A STUDY TO DETERMINE THE VALUE OF MUSICAL THERAPY IN CHANGING BEHAVIOR

THESIS

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By

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CHAPTER I

INTRODUCTION

In recent years the use of musical therapy has assumed new significance. Numerous studies dealing with this problem have been made, particularly studies to determine how to administer music as therapy. The earlier investigations were concerned primarily with experimental work done by doctors and nurses whose avocations were music. More recent studies have been made by those who believed that the physiological and psychological aspects of the case have much in common.

Problem

This study will attempt to evaluate the use of music in changing behavior patterns. The objective of the study is to show, through research and the use of actual case studies, that music can be used as the key to satisfy certain critical needs—whether orthopedic, medical, or psychiatric.

Van de Wall believes that musical therapy is applicable and of value wherever mental hygiene is a part of educational and social endeavor. However, he thinks the evaluation of the therapeutic function of a music program and the prescription for therapy are purely medical problems.¹

¹Willem Van de Wall, Music in Institutions, p. 340.
Podolsky thinks that music is of value in every complicated situation. He believes that music exerts pleasant effects upon the sound of mind as well as upon the mentally sick.2

In regard to music and life Ira M. Altshuler says:

Man, a product of Nature, cannot remain aloof to music because tone and rhythm, of which music is composed, have a strong affinity for living organisms. The whole animal kingdom is conditioned to sound and rhythm, and such vital processes as propagation and protection depend upon them.

The element of rhythm in music enters intimately into the problem of musical therapy. Man is essentially a rhythmical being. There is rhythm in respiration, heart beat, speech, gait, etc. The cerebral hemispheres are in a perpetual state of rhythm day and night. Even the slightest change in the body, such as opening or closing of the eyelids causes a change in brain rhythm. The brain waves differ in emotional states, fever, intoxication, infections and such conditions as epilepsy.3

The investigator wished to determine the value of musical therapy when used properly by those prepared to administer treatment according to the prescription of the physician, psychologist, or psychiatrist in charge.

Need for the Study

World War II saw the interdependence of music and medicine. The role of musical therapy was heightened in military hospitals, especially in the mental wards.

2Edward Podolsky, Music for Your Health, p. 7.

Many of the best therapists have been public-school music teachers. They have been responsible for transplanting musical therapy from the hospital and other institutions to the classroom. Through experimentation they have proven the usefulness of music in releasing blockings of various types that have been handicaps.

Psychologists, psychiatrists, and educators agree that now is the time to use musical therapy as it fits the individual's needs. Friends of medicine and music may see an opportunity to further the medically integrated use of music in the hospital service.

Definition of Terms

According to Webster's Dictionary, "therapy" means "the medical art of healing." Therefore, "musical therapy" cannot be a legitimate term unless applied under skilled medical control. An understanding between the therapists and co-workers is necessary to secure desired results.

Researchers have found it most important that the physiology and anatomy of the brain centers be known and their relation understood. They realize the unique and useful work of the thalamus, which is a subcortical brain center made up of gray matter lying below the master brain. The thalamus is the main relay station of emotions, sensations, and

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feelings. It is connected with the master brain by nerve pathways, and the stimulus of the thalamus almost immediately arouses the master brain.⁵

Many cases cannot be reached through the spoken word (that is, through the master brain), because they are inattentive, depressed, hallucinated, or in a state of anxiety, which makes verbal contact impossible. Music, which does not depend upon the master brain to gain entry into the organism, can still arouse the thalamus. Continuous awakening of this particular brain center brings closer contact between the master brain and the world of reality. With this scientific fact in mind educators, doctors, and musicians have faith in the practice of musical therapy.⁶

Sources of Data

The data come from recent books, reports, periodicals, and actual case studies. Schullian and Schoen's Music and Medicine, a late publication which relates experiences with musical therapy, has been very helpful. Edward Podolsky's The Doctor Prescribes Music has furnished a well arranged review of music as a therapeutic. Van de Wall's Music in Institutions, a fine report on the use of music in institutions in different parts of the country, has been very

⁵Dorothy Schullian and Max Schoen, Music and Medicine, p. 270.

⁶Ibid., p. 271.
resourceful. Crocker's case studies have been the most tangible aid in completing this study. These case studies alone should convince the skeptic of the value of musical therapy. Altschuler's many contributions, reports by the National Music Council, and many smaller articles that have had a bearing on the study have been utilized in trying to keep the information scientific as well as factual.

