



Research Inventory

Includes completed, current, and pending research studies

September 2017

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CREATIVE FORCES – MUSIC THERAPY STUDIES

STUDY NAME	Impact of music on emotional regulation for service members with PTSD (Grammy Foundation Study)
AUTHORS/RESEARCH TEAM	Joke Bradt, John Hughes, Grant Bonavia, Rebecca Vaudreuil, Nathan McLaughlan
ABSTRACT	<p>This exploratory study examines the impact of listening to music on cortical alpha power, cortical functional connectivity, and cortical volume in brain areas associated with emotional regulation in service members (SMs) with Post Traumatic Stress Disorder (PTSD).</p> <p>In this prospective, randomized controlled study, 20 SMs with PTSD are randomized to either an emotional regulation training (ERT) treatment arm or a non-ERT treatment arm. The ERT treatment arm consists of three music-based ERT training sessions. Participants in the non-ERT treatment arm do not receive ERT training. MEG, fMRI and MRI measurements are obtained at baseline and after 3 months. MEG activity is recorded while participants listen to various music conditions.</p> <p>At 1, 2, 3, 6, and 12 months, all participants will be asked to fill out a brief online survey to assess their continued use of music for emotional regulation.</p>
POPULATION STUDIED	Active duty military and veterans with PTSD diagnosis N = 20: 10 control, 10 experiential
TREATMENT	<p>Music Therapy</p> <p>Music listening without ERT training (control group)</p> <p>Music therapy ERT training (experiential group)</p> <p>Each study participant, regardless of treatment allocation, receives 1 music consult session; participants assigned to the ERT treatment arm participate in 3 additional music therapy sessions following the consult session.</p>
STUDY DESIGN	Randomized Controlled Trial
METHODS AND MEASURES	<p>After the baseline neuroimaging recording sessions, participants are randomized to the emotional regulation training (ERT) group or the non-ERT group using computer-generated randomization scheme with block randomization. Participants assigned to the ERT group receive three training sessions with the NiCoE music therapist, targeted at using music listening for emotional regulation. Participants assigned to the control group are told that music listening can help with emotional regulation but will not receive ERT. MEG and MRI are repeated with all subjects after 3 months. Study personnel involved with collecting and analyzing brain imaging data are not aware of the participant group assignment.</p> <p>Measures: Neuro-imaging: MEG, fMRI, MRI, and questionnaires related to music use and home practice</p>
STATUS	This study is approved by WRNMMC/NiCoE (IRB) and is in early stages of data collection.

STUDY NAME	A thematic analysis of original songs created by service members (working title)
AUTHORS/RESEARCH TEAM	Joke Bradt, Rebecca Vaudreuil, Hannah Bronson
ABSTRACT	<p>This study aims to analyze songs written by active duty service members with combat-related Post Traumatic Stress Disorder (PTSD), Mild Traumatic Brain Injury (mTBI), and psychological health issues who receive music therapy services at the National Intrepid Center of Excellence (NICoE).</p> <p>Songs were written over the course of two or more individual music therapy sessions. Lyrics and music were written collaboratively by the service member and the music therapist. Songs were recorded and produced by the music therapist, and a CD was created for the service member to share with friends and loved ones.</p> <p>Thematic analysis as per Braun & Clarke (2006) will be used to code each song and identify themes. In addition, clinical notes about the songwriting sessions will be analyzed. Associations between the identified themes and demographic and clinical characteristics of the service members will be examined.</p>
POPULATION STUDIED	Active duty service members in music therapy treatment at NICoE N ≈ 15
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
METHODS AND MEASURES	<p>Thematic analysis of songs written by service members and clinical notes of the songwriting sessions. Associations between identified themes and patient clinical and demographic characteristics will be examined.</p> <p>Measures: Not Applicable</p>
STATUS	IRB submission

STUDY NAME	Music Therapy treatment of active duty military: An overview of intensive outpatient and longitudinal care programs
AUTHORS/RESEARCH TEAM	Hannah Bronson, Rebecca Vaudreuil, Joke Bradt
ABSTRACT	As a result of recent conflicts that involve the United States Military, there is an emerging need for music therapy services within military treatment facilities to treat combat-related injuries. The complexity of traumatic brain injury, posttraumatic stress, and military service itself presents challenges for music therapists 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 (NICoE) at Walter Reed National Military Medical Center and Intrepid Spirit Fort Belvoir.
POPULATION STUDIED	Not applicable
TREATMENT	Music Therapy Standalone within integrated medicine
STUDY DESIGN	Clinical Practice Paper: Description of Clinical Practice
METHODS AND MEASURES	Measures: Not applicable
STATUS	Submitted to <i>Music Therapy Perspectives</i> .

