



American Music Therapy Association

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ANNOTATED BIBLIOGRAPHY OF RESEARCH MUSIC THERAPY AND DRAFT MDS 3.0

MUSIC THERAPY ASSESSMENT AND TREATMENT PLANNING

Adler, R.S. Musical assessment of gerontologic needs and treatment: the MAGNET survey. MMB Music 2001 ISBN 1-58106.025-4. Contents: Patient background; Model Session; Assessment tool compatible with MDS2.0; Treatment Plan

Shaw, J. The joy of music in maturity. MMB Music 1993 ML3920.S425 Contents: Music therapy goals and treatment planning; sample sessions

- The Residual Skills Music Test (RMST) measures music behaviors of individuals with probable Alzheimer's Disease. Items incorporating singing produced the highest item discrimination indices. Coefficient alpha reliability on the RMST was less satisfactory. Scores on the RMST were correlated with scores from Folstein's Mini Mental Status Examination. Language subscores of the RMST and MMSE were also highly correlated. Total scores of the RMST and MMSE produced an r of .61, suggesting that the RMST may be measuring unique cognitive functions as compared to the MMSE.

York, E.F. The development of a quantitative music skills test for patients with Alzheimer's Disease. Journal of Music Therapy, 1994 (31): 280-296

SECTION B. HEARING, SPEECH AND VISION

- A PET study shows reactivation of Broca's area and deactivation of Wernicke's area during Melodic Intonation Therapy.

Belin, P., Van Eeckhout, P., Zilbovicius, M., Remy, P., Francois, C., Guillaume Chain, F., Rancurel, G., & Samson, Y. Recovery from nonfluent aphasia after Melodic Intonation Therapy: a PET study. Neurology, 1996 Dec 47(6); 1504-11

- Acoustic-auditory properties of speech sounds, not articulation, are the primary determinants of recovery of articulation.

Ohala, J.J. Speech perception is hearing sounds, not tongues. Journal of the Acoustic Society of America, 1996 Mar 99(3):1718-25

- Language and music are of equal importance in addressing neural specificity in cognitive processing.

Patel, A.D.; Gibson, E.; & Ratner, J.; Bessom, M.; & Holcomb, P.J. Processing syntactic relationships in language and music: an event related potential study. Journal of Cognitive Neuroscience, 1998 Nov 10(6):717-33

- Parkinson's patients experience enhanced movement and speech motor control during rhythmic auditory stimulation.

Thaut, M.H.; McIntosh, K.W.; McIntosh, G.C.; and Hoemberg, V. Auditory rhythmicity enhances movement and speech motor control in patients with Parkinson's disease. Funct. Neurol., 2001 Apr-Jun 16(2):163-72

- Music is favored as an auditory stimulus to enhance arousal and attention deployment, with a possible subsidiary role for associative facilitation.

Foster, N.A. and Valentine, E.R. The effect of auditory stimulation on autobiographical recall in dementia. Exp Aging Res. 2001, Jul-Sep 27(3):215-28

- Successful completion of skilled actions depends upon a dorsal stream from the primary visual cortex to the posterior parietal cortex.

Goodale, M.A.; Meenan, J.P.; Bulthoff, H.H.; Nicolle, D.A.; Murphy, K.J.; & Racioc, C.I. Separate neural pathways for the visual analysis of object shape in perception and prehension. Current Biology, 1994 Jul 14(7):604-10

- Music therapy "may reduce the individual prescription of tranquilizing medications, reduce the use of hypnotics and help overall goals of rehabilitation". ..Quality of life is significantly improved".

Aldridge, D. Alzheimer's disease: rhythm, timing and music as therapy. Biomedicine and Pharmacotherapy, 1994, 48(7):275-81

SECTION C. COGNITIVE PATTERNS

- Musical learning may still take place in persons with possible or probable Alzheimer's Disease, contrasting with profound disturbance in both recall and recognition on other anterograde memory tests.

Cowles, Anne; Beatty, William W; Nixon, Sara Jo; Lutz, Lanna J; Paulk, Jason; Paulk, Kayla; Ross, Elliott D. Musical skill in dementia: a violinist presumed to have Alzheimer's Disease learns to play a new song. Neurocase, Dec 2003 9(6): 493-503

- Persons with impaired explicit memory but preserved implicit memory benefit therapeutically from the use of music.