Plan of the Study

Chapter II will be a review of research in the use of music as a therapy. Chapter III will give justifications for the use of musical therapy. Actual case studies will help substantiate the belief in music as a curative. Chapter IV will relate specific uses of musical therapy in hospitals, industry, and schools. Chapter V will contain a summary of the problem, conclusions, and recommendations for the use of music as a therapy in the future.
CHAPTER II

REVIEW OF RESEARCH IN THE USE OF MUSICAL THERAPY IN CHANGING BEHAVIOR PATTERNS

Many individuals will consider musical therapy a comparatively new subject, whereas others will realize that music has been a curative since David played the harp to drive away the spells of melancholia from King Saul. The Hebrews used music in many cases of physical and mental illness.¹

The magic charm and entrancing power of harmony was symbolized by such demigods as Orpheus with his lute. Therapeutic technique was used in the temple rites of Apollo. Pythagoras astonished his people with his work in physics in connection with music. He called music a philosophy. His extensive use of musico-therapy in relation to diet created a new interest in music. In fact, he has been called the "father of psychotherapeutics." Hippocrates, "father of medicine," took his mental patients to the temple to listen to music in 400 B.C. Aristotle ascribed the beneficial effects of music as an "emotional catharsis."²

¹Holy Bible, I Samuel 16:23, King James Version.

The most illustrious of the early therapeutic seers, Paracelsus, drew upon the power of this art in his ministry for varied ills, mental, moral, and physical. Furthermore, Homer recommended music to avoid fatigue, to subdue fear, worry, sorrow, anger, and to promote healthful recreation. He believed music was medicine for the soul and an aid to digestion. The wounded Odysseus, in Homer's Odyssey, bled no more when a magic song was intoned.³ Antrim states that the Arabs in the thirteenth century equipped their hospitals with music to occupy the minds of their patients.⁴

Voltaire was not wholly satirical when he remarked that one goes to the opera to promote digestion, for he wrote music as a means of escape from the actualities of life. Writing music and participating in its execution or appreciating it from the audience aided him in his behavior.⁵

Musical therapy, once popular in antiquity, continued to be applied throughout the years. When music played such an important part in the cult and religious medicine was so much in the foreground, musicians were almost overworked. If persons of high standing were sick, their court musicians

³Podolsky, op. cit., p. 13.


⁵Sidney Licht, Music in Medicine, p. 82.
wrote special compositions, if not to cure them, then at least to cheer them.\footnote{Schullian and Schoen, \textit{op. cit.}, p. 96.}

One of the outstanding uses of music as a therapy in the seventeenth century was for tarantism, a strange disease, for which the only cure was music and dancing. This malady occurred in Apulia where it seems to have localized for centuries. It was frequently mentioned in medical literature, but mostly by people who knew it only from hearsay. Sigerist was able to secure reports from two reliable physicians who lived in Apulia, saw cases with their own eyes, and wrote detailed descriptions with case histories.\footnote{Ibid., p. 6.}

Baglivi, one of the doctors, describes the locality and the disease in the following words:

Apulia, a part of Greece, lies eastward and stands exposed to eastern and northerly winds. In summer its showers are very infrequent, and, in a word, Apulia is exposed to the scorching beams of the sun, by virtue both of dryness of the soil, and of its vicinity to the east; and the inhabitants breathe in air that feels as if it came from a burning oven. . . . This temperament of climate is matched by that of the inhabitants; for generally speaking they are of a hot, scorched, constitution. . . . They are subject to ardent fevers, frenzies, madness and inflammatory diseases.\footnote{Ibid.}

Baglivi points out that the tarantula is venomous in Apulia only and nowhere else. The people who were stung by

\footnote{Ibid.}
the tarantula were affected by a disease called tarantism. It always occurred at the height of the summer heat.

Baglivi said:

People asleep or awake would suddenly jump up, feeling an acute pain like the sting of a bee. They would run into the street, to the market place, or where they could join others, to dance in frenzied excitement.9

Music and dancing were the only effective remedies. People were known to have died within an hour because music was not available. Baglivi said: "Some continue dancing without intermission until instruments become out of tune. Then, they writhe in anguish while musicians tune up."10

The music used for the dance was the form called the tarantella. Its pattern followed the rhythm of the victim's movements. Through the use of this lively music, tarantism finally died out. Whether the strenuous dancing threw off the poison through perspiration, or whether their dancing made them forget their illness, will never be known. However, medical testimonies say that Apulia, with its inbred population, had a high incidence of mental disease and that there can be no doubt that the great majority of all taranti were neurotics. Tarantism was a neurosis peculiar to that region.

According to Densmore, the American Indian had methods of treating the sick in the early days which are in use to

9Tbid., p. 8. 10Tbid., p. 9.
some extent at the present time. Their methods included the use of songs, either with the medicine man or in a public ceremony attended by many people and continued for many days. Dancing and singing to irregular rhythm were the curative. The change of accent and the ownership of their dream songs have lent a mystical power over their incantations. Healing songs used by the Chippewas, Menominees, Seminoles, Sioux, and Indians of Panama and Santa Domingo had a change of accent rhythm different in metric unit or tempo to that of the voice or accompaniment. Herbs were administered along with the songs which substantiated their faith in the healing powers of music and associated medicine.

About 1895 Binet and Courtier found that lively music caused an increase of blood in the brain, as well as a livelier pulse. They concluded that music should be looked upon as an important force preventing mental ill health.\(^\text{11}\)

George Wharton James, the eminent psychologist, used music as a therapy about forty years ago in a mental hospital in Boston. He noted decided behavior changes, but the methods of administering music as a therapy were very crude at the time.

