pending Publication

November 2020

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Author(s)	Berberian, M., Walker, M. S., & Kaimal, G. Marygrace Berberian, Melissa S. Walker, Girija Kaimal
Publication Date	2018
Title	"Master My Demons:" Art Therapy Montage Painting by Active-Duty Military Service Members with Traumatic Brain Injury and Post-Traumatic Stress
Publisher	Medical Humanities
Vol/Issue/Pages	<i>45</i> , 353-360.
Link	https://www.ncbi.nlm.nih.gov/pubmed/30077986
Abstract	This study involved a thematic analysis of montage paintings and of related clinical records of 240 active duty military service members collected during their art therapy treatment for traumatic brain injury (TBI) and underlying psychological health concerns, including post-traumatic stress, at the National Intrepid Center of Excellence, Walter Reed National Military Medical Center, Bethesda, MD. Congruent with other research findings, the qualitative analyses of this study suggest that the group art therapy experiences fostered improvement in interpersonal relatedness, hopefulness and gratification for the service members in treatment, aiding in externalization, progressive exposure and construction of a trauma narrative imperative for recovery. The mixed media nature of the montage painting supported the expression of a range of post-combat symptoms. Results from this study highlighted the complexity of military culture, necessitating a broader scope of analyses for how art therapy helps service members express and communicate their challenges to care providers, peers and family as well as regulate emotion in the short and long term.
Population Studied	Service members in art therapy treatment at the National Intrepid Center of Excellence (NICoE); N=240
Treatment	Art therapy; integrated medicine; standalone treatment; group art therapy sessions in week four of 4-week program
Study Design	Grounded theory thematic analysis of content in montage painting and clinical notes created by art therapist
Measures	Measures: Images and clinical notes

Author(s)	Jones, J. P., Drass, J. M., & Kaimal, G.
, aution (3)	Jaqueline P. Jones, Jessica M. Drass, Girija Kaimal
Publication Date	2019
Title	Art Therapy for Military Service Members with Post-Traumatic Stress and Traumatic Brain Injury: Three Case Reports Highlighting Trajectories of Treatment and Recovery
Publisher	The Arts in Psychotherapy (Impact factor = 1.4)
Vol/Issue/Pages	63
Link	https://www.sciencedirect.com/science/article/pii/S0197455618301540
Abstract	Advances in both military and medical technology have led to decreased mortality rates among military service personnel in the United States, yet have led to an increase in occurrences of traumatic brain injuries and posttraumatic stress disorder in military service personnel, often resulting in prolonged unresolved symptoms. The purpose of this article is to illustrate the implementation and effects of an art therapy program on military service personnel attending an outpatient military treatment facility. To this end, we present case reports of three military service personnel diagnosed with comorbid traumatic brain injury and post-traumatic stress and describe their participation in the art therapy program at Intrepid Spirit One, the National Intrepid Center of Excellence satellite site at Fort Belvoir Community Hospital. Through discussion of the therapist's subjective observations, as well as the patients' visual art productions and their personal verbal and written reflections on their experiences in art therapy and, eventually, on community art programs, this article highlights how art therapy was used to treat military trauma as part of a comprehensive integrative treatment program. The cases highlight how participation in a long-term, stage- based, structured art therapy program (through both group and individual sessions), enabled military service personnel to identify and articulate the complexity of their lingering trauma symptoms, fostering improvement in their communication with other treatment providers and loved ones, which, in turn, led to improvements in their overall quality of life.
Population Studied	Active duty service members with TBI and PTS in art therapy treatment in a comprehensive
	integrated outpatient care setting; N=3
Treatment	Art therapy; integrated medicine
Study Design	Case summaries
Measures	The Diagnostic Drawing Series; Graphic Narrative; Intensive Trauma Therapy; Signature Strengths Test

Author(s)	Jones, J. P., Walker, M. S., Drass, J. M., & Kaimal, G.
	Jacqueline P. Jones, Melissa S. Walker, Jessica M. Drass, Girija Kaimal
Publication Date	2018
Title	Art therapy interventions for active duty service members with post-traumatic stress disorder and traumatic brain injury
Publisher	International Journal of Art Therapy
Vol/Issue/Pages	23(2), 70-85
Link	https://www.tandfonline.com/doi/full/10.1080/17454832.2017.1388263
Abstract	This paper provides an overview of short and long-term art therapy treatment approaches, used in the USA, for military service members with post-traumatic stress disorder and traumatic brain injury. The described clinical approaches are based on the theoretical foundations and the art therapists' experiences in providing individualised care for the unique needs of the patient population. The art therapy models and directives are designed to be more therapist-led in the short-term model, moving on to an increasingly patient-led format in the long-term treatment model. The overall objectives of art therapy are: to support identity integration, externalisation, and authentic self-expression; to promote group cohesion; and to process grief, loss, and trauma. In addition, programme evaluation is used in both settings as a means to understand participants' experiences and the perceived value of art therapy.
Population Studied	Military service members with TBI and PTS
Treatment	Art therapy; integrated medicine; standalone treatment
Study Design	Clinical practice paper
Measures	Description of art therapy clinical practice and use of evaluation in two settings

