



American Music Therapy Association

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Music Therapy Interventions in Trauma, Depression, & Substance Abuse: Selected References and Key Findings

STATEMENT OF PURPOSE: Music therapists commonly serve persons with mental health and functional wellness issues in a variety of settings including public and private psychiatric hospitals or schools, mental health centers, private practice, community-based programs, correctional and forensic facilities, and substance abuse treatment programs. Music therapists use defined music interventions founded in sound theory and supported by an ongoing research. Music therapists use music to enhance social or interpersonal, affective, cognitive, and behavioral functioning. Research indicates that music therapy is effective at reducing muscle tension and anxiety, and at promoting relaxation, verbalization, interpersonal relationships, and group cohesiveness. This can set the stage for open communication and provide a starting place for non-threatening support and processing symptoms associated with or exacerbated by trauma and disaster, such as the 9/11 event. A therapist can talk with a client, but a qualified music therapist can use music to actively link a client to their psycho-emotional state quickly. In certain settings, the active use of music therapy interventions has resulted in a shorter length of stay (treatment period) and more efficient response to the client's overall intervention plan.

STANDARDIZATION: Music therapy goals, objectives and progress are documented in a treatment plan, following client assessment, and delivered in accordance with the AMTA Standards of Clinical Practice. Music selections and certain active music making activities are modified for client preferences and individualized needs (i.e., song selection and music may vary).

REPLICATION: Yes; music therapy interventions have been used with different providers and populations. Research on many important questions of effectiveness has been replicated and is part of an ongoing research strategy aimed at supporting evidence-based practice.

OUTCOMES: Global state, mental state, anxiety management, social and emotional functioning

Specific Outcomes:

Reduced muscle tension	Improved self-image/Increased self-esteem
Decreased anxiety/agitation	Increased verbalization
Enhanced interpersonal relationships	Improved group cohesiveness
Enhanced self-expression and self-awareness	Increased motivation
Improved perception and differentiation of feelings	
Improved ability to titrate abreaction, self sooth, recognize and cope with traumatic triggers	

OVERVIEW OF RESEARCH

Systematic Reviews, Meta-Analyses and Literature Reviews

Gold, C., Voracek, M., & Wigram, T. (2004). Effects of music therapy for children and adolescents with psychopathology: A meta-analysis. *Journal of Child Psychology and Psychiatry*, 45, 1054-1063.

The objectives of this review were to examine the overall efficacy of music therapy for children and adolescents with psychopathology, and to examine how the size of the effect of music therapy is influenced by the type of pathology, client's age, music therapy approach, and type of outcome. Eleven studies were included for analysis, which resulted in a total of 188 subjects for this meta-analysis. Effect sizes from these studies were combined, with weighting for sample size, and their distribution was examined. After exclusion of an extreme positive outlying value, the analysis revealed that music therapy has a medium to large positive effect ($ES = .61$) on clinically relevant outcomes that was statistically highly significant ($p < .001$) and statistically homogeneous. No evidence of publication bias was identified. Effects tended to be greater for behavioral and developmental disorders than for emotional disorders; greater for eclectic, psychodynamic, and humanistic approaches than for behavioral models; and greater for behavioral and developmental outcomes than for social skills and self-concept.

Maratos, A. S., Gold, C., Wang, X., Crawford, M. J. (2008). Music therapy for depression. *Cochrane Database of Systematic Reviews*, 1. Art. No.: CD004517. DOI: 10.1002/14651858.CD004517.pub2

The objectives of this review protocol were to 1) identify randomized controlled trials and controlled clinical trials examining the efficacy of music therapy in reducing the symptoms of clinical depression as defined by the authors; 2) compare efficacy of music therapy with standard care (as defined by the authors) or with other therapies; and, 3) compare efficacy of different forms of music therapy. Findings from individual randomized trials suggest that music therapy is accepted by people with depression and is associated with improvements in mood. Work should continue using high quality trials to further evaluate the effects of music therapy on depression.