About ten years later Van de Wall applied his musical belief that music was potentially the most powerful of

mood-conditioners. After he saw drawn faces and staring eyes change suddenly to relaxed and human-looking beings when he played and sang "My Old Kentucky Home," he knew his beliefs were well founded.12

Van de Wall says:

Music produces functional responses on the human being, owing to the fact that it is a dynamically and not an automatically functioning creature. The influence of music on any individual is subject to modifications from causes other than age or growth. Among these modifying factors belong physical states like exhaustion, illness, hunger, and physical discomfort generally.13

Altshuler has used music to treat mentally-deranged patients at Eloise Hospital in Eloise, Michigan. They receive music at least five times a week. For each ward there is specially selected music. Soothing music is played for violent patients, whereas lively, stimulating music is used for those distressed or lethargic. When music is played, it has been observed that the patients respond by tapping their feet, drumming their fingers, or swaying their bodies to the rhythm.14

Musical therapy is being used in many hospitals and schools with wonderful results. The greatest hindrance in the use of musical therapy has been the lack of properly

12Van de Wall, op. cit., p. 76.
13Podolsky, op. cit., p. 37.
14Van de Wall, op. cit., p. 226.
trained therapists. Since all musicians do not have the temperament suitable for work with special cases, much of the real pioneering has been done by staff workers and attendants.

Music teachers using music therapy have been interviewed in relation to the many adjustments and changes that have been made with school children with the use of musical therapy. As the colleges train more students in the science of musical therapy, not as a source of solving the employment situation, but to aid education in stabilizing the emotions of the youth, the educators have hopes of forgetting discipline.

At present the therapist knows little about musical pharmacology. Altshuler says that the therapist should have an exact knowledge and understanding of the musical elements, rhythm, harmony, melody, tone, color, and dynamics. An understanding of the temperament of the patient to whom the music is being administered is also of vital importance.\textsuperscript{15}

Regular reports are being made by The National Music Council Bulletin on the progress of musical therapy and its associated fields. A glance through the many reports that have appeared in the Bulletin shows what varied programs are offered in large institutions.\textsuperscript{16}

\textsuperscript{15}Altshuler, \textit{op. cit.}, p. 17.

CHAPTER III

JUSTIFICATION FOR USE OF MUSICAL THERAPY

Music is a purposeful production of sounds associated with certain definite emotions or with concepts of beauty. Through scientific research and observation it has been discovered that pleasant sensations and moods are created through the stimulus of music. Often recollections and desires of the performer or listener are revealed unconsciously when stimulated by music. Conflicts of the patient's inner life are appealed to and are brought out. Therefore, music has been and can be of practical use. It fulfills vital psychic and social needs of man.

Savill has said:

Music arouses the same spiritual enthusiasm as can be awakened by prayer. The mind, so receptive to music becomes so modified, or tuned up, that it is rendered more aware of the material world.¹

One boy in the psychopathic ward at St. Alban's Naval Hospital said to the music instructor:

Would you play something that would remind me of home--a Strauss waltz, maybe, or some church music--just anything to help me remember my home? It all seems so dim and distant to me.²

¹Agnes Savill, Music, Health, and Character, p. 219.
Antrim reports a case that was treated for amnesia in the Chicago Hospital for the Insane:

A young mother whose mind became deranged at childbirth so that she lost her identity and refused to see her child was restored to normal on hearing Brahms 'Lullaby.' She never seemed depressed after that. 3

A case mentioned by Podolsky was that of an Italian girl who had not spoken a word for three months. Upon hearing "O Sole Mio" she talked fluently. An elderly women, who had forgotten her name and did not know where she lived, regained her memory when she heard "Silver Threads Among the Gold." 4

Bender, who worked with so-called problem children in the court-of-last-appeal in New York, reports the case of a seven-year-old boy who was a hyperkinetic, destructive, domineering, and terrifying to others. His family locked the doors, disconnected the gas, and watched him in every movement. When he was first admitted to the psychiatric ward, he could not sit still; he ate too fast, vomited, and lost weight. In fact, he exhausted himself as well as those around him. Finally, he was placed in a group that had three music lessons daily. When given a tambourine, he fell in line with the other children and marched and sang with real enthusiasm. This was the first time he had been able to

4Podolsky, op. cit., p. 41.
expend energy harmlessly. From that time on there was no trouble with him.  

Moods have a biological foundation. The activity of the brain and the blood determines moods. The "blues" and boredom can be relieved through the use of music. Study of instruments has been very effective in the schools for handicapped children.

Antrim has reported the following case, which proves the value of studying musical instruments:

Among the patients at the Dowling School for Crippled Children, in Minneapolis, there was a girl without hands and feet. Her sole ambition was to play the trumpet. Knowing that this was a decisive factor that would determine her future outlook on life, special devices were made to use with her remaining arm stumps. The trumpet was a challenge. It called forth her very best efforts. She not only learned to play the instrument, but became first-chair trumpeter in the high school band and orchestra. This girl was completely cured of the blight of a handicap.