Author(s)	Kaimal, G., Jones, J. P., Dieterich-Hartwell, R. M., Acharya, B., & Wang, X.
	Girija Kaimal, Jacqueline P. Jones, Rebekka Dieterich-Hartwell, Binod Acharya, Xi Wang
Publication Date	2019
Title	Evaluation of Long- and Short-Term Art Therapy Interventions in an Integrative Care Setting for Military Service Members with Post-Traumatic Stress and Traumatic Brain Injury
Publisher	The Arts in Psychotherapy (Impact factor = 1.4)
Vol/Issue/Pages	<i>62,</i> 28-36
Link	https://www.sciencedirect.com/science/article/pii/S0197455618301321
Abstract Population Studied	 Background: Program evaluations can serve as a doorway to research in the creative arts therapies. This study provides findings from analyses of participant feedback on short- and long- term art therapy services for military service members with post-traumatic stress and traumatic brain injury (TBI). Methods: Data for the study included feedback surveys from 204 service members who received art therapy services as part of treatment at an integrative care setting. Results: The results indicate that long-term art therapy resulted in higher satisfaction with treatment. Art therapy helped most with developing a sense of self after injury, experiencing positive emotions, processing trauma, and reducing feelings of guilt, grief, and loss. There were no statistically significant differences in outcomes based on rank or severity of TBI, but art therapy services were found to be related to improved symptoms for service members with longer times in service. Implications: The feedback from evaluation helps identify potential areas for further research on how art therapy addresses issues of identity, time in service and experiences of emotions as a result of post-traumatic stress and TBI. Evaluation provides directions for further clinical treatment and yields data on improving quality of care.
•	Active duty military service members with TBI and PTS; N=204
Treatment	Art therapy; integrated medicine
Study Design	Program evaluation, mixed methods
Measures	Evaluation of long-term art therapy clinical practice

Author(s)	Kaimal, G., Walker, M. S., Berberian, M. G., Herres, J. M. & DeGraba, T. M. Girija Kaimal, Melissa S. Walker, Marygrace Berberian, Joanna Herres, Thomas J. DeGraba
Publication Date	2020
Title	Examining Associations Between Montage Painting Imagery and Symptoms of Depression and Posttraumatic Stress Among Active-Duty Military Service Members
Publisher	Psychology of Aesthetics, Creativity, and the Arts
Vol/Issue/Pages	Advance online publication
Link	https://psycnet.apa.org/fulltext/2020-40994-001.pdf
Abstract	Art therapy has traditionally been used as a treatment approach but it can also be applied successfully as a clinical behavioral health assessment tool in the care of military service members suffering from the effects of traumatic brain injury (TBI) and operational stressors. This observational study examined patterns of associations between visual imagery (mask and montage paintings) and clinical symptoms among 240 active-duty military service members with TBI, and associated psychological health conditions to include posttraumatic stress disorder (PTSD). The service members had participated in a 4-week intensive outpatient assessment and treatment program at the Walter Reed National Military Medical Center in the United States. Themes seen in the visual imagery were examined in correlation with standardized measures of PTSD (Posttraumatic Stress Disorder Checklist: Military Version) and depressive symptoms (Patient Health Questionnaire-9). The analysis showed that certain themes, like the use of color symbolism to depict psychological states, were associated with greater PTSD and depressive symptoms at the beginning of the program. In addition, patients who depicted themes like physical injury, psychological injury, and memories of deployment in Week 1 of the program were more likely to continue to represent them in Week 4. Depiction of themes like color metaphors and duality was associated with lower depressive symptoms at the end of the program. The findings indicate the potential clinical and prognostic value of tracking the content of visual imagery created by military service members with TBI and associated psychological health conditions. Clinical applications include the recognition that certain visual themes could indicate higher or lower levels of distress and may help guide targeted care.
Treatment	Art therapy; integrated medicine
Study Design	Observational study
Measures	The scales for posttraumatic stress and depression, the PTSD Checklist (PCL) for the Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM–5) and the Patient Health Questionnaire-9

