Music and its behavioral effects on the mentally retarded

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MUSIC AND ITS BEHAVIORAL EFFECTS
ON THE MENTALLY RETARDED

by
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[Signature]
(Advisor)

Date May, 1973
THIS PAPER IS DEDICATED TO MY CHILDREN, DEBORAH, EILEEN, DIANE, KAY, MICHELE AND STEVEN. WITHOUT THEIR UNDERSTANDING AND COOPERATION, A VENTURE OF THIS NATURE COULD NOT HAVE BEEN POSSIBLE. SPECIAL THANKS TO SR. GABRIELLE FOR HER TIME, EFFORT AND PATIENCE.
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CHAPTER I

PURPOSE

This paper attempts to illustrate, through a review of pertinent research, how desirable changes in behavior have been and can be accomplished through the use of music. We shall illustrate how beneficial changes in behaviors of the retarded are brought about so that he will be better able to adapt and function in his environment.

Music's aesthetic value is not considered in this context, but rather, music shall be treated in terms of its function.

Functional music is that music which, when properly administered, accomplishes specific predetermined ends other than entertainment or pleasure. ... it should be clear that music may be used to achieve some end other than entertainment, pleasure, or beauty.¹

To best illustrate the use of functional music with the mentally retarded, it is necessary to discuss the nature, benefits and functions of music to all men.

NATURE OF MUSIC

"Music is... a universal human phenomenon. ... The ultimate interest of man is man himself, and music is part of what he does and

part of what he studies about himself." Man not only arranges

his environment into a system of constructs—a pre-
ar ranged design for living—but he must create. No
culture, no tribe has ever been satisfied with only
the sounds of nature. Man has made new sounds and has
placed them in a construct or system which is generally
and predominantly rhythmical, and sometimes melodic or
harmonic. . . . Music is of the essence of humanness not
only because man creates it, but also because he creates
his relationship to it. . . . Music is not an artificial
or mystical act, but an essential function of man which
now influences his behavior and condition and has done
so for thousands of years.

As can be seen from the description of music cited above, man's
most primitive musical response was to rhythm. This view is substantiated
by Weir. Gaston and Schneider go on to say:

When all cultures of man are considered, it is rhythm
that seems most fundamental. It is rhythm that crosses
most easily and understandably from one culture to another.
. . . It is rhythm that holds music to specification in
time. We ordinarily remember melodies longer than we do the words
of these melodies. Nevertheless, we remember words longer
when they are patterned to the rhythm of a melody than when
they are not. The importance of rhythm to the memory of words,
is demonstrated daily in our own lives by the use of jingles
for advertising.

Rhythmic responses were first used in the union of the dance with
music.

The priority of dance over song is clear from the large
number of dances which have no words and are entirely
self-sufficient and self-explanatory without them. The


dance is one of man's earliest attempts to move in an imaginary world of his own creation.  

Music and dance can be performed by soloists, but are usually done in groups.

One of the most important functions of group music is to bring the individual to full membership in the group, to make him feel accepted. This is one purpose of congregational singing in churches, singing in service clubs, and singing in convocations. When a person takes part in group music he is taking an active part on his own behalf as well as on behalf of the group. . . . The one time in America when more group music occurs than at any other time is probably on Sunday morning during church services. The function of much music is cohesion and integration of the group.  

Man, being gregarious by nature, becomes related to himself only as far as he becomes related to the group, fulfilling a human function because of the group's interaction.  

This need to congregate draws us to the conclusion that a vast majority of all music is concerned with the positive relationships which draw man closer to his fellowmen: love, loyalty, patriotism, and religion, to name a few. Consider popular music, folk songs, religious music, art songs, opera, patriotic music, and other musics. Nearly all of them have to do with love in one form or another. 

Music is shaped by culture, but in turn, influences that culture of which it is a part. "Thus, all music is patterned behavior. . . ."

It must be agreed upon by the members of its society. Thus, we see

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7 Gaston, Analysis, Evaluation, and Selection, p. 16.  
10 Merriam, Anthropology, p. 27.
music as a uniquely human phenomenon which exists only in terms of social interaction.  

Music from a functional viewpoint, is a basic means of communication which is much more subtle than mere words. It is the wordless meaning of music that gives it value and potency. "It communicates about feelings, about feelings in a way that words cannot, because of their inadequacy. There would be no music and no need for it if we could communicate verbally that which we easily can communicate with music." 

BENEFITS OF MUSIC

... by music a man becomes accustomed to feeling the right emotions; music has thus the power to form character, and the various kinds of music based on the various modes, may be distinguished by their effects on character—one, for example, working in the direction of self-control, another enthusiasm, and so on through the series.

"In these days of tension, anxiety and high pressure living, one of the best tranquilizers is music."

Within the last century, research has established the influence of music and rhythm on blood pressure, pulse rate and heart-beat, (cardiovascular system), internal secretion of glands, metabolism and sympathetic nervous system activities, on depth and tempo of respiration, 

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11 Ibid., p. 16.
functioning of the traverse muscles, and on involuntary reflex movements, such as pupillary reflexes to light. We know that moods can be changed through music, man's working ability improved, the onset of fatigue delayed, the sensory threshold lowered and the attention span prolonged. All these factors are important to man, but even more so to the mentally and physically handicapped whose more limited strength must be used as economically as possible.17

On the basis of research, doctors have started utilizing music in medical practice. Professor Mustafa Topchibashev, Jr., an Azerbaijani surgeon reports the use of music in his surgical practice. At his clinic in Baku, (one of the Trans-Caucasian Soviet Republics), specially selected melodies successfully supplement local anaesthetics. Soviet doctors use music mostly for disease prevention.18

Music was used by two Italian obstetricians to soothe thirty pregnant patients during labor. Twenty-seven reported tranquilizing results. In Rome, a patient with a nervous stomach disorder left the doctor's office with a long playing record of Bach's fugues marked, "Three times a day before meals." After playing the record the patient maintained that he was able to enjoy his first dinner in months.19

FUNCTIONS OF MUSIC

Music is a basic means of developing personality, character, spiritual and moral values, brotherhood, social harmony, culture and love of country, since it appeals to the emotions, the intellect, and the motor and sensory aspects of human nature. It is the most personal and, at


the same time, the most social of the fine arts. It reaches down into the soul of the individual and makes it possible to give expression to emotions that are too deep for words to articulate.20

If we would truly understand the role which music plays in the life of the exceptional child, we must first examine the values of music for the so-called normal child and what music does to help achieve a satisfactory adjustment. Some of the most valuable functions of music for the normal child are:

1. Emotional release and balance (free rhythmic activities and