Such musical therapy is now used in a number of children's hospitals with wonderful results. Lack of funds seems to be the main reason for more institutions not using it. The North Carolina Orthopedic Hospital has a music faculty of five who give individual and group lessons in music. Primary children sing and play rhythm instruments of their choice or those that


will aid in physical adjustment. Although most of them are flat on their backs or in wheel chairs, they manage their instruments in a most surprising way.  

All children have the same qualitative make-up. Exceptional children differ from normal children quantitatively; they differ in degree and amount, not in the quality of various traits. From this it would seem that exceptional children are as capable of learning as normal children, but they need to be approached differently.

Wolf attempts to defend the above statements by quoting Van de Wall:

... the musical arts are valuable for mental treatment because they may be enlisted for redirection of tendencies and thinking that have been seeking emotional satisfaction on pathological levels.

Wolf cites the following case of a girl with an intelligence far below her years:

The girl was musically gifted, but found recognition of notes extremely difficult. Her reading ability was very low. By making the note system on strips of paper, she finally mastered them. Instead of calling them notes, the teacher called them apples, apples on a stick, and apples on a shelf. Many visual aids were utilized and often made entertaining by introducing games. When the girl confided that music was her only source of enjoyment, the time and effort spent with her was compensated.

7 Ibid.

8 Margaret Wolf, "The Maladjusted or Exceptional Child in Music Instruction," The Etude, LX (August, 1942), 519.

9 Ibid.
In regard to the case of a boy with a high intelligence, Wolf states:

Another pupil, an eight year old boy of high intelligence but of unawakened musicality, was shut up within himself. He was a stutterer and refused to talk. Through his participation in singing games and rhythm bands he forgot himself and talked without any impediment.  

One of Summa's orthodontia cases was a little boy who was a mouth breather. Casts were made of his protruding upper arch. He had bad eyes and a sunken chest, was small for his age, had stomach trouble from swallowing his food whole because of the pain involved with chewing, and was listless and dull. Summa advised the use of the trumpet. In one year's time a complete cure of the orthodontic condition was evidenced. The boy ate well, developed naturally, and became more sociable as his ability in playing the trumpet increased.

It has been proven that excitement of the brain by musical sounds increases the flow of blood in other parts of the body. Lively music will cause an increase of blood in the brain as well as a livelier pulse. This explains why lively music activates and slow music rests the brain after too much activity.

\[^{10}\text{Ibid.}\]
\[^{11}\text{Doron K. Antrim, "Music Therapy," Musical Quarterly, XXX (October, 1944), 418.}\]
\[^{12}\text{Podolsky, op. cit., p. 42.}\]
A psychiatric case in the locked ward at St. Alban's Naval Hospital had not spoken for months. He sat listless, lethargic, oblivious of what went on around him. Then one day an instructor teaching the boy next to him to play the banjo thought he saw a flicker of interest in his eyes. He asked the listless boy if he would like to try it and was surprised when he nodded his head and reached for the instrument. Soon after this incident the boy was able to go unattended for his lesson. Ed ended the case by saying that the boy was far from being discharged from the hospital, but was on the road to recovery.13

Apparently every child should study music, not only for the enjoyment, uplift, and enrichment of life it affords, but for health and proper physical development. Music develops the powers of concentration. A mind trained to read and perform music at sight with the required speed of reaction must have developed powers of concentration far beyond the mind that putters along at any speed its possessor may happen to desire to use at the moment.

Evidence of better concentration and improved behavior of the children through the use of music was noted at Shady Brook Manor, Richardson, Texas. Case studies from the school's files gave convincing evidence of behavior changes through the assistance of musical therapy.

The children at Shady Brook Manor are accepted only if they have a problem. Past experiences are considered; then progressive methods are used in testing the pupils to determine their abilities and their potential capacities. The family background, physical and mental, is studied. With the cooperation of psychiatrists, psychologists, and teachers, the child is started from where he is and developed as a whole organism.

Most of the children live at the school in an atmosphere of real American home life. They are allowed to have their own pets in order to create home-like surroundings. Each one, if able, has certain chores or duties to perform. Responsibilities give them a feeling of belonging to the family life which exists at the school. When difficulties such as listlessness or tantrums arise, the music therapist works with the pupil individually, unless the situation warrants participation of the group.14

Dorothy Brin Crocker, the music therapist, has made daily musical observations of the emotional behavior of the children under her guidance. These recorded observations have been very valuable in determining progress. A sample of the chart which she used is shown in Figure 1.

14Personal interview with Dorothy Brin Crocker, Music Therapist, Shady Brook Manor School, Richardson, Texas, May 18, 1950.
Uncooperative:
1. Antagonistic
2. Sullen
3. Resentful
4. Hostile (fighting)
5. Withdrawn
6. Excited
7. Nervous (fidgety)
8. Unable to concentrate
9. Extremely talkative

Cooperative:
10. Interested
11. Quiet
12. Relaxed

Fig. 1.--Emotional behavior chart

If a child was uncooperative, his individual chart was checked and music was used to change mood. When mood was changed, there was also a difference in attitude and behavior. The above chart was used in determining needs for those mentioned in the case studies that will follow.