STUDY NAME	The effects of individual music therapy services on symptom management in service members at Intrepid Spirit Center, Fort Belvoir (working title)
AUTHORS/RESEARCH TEAM	Hannah Bronson, Rebecca Vaudreuil, Joke Bradt
ABSTRACT	This study is a secondary analysis of symptom management data that were collected as part of standard music therapy program evaluations at Intrepid Spirit Fort Belvoir. Approximately 200 service members completed the Creative Forces Symptom Management evaluation form at the start and end of individual music therapy sessions between July 2016 and August 2017. This 10-item form uses 0-10 numeric rating scales to evaluate the impact of a single music therapy session on commonly encountered symptoms in service members, namely pain, stress, anxiety, fatigue, worries, physical tension, sadness, anger, ability to focus, and overall well-being. Paired t-tests will be used to analyze pre to post session changes in symptoms. The findings will be associated with clinical characteristics of the service members.
POPULATION STUDIED	Active duty service members in music therapy treatment at Intrepid Spirit Fort Belvoir N ≈ 200
TREATMENT	Music Therapy Standalone Results will include a year's worth of evaluations, most likely from July 01, 2016 to August 31, 2017.
STUDY DESIGN	One Group Pretest Posttest Design
METHODS AND MEASURES	During the past year, service members were asked to fill out the symptom assessment form at the start and end of the music therapy session. At this time, data on approximately 200 service members has been gathered. The research team will use paired t-tests to analyze pre to post session changes in symptoms and will correlate changes in symptoms to clinical characteristics of the service members. Measures: Symptom Assessment Form included in the NEA Evaluation Toolkit.
STATUS	This study is ongoing. Authors plan to submit to the <i>Journal of Music Therapy</i> or potentially a medical journal.

STUDY NAME	An exploration of the intersection for Complementary Alternative Medicine (CAM) and traditional treatment (working title)
AUTHORS/RESEARCH TEAM	Michelle Nordstrom, Rebecca Vaudreuil
ABSTRACT	<p>This paper investigates intervention implementation and co-treatment of Occupational Therapy, Animal-Assisted Therapy, and Music Therapy focusing on emotional regulation while following a patient who utilizes the emWave during therapy sessions.</p> <p><i>Note: This paper is not based on the Creative Forces initiative and will be published by an Occupational Therapy Researcher at WRNMMC; however, a Creative Forces Music Therapist worked on this paper and makes mention of Creative Forces in the manuscript.</i></p>
POPULATION STUDIED	Case Study N = 1
TREATMENT	Music Therapy Integrated (Occupational Therapy, Music Therapy, Animal Assisted Therapy)
STUDY DESIGN	Case study
METHODS AND MEASURES	<p>Clinical co-treatment (OT/Music therapy), clinical notes/documentation, emWave frequency readings</p> <p>Measures: Clinical documentation, heart rate variability readings</p>
STATUS	The study is complete, and the paper is currently in the editing process.

STUDY NAME	Music therapy applied to complex blast injury in an interdisciplinary model: A case report
AUTHORS/RESEARCH TEAM	Rebecca Vaudreuil, Luis Avila, Joke Bradt, Paul Pasquina
ABSTRACT	While there is increasing evidence demonstrating the efficacy of music therapy in clinical and medical settings, music therapists are still not commonplace in the traditional interdisciplinary rehabilitation model. This case report highlights the impact that music therapy has had on one severely injured service member and further underscores the need for continued research in this field.
POPULATION STUDIED	Military service member in ongoing rehabilitation from complex blast injury N = 1
TREATMENT	Music Therapy Integrated medicine, standalone treatment The patient receives ongoing treatment, including 2+ years of integrated and stand-alone music therapy services.
STUDY DESIGN	Case Report
METHODS AND MEASURES	Music therapy was provided as stand-alone treatment and in co-treatment with speech language pathology, physical therapy, and occupational therapy. Measures: Clinical data, self-reports by patient and family, interviews with rehabilitation team members
STATUS	The study is complete and has been submitted to NICoE/WRNMMC PAO for approval. Manuscript will be submitted to Disability and Rehabilitation as soon as approval is granted.