Son, G.R., Therrien, B., & Whall, A. Implicit memory and familiarity among Elders with dementia. J Nurs Scholarsh, 2002 34(3):263-7

- The effects of aging on the slowing of the internal timekeeping mechanism, are summarized. Timing in music involves more than automatic processes.

Ragot, Richard; Ferrandez, Anne-Marie; Pouthas, Viviane. Time, music, and aging. Psychomusicology. Special Issue: The Psychology of Music and Aging: Psychogeromusicology. 2002 18(1-2): 28-45

- Elder subjects experience significantly larger synchronization errors (SE's) than young subjects. SE is significantly reduced using rhythmic cuing embedded in music versus metronomic presentation.

Thaut, Michael H.; Rathbun, Jennifer A; Miller, Robert A. Music versus metronome timekeeper in a rhythmic motor task. International Journal of Arts Medicine, 1997 5(1): 4-12

- The cerebellum is seen as the structure that provides the necessary circuitry for the sensory system to learn to produce a precisely timed response.

Penhume, V.B.; Zattore, R.J.; Evans, A.C. Cerebellar contributions to motor timing: a PET study of auditory and visual rhythmic reproduction. Journal of Cognitive Neuroscience, 1998 Nov 10(6):752-65

- Music therapy “may reduce the individual prescription of tranquilizing medications, reduce the use of hypnotics and help overall goals of rehabilitation”. . .Quality of life is significantly improved”.

Aldridge, D. Alzheimer’s disease: rhythm, timing and music as therapy. Biomedicine and Pharmacotherapy, 1994 48(7):275-81

SECTION D. MOOD

- Social interaction and music both decreased behaviors at clinically and statistically significant levels. The effectiveness of group music therapy is highly validated.

Cohen Mansfield, J.; Werner, P. Management of verbally disruptive behaviors in nursing home residents. Journal of Gerontology, Series A, Biological Sciences and Medical Sciences 1997 Nov 52(6):M369-77

- A randomized study showed significant differences in Profile of Mood States scores, indicating increased relaxation and mood improvement during music listening.

Chlan, L.L. Psychophysiologic responses of mechanically ventilated patients to music: a pilot study. Am J Crit Care, 1995 May 4(3):233-8

- A mood induction procedure including music changed Depressive Adjective Checklist and CES-D Scores

Fox, L.S.; Knight, B.G.; & Zelinski, E.M. Mood induction with older adults: a tool for investigating effects of depressed mood. Psychol Aging, 1998 Sep 13(3):519-23

- Melatonin concentration serum increased significantly after music therapy and increased further at 6 weeks follow up. Norepinephrine and epinephrine levels increased significantly after 4 weeks of music therapy, returning to baseline rates after 6 weeks.

Kumar, A.M.; Tims, F.; Cruess, D.G.; Mintzer, M.J.; Ironson, G.; Loewenstein, I.; Cattan, R.; Fernandez, J.B.; Eisdorfer, C. & Kumar, M. Music Therapy increases serum melatonin levels in patients with Alzheimer’s disease. Altern Ther Health Med, 1999 Nov 5(6):49-57

- Music enhances alertness, happier mood, and recall of past personal history in Alzheimer’s sufferers.

Lord, T.R. & Garner, J.E. Effects of music on Alzheimer patients. Percept Mot Skills, 1993 Apr 76(2):451-5

- Emotional judgments are highly resistant to brain damage; affected by musical mode and tempo; and, immediate.

Peretz, I.; Gagnon, L.; & Bouchard, B. Music and emotion: perceptual determinants, immediacy, and isolation after brain damage. Cognition, 1998 Aug 68(2):111-41

- Music therapy effectively addresses negative mood states in neuro-rehabilitative patients.

Magee, W.L.; & Davidson, J. W. The effect of music therapy on mood states in Neurological patients: a pilot study. Journal of Music Therapy, XXXIX(1)2002:20-29

SECTION E. BEHAVIOR

- Across domains, the greater the perceived ability to resolve a problem, the less the avoidance-denial strategy was selected.