Pelletier, C. L. (2004). The effect of music on decreasing arousal due to stress: A meta-analysis. *Journal of Music Therapy*, 41(3), 192–214.

A meta-analytic review of research articles using music to decrease arousal due to stress was conducted on 22 quantitative studies. Results demonstrated that music alone and music assisted relaxation techniques significantly decreased arousal ($d = +.67$). Further analysis of each study revealed that the amount of stress reduction was significantly different when considering age, type of stress, music assisted relaxation technique, musical preference, previous music experience, and type of intervention. Implications and suggestions for future research are discussed.

Silverman, M. J. (2003). Music therapy and clients who are chemically dependent: A review of literature and pilot study. *The Arts in Psychotherapy*, 30, 273-281.

Patients in substance abuse treatment reported music therapy to be highly effective in increasing relaxation and energy level and in decreasing impulsiveness.

Experimental and Quasi-Experimental Studies

Baker, F. A., Gleadhill, L. M., and Dingle, G. A. (2007). Music therapy and emotional exploration: Exposing substance abuse clients to the experiences of non-drug-induced emotions. *The Arts in Psychotherapy, 34*(4), 321-330.

Recent cognitive behavioral therapy (CBT) approaches to treatment of substance use disorder (SUD) have emphasized the need for clients to explore emotional regulation and experiential avoidance. This study aimed to determine whether music therapy programs situated within a CBT framework facilitated the exploration of emotions in 24 adults with SUD attending an open group CBT program. In a 7-week trial, the impact of a single music therapy session on participants' emotional experience was assessed. Results indicated that music therapy sessions facilitate the experiencing of predominantly positive emotions, and that these were experienced to a moderate or high degree. Participants reported that music therapy was beneficial in allowing them to experience emotions without the need for substance use.

Cevasco, A. M., Kennedy, R., & Generally, N. R. (2005). Comparison of movement-to-music, rhythmic activities, and competitive games on depression, stress, anxiety, and anger of females in substance abuse rehabilitation. *Journal of Music Therapy, 42*(1), 64-80.

Conclusions: Each of the three music therapy interventions were equally effective in decreasing depression, stress, anxiety and anger in females who were in substance abuse treatment.

Edwards, J. (2006). Music therapy in the treatment and management of mental disorders. *Irish Journal of Psychological Medicine, 23*(1), 33-35.

An increasing number of research studies support the benefits of providing music therapy in addition to standard treatment for people who have mental disorders. A review of music therapy studies published since 1994 was undertaken. Criteria for including papers were that they a) were published in English in an indexed, peer-reviewed journal, and b) were conducted as a randomized controlled trial (RCT) or a controlled trial (CT), or c) provided a meta-analysis of existing studies. The findings support a role for music therapy as a structured interaction that patients are able to use to participate successfully, manage some of their symptoms, and express feelings relating to their experiences. Music therapy is demonstrated to be a beneficial intervention for people who exhibit more enduring symptoms. Music therapy invites and encourages participation from people of lower functioning levels and employs a non-verbal medium with which people have prior positive associations. Additionally, the peer reviewed literature supports the proposition that clinical outcomes are available through the use of music therapy intervention in conjunction with standard, well-established treatment methods. Music therapy is beneficial for patients receiving care for mental disorders and establishing this therapy within mental health service provision should be considered.

Gallant, W., Holosko, M., Gorey, K. M., & Lesiuk, T. L. (1997). Music as a form of intervention with out-patient alcoholic couples: A quasi-experimental investigation. *Canadian Journal of Music Therapy, 5*(1), 67-84.

Couples who received both rehabilitation and music therapy significantly lowered scores on the Psychosocial Problem Inventory. Additionally, song discussions significantly improve the outcome measurement of loneliness in women.

Hammer, S. E. (1996). The effects of guided imagery through music on state and trait anxiety. *Journal of Music Therapy*, 33, 47-70.