The case studies that are being reported will be given exactly as they came from the files of the Shady Brook Manor School, Richardson, Texas. They are actual case studies made during the school year of 1949-1950 by Dorothy Erin Crocker, the music therapist.

Case 1.--This girl is under the care of a gland specialist and due to the glandular disturbance there are times when she is extremely restless and nervous. She is overweight and becomes so talkative (constantly asking questions) that it is almost impossible to teach a class with her present. She needs to have rhythmical music to encourage physical response, rather than incessant talking. She responds to rhythm and melody more than harmony.
Mood at Beginning At End of Period Music Used

6, 7, 8, 9 12, 9 improved "Country Gardens"--Grainger
"Shepherd's Hey"--Grainger
"Spanish Serenade"--Bizet

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Fig. 2.--An emotional behavior chart for Case 1, with music used in changing behavior.

Conclusion: The strong marked rhythm met her excited feeling and absorbed her body excitement. By holding her interest and redirecting it, her feelings were released enough to change her mood.

Case 2.--This boy of nine years talks to himself a great deal when he becomes upset and nervous. Not only is it disturbing to the group, but it is almost impossible to regain his attention.

This child absolutely cannot be exposed to loud dissonant music. Loud pieces are very disturbing; soft dissonance is mildly disturbing, but the combination of the emotional effect of dissonance and music played fortissimo is unbearable. He responds to melody best, then to smooth rhythm.

Mood at Beginning At End of Period Music Used

5, 6, 7, 8 10, 9 "March of the Dwarfs"--Grieg
"To Spring"--Grieg
"Clair de Lune"--Debussy

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Fig. 3.--An emotional behavior chart for Case 2, with music used in changing behavior.

Conclusion: Active imaginative music reaches this boy, and even with a very short span of attention he retains a large part of the lesson material.

Case 3.--This eight year old boy was always antagonistic. He was not accepted by his classmates, and his reaction was hostility, sullenness, or resentfulness.

When he drew to music, his drawings were big, bold, and very defiant. His lines were very jagged.
After music therapy was given privately for several weeks, his drawings and behavior became more like that of a normal child. His lines were smoother. He felt free to use his imagination and draw as he pleased, but he stayed within the range of his everyday experiences. His school work improved, and his teachers felt that his attitudes, also, improved.

Case 4.--This five year old girl had terrible temper tantrums when her parents did not agree to her whims. Her eight year old sister had been able to accept her as a baby, but when she was old enough to compete at all, she became a threat to the older girl's place in the family. After the psychiatrist's suggestions were made, music therapy was given privately to both sisters. When the older girl began to think of the younger girl as competition, she unconsciously rejected her. The younger sister was rebelling in full force at being cast out of her older sister's affections. Each girl was helped to realize her own place was secure in the family circle. This was done through the medium of talking about the other sister, to the music therapist, by using musical themes, on the piano, to represent how she felt about her sister. The therapist improvised as the girl 'talked to the piano.' (Children are often so excited about composing a piece that they will talk very freely and thereby release pent-up feelings.) Music stories with plots similar to their situation were played each week. The younger child has stopped having temper tantrums, and the older girl is beginning to think less about herself and more about other people.

Case 5.--This boy was extremely neurotic, with a background of both neuroses and psychoses on one side of the family. He had a severe case of the 'tics,' and was seriously blocked emotionally. He was of normal intelligence, but low in concrete performance intelligence, and extremely low in social intelligence. In order to prepare him for his own composition, several periods were spent with my improvising for him. We discussed everything we saw near a tree in the yard, because to really compose a piece about the tree meant that everything concerning it should be mentioned.
We talked about the cook; why he liked her, the way she talked, looked, laughed, acted, got angry sometimes, and often had surprises for the children. Then I improvised and put in the music all the things we had mentioned. I had kept notes, and from time to time would say, 'This is the part where she had chocolate cookies for a surprise.'

Next, we improvised about an airplane which flew over the house. He went to the piano and played a few notes for me to play over and over for the hum of the motor. He wanted pretty chords because the clouds were so pretty and suggested it start in the bass when the plane was on the ground, and go above to the treble when the plane was high. When he began suggesting ways for me to play, I knew he was ready to make up themes about his mother.

The next session brought complete freedom in discussing his mother. His theme involved uneven rhythms and had very little melodic beauty. The harmonies he chose included the dominant seventh and the major and minor triads.

He is not musical, and even though he has a pretty good imagination, he is afraid to let go and use it because of having been called a liar so often.

He told so many things about his mother; he told me a lot of things his mother did not know he had done, and asked me why she had done this and that when he was a little boy.

Later, when the psychiatrist, to whom he had been going regularly, checked the notes of our interview, it was discovered that the boy had finally released things which had been buried deep in his subconscious self. He had suffered a bad emotional shock before he was old enough to go to school, but had never mentioned it before.15

From the above cases it can be seen how much power music has in breaking down barriers that are detrimental to the individual. There are many similar cases under observation.