Blanchard-Fields, F.; Chen, Y.; & Norris, L. Everyday problem solving across the adult life span: influence of domain specificity and cognitive appraisal. Psychology and Aging, 1997 Dec 12(4):684-93

- Music demonstrates promising results in improving aggression, agitation, disruptive behaviors, day/night disturbances, and wandering.

Forbes, D. A. Strategies for managing behavioral symptomatology associated with Dementia of the Alzheimer type: A systematic overview. Canadian Journal of Nursing Research, 1998 Summer 30(2):67-86

SECTION F. PREFERENCES FOR CUSTOMARY ROUTINE, ACTIVITIES, COMMUNITY SETTING

- Music therapy is advocated to enhance quality of life; stimulate cognition in areas subject to progressive failure; decrease the use of hypnotics; aid in socialization; and enhance overall rehabilitation.

Anderson, M.A.; Culliton, K.R.; & Brill, C. Examining the impact of validation therapy on the elderly. Director, 1995 Fall 3(4):146-8,157.

- Family caregivers co-participating in music therapy with Alzheimer's sufferers report social and emotional improvement in their patients. Significant differences in the following pre and post tests: Dementia Scale; NPI; Cohen-Mansfield Agitation Scale; Burden Interview; Memory and Behavior Problems Checklist (frequency subscale); STAI-S; and Beck's Depression Inventory.

Brotans, M., & Marti, P. Music therapy with Alzheimer's patients and their family caregivers: a pilot project. Journal of Music Therapy, XL(2), Summer 2003:138-150

- The environment is a critical element impacting the overall quality of life, which can be significantly improved using music therapy.

Shaw, Joan. The joy of music in maturity. Ibid.

- Music therapy "may reduce the individual prescription of tranquilizing medications, reduce the use of hypnotics and help overall goals of rehabilitation". . .Quality of life is significantly improved".

SECTION G. FUNCTIONAL STATUS

- Strategies such as music demonstrate promising results in improving self-care ability.

Forbes, D. A. Ibid.

- Psychological ratings and weighing of food helpings show music positively influences food intake and symptoms common in dementia (depression, irritability, fear-panic and restlessness). Staff served more food while music was played.

Ragnesgkog, H., Brane, G., Karlsson, I., & Kihlgren, M. Influence of dinner music on food intake and symptoms common in dementia. Scand J Caring Sci, 1996 10(1):11-7.

Neurorehabilitation

- Use of a metronome decreased cycle time and double support and increased step length and step-extremity ratio of Parkinson's Disease patient ambulating on an electronic walkway.

Freedland, R.L.; Festa, C.; Sealy, M.; McBean, A.; Elghazaly, P.; Capan, A.; Brozycki, L.; Nelson, A.J.; & Rothman, J. The effects of pulsed auditory stimulation on various gait measurements in persons with Parkinson's Disease. NeuroRehabilitation, 2002 17(1):81-87

- The rate of auditory cues modulates cadence and thus velocity of gait in persons with early Parkinson's Disease.

Howe, T.E.; Lovgreen, B.; Cody, F.W.; Ashton, V.J.; & Oldham, J.A. Auditory cues can modify the gait of persons with early-stage Parkinson's disease; a method for enhancing parkinsonian walking performance. Clin. Rehabil, 2003 Jul 17(4):363-7

- Rhythmic Auditory Simulation (RAS) produces significant improvement in mean gait velocity, cadence, and stride length even in the presence of basal ganglia dysfunction.

McIntosh, Gerald C; Brown, Susan H; Rice, Ruth R; Thaut, Michael H. Rhythmic auditory motor facilitation of gait patterns in patients with Parkinson's Disease. Journal of Neurology, Neurosurgery & Psychiatry, 1997 Jan (62)1:22-26

- A MRI study shows that unconscious motor responses to auditory rhythmic stimulation can be relevant in guiding motor recovery.

Molinari, M.; Leggio, M.G.; De Martin, M.; Cerasa, A.; & Thaut, M. Neurobiology of Rhythmic Motor Entrainment. Ann N Y Acad Sci, 2003 Nov 99:313-321

- Parkinson's Disease patients were assigned to either music therapy (MT) or Physical Therapy (PT), in a prospective, randomized, controlled, single-blinded study lasting 3 months. PT significantly improved rigidity. MT improved the following: bradykinesia (Unified Parkinson's Disease Rating Scale); Happiness Measure; activities of daily living; and quality of life.