Author(s)	Kaimal, G., Walker, M. S., Herres, J., French, L. M., & DeGraba, T. J. Girija Kaimal, Melissa S. Walker, Joanna Herres, Louis M. French, Thomas J. DeGraba
Publication Date	2018
Title	Associations Between Visual Imagery and Measures of Depression, Anxiety, and Post- Traumatic Stress Among Active-Duty Military Service Members with Traumatic Brain Injury
Publisher	BMJ Open (Impact factor = 2.4)
Vol/Issue/Pages	8
Link	https://bmjopen.bmj.com/content/8/6/e021448
Abstract	 Objectives: To compare recurring themes in the artistic expression of SMs with PTSD, TBI, and PH conditions with measurable psychiatric diagnoses. Affective symptoms and struggles related to verbally expressing information can limit communication in individuals with post-traumatic stress symptoms and deployment-related health conditions. Visual self-expression through art therapy is an alternative way for military service members (SMs) with post-traumatic stress disorder (PTSD), and other psychological health (PH) conditions to communicate their lived experiences. This study offers the first systematic examination of associations between visual self-expression and how it relates to standardized clinical self-report measures. Primary Outcomes: Associations between scores on the PTSD Checklist –Military (PCL-M), the Patient Health Questionnaire-9, and the Generalized Anxiety Disorder 7-item scale on visual themes in depictions of aspects of individual identity (psychological injury, military symbols, military identity and visual metaphors). Results: Comparisons of the visual and clinical data indicate that SMs who depicted psychological injury also had higher scores for post-traumatic stress and depression. However, the depiction of military unit identity, nature metaphors, sociocultural metaphors, and cultural and historical characters was associated with lower post-traumatic stress, depression, and anxiety scores. Similarly, the use of color-related symbolism and fragmented military symbols was associated with higher anxiety, depression, and post-traumatic stress scores. Conclusions: There are emergent patterns of resilience and risk embedded in the use of images created by the participants, which in turn could provide valuable information for patients, clinicians and caregivers serving this population.
Population Studied	Active duty military service members with a history of TBI, PTS and related psychological health conditions receiving treatment at the National Intrepid Center of Excellence (NICoE); N=370
Treatment	Art therapy; integrated medicine; standalone treatment. The images used for analysis were created by the SMs in the form of masks during art therapy sessions in week 1 of a 4-week integrative treatment program.
Study Design	ANCOVA and correlational analysis of data on clinical symptoms of posttraumatic stress, depression, and anxiety compared with visual themes in mask imagery
Measures	Themes in masks, PTSD Checklist–Military (PCL-M), Patient Health Questionnaire-9, Generalized Anxiety Disorder 7-item scale

Author(s)	Landless, B. M., Walker, M. S., & Kaimal, G. Bronwen M. Landless, Melissa S. Walker, Girija Kaimal
Publication Date	2018
Title	Using Human and Computer-Based text Analysis of Clinical Notes to Understand Military Service Members' Experiences with Therapeutic Writing
Publisher	The Arts in Psychotherapy (Impact factor = 1.4)
Vol/Issue/Pages	62, 77-84
Link	https://doi.org/10.1016/j.aip.2018.10.002
Abstract	 Background: Therapeutic writing interventions have been shown to improve both physical health and emotional well-being. This brief report examines the usefulness of clinical notes as a data source and presents two different analyses of individual clinical notes of therapeutic writing group sessions: analysis performed by a person and analysis by a computer-based program (Pennebaker, Booth, Boyd & Francis, 2015). Method: The therapeutic writing sessions were offered during the second week of treatment at the National Intrepid Center of Excellence (NICOE) as part of an integrative care model for service members (SMs) with TBI and PTS. The sessions were documented in the military healthcare system's patient record application by the art therapist and art therapy interns at the NICOE. Clinical notes were informed by SM self-report surveys and clinician observations. Notes from May 2012 to 2015 and were pulled and coded manually for emerging themes, then separately analyzed by a computer software text content analysis program (Pennebaker et al., 2015). Results: Overall, SMs reported more positive than negative, neutral, or mixed emotions during and after the therapeutic writing experience. Some reported a change from negative to positive emotions through the writing process, and many described experiencing relief during and after sessions. SMs wrote on a wide range of topics. Most SMs kept their writing pieces, although some destroyed them or shared them with others, and a few SMs gifted the pieces. Computerized-based analysis (Pennebaker et al., 2015) indicated that work and social were the most prominent content theme areas. It also showed that positive emotions were more evident than negative emotions in the clinical notes and that the focus of the notes was primarily on the present rather than on the past or the future. Implications: Many SMs perceived the therapeutic writing experience as therapeutic, a relevant coping skill, and enjoyable. Some, however, preferred to work on
Population Studied	Service members with TBI and/or PTS at the National Intrepid Center of Excellence (NICoE); N=200
Treatment	Therapeutic/expressive writing; integrated medicine; standalone treatment
Study Design	Qualitative (thematic analysis)
Measures	Clinical notes, tallies of qualitative themes generated through LIWC