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15 Case studies made by Dorothy Brin Crocker, Music Therapist, Shady Brook Manor School, Richardson, Texas, during the school year of 1949-1950.
However, they would all prove the same thing, for music has that quality which is not common to other arts. It can awaken the master brain through the relay station known as the thalamus. As more is learned about how to administer musical therapy, one can expect more of it.
CHAPTER IV

SPECIFIC USES OF MUSICAL THERAPY

Music has been used to comfort the sick since time immemorial. Only during the past twenty-five years, however, has it been introduced in hospitals and other institutions, particularly those for mental and nervous diseases. Many school children fall in the latter class.

It is more important to know that all music used cannot be termed musical therapy. Colloquially, therapy is frequently used in a broader sense to denote various forms of treatment, some of which are medically prescribed and others which are not, but all of which are designed to counteract or terminate destructive processes and conditions favoring such processes.

Doctors welcomed music into their field, although some of them still consider it an adjunct to medicine instead of a therapy. One doctor was quoted as having said: "We think of music specifically and therapeutically as a direct non-verbal approach to the individual's emotions."¹

The use of musical therapy has grown since World War II. Regardless of how it is used, it should be applied according

to the individual's needs and tastes. The therapist should have an exact knowledge of musical elements, rhythm, melody, tone color, harmony, and dynamics, with full understanding of the ways in which it should be administered. The main reason for the effectiveness of musical therapy is that it treats the whole person.

Hospitals have been using music for wounded veterans as a rehabilitation measure since World War I. Doctors have developed the fact that music is invaluable in physiotherapy for hands and arms. Shortly after music was found to be useful at St. Alban's Hospital in New York, more than one hundred musical instructors were at work in seven army, navy, and veterans' hospitals. Over thirteen hundred veterans were fortunate in receiving training on one or more of seventeen instruments or in voice; they also had instruction in composition, theory, sight reading, and harmony, if they so desired.²

Other institutions followed this wonderful example. It has been found that a patient in a cast without any use of limbs can be given vocal training as an aid in changing his mood. Bed-ridden patients with partial use of hands and arms are able to play wind instruments, because most wind instruments can be held from a reclining position. A wheel-chair patient can rest a guitar easily in his lap. The piano is

²Eed, op. cit., p. 32.
best for the ambulatory cases, as it offers the greatest possibilities for developing muscular control. Not only muscles and nerve fibers of the hands, but those of the arms, and even the shoulders are strengthened because of the piano technique. Some hospitals encourage the tuberculars to use the organ since it is played with a very light touch, requiring minimum amount of exertion.  

Veterans who had found squeezing a ball to strengthen injured muscles in their hands maddeningly monotonous were given clarinets and a professional instructor. Music broke the monotony, refreshed their interest, and provided pleasure while treatment was in progress.  

The study of an instrument has been considered of genuine significance in evoking certain psychological and emotional responses conducive to the well being of the individual. The patient is aided in making adjustments and is provided with a means of whiling away long, weary hours. Behavior is changed when tedious hours are filled with the aesthetic and therapeutic values of music.

The achievements of musical therapy have been spectacular in the psychiatric wards. A veteran of World War I who had been in the psychiatric ward for eighteen years first saw reality when he tried to sing with the hospital glee club.

3Ibid., p. 33.
4Ibid., p. 51.
His interest grew so rapidly that he studied harmony and counterpoint in order to compose music of his own. 5

Seeing the release of tensions, the improvement in morale, and the repair of physical injuries with the aid of music, two interested doctors created a new device which is called a theripiano. It is a clavier-type keyboard, which can be attached to the piano and can be regulated to require pressures from the very lightest touch up to six and one-half pounds. 6

Nothing has been so satisfactory with insulin-shock treatments as musical therapy. Different types are used for sedation, excitement, or for recovery from coma. The same can be said for its use with hydro-therapy. Music for such cases is selected according to the patient's temperament or it is chosen to suit the needs of the individual or the group, depending upon the nationality. It lessens the patient's feeling that hydro-therapy is a punitive measure. Folk songs have been found to be a safe choice. As a rule, mental patients go back to their earliest experiences, seldom giving thought to the present or the future. That is why folk songs and tunes of earliest childhood awaken memories and bring responses. 7

Argus tells about phobias being a head-start for the asylum. He had fears without real cause; nevertheless, they

5 Ibid., p. 32.  
6 Ibid., p. 51.  
7 Schullian and Schoen, op. cit., p. 275.
became obsessions. When concentration was impossible, he began playing the piano, which helped him escape from mental anguish. He says: "Music, and by that I mean the ability to play, to my mind is the finest antidote for depression, worry, and fear." 8

The systematic application of medically coordinated means of modern hospital treatment is still in its infancy. However, the clinical experiences at Eloise Hospital, Eloise, Michigan, indicate that the mood and mental tempo of psychotic patients can be influenced more readily by music if a special approach is employed.

