

# **A behavioral approach to music therapy**

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While I have been asked to address this group as providing a “founding model” of one of the Five International Models of Music Therapy, I take no personal credit for founding this approach, other than my own research and the research that I have completed with my associates.

I first spoke of using a behavioral approach to music therapy during the National Association for Music Therapy Conference in Cleveland, Ohio, in 1966, in an address to the general assembly titled “Music in Behavior Modification” (1996). Subsequently, an article titled “A Behavioral Approach to Music Therapy” was published in the *Journal of Music Therapy* in 1968 co-authored with the late Vance Cotter who was instrumental in developing this approach at the Parsons State Hospital, Topeka KS, during his association with the University of Kansas and my brother Charles who is a behavioral psychologist. During those times the behavioral approach was just beginning to be recognized; today many music therapists are committed to this orientation.

The behavioral approach to music therapy rests on the defining characteristic of music therapy as the scientific application of music to accomplish therapeutic aims whether they are behavioral, developmental and/or medical. It is the use of music

and the therapist's self to influence changes in behavior. The behavioral approach to music therapy relies upon learning principles and concentrates on assessment and remedial programs based upon the environmental control of behavior. Behavior is modified by explicitly arranging the consequences of responses based upon reinforcement principles.

Music therapy as a method of behavioral manipulation is automatically considered as falling under the purview of the applied sciences and the effects of music interventions in applied medical research. Sometimes this approach is called "applied behavior analysis" and often it is referred to as music cognitive/behavior modification. Regardless, it is the nature of the research concerning this approach that serves as its distinguishing feature. While the term "research" is often associated with many approaches, the term is used in the behavioral context to indicate those empirical findings that are publicly verifiable and replicable.

The theoretical underpinnings of this approach are consistent with other scientific approaches and are intentionally parsimonious, yet very far reaching. Music can be used (1) as a cue, (2) as a time and body movement structure, (3) as a focus of attention and (4) as a reward. While principles are few, effective application of the behavioral model is extremely complex and requires extensive training for effect intervention. Behavioral music therapy requires a solid understanding of the principles of behavior, a refined ability to analyze, criticize and choose alternatives, necessitating extensive creativity in designing procedures. This approach involves the creation, selection, and improvisation of music idiosyncratic to the specific necessities of dealing with shaping the behavior of each individual patient or client.

Behavioral therapists condition, counter-condition, extinguish, desensitize, role-play, and train or retrain their clients, patients, or subjects as well use relaxation, conditioned avoidance responses, self-disclosure, emotive imagery, modeling, negative practice, expressive-rational approaches, and stimulus deprivation. All use music toward the end of producing empirical changes in behavior. This approach advocates the use of strict experimental

procedures to study observable behavioral *responses* in relation to environmental *stimuli*.

The history of the behavior modification movement includes several eminent scientists and has corollary within the philosophical community. The American psychologist John B. Watson was a founding pioneer in the early 20<sup>th</sup> century. At that time, psychology was viewed predominantly as the study of inner experiences or feelings by subjective, introspective methods. Watson did not deny the existence of inner experiences, but insisted that these experiences could not be studied because they were not observable. Watson proposed to make the study of psychology more objective by using procedures, such as laboratory experiments designed to establish statistically significant results. This behavioristic view led him to formulate a stimulus-response theory of psychology. The philosophical corollary to behaviorism was logical positivism as advocated by Rudolf Carnap and Ludwig Wittgenstein.

In the mid-20th century, American psychologist B. F. Skinner developed a position that he later referred to as radical behaviorism. He agreed with Watson's view that psychology ought to be centered on the study of the observable behavior of individuals interacting with their environment. However, he maintained that inner processes, such as feelings, should also be studied using scientific methods, with particular emphasis on controlled experiments.

Since 1950, behavioral psychologists have produced a vast amount of research mostly dealing with *basic research* directed at understanding how behavior is developed and maintained. Behavioral music therapists generally use *applied research* designs (both experimental and single subject) to document changes in behavior attributable to specific music therapy interventions. This research was intended to separate the effects of music therapy from other variables such as regular therapy, drugs, institutional regime, placebo effects, Hawthorne effects, and so on. Experiments were conducted concerning all aspects of music therapy in general and music in modifying specific behaviors in particular. This line of research continues and most of the ongoing practices of music

therapists in the United States rest on solid demonstrable evidence concerning music therapy's documented efficacy.