Patients who received 10 group guided imagery through music sessions experienced a significant decrease in state anxiety as compared to the patients in the control group.

Hendricks, C. B. (2001). A study of the use of music therapy techniques in a group for the treatment of adolescent depression. *Dissertation Abstracts International*, 62(2-A). (UMI No. AAT3005267)

During the ages of 12-18, depression affects one in five adolescents. Since music is an integral part of the adolescent's life and since most adolescents listen to music on a daily basis, music is a viable source for alleviation of adolescent depression. The purpose of this study was to determine the effectiveness of adding music therapy techniques to cognitive behavioral group treatment for depressed adolescents. The design was a 2 x 2 quasi-experimental factorial design in which the dependent variables of depression, self-concept, and grade point average were compared by treatment and grade. The participants were administered the Beck Depression Inventory and the Piers-Harris Self Concept Scale. The results indicated a significant difference ($p < .0001$) between the groups which utilized music therapy techniques and groups which did not use music therapy techniques. Results indicated that the use of music therapy techniques was positively correlated with reduced posttest depression scores and increased posttest self-concept scores for both junior high and senior high participants.

Hernandez-Ruiz, E. (2005). Effect of music therapy on the anxiety levels and sleep patterns of abused women in shelters. *Journal of Music Therapy*, 42(2), 140-158.

The purpose of this study was to explore the effect of a music therapy procedure (music listening paired with progressive muscle relaxation) on the reduction of anxiety and improvement of sleep patterns in abused women in shelters. Results indicated that music therapy constituted an effective method for reducing anxiety levels. Results also indicated a significant effect on sleep quality for the experimental group, but not for the control group. No significant relationships were found between anxiety levels and sleep quality, nor fatigue levels and sleep quality. These results seem promising in the light of domestic violence research, which has found that a greater amount of personal resources is a crucial aspect of abused women's recovery process. Reduction of anxiety and improvement of sleep quality can be considered as increased personal resources, and seem feasible through the use of music therapy.

Montello, L. & Coons, E. E. (1998). Effects of active versus passive group music therapy on preadolescents with emotional, learning, and behavioral disorders. *Journal of Music Therapy*, 35, 49-67.

Music therapy clients significantly improved on the Aggression/Hostility scale of Achenbach's Teacher's Report Form, suggesting that group music therapy can facilitate self-expression and provide a channel for transforming frustration, anger, and aggression into the experience of creativity and self-mastery.

Qualitative Studies and Descriptive Research

Behrens, G. A., & Green, S. B. (1993). The ability to identify emotional content of solo improvisations performed vocally and on three different instruments. *Psychology of Music, 21*, 20-33.

The accuracy of identifying the emotional content in music partially depends upon the emotion expressed and the instrument used to perform the music. This is an important part of the music therapist's skill set when working with clients.

Chou, M. H., & Lin, M. F. (2006). Exploring the listening experiences during guided imagery and music therapy of outpatients with depression. *Journal of Nursing Research, 14*(2), 93–102.

Music therapists with advanced training in guided imagery may use music to help patients explore issues associated with depression, and other symptoms as needed. The purpose of this study was to explore the listening experiences of outpatient depression sufferers who underwent guided imagery and music therapy (GIM). Researchers conducted a semi-structured, in-depth telephone interview with each subject within 24 to 48 hours after each therapy session. The results showed a total of 55 important listening episodes, which could be categorized into themes. The triggering effect, when guided in a controlled fashion, represents a combination of multiple factors, including music, the individual, the therapist and environment. The theme of each patient's imagery episode was a result of the effect of the four factors, with music having the greatest impact.

Ciardiello, S. (2003). Meet them in the lab: Using hip-hop music therapy groups with adolescents in residential settings. In N. E. Sullivan, E. S. Mesbur, N. C. Lang, D. Goodman, & L. Mitchell (Eds.), *Social work with groups: Social justice through personal, community and societal change* (pp. 103–117). New York: Haworth Press.