In clinical work where all degrees and kinds of psychoses are found, a survey is made of the ward prior to the group-therapy work. From the survey, music is allocated to fit the needs of the patients, considering nationality, sex, mean age, depression, and pre-occupation. Whenever possible the different groups are segregated after the therapist determines their needs.

"What will you have for your operation tomorrow, popular, classical, or semi-classical?" 9 This has become a routine question anesthetists ask surgical patients at the University of Chicago Medical Clinic. The serenading is combined with


9"Music Helps Soothe Patients As They Undergo Surgery," South Bend Times, June 17, 1950, p. 3.
anesthesia. Piped-in music from a central recorder room per-
mits surgical patients to hear Beethoven, Victor Herbert, 
Perry Como, and others. Children are offered tunes from 
Cinderella, Pinnochio, and many other delightful records.

A study of one hundred patients was made while they were 
hearing the surgical sonatas. The anesthetists found less 
emotional disturbance when music was used. Results with mu-
sic were determined by the reaction of the patients and by 
the reduction in quantity of the anesthetic agents used.

Many physicians and dentists have found music helpful 
in their offices. Patients suffering from insomnia have 
been known to fall asleep in their doctor's reception room, 
where music was flowing softly and soothingly. Behavior of 
the patient is controlled by the music.

Summa, an orthodontist, did much toward correcting cleft 
apalates and general profile by the use of wind instruments. 
His followers have seen wonderful results for the unfortunate 
child who otherwise might have had an inferiority complex re-
garding his appearance.10

The effect of music on the mind is important, especially 
with convalescent and maladjusted children. Music changes 
bad moods to good ones. When sick children are moody and de-
pressed, music tends to change that mood for a happy one.

10Doron K. Antrim, "Music Therapy," Musical Quarterly, 
XXX (October, 1944), 418.
The House of the Good Samaritan, a research hospital for the study of cardiac diseases, has used music for a morale builder and for the quieting effect necessary for heart cases. Since most of their patients are children, their doctors have advised the use of the dulcitone, a portable keyboard instrument, the tonette, which is flute-like, and tunable tumblers. While occupying the patients' time, these instruments give the children a feeling of capability, a sense of the beautiful, and a desire to improve physically.¹¹

According to a report issued by the Grasslands Hospital in Vallahalla, New York, the children confined there take exercises to music for the re-establishment of muscular coordination, where this power has been diminished as a result of shock or from physical disabilities. They sing songs that call for clapping hands, waving arms, or wiggling toes. Attendants have found that the children can endure the pain caused by exercises and remain more cheerful when music is integrated with their activities.¹²

Music teachers using musical therapy to assist children with problems have been interviewed and have given evidence of many changes that have been made in behavior, attitude, and achievement. Shady Brook Manor has used music as a therapeutic in changing behavior and has received gratifying

¹¹Schullian and Schoen, op. cit., p. 182.
¹²Ibid., p. 183.
results. Each child's problem is studied by the teacher with the aid of the psychiatrist, the psychologist, and the music therapist. The problem might be a speech defect, a frustration, a reading block, or it might be simply a case of tantrums. Whatever it is, there is need for correction. In many cases the child has been helped to solve his problem through the use of music. Some children participate, others create, and a few choose melodies improvised by the therapist. The last method has served as a form of analysis of the child's innermost feelings, and it often acts as a key to his problem.\(^\text{13}\)

The Methodist Orphanage at Waco, Texas, does not pretend to use music as a therapy, but through the use of various types of music, the children's attitudes have been kept happy and cheerful. Children are admitted if one or both parents are dead; thus, many of them harbor feelings of "not belonging" or "not wanted." With the skillful use of music many of these children are given assurance that they have become a part of one big family. They have their choice of instruments and singing groups.\(^\text{14}\)

Rugg and Shumaker suggest that the arts program should be flexible and so tentative that educational units may be

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\(^\text{13}\)Personal interview with Dorothy Brin Crocker, Music Therapist, Shady Brook Manor, Richardson, Texas, May 18, 1950.

\(^\text{14}\)Personal interview with Doris Hulkey, Music teacher, Methodist Orphanage, Waco, Texas, May 25, 1950.
developed and planned in part by the pupils. They emphasize the need for self-expression through rhythm and appreciation to relax and relieve tensions of school children.\textsuperscript{15}

Berndt thinks children benefit therapeutically from music in the regular classroom if it is for pleasure and not a period of theory. He indicated that a restless group relaxes and forgets misdemeanors when singing or dancing is integrated, regardless of schedule.\textsuperscript{16}

No child really wants to be naughty. All children are hungry to be accepted and given attention. A failure to control themselves is first expressed by a wiggle, then by pushing or shoving the nearest neighbor. Give them music for release. Play a record for listening or for activities such as marching, skipping, and running. If it is played for listening, integrate the music with art by drawing a picture of what they feel, or finger-painting to the record's rhythm. All wiggles will vanish.\textsuperscript{17}