Over the years, music therapists have done prodigious works in documenting behavioral, developmental and medical procedures with the kind of data acceptable to the greater scientific and medical communities. As early as 1955, Jeffrey reported in the journal *Science* the effective use of music as a reinforcer (Jeffrey, 1955). Another classic study used the contingent interruption of music to reduce multiple tics (Barrett, 1962). Experimentation in the area of music therapy began to burgeon in the mid-1960s at several centers of development most notably Parsons State Hospital in Topeka Kansas and The Florida State University, Tallahassee, Florida. I combined some of this early research with the help of Doug Greer and my brother into a book published in 1975 (Madsen, Madsen, & Greer, 1975). Experimentation continues to this day and includes a vast database, much of it chronicled in the *Journal of Music Therapy*, emphasizing the empirical basis of this methodology. Indeed, this foundation of research is expected as the *sine qua non* of being able to practice within many institutions and agencies in the United States. This is because of the growing emphasis on measurable outcomes demanded for any therapeutic procedure. Some of the best examples of this approach can be found in a recent publication: Outstanding Reprints from the *Journal of Music Therapy*, (Edited by Jayne M. Standley and Carol A. Prickett), Silver Spring, MD: National Association for Music Therapy, Inc., 1994.

Now, I would like to discuss an early study of mine "Music as a Behavior Modification Techniques with a Juvenile Delinquent." in some detail in order to illustrate the music therapy techniques used:

The client was a 15 year-old boy (Fred) who was apprehended by the police for physically abusing his mother, throwing her out of the house, locking himself in his house and threatening others with a gun. He was taken to the Juvenile Detention Center where he was placed under my supervision. To the question "What seems to be the problem?" He emphasized his "mother's past institutionalization as a mental patient" and de-emphasized per-

sonal responsibility for his recent brutal attack (which started over which TV program to watch). During this first 10-15 minute monologue, Fred stated he loved music, played his guitar two-three hours daily, and wanted to be left entirely alone.

Fred's mother appeared severally bruised and obviously upset, but wanted Fred home as soon as possible because in her words "I so want him to love me." She was assured that Fred would return and that his behavior would improve if explicit directions were followed. She was told that (1) Fred would, in her presence, receive explicit written instructions to complete graduated work tasks around the house under her supervision; (2) that she should immediately report any deviations; (3) that shortly after the counselor left Fred would disregard all instructions and threaten her physical well being if she reported deviations to the counselor (continuing experimentation in behavior modification make predictions such as this possible); (4) that she should remain within view at a window and the counselor would wait across the street to return upon her signal.

Later that evening, in the presence of his mother, Fred was assigned some simple work tasks and told that he could play his electric guitar if he completed those tasks but that the guitar would be taken away for a day if he did not perform to the satisfaction of his mother. He was told that his mother would immediately contact the counselor upon his refusal to comply. The counselor left the house and waited across the street. In 25 minutes the mother signaled. She reported that Fred had thrown a chair down the stairs and threatened to "beat her up" if it was reported. The counselor immediately confronted Fred, told him to begin making a wooden paddle with the broken chair, and removed his prized guitar. The counselor stated that he would return the next evening. The mother was told that if Fred were left alone his behavior would be relatively tranquil during the next 24 hours. It was.

The next evening the counselor returned, checked off the assigned work tasks, inspected progress on the construction of the paddle, and then gave Fred a lesson on his guitar. Fred was praised for his work performance and assigned greater responsibilities.

Thereafter guitar lessons, including improvisation, were made contingent upon the completion of the assigned tasks. Work tasks became more involved and took longer to perform each day.

Fred responded well until the fourth day. An argument occurred with his mother "Because she's always trying to talk to me and won't leave me alone." The mother reported that she was very happy that Fred neither physically abused nor called her names, but she did express some doubts saying "I just don't think this different approach will work with Fred because every time I try to talk with him and explain how I feel, he somehow turns my words against me and then goes into his room to listen to music. I am deeply concerned that Fred just doesn't understand me."