Adolescence is a stage of development plagued by turbulence and rebellion, and it is especially challenging for youth in residential settings. Traumas that led them into care can result in a mistrustful and negative lens through which to view the world. These experiences have conditioned the residents to react to people and situations in ways that cause further rejection and disapproval. A group work approach that includes the residents' interests can serve a therapeutic purpose. Hip-hop music serves as an outlet for adolescents. The theoretical framework for The Lab is what the author refers to as activity-centered therapy (ACT) programming. The ACT program model can be described as a therapeutic melting pot because there are a number of theoretical frameworks that are integrated into its philosophy. These include sociorecreation (the activities); psychotherapy (group discussions of life themes, worker as observer and interpreter); cognitive-behavioral principles (peer models and reward system); and psychoeducation (skill development).

James, M. R. (1988). Adolescent values clarification: A positive influence on perceived locus of control. *Journal of Music Therapy, 25*, 206-215.

Lyric analysis focusing on values' clarification was shown to be an effective intervention for influencing an adolescent's perceived locus of control, and helping to develop a positive attitude towards self and recovery.

Jones, J. D. (2005). A comparison of songwriting and lyric analysis techniques to evoke emotional change in a single session with people who are chemically dependent. *Journal of Music Therapy*, 42(2), 94-110.

Song writing and lyric analysis were shown to significantly increase feelings of acceptance and joy/happiness/enjoyment and significantly decrease feelings of guilty/regretful/blame and fear/distrust. Seventy-five percent of participants cited music therapy as a significant tool in their recovery.

Ross, S., Cidambi, I., Dermatis, H., Weinstein, J., Ziedonis, D., Roth, S., & Galanter, M. (2008). Music therapy: A novel motivational approach for dually diagnosed patients. *Journal of Addictive Diseases*, 27(1), 41-53.

Patients who attended more than 6 music therapy sessions had a significantly longer duration of treatment than those who attended 3-6 sessions. Music therapy group attendance during in-patient treatment was predictive of successful follow-up to the initial after-care appointment.

Silverman, M. J. (2006). Psychiatric patients' perception of music therapy and other psychoeducational programming. *Journal of Music Therapy*, 43(2), 111-122.

The purpose of this study was to quantitatively evaluate psychiatric patients' perception of their psychoeducational programming. Participants consistently rated music therapy as more effective than other programming in addressing specific psychiatric deficit areas. Additionally, 57% of participants noted that music therapy was their favorite class/therapy.

Winkelman, M. (2003). Complementary therapy for addiction: "Drumming out drugs." *American Journal of Public Health*, 93, 647-651.

Drumming and drum circles can provide a complementary role to addiction treatment. Positive effects of drumming include increased sense of relaxation, restoration of the balance in the opioid and serotonergic neurotransmitter system, positive spiritual experiences, interpersonal support and connection to others.

Assessment and Evaluation

Braswell, C., Brooks, D., Decuir, A., Humphrey, T., Jacobs, K. & Sutton, K. (1986). Development and implementation of a music-activity therapy intake assessment for psychiatric patients. Part II: Standardization procedures on data from psychiatric patients. *Journal of Music Therapy*, 23, 126-141.

Assessment and evaluation is an essential part of music therapy practice. Standardized music therapy intake assessment tools are readily available and in use.

Dalton, T. A., & Krout, R. E. (2005). Development of the grief process scale through music therapy songwriting with bereaved adolescents. *Arts in Psychotherapy*, 32, 131-143.

The authors developed a music therapy driven grief processing assessment that was piloted tested with bereaved adolescents who participated in songwriting interventions. Results suggested that the songwriting treatment helped the adolescents (n = 20) improve in their grief processing scores (GPS) across all grief domains as compared to control participants. The GPS proved to be workable and did not appear to be too cumbersome in its implementation.

Books and Other Online References

Laurier, W. (n.d.). *Music therapy for stress and anxiety*. CAMT. Retrieved from <http://www.mtabc.com/examples/stress.htm>

A brief discussion of the research literature in music therapy and summary on the effects of music therapy interventions on stress and anxiety.