Author(s)	Maltz, B., Hoyt, T., Uomoto, J., & Herodes, M.
	Brenda Maltz, Tim Hoyt, Jay Uomoto, Megan Herodes
Publication Date	2020
Title	A Case Analysis of Service Member Trauma Processing Related to Art Therapy within a Military-Intensive Outpatient Program
Publisher	Journal of Clinical Psychology
Vol/Issue/Pages	Advance online publication
Link	https://onlinelibrary.wiley.com/doi/full/10.1002/jclp.22929
Abstract	Objectives: Art therapy has been widely used in clinical settings and has shown preliminary success in military trauma. This case study describes a mask-making art therapy directive facilitated by a board-certified art therapist as an adjunct to group posttraumatic stress disorder (PTSD) treatment in a military intensive outpatient program. Methods: Described are clinical outcome measures, linguistic analysis of a personal journal, evaluation of this servicemember's artwork, and experiences in the program. Results: Mask-making, as a trauma-focused group art therapy directive, expanded the understanding of treatment progress reflected in journal notes, mask imagery, and by a change in linguistic indices of trauma processing, despite an overall increase in PTSD symptoms as he confronted his traumatic experiences. He reported improvement in coping and successfully returned to full military duty following treatment. Conclusions: This case study suggests that art therapy and written narrative, combined with standardized self-report assessments, may more accurately indicate improvement in overall PTSD treatment.
Population Studied	Active-duty Navy Senior Chief Petty Officer; N=1
Treatment	Two sequential courses of intensive outpatient group-based treatment
Study Design	Qualitative (case study)
Measures	Clinical notes, BASIS-24, Behavior and Symptom Identification Scale-24 Overall Score; PCL-5, PTSD Checklist for DSM-5; PHQ-9, Patient Health Questionnaire-9; PTSDT, posttraumatic stress disorder track; SRT, skills and resiliency track

Author(s)	Walker, M. S., Kaimal, G., Gonzaga, A. M. L., Myers-Coffman, K. A., & DeGraba, T. J. Melissa S. Walker, Girija Kaimal, Adele M. L. Gonzaga, Katherine A. Myers-Coffman, Thomas J. DeGraba
Publication Date	2017
Title	Active-Duty Military Service Members' Visual Representations of PTSD and TBI in Masks
Publisher	International Journal of Qualitative Studies on Health and Well-being
Vol/Issue/Pages	12(1)
Link	https://www.tandfonline.com/doi/abs/10.1080/17482631.2016.1267317
Abstract	Active-duty military service members have a significant risk of sustaining physical and psychological trauma resulting in traumatic brain injury (TBI) and post-traumatic stress disorder (PTSD). Within an interdisciplinary treatment approach at the National Intrepid Center of Excellence, service members participated in mask making during art therapy sessions. This study presents an analysis of the mask-making experiences of service members (n=370) with persistent symptoms from combat- and mission-related TBI, PTSD, and other concurrent mood issues. Data sources included mask images and therapist notes collected over a five-year period. The data were coded and analyzed using grounded theory methods. Findings indicated that mask making offered visual representations of the self-related to individual personhood, relationships, community, and society. Imagery themes referenced the injury, relational supports/losses, identity transitions/questions, cultural metaphors, existential reflections, and conflicted sense of self. These visual insights provided an increased understanding of the experiences of service members, facilitating their recovery.
Population Studied	Active duty service members; N=370
Treatment	Art therapy; integrated medicine; standalone treatment; group art therapy sessions in week 1 of 4-week program medicine
Study Design	Grounded theory thematic analysis of content in masks and clinical notes created by art therapist
Measures	Images and clinical notes

Author(s)	Walker, M. S., Kaimal, G., Koffman, R., & DeGraba, T. J.
	Melissa S. Walker, Girija Kaimal, Robert Koffman, Thomas J. DeGraba
Publication Date	2016
Title	Art Therapy for PTSD and TBI: A Senior Active Duty Military Service Member's Therapeutic Journey
Publisher	The Arts in Psychotherapy (Impact factor = 1.4)
Vol/Issue/Pages	49(2), 10-16
Link	https://www.sciencedirect.com/science/article/pii/S0197455616300636
Abstract	Art therapy is increasingly being accepted as a form of complementary and integrative care for military veterans affected by trauma and injuries in the line of duty. Less is known, however, about the applications of art therapy for co-morbid traumatic brain injury (TBI) and post-traumatic stress disorder (PTSD). In addition, most studies to date have focused on art therapy with veterans (former military service members) rather than with active duty service members. Furthermore, there are no studies that have examined the unique context of PTSD in senior military personnel. This case study presents the therapeutic process through art therapy in the case of a senior active duty military service member (with chronic PTSD and TBI) in the context of an integrated model of care that included medical and complementary therapies.
Population Studied	Senior active duty military service member; N=1
Treatment	Art therapy; integrated medicine, standalone treatment: The patient underwent a series of treatments, including complementary and integrative therapies, and medical and psychiatric care.
Study Design	Case study
Measures	Images and clinical notes

