

Research in Music Therapy Utilizes Advance Technology

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Research in the field of music therapy has been undertaken at universities and published for over half a century. In this article I will discuss research that is using new technology to advance the field of music therapy.

The majority of research in music therapy over the last forty years has focused on music perception and performance. Among the populations that were studied included the developmentally disabled, physically and sensory handicapped, head injured and psychiatric. More recently, the areas of pain management and rehabilitation have received great attention, thanks to the tools now used to measure the impact of music on function. These tools include MRI, fMRI, MEG, SQUIDS, PET and the Electroencephalogram (EEG). Emotional responses to music are studied with psychological tests and physiologic measures: blood pressure, hormone level, skin response, respiration rate, and electromyograms (EMG). Other clinical researchers of music and brain function have used cognitive/behavior scales and included case studies, and qualitative and quantitative methodology.

I will mention several sites where advanced research in music therapy is currently taking place. The Institute for Music and Neurologic Function in New York is connected with Beth Abraham Hospital, which has a 35 year history of utilizing music therapy with memory impaired and neurologically impaired individuals. Its mission is to find new applications in applying music prescriptively to assist in maximizing memory, language and cognitive functioning. One of the founders is the well-known neurologist Oliver Sacks, M.D. who has long been an advocate for using music's powers to help retrieve lost and compromised function.

The Center for BioMedical Research in Music at Colorado State University, researcher Michael Thaut, Ph.D., has been using music therapy with stroke victims as part of their rehabilitation. Those who listen to 30 minutes of music during their rehab showed significant improvements in their ability to walk faster and more steadily than those whose rehab doesn't include music. Another Colorado State

study with Parkinson's patients showed a similar improvements. This research has helped establish music therapy as an effective tool in rehabilitation.

Music therapist Deforia Lane conducted research at the University Hospital in Cleveland that proved that participating in one music therapy session increased levels of salivary immunoglobulin A, an immune system booster. She measured the levels of S-IgA in children before and after music therapy treatments. "Those who received music therapy experienced a significant increase in IgA," she says.

At Florida State University's Center for Music Research, researchers found that premature infants exposed to lullaby singing and multimodal stimulation helped reduce the number of days to discharge and helped increase weight gain. This research has led to the production of a commercial product called a Pacifier Activated Lullaby (P.A.L.). It has been shown to improve non-nutritive sucking in low birth-weight infants.

A study based at Michigan State University showed that older people who take keyboard lessons significantly improved anxiety, depression and loneliness < three factors that are critical in coping with stress, stimulating the immune system and improving health, says Frederick Tims, Ph.D., who was the principal investigator. In the same study, he found these lessons also had a significant increase on existing levels of the human growth hormone.

Music therapy is more and more becoming a science based profession, with its proof rooted in advancements in technology and neurology.

As we see from the examples above, numerous sites are undergoing this research. As the documentation accelerates, the efficacy and practice of music therapy is certain to increase.

Resources:

The American Music Therapy Association <http://www.musictherapy.org> produces two scholarly journals where research in music therapy is published and shared:

The *Journal of Music Therapy* is published by AMTA as a forum for authoritative articles of current music therapy research and theory. Articles explore the use of music in the behavioral sciences and include book reviews and guest editorials. An index appears in issue 4 of each volume.

Music Therapy Perspectives is designed to appeal to a wide readership, both inside and outside the profession of music therapy. Articles focus on music therapy practice, as well as academics and administration.

The Institute for Music and Neurological Functioning

[http://www.bethabe.org/About the Institute100.html](http://www.bethabe.org/About%20the%20Institute100.html)

The Center for BioMedical Research in Music

<http://www.colostate.edu/depts/cbrm>

Florida State University's Center for Music Research

<http://www.music.fsu.edu/cmrbro.html>