Additional procedures were introduced at this point. The object was to develop communication skills of a pro-social nature between Fred and his mother while decreasing the emotional responses of anxiety and anger. Temporally graduated sessions were applied. The object was to increase the low frequency behavior of talking together while relaxed, by pairing with a high frequency behavior of listening to music incompatible with intense emotional reactions. Fred selected several of his favorite recordings. Fred and his mother, with the counselor present, listened to one entire recording 30 minutes. The counselor then directed several questions concerning the music to Fred and his mother lasting 3 minutes. The second listening session was decreased to 20 minutes with attendant increase in questioning of 8 minutes. Following the third session consisting of 9 minutes of rock 'n' roll tunes, the counselor asked the mother to respond to one of Fred's views concerning the quality of the music. This began their first verbal interchange lasting 10 minutes. Later that same evening after Fred retired, the mother was instructed in methods of verbal reinforcement of attention and praise contingent on appropriate verbal behavior. She was given three 10-minute practice sessions in role-playing with the counselor acting the part of Fred. Subsequent communication sessions between Fred and his mother were gradually increased by 30 minutes and were always followed by guitar lessons. During the "communication sessions" recorded music was played in the background.

After four weeks the case was officially terminated. However, the total time investment of the counselor totaled 48 hours. Formal guitar lessons were arranged through a local teacher and Fred was helped to secure a part-time job at a music store.

This case demonstrates several procedures common among behaviorally orientated therapists: (1) The treatment took place in the home where the problem occurred. There is no reason to expect behavior to transfer to extra-therapy situations unless stimulus generalization is assured; (2) behavioral shaping by successive approximations to the desired terminal goals to teach Fred to perform social work tasks of ever increasing duration and complexity as well to teach communication skills; (3) the therapist takes the responsibility for defining explicit, measurable, socially appropriate goals of treatment; (4) Fred's mother was taught through role-playing how to deliver appropriate verbal reinforcers; (5) the therapy used effective and socially appropriate reinforcers, including guitar lessons was provided as well as removal of the guitar; (6) the contingent delivery of guitar lessons for completed work tasks; (7) elements characteristic of "desensitization" also occurred when Fred and his mother were taught to interact without the high level emotional responses of anger. And, lastly (8) a large investment of time in initial stages of therapy with a lesser time investment as pro social behavior increases.

Intermittent short-term follow-up indicated that both Fred and his mother continued appropriate behavior without any other arrests, beatings, or verbal abuses. Fred purchased a large guitar amplifier with his own money and gave money and, (on appropriate occasions) presents to his mother. In referring to his past behavior Fred stated that he was "immature" (Madsen & Madsen, 1968). Long-term follow-up across many years indicates that Fred continues to do well.

There has been some resistance from certain psycho-dynamically-oriented clinicians to place music therapy within the realms of the behavioral movement and reasons some therapists may reject this proposal should be analyzed. There has been in the past a great resistance to some of the language and terms used by the therapist of

the behavioral school to describe what it is that the therapist does. One often hears that the behaviorist attempts to negate the complexities of human behavior; or that they deal only with the *minutiae* of minor motoric behavior; that the behaviorist's clients will become mechanized or in some unknown way dehumanized.

These misunderstandings can quickly be answered if one goes to the writings of the many well-known music therapists who call themselves behavioral clinicians. In the literature the word "behavior" includes motor behavior, but it is also used to denote emotional responses, as well as cognitive and ideational behavior. The term "conditioning" is a descriptive general term and refers not only to classical and instrumental procedures; it also includes learning by association of a central nature as well as the methods by which this learning is completed.

Even though the term "behavior" does include a more complex set of operations, the crucial question is not whether the term may be stretched to encompass most clinical behavior, but whether the manipulations involved have been subjected to scientific scrutiny. Our basic concern should be for experimentation based upon control and manipulation of the behaviors and instruments involved. In this manner the field can continue to build research documented procedures across the full gamut of problems for which clients seek relief.

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