Author(s)	Walker, M. S., Stamper, A. M., Nathan, D. E., & Riedy, G.
	Melissa S. Walker, Adrienne M. Stamper, Dominic E. Nathan, Gerard Riedy
Publication Date	2018
Title	Art Therapy and Underlying fMRI Brain Patterns in Military TBI: A Case Series
Publisher	International Journal of Art Therapy
Vol/Issue/Pages	23(4), 180-187
Link	https://www.tandfonline.com/doi/full/10.1080/17454832.2018.1473453?scroll=top&needA ccess=true
Abstract	TBI and PTSD are global issues and are often referred to as signature wounds of the Iraq and Afghanistan wars. Art therapy can provide unique insights into military service members' injuries and states of mind via externalization within an art product; however, interpretation of results is complex and subjective. Advance neuroimaging tools such as resting state fMRI can be employed to demonstrate objective measures of brain structure and activity. This case series highlights two distinct patient profiles, suggesting a relationship between resting state connectivity maps and dynamic thalamic connectivity (as well as PCL-C and NSI scores and brain scars) and the corresponding visual elements of masks made during art therapy treatment. Ultimately, this study indicates a need for future research examining potential neurological changes pre- and post-art therapy treatment.
Population Studied	Service members in treatment at the National Intrepid Center of Excellence (NICoE); N=10
Treatment	Art therapy; integrated medicine; standalone treatment; group art therapy sessions in week 1 of 4-week NICoE program; neuroimaging
Study Design	Case series; between-group comparisons of data on clinical symptoms, neuroimaging and visual themes in masks and correlational analysis
Measures	Correlational study of service member art therapy products and fMRI (thalamic and default mode network activity, brain scar totals) as well as PCL-M/NSI outcomes; art therapy product images, NSI and PCL-M scores, fMRI neuroimaging

CREATIVE FORCES Art Therapy Pending Scholarly Manuscripts

Author(s)	Kaimal, G., Jones, J. P., Dieterich-Hartwell, R. M., & Wang, X. Girija Kaimal, Jacqueline P. Jones, Rebekka M. Dieterich Hartwell, Xi Wang
Publication Date	In Press
Title	Long-Term Art Therapy Clinical Interventions with Military Service Members with Traumatic Brain Injury and Post-Traumatic Stress: Findings from a Mixed Methods program evaluation study
Publisher	Journal of Military Psychology
Vol/Issue/Pages	N/A
Link	Forthcoming
Abstract	Art therapy has been found to help veterans with symptoms of post-traumatic stress. There is however limited scholarship on the differences in outcomes based on dosage (short-term vs. long-term treatment) especially for active duty military service members (SMs). This mixed methods program evaluation study examined feedback from SMs on their experiences of art therapy in an integrative medical care center after 3 weeks of group therapy and at the end of treatment (average time of 2 years). Data included participant demographics, feedback surveys and narrative responses from SMs experiences of art therapy. The results indicate that longer-term art therapy resulted in improved perceived outcomes compared with the short-term 3-week intervention. SMs with longer time in service reported the most improved self-reported outcomes. Women SMs expressed more positive emotions during their art making. Specific themes that were effectively addressed through art therapy included frustration tolerance, grief and loss, emotion regulation, personal insight, resiliency, and trauma processing. SMs also highlighted the unique and transformative role of the relationship with the therapist with alleviation of symptoms. The findings suggest benefits to long-term art therapy including improved ability in SMs to be aware of their symptoms and communicate effectively with others.
Population Studied	Service members in treatment at an integrative medical care center
Treatment	Art therapy in an integrative medical care center after 3 weeks of group therapy
Study Design	Mixed methods program evaluation study
Measures	Participant demographics, feedback surveys and narrative responses from SMs experiences of art therapy

Author(s)	Bradt, J., Biondo, J., & Vaudreuil, R.
	Joke Bradt, Jacelyn Biondo, Rebecca Vaudreuil
Publication Date	2019
Title	Songs Created by Military Service Members in Music Therapy: A Retrospective Analysis
Publisher	The Arts in Psychotherapy (Impact factor = 1.4)
Vol/Issue/Pages	62; 19-27
Link	https://www.sciencedirect.com/science/article/pii/S0197455618301916
Abstract	A successful transition to civilian life is challenging for many service members returning from deployment. Psychological and physical injuries may hamper successful reintegration into home life and communities and, as a result, many service members report feeling lonely, isolated and misunderstood. This study analyzed 14 songs written by 11 active-duty service members with post-traumatic stress disorder, mild traumatic brain injury, and psychological health conditions, who received music therapy services at the National Intrepid Center of Excellence, a Directorate of Walter Reed National Military Medical Center in the United States of America. Service members wrote songs over the course of two or more individual music therapy sessions. Latent thematic analysis of the song lyrics yielded four main themes: (a) personal struggles and barriers to recovery, (b) moving forward, (c) relational challenges, and (d) positive relationships and support. The songs offer a window into service members' lived experiences of military service, injury, recovery, homecoming, and transition from active-duty. Songwriting enabled service members to share their thoughts, emotions, fears and hopes with family, friends and other providers, often for the first time, and as such played an important role in their personal growth and recovery process. This is the first study to examine the therapeutic benefits of songwriting in a military population.
Population Studied	Active duty service members in music therapy treatment at NICoE; N=11
Treatment	Music therapy standalone; each patient who wrote a song in music therapy received at least 2-3 individual music therapy sessions to complete songwriting/recording projects
Study Design	Thematic analysis and correlational analyses
Measures	Thematic analysis of songs written by service members and clinical notes of the songwriting sessions to support examination of associations between identified themes and patient clinical and demographic characteristics