STUDY NAME	Analysis of patient-selected songs in music therapy intended for performance (working title)
AUTHORS/RESEARCH TEAM	Rebecca Vaudreuil, Hannah Bronson, Joke Bradt
ABSTRACT	<p>This study aims to analyze musical selections and describe the process of learning and performing patient-selected songs by active duty service members with combat-related Post Traumatic Stress Disorder (PTSD), Mild Traumatic Brain Injury (mTBI), and psychological health issues who receive music therapy services at the National Intrepid Center of Excellence (NICoE).</p> <p>Songs were learned and refined over the course of multiple music therapy sessions. Lyrics and music were collaboratively customized and arranged by the patients and music therapist to capture song significance and symbolism of performance. Patients worked with the music therapist to create and process song introductions, in which the patients verbally shared song meanings and processes of learning the self-selected songs with an audience.</p> <p>In addition to content analysis, clinical notes from the music therapy sessions will be analyzed. Associations between the identified themes and demographic and clinical characteristics of the service members will be examined.</p>
POPULATION STUDIED	Active duty service members in music therapy treatment at NICoE N = 10 to 15
TREATMENT	Music Therapy Standalone Ongoing; at least 2 sessions with each patient
STUDY DESIGN	Case Report: Qualitative Research Study
METHODS AND MEASURES	<p>Thematic analysis of song lyrics and associated clinical notes to identify themes and enhance understanding of the meaning and value of songs selected by service members for public performance.</p> <p>Measures: Clinical observation, documentation, song lyrics, and performance</p>
STATUS	This study is ongoing.

STUDY NAME	Group music therapy services at the National Intrepid Center of Excellence: Protocol and program evaluation (working title)
AUTHORS/RESEARCH TEAM	Rebecca Vaudreuil, Hannah Bronson, Danielle Vetro-Kalseth, Joke Bradt
ABSTRACT	This article evaluates the Introduction to Music Therapy group session offered at the National Intrepid Center of Excellence (NICoE) in Bethesda, MD. Music therapy is one of the many creative arts therapies and interdisciplinary treatment modalities offered within the context of the four-week long, intensive outpatient program designed to treat service members with posttraumatic stress disorder (PTSD), mild traumatic brain injuries (mTBI), and other psychological health issues. This paper shares the Introduction to Music Therapy group protocol, the session evaluation form, and the results from a year's worth of session evaluation data by cohorts of patients receiving this group session. In addition, this paper presents feedback by three music therapists regarding the use and value of the introductory group treatment protocol and associated session feedback form for treatment planning.
POPULATION STUDIED	Active duty service members in music therapy treatment at NICoE N ≈ 200
TREATMENT	Music Therapy Standalone Each patient receives this session once. The authors will show a year's worth of evaluations, most likely January 01, 2016 to December 31, 2016.
STUDY DESIGN	Program evaluation
METHODS AND MEASURES	Session evaluation data from approximately 200 service members will be analyzed. Descriptive statistics will be used to create summaries of impact in areas specified on the form. In addition, feedback from three clinicians who currently use the group protocol and the associated evaluation tool will be summarized. Based on evaluation data and clinician feedback, recommendations will be made for use of the protocol and evaluation form in military health settings. Measures: The Introduction to Music Therapy Group Session form, a self-reported form included in the NEA evaluation toolkit.
STATUS	This study is ongoing.