Loewy, J. & Frisch-Hara, A. (2007, 2002). *Caring for the caregiver: The use of music and music therapy in grief and trauma*. Silver Spring, MD: American Music Therapy Association.

This publication resulted from the work of the NYC 9-11 Music Therapy Relief Project. The project was sponsored by the American Music Therapy Association with underwriting support from the National Academy of Recording Arts and Sciences. The nine-month project, (October 2001 through June 2002) was composed of 20 community programs and took place in schools, senior centers, healthcare facilities and other locations throughout the New York City metropolitan area. Thirty-three professional music therapists provided direct client service, facilitating over 7,000 music therapy interventions. Crisis workers, therapists, counselors, social workers, nurses, teachers, school administrators, and guidance counselors were also recipients of music therapy through this project.

Sutton, J. P. (Ed.). (2002). *Music, music therapy and trauma: International perspectives*. London: Jessica Kingsley.

This is a book with contributions from music therapists practicing in the area of trauma from numerous locations, including war zones, post-war and disaster recovery settings.

Selected Findings from Music Therapy Research Literature in the Context of Helping Clients Manage Arousal States

Patient preference and musical elements: Overall, there is good evidence from formal research indicating that responsiveness to music is primarily driven and motivated by personal preference. Therefore, music that one person may find conducive to a special purpose may be less so for another individual. In the case of youth and adolescence, there is a strong affinity to popular music and active/interactive music therapy intervention. In the clinical setting, when the aim is to minimize anxiety and avoid or control (titrate) arousal triggers among traumatized individuals, the selection of music may be a function of the musical elements as well as client preference. The intrinsic musical properties of rhythm, melody, harmony, timbre, lyrics, and form drive the selection of music. The music therapist is a skilled musician as well as a clinician capable of incorporating a wide range of live music to the client.

Properties of music aimed at avoiding high arousal states typical in PTSD and anxiety disorders: Music therapists often use music without spoken words/lyrics, although ‘vocables’ (nonlanguage use of voice) are acceptable. Depending on the therapeutic goal, lyrics may activate cognitive and neocortex processing, which can in turn risk triggering a listener with PTSD. Music with mid- and lower range instrumentation is preferred over higher pitched instruments (such as small flutes, high percussion, etc.). Higher frequency instruments and key centers tend to increase arousal states while lower range/frequency music encourages grounding and a sense of current awareness. Moderately slow, steady rhythm is preferred over highly variable rhythms, changing meter and long sustained arrhythmic phrases and melodies. Music with steady state rhythm fosters entrainment and more regular breathing. Repetitive melody is preferred over highly varied and changing melody. Repetitive steady state melody also fosters entrainment and a sense of familiarity that supports grounding and current awareness. Tempos about the rate of a relaxed heart beat (60 - 70 beats per minute) tend to foster a relaxation response although they do not need to be excessively slow if the aim is to mitigate waiting room anxiety. Tempos that are very slow tend to aggravate anxiety as do tempos that are very rapid or irregular. Attention is made to all the musical elements individually; and, within the gestalt they create, choose the most supportive pieces of music for music programming. Live music has been shown to have more clinical value over recorded music, whenever possible.

The clinic waiting room can become a pre-appointment intervention opportunity to target simple patient objectives such as patient education or improving mindfulness and awareness of internal resources through structured music listening exercises.

Contraindications: Clients with active hallucinations or psychosis should not be presented with highly evocative music (songs that may stimulate imaginable or sensory-based responses). Some clients in high arousal states or acutely depressed may be sound sensitive – with or without aggravated tinnitus symptoms. Therefore, volume levels should be relatively low. Clients with difficulty in self-regulation and/or experiencing some level of dissociative symptomology may be easily aroused by highly evocative music. While this may be useful in a controlled therapeutic setting, caution is advised in unsupervised settings.