Pacchetti, C.; Mancini, F.; Aglieri, R.; Fundaro, C.; Martignoni, E.; & Nappi, G. Active music therapy in Parkinson's disease; an integrative method for motor and emotional rehabilitation. Psychosom Med, 2000 May-Jun 62(3):386-93

- Rhythmic entrainment produced immediate reduction in variability of arm kinematics. The wrist showed significant kinematic smoothing during rhythmic cuing.

Thaut, M H; Kenyon, G P; Hurt, C P; McIntosh, G C; Hoemberg, V. Kinematic optimization of spatiotemporal patterns in paretic arm training with stroke patients. Neuropsychologia, 2002 40(7): 1073-1081

- The interaction between auditory rhythm and physical response can be effectively utilized in the treatment of persons with movement disorders.

*Thaut, M.H.; Kenyon, G.P.; Schauer, M.L.; & McIntosh, G.C. The connection between rhythmic and brain function. IEEE Eng Med Biol Mag, 1999 Mar-Apr. 18(2):101-8

- Using rhythmic auditory stimulation, significant and potentially durable increase in strength, elbow flexion, and wrist flexion of the paretic arm; and, elbow flexion and wrist extension for the nonparetic arm, occurred in stroke victims. The Fugl-Meyer Upper Extremity Motor Performance Test of Impairment, Wolf Motor Function Test, and University of Maryland Arm Questionnaire for Stroke were administered.

Whitall, J.; McCombe Waller, S.; Silver, K.H.; & Macko, R. F. Repetitive bilateral arm training with rhythmic auditory cueing improves motor function in chronic hemiparetic stroke. Stroke, 2000 Oct 31(10):2390-5

*Dr. Thaut's literature on music therapy and neurorehabilitation is both prolific and diverse. To view an extensive listing of his publications, visit www.colostate.edu/depts/cbrm/publications.htm

SECTION J. HEALTH CONDITIONS

- Findings support the use of music as an intervention for patients experiencing cancer pain.

Beck, S.L. The therapeutic use of music for cancer-related pain. Oncol Nurs Forum, 1991 Nov-Dec 18(8):1327-37

- Music therapy alleviates pain perception by altering affective, cognitive, and sensory processes; mood level; increasing control; and relaxation.

Magill-Levereault, L. Music therapy in pain and symptom management. J Palliative Care, 1993 Winter 9(4):42-8

- Under appropriate conditions, Guided Imagery in Music (GIM) is a valid and effective music therapy process in palliative care.

Marr, Jennifer. GIM at the end of life: case studies in palliative care. Journal of The Association for Music & Imagery, 1998-1999 (6): 37-54

- In palliative care, music therapy assists in decision making, symptom management, increasing control, and enhancing relationships.

Walker, J. Music therapy in palliative care: the search for meaning, purpose and value in life. University of Iowa Health Care. Presentation, American Music Therapy Association, November 2002

- Music therapy “may reduce the individual prescription of tranquilizing medications, reduce the use of hypnotics and help overall goals of rehabilitation”. Quality of life is significantly improved”.

Aldridge, D. Alzheimer’s disease: rhythm, timing and music as therapy. Biomedicine and Pharmacotherapy, 1994 48(7):275-81

SECTION K. SWALLOWING/NUTRITIONAL STATUS

SECTION L. ORAL/DENTAL STATUS

- Melodic intonation therapy stimulates use of the oromusculature system.

Belin et al. Ibid.

SECTION P. RESTRAINTS

- Music is favored as an auditory stimulus to enhance arousal and attention deployment, with a possible subsidiary role for associative facilitation.

Foster, N.A. and Valentine, E.R. The effect of auditory stimulation on autobiographical recall in dementia. Exp Aging Res, 2001 Jul-Sep 27(3):215-28

- Music demonstrates promising results in improving aggression, agitation, disruptive behaviors, day/night disturbances, and wandering.

Forbes, D. A. Strategies for managing behavioral symptomatology associated with Dementia of the Alzheimer type: A systematic overview. Canadian Journal of Nursing Research, 1998 Summer 30(2):67-86