CREATIVE FORCES – ART THERAPY STUDIES

STUDY NAME	Associations between visual representations on montage paintings and measures of depression, anxiety, quality of life and PTSD among active duty military service members
AUTHORS/RESEARCH TEAM	Marygrace Berberian, Melissa S. Walker, Marcia Liebman, Girija Kaimal
ABSTRACT	This paper will provide an overview of the themes represented in the montage paintings created by service members as well as associations between visual imagery and standardized measures of depression, anxiety, quality of life, and post-traumatic stress.
POPULATION STUDIED	Service members in art therapy treatment at National Intrepid Center of Excellence (NICoE) N= 220
TREATMENT	Visual art Integrated
STUDY DESIGN	Between group comparisons of data on clinical symptoms and visual themes in montage painting imagery using ANCOVA & correlational analyses
METHODS AND MEASURES	Associations between scores on the PTSD Checklist–Military (PCL-M), the Patient Health Questionnaire-9, Satisfaction with Quality of Life, and the Generalized Anxiety Disorder 7-item scale on visual themes in the montage paintings Measures: Themes in montage paintings, PTSD Checklist–Military (PCL-M), the Patient Health Questionnaire-9, Satisfaction with Quality of Life, and the Generalized Anxiety Disorder 7-item scale
STATUS	This manuscript is in preparation.

STUDY NAME	Evaluation of the art therapy at Fort Belvoir Intrepid Spirit One
AUTHORS/RESEARCH TEAM	Jacqueline P. Jones, Adele Gonzaga, Bronwen Landless, Girija Kaimal
ABSTRACT	This report presents an evaluation of art therapy programs at Intrepid Spirit at Fort Belvoir (ISO). Fort Belvoir Community Hospital is located on the Fort Belvoir base in northern Virginia and serves military service members (SMs) from the local region. It provides state of the art care to active duty SMs, retired SMs, and their families. The hospital also supports cutting edge research in order to provide optimal clinical care to SMs. Art therapy is offered at the ISO as part of a range of therapies and aims to help service members express themselves and process traumatic experiences from their past.
POPULATION STUDIED	Military service members in art therapy treatment at Intrepid Spirit Fort Belvoir N=200
TREATMENT	Art therapy and therapeutic/expressive writing Standalone Service members participate in three to nine weeks of individual and group therapy sessions.
STUDY DESIGN	Evaluation, mixed-methods
METHODS AND MEASURES	Includes a summary of feedback surveys collected over a two-year period. Qualitative and quantitative responses were analyzed using descriptive statistics and thematic analysis. Measures: Narrative and Likert-scaled feedback surveys
STATUS	The study is complete, and the full citation is: Jones, J.P., Gonzaga, A. & Landless, B.M. & Kaimal, G. (2015). <i>Evaluation of the art therapy at Fort Belvoir Intrepid Spirit One</i> . Report prepared for the Fort Belvoir Community Hospital and the National Endowment for the Arts. Philadelphia, PA: Drexel University.

STUDY NAME	Portraits of recovery: Collective case studies of art therapy interventions for military service members with PTS and TBI
AUTHORS/RESEARCH TEAM	Jaqueline P. Jones, Jessica M. Drass, Girija Kaimal
ABSTRACT	This paper will summarize a series of case examples of how art therapy helped active duty military service members address and manage symptoms related to traumatic brain injury and post-traumatic stress. The case examples will include short and long term art therapy strategies used in the integrated care setting as well as patient reported outcomes.
POPULATION STUDIED	Active duty service members in art therapy treatment in an integrated care setting N=4
TREATMENT	Visual art Integrated
STUDY DESIGN	Case summaries
METHODS AND MEASURES	Includes case summaries describing range of art therapy approaches for service members with PTS and TBI.
STATUS	This manuscript is in preparation.

STUDY NAME	Art therapy interventions for active duty military service members with PTS and TBI
AUTHORS/RESEARCH TEAM	Jacqueline P. Jones, Melissa S. Walker, Jessica M. Drass, Girija Kaimal
ABSTRACT	<p>This paper provides an overview of short and long-term treatment approaches in art therapy for military service members with post-traumatic stress and traumatic brain injury. The described clinical approaches are based on the theoretical foundations and the art therapists' experiences in providing individualized 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, externalization, and authentic self-expression; promote group cohesion; and process grief, loss, and trauma. In addition, program evaluation is used in both settings as a means to understand participants' experiences and the perceived value of art therapy.</p> <p>In addition to clinical approaches, the paper also highlights the value of program evaluation to document perceptions, outcomes, and data to advocate for art therapy services. These approaches point to a need for clinicians to balance evidence-based treatment modalities that focus on symptom reduction as well as the cultivation of a deeper understanding of self in order to work to resolve internal conflicts so often experienced by service members (SMs). Through the art therapy journey, SMs shift to establish a new sense of self as creator rather than destroyer, as productive and efficacious instead of broken, as connected to others as opposed to isolated, and in control of their future, not controlled by their past.</p>
POPULATION STUDIED	Not Applicable
TREATMENT	Art Therapy Integrated medicine, standalone treatment
STUDY DESIGN	Clinical Practice Paper
METHODS AND MEASURES	Description of art therapy clinical practice and use of evaluation in two settings.
STATUS	This manuscript has been accepted for publication in the <i>International Journal of Art Therapy</i> .