Just as a child responds to a given stimulus, so is he able to sing, apparently without conscious thought, using tunes and words of his own creation. Children of low intelligence quotient and frustrations are susceptible to the influence of music. Intelligence has no bearing upon appreciation. Little folks like to create, whereas the adolescent is approached through operettas and cantatas.\textsuperscript{18}

\begin{itemize}
\item[16] Otis and de Manziarly, \textit{op. cit.}, p. 21.
\end{itemize}
The effects of music on the muscular system have been utilized in industry. An experiment was made in a chocolate factory in Britain to determine the effects of music on boredom and fatigue. It was decided that music reduced dips occurring at the time of day when fatigue was greatest.\textsuperscript{19}

Since then music has become a new tool in industry. Duck's investigation proved that pleasant music dispels boredom, breaks monotony, reduces accidents, eliminates absenteeism, and boosts morale generally. Duck says: "Music is not a cure-all for every industrial bottleneck, but it does work wonders. Music is an oil that lubricates industrial relations."\textsuperscript{20}

At Bristol-Meyers Company in Hillside, New Jersey, opera and various types of music were provided through a broadcasting system for the employees. Music was provided at four different periods each day. It was found that employees went through their daily work in a better frame of mind and with less fatigue. Efficiency was increased with greater enthusiasm, and there was less distraction from the tasks required.\textsuperscript{21}

\textsuperscript{19}Schullian and Schoen, \textit{op. cit.}, p. 353.

\textsuperscript{20}Edward J. Duck, "Music As a Modern Industrial Tool," \textit{Education}, LXIX (January, 1950), 7.

\textsuperscript{21}Podolsky, \textit{op. cit.}, p. 71.
There is now a definite trend among employers to furnish some sort of music during working hours. The Medical Research Council has reached the conclusion that music used therapeutically in industry alleviates fatigue considerably, with resultant production increases of 6 to 11 per cent. 22

Music is regarded by a great many people as a necessity for the dinner table. To them music is as important as salt and pepper. Dinner music is not a recent innovation. From the earliest times music has brought an aesthetic dignity to the act of eating. Music has marked value in jaundice, liver complaints, and indigestion. Singing involves deep breathing, and deep breathing brings about oxidation of body tissue, which causes hunger and increases the appetite. 23

The stomach is a sensitive organ and reacts quickly to any emotional change. When the stomach is upset, the pylorus (a muscular structure at the base of the stomach) closes. Acids form; the person is upset, shows signs of drowsiness, and becomes irritable.

When there is music to be heard, there is an outpouring of gastric juice. This outpouring acts as a flushing device. The food is digested properly and the person is happy. When disposition is good, behavior is excellent. 24

22 Doris Soibelman, Therapeutic and Industrial Uses of Music, p. 175.
23 Podolsky, op. cit., p. 87.
24 Ibid., p. 88.
Music may serve either as a strong emotional catharsis, as a mild stimulant, or as a sedative. Each has its place, but for dining, soothing music has been recommended.

The nerves in the stomach are very sensitive to musical stimuli. Crile found that digestion is influenced by two factors—glands and nerves. Music acts on both.25

Podolsky writes: "An overdose of Wagner, at dinner, is just as disastrous for the stomach as a powerful drug."26

From the foregoing statements it is evident that the emotional content of most music has an intangible value in behavior. "Music should become as much of a daily factor in building and maintaining health as proper diet and sleep."27

25Ibid., p. 89.
26Ibid., p. 92.
27Ibid., p. 132.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The problem of this study was to determine the value of musical therapy in changing behavior patterns. Research was made that dated back to Biblical times and extended up to the present year. The use of music in hospitals, in industry, and in schools as a therapeutic was given careful attention. Some information was obtained by correspondence, whereas part of it was secured through personal interviews. Case studies to substantiate the value of musical therapy were found in research and in the files of special schools. The conclusions which follow are based upon the data which have been given in detail in the previous chapters.

Conclusions

From the remarkable results reported, it would seem that music has a definite place as a treatment and activity in the hospital, in industry, and in the schools. Great strides have been made through scientific approach in the use of music as a therapy, but musical therapy is still in its infancy. When behavior can be changed to re-establish normal living, it must be conceded that music has power. The musician who practices therapy is destined to play a very
important role in the care and treatment of nervous and mental
diseases, as well as in mental hygiene. The musical therapist
will have to be trained in psychology and related subjects so
that he can be closer integrated in his work. In fact, the
musician should be able to fill a music prescription written
by the psychiatrist. He should keep his music artistic, but
he should fit it to the needs of the individual or segregated
group. This is a wonderful opportunity for the properly
trained musician to serve humanity.

Recommendations

It is recommended that music teachers explore the field
of musical therapy for ways and means of developing skills
with which they can help relieve the children's problems and
improve upon the methods of administering music as therapy
in hospitals. The type of music used in the industries could
be improved by gradually raising the standards. More partici-
pation in any field of music will increase enthusiasm and lift
morale. In order to have well trained therapists there should
be more courses offered by the colleges that would lead to a
degree in music with a major in musical therapy. Courses in
education pertaining to personality and behavior problems
should be included.
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