Author(s)	Bronson, H., Vaudreuil, R., & Bradt, J.
	Hannah Bronson, Rebecca Vaudreuil, Joke Bradt
Publication Date	2018
Title	Music Therapy Treatment of Active Duty Military: An Overview of Intensive Outpatient and Longitudinal Care Programs
Publisher	Music Therapy Perspectives
Vol/Issue/Pages	36(2), 195-206
Link	https://academic.oup.com/mtp/advance-article- abstract/doi/10.1093/mtp/miy006/4945362
Abstract	In recent years, there has been increased demand for music therapy services within military treatment facilities to treat combat-related injuries. This demand is partly due to increased research output related to music interventions in neuro-rehabilitation as well as an increased prevalence of signature injuries including traumatic brain injury and posttraumatic stress disorder for which interdisciplinary patient-centered care is recommended. The complexity of traumatic brain injury, posttraumatic stress, and military service itself presents challenges for music therapist when creating patient-centered program models. As military healthcare increases access to new treatments as a standard of care, it is important for music therapists to provide descriptions of effective treatment models in military settings. Outlining established music therapy models of care is essential to the successful addition of music therapy in the treatment of service members' complex injuries. This paper outlines current program models at two facilities, the National Intrepid Center of Excellence at Walter Reed National Military Medical Center and Intrepid Spirit Center at Fort Belvoir.
Population Studied	Military service members
Treatment	Music therapy; integrated medicine; standalone treatment
Study Design	Clinical practice paper: Description of clinical practice
Measures	N/A

Author(s)	Gooding, L. F, & Langston, D. G.
	Lori F. Gooding, Diane G. Langston
Publication Date	2019
Title	Music Therapy with Military Populations: A Scoping Review
Publisher	Journal of Music Therapy
Vol/Issue/Pages	56(4), 315–347
Link	https://academic.oup.com/jmt/article/56/4/315/5614310
Abstract	Music therapy treatment is increasingly being used to promote health, enhance quality of life, and improve functioning in military personnel, but evidence on the use of music interventions with military service members is still emerging. The purpose of this scoping review was to synthesize the available literature regarding music therapy treatment with military personnel by identifying the types of information available, key characteristics, and gaps in the knowledge base. The review was completed using the methodological framework proposed by Arksey and O'Malley. A total of 27 publications met the criteria for review. The results included anecdotal reports, white papers/ briefs, case studies, historical reviews, clinical program descriptions, and research studies. Both active duty and veteran service members were represented in the literature, and post-traumatic stress disorder and traumatic brain injury were the most commonly listed conditions among those served. Music therapy services were offered in both group and individual formats, and drumming was the most common music intervention cited. Most publications accurately represented music therapy, and the historical reviews highlighted the connection between the development of the field of music therapy and the use of music with military personnel. Several gaps were identified, including a lack of specificity in reporting, low levels of evidence, and limited inclusion of women service members.
Population Studied	Active duty and veteran service members
Treatment	Music therapy
Study Design	Scoping review of literature
Measures	Scoping review methodological framework proposed by Arksey and O'Malley

Author(s)	Vaudreuil, R., Avila, L., Bradt, J., & Pasquina, P.
	Rebecca Vaudreuil, Luis Avila, Joke Bradt, Paul Pasquina
Publication Date	2018
Title	Music Therapy Applied to Complex Blast Injury in an Interdisciplinary Model: A Case Report
Publisher	The Journal of Disability and Rehabilitation (Impact factor = 1.8)
Vol/Issue/Pages	41(19), 2333-2342
Link	https://www.tandfonline.com/doi/full/10.1080/09638288.2018.1462412
Abstract	 Purpose: Music therapy has a long history of treating the physiological, psychological, and neurological injuries of war. Recently, there has been an increase in the use of music therapy and other creative arts therapies in the care of combat injured service members returning to the United States from Iraq and Afghanistan, especially those with complex blast-related injuries. This case report describes the role of music therapy in the interdisciplinary rehabilitation of a severely injured service member. Methods: Music therapy was provided as stand-alone treatment and in co-treatment with speech language pathology, physical therapy, and occupational therapy. The report is based on clinical notes, self-reports by the patient and his wife, and interviews with rehabilitation team members. Results: In collaboration with other treatment disciplines, music therapy contributed to improvements in range of motion, functional use of bilateral upper extremities, strength endurance, breath support, articulation, task-attention, compensatory strategies, social integration, quality of life, and overall motivation in the recovery process. The inclusion of music therapy in rehabilitation was highly valued by the patient, his family, and the treatment team. Conclusions: Music therapy has optimized the rehabilitation of a service member through assisting the recovery process on a continuum from clinic to community.
Population Studied	Military service member in ongoing rehabilitation from complex blast injury; N=1
Treatment	Music therapy; integrated medicine, standalone treatment; the patient received ongoing treatment, including 2+ years of integrated and stand-alone music therapy services
Study Design	Case report
Measures	Clinical data, self-reports by patient and family, interviews with rehabilitation team members