STUDY NAME	Associations between visual imagery and clinical symptoms among active-duty military and service members with Posttraumatic Stress Disorder and Traumatic Brain Injury
AUTHORS/RESEARCH TEAM	Girija Kaimal, Melissa S. Walker, Joanna Herres, Louis M. French, Thomas J. DeGraba
ABSTRACT	<p>Affective symptoms and struggles related to verbally expressing information can limit communication in individuals with posttraumatic stress symptoms and deployment-related health conditions. Visual self-expression through art therapy is an alternative way for military service members (SMs) with posttraumatic 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.</p> <p>Comparisons of the visual and clinical data indicate that SMs who depicted psychological injury also had higher scores for posttraumatic stress and depression. However, the depiction of military unit identity, nature metaphors, sociocultural metaphors, and cultural and historical characters was associated with lower posttraumatic stress, depression, and anxiety scores. Similarly, the use of color-related symbolism and fragmented military symbols was associated with higher anxiety, depression, and posttraumatic stress scores. 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.</p>
POPULATION STUDIED	Active duty military service members with a history of TBI, posttraumatic stress symptoms 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 & correlational analysis of data on clinical symptoms of posttraumatic stress, depression, and anxiety compared with visual themes in mask imagery.
METHODS AND MEASURES	<p>Associations between scores on the PTSD Checklist–Military (PCL-M), the Patient Health Questionnaire-9, and the Generalized Anxiety Disorder 7-item scale and visual themes in depictions of aspects of individual identity (psychological injury, military symbols, military identity and visual metaphors).</p> <p>Measures: Themes in masks, PTSD Checklist–Military (PCL-M), Patient Health Questionnaire-9, Generalized Anxiety Disorder 7-item scale</p>
STATUS	The manuscript is completed and is undergoing an internal review at WRNMMC prior to submission.

STUDY NAME	Active-duty military service members' visual representations of PTSD and TBI in masks
AUTHORS/RESEARCH TEAM	Melissa S. Walker, Girija Kaimal, Adele M. L. Gonzaga, Katherine A. Myers-Coffman, Thomas J. DeGraba
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; standalone treatment Group art therapy sessions in week 1 of 4-week program medicine.
STUDY DESIGN	Grounded theory study, thematic analysis
METHODS AND MEASURES	Grounded theory analysis of content in masks and clinical notes created by art therapist. Measures: Images and clinical notes
STATUS	This study is complete and the full citation is: Walker, M., Kaimal, G. Myers-Coffman, K., Gonzaga, A.M.L., & DeGraba, T. J. (2017). Active duty military service members' visual representations of PTSD and TBI in masks. <i>International Journal of Qualitative Studies on Health and Well-being</i> . 12: 1, 1267317. Doi: 10.1080/17482631.2016.1267317

STUDY NAME	Art therapy for PTSD and TBI: A senior active duty military service member's therapeutic journey
AUTHORS/RESEARCH TEAM	Melissa S. Walker, Girija Kaimal, Robert Koffman, Thomas J. DeGraba
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
METHODS AND MEASURES	Case analysis based on images and clinical notes Measures: Images and clinical notes
STATUS	This study is complete and the full citation is: Walker, M., Kaimal, G. Koffman, R., & DeGraba, T. J. (2016). Art therapy for PTSD and TBI: A senior active duty military service member's therapeutic journey. <i>The Arts in Psychotherapy</i> 49(2): 10-16. Doi: 10.1016/j.aip.2016.05.015

STUDY NAME	Using clinical notes to track changes in art therapy using Linguistic Inquiry and Word Count (LIWC)
AUTHORS/RESEARCH TEAM	Girija Kaimal, Melissa Walker, Rebekka Dieterich-Hartwell
ABSTRACT	<p>This brief report presents a text analysis of clinical notes from mask making (n=198) and montage making sessions (n=198). These sessions were offered as part of an integrative model of art therapy treatment for service members with posttraumatic stress disorder and/or traumatic brain injuries at the National Intrepid Center of Excellence (NICoE). Using the Linguistic Inquiry and Word Count (LIWC), a computerized text analysis program that counts words in psychologically significant groups, the clinical notes were analyzed and compared. Results indicated statistically significant changes in a number of categories defined in LIWC, including analytical thinking, clout, authenticity, emotional tone, and a variety of psychological processes. The study findings indicate that although clinical notes formats are specific to a clinician, and represent a third person report of the sessions, they can be a valuable data source for tracking changes in patient groups over time.</p> <p>This brief report sought to explore the usefulness of clinical notes as a data source to assess aggregate changes in participants. In this case we used clinical notes generated from art therapy sessions. The findings of this brief report suggest that, based on LIWC analyses of clinical notes, SMs underwent a number of changes between the mask making sessions that occurred in week one of a four-week art therapy curriculum and a montage painting session in week four. While analytical thinking was higher initially, it had decreased by the third session. On the other hand, clout, authenticity, and tone increased in the same time frame. It is possible that the participants began to feel less reserved and more comfortable through the art therapy process and the media used. Affective processes changed as well over the course of two weeks, with an increase in positive emotions and a decrease in negative emotions. More specifically, references to both anxiety and sadness declined significantly. These findings are congruent with the suggestion of having established greater ease through the ongoing art therapy process. Interestingly, there was no noticeable change in the references to anger.</p>
POPULATION STUDIED	Service members with posttraumatic stress disorder and/or traumatic brain injuries at the National Intrepid Center of Excellence (NICoE) N = 198
TREATMENT	Art Therapy Integrated Group art therapy sessions consist of a four-week curriculum of two hour sessions each.
STUDY DESIGN	Pre post design examining changes over time. Analysis conducted using paired samples t-tests
METHODS AND MEASURES	Comparison of LIWC categories based on clinical notes of mask making sessions (week one and four) and montage painting (week four) Measures: LIWC summaries of clinical notes
STATUS	The manuscript is in preparation.

CREATIVE FORCES – THERAPEUTIC/EXPRESSIVE WRITING STUDIES

STUDY NAME	Using human and Linguistic Inquiry and Word Count text analysis of clinical notes to understand military service members' experiences with therapeutic writing
AUTHORS/RESEARCH TEAM	Bronwen M. Landless, Melissa S. Walker, Girija Kaimal
ABSTRACT	<p>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: analyses performed by a person and by a computer-based program, Linguistic Inquiry and Word Count (LIWC). The therapeutic writing sessions were offered at the National Intrepid Center of Excellence (NICoE) as part of an integrative treatment model for service members (SMs) with posttraumatic stress disorder and traumatic brain injuries.</p> <p>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 the experience of relief during and after sessions. SMs wrote on a wide range of topics. Most SMs kept their writing pieces, although some destroyed them, and a few others gifted them. LIWC analysis 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. Many SMs perceived the therapeutic writing experience as therapeutic, a relevant coping skill, and enjoyable. Some, however, preferred to work on art projects such as mask making during the writing sessions. The LIWC analysis of the clinical notes took much less time than the human analysis, but it did not produce results of comparable richness or nuance. LIWC analysis of the actual therapeutic writing pieces may provide deeper insights into the content and themes that emerged during this therapeutic intervention.</p>
POPULATION STUDIED	Service members with posttraumatic stress disorder and/or traumatic brain injuries at the National Intrepid Center of Excellence (NICoE) N=200
TREATMENT	<p>Therapeutic/Expressive Writing Integrated, standalone treatment</p> <p>Therapeutic writing sessions were implemented and documented by the art therapist and art therapy interns at the NICoE.</p>
STUDY DESIGN	Thematic analysis
METHODS AND MEASURES	<p>Clinical notes were created from SM self-report surveys and clinician observations from May 2012 to 2015 and were coded manually for emerging themes, and separately analyzed by LIWC, a computer software text content analysis program.</p> <p>Measures: Clinical notes, tallies of qualitative themes generated through LIWC</p>
STATUS	Manuscript completed the internal review at WRNMMC and is in pre-submission status.