Author(s)	Vaudreuil, R., Biondo, J., & Bradt, J. Rebecca Vaudreuil, Jacelyn Biondo, Joke Bradt
Publication Date	2020
Title	Music Therapy with Active-Duty Service Members: Group Protocol Description and Secondary Analysis of Protocol Evaluations
Publisher	Music Therapy Perspectives
Vol/Issue/Pages	38(2), 167–177
Link	https://academic.oup.com/mtp/article/38/2/167/5813537?guestAccessKey=3e391a90-ad1f- 4da9-9352-96c8f2d9036ehttps://academic.oup.com/mtp/advance- article/doi/10.1093/mtp/miaa006/5813537
Abstract	Based on the growing need for music therapy programming at military treatment facilities and clinics that specialize in the rehabilitation of service members, this article describes a music therapy group protocol and the findings of 201 post-session evaluations. In addition, we present clinical perspectives and recommendations from three music therapists who have facilitated this group protocol on four military bases across the United States. The group session outlined in the protocol is intended as an introduction to music therapy. It familiarizes service members to various music therapy experiences structured specifically to enhance feelings of safety during emotional risk-taking. In addition, the protocol functions as an initial assessment of service members' responses to the various receptive and interactive music experiences and includes psychoeducation regarding the role of music therapy in an interdisciplinary treatment model. The post-session evaluation data suggest that service members endorsed this introductory group as moderately to very helpful. Perceived benefits included the opportunity to express various emotions and increased awareness of somatic responses through music. A large number of requests for continued music therapy services following the introductory session suggest that the protocol is successful in facilitating understanding in service members regarding the potential treatment benefits of music therapy in an interdisciplinary care setting. Feedback from the music therapists indicated that the group protocol is a helpful initial experience for service members to acclimate to music therapy, and for music therapists to learn about their patients' specific needs and inform subsequent treatment.
Population Studied	Active duty service members in music therapy treatment at NICoE; N=201
Treatment	Music therapy standalone; each patient received this session once; one year's worth of evaluations inclusive of January 1, 2016, through December 31, 2016
Study Design	Program evaluation
Measures	The Introduction to Music Therapy Group Session form, a self-report form included in the NEA evaluation toolkit

Author(s)	Vaudreuil, R., Bronson, H., & Bradt, J. Rebecca Vaudreuil, Hannah Bronson, Joke Bradt
Publication Date	2019
Title	Bridging the Clinic to Community: Music Performance as Social Transformation for Military Service Members
Publisher	Frontiers in Psychology
Vol/Issue/Pages	10
Link	https://www.frontiersin.org/articles/10.3389/fpsyg.2019.00119/full
Abstract	The use of musical performance in music therapy with active duty military service members is discussed as a vehicle for social transformation and re-integration. The use of musical performance in music therapy is not without controversy. Therapy is considered a process, not a product, and essential components of this therapeutic process are confidentiality and privacy. However, others have argued that public performances can validate therapeutic changes in clients, give voice to clients' experiences, raise awareness of social issues within their community, transform perceptions of disability or illness in audience members, and provide opportunities to receive support and validation from the community. We discuss the potential of musical performances to contribute to individual development and rehabilitation in active duty service members as well as facilitate change at the community level. We illustrate this through three brief case reports of active duty service members who received music therapy services at the National Intrepid Center of Excellence on base at Walter Reed National Military Medical Center in the USA as part of their treatment of Post-Traumatic Stress Disorder, Traumatic Brain Injury, and other psychological health concerns. The service members selected, learned and refined songs over multiple music therapy sessions, created introductions to each song to share with the audience the meaning of each song and the benefits gained from working with these songs in therapy. The case reports also include excerpts of interviews conducted with these service members several months following their performances about their experiences of the performances themselves and the perceived impact on the community.
Population Studied	Active duty service members in music therapy treatment at NICoE; N=2
Treatment	Music therapy standalone; at least two sessions with each patient
Study Design	Case report
Measures	Patient reports of song selection, symbolism, and performance experiences to enhance understanding of the impact of performance integrated into music therapy sessions and service member preparation for and participation in NICoE Creative Arts Café; Clinical commentary, patient interviews, documentation, performance observation

Author(s)	Vaudreuil, R., Langston, D. G., Magee, W. L., Betts, D. J., Kass, S., & Levy, C.
	Rebecca Vaudreuil, Diane Langston, Wendy Magee, Donna Betts, Sara Kass, Chuck Levy
Publication Date	2020
Title	Implementing Music Therapy through Telehealth: Considerations for Military Populations
Publisher	Disability and Rehabilitation: Assistive Technology
Vol/Issue/Pages	Online publication
Link	https://www.tandfonline.com/doi/full/10.1080/17483107.2020.1775312
Abstract	Telehealth provides access to psychotherapeutic interventions and psychoeducation for remote populations that may have limited access to in-person rehabilitation treatments. This paper explores the use of telehealth to facilitate music therapy with service members and veterans living in rural areas across the U.S. and reviews research regarding creative arts therapies delivered through telehealth. The existing evidence base is predominantly focused on art and dance movement therapies and includes little information about music therapy. However, music therapists have begun to use telehealth in clinical and community environments to increase access for remote patients. This article reports on the integration of telehealth and music therapy and presents facilitation techniques of didactic and applied clinical music experiences. This is accomplished through the review of current research, addressing knowledge gaps, and reviewing the evolving models of creative arts therapies delivered through telehealth for military populations.
Population Studied	Veterans who transferred from the National Intrepid Center of Excellence and were in treatment through the Malcom Randall VA in Gainesville, FL.
Treatment	Music therapy; telehealth; individual and group sessions
Study Design	Clinical practice paper with a focus on program development and program examples
Measures	Clinical observations, program review, program design, documentation, participant testimonials

CREATIVE FORCES Music Therapy Pending Scholarly Manuscripts

Author(s)	Vaudreuil, R., Nordstrom, M., DeGraba, T., Margulies, E., & Pasquina, P. Rebecca Vaudreuil, Michelle Nordstorm, Thomas DeGraba, Eric Margulies, Paul Pasquina
Publication Date	2019
Title	Music Therapy, Occupational Therapy, and Biofeedback for Treatment of a Female Soldier with Post-traumatic Stress Disorder: A Case Report
Publisher	N/A (manuscript in progress)
Vol/Issue/Pages	N/A
Link	N/A
Abstract	 Background: Post-traumatic stress, post-traumatic stress disorder, and traumatic brain injury have been described as 'invisible wounds of war'. The effects of these conditions may have significant negative consequences on the health and quality of life for service members and their families. While conventional pharmacotherapy and psychotherapy are helpful, individuals suffering from these conditions many continue to experience persistent symptoms. Left untreated, the long-term effects of these conditions may lead to increased morbidity and mortality. Augmenting traditional therapies with integrative medicine approaches may be helpful. Case Presentation: We present a unique case of a female service member who, after sustaining multiple traumatic brain injuries and severe stress situations, presented with dyspnea. Upon medical workup, it was determined that a congenital cardiac abnormality was the source of her dyspnea, however, despite surgical intervention and subsequent cardiac rehabilitation, her symptoms persisted. After psychiatric assessment, she was diagnosed with PTSD. Through the use of biofeedback combined with music therapy and occupational therapy co-treatment, she was able to correlate her physical symptoms with changes in her emotional state enabling recognition and management of her trauma-based symptoms. This tool resulted in decreased dyspnea and improved social interaction. Conclusions: Biofeedback used with music therapy and occupational therapy demonstrate potential as non-invasive treatments to help patients manage their symptoms and improve their quality of life. When facilitated in an integrative rehabilitation program, these augmentative therapies may reduce symptoms and enhance successful reintegration, especially for patients with complex war-related health conditions. Further investigation is needed to fully understand the applicability of these non-invasive treatments in a broader patient population.
Population Studied	Female service member; N=1
Treatment	Music therapy; integrated (occupational therapy, music therapy, animal assisted therapy)
Study Design	Case study
Measures	Clinical co-treatment (OT/Music therapy), clinical notes/documentation, emWave (heart rate variability) frequency readings

CREATIVE FORCES

Multidisciplinary Creative Arts Therapies Published Research

Author(s)	Spooner, H., Lee, J. B., Langston, D. G., Sonke, J., Myers, K. J., & Levy, C. E.
	Heather Spooner, Jenny B. Lee, Diane G. Langston, Jill Sonke, Keith J. Myers, Charles E. Levy
Publication Date	2019
Title	Using Distance Technology to Deliver the Creative Arts Therapies to Veterans: Case Studies in Art, Dance/Movement and Music Therapy
Publisher	The Arts in Psychotherapy (Impact factor = 1.4)
Vol/Issue/Pages	62, 12–18
Link	https://doi.org/10.1016/j.aip.2018.11.012
Abstract	Three case studies of veterans are presented who received either art therapy, dance/movement therapy or music therapy via in-home, synchronous clinical video telehealth through a VA medical center in the southeastern United States. As the use of distance technology becomes more widely implemented within healthcare, it becomes increasingly important for providers to receive adequate training and develop comfort and confidence in adapting their practices to distance delivery. Case studies are one way for creative arts therapists to conceptualize and demonstrate how their in-person practices can be adapted for distance delivery via telehealth.
Population Studied	A representative sample of veterans in the Rural Veterans' Telerehabilitation Initiative (RVTRI) CAT program; N=3
Treatment	One example was chosen from each of the disciplines offered at the medical center (art therapy, dance/movement therapy, music therapy). One veteran worked with two different providers in two different disciplines. In some cases, the individual creative arts therapists incorporated multimodal techniques. Examples of the integration of writing are specifically highlighted in the art therapy and dance/movement therapy case studies.
Study Design	Case study
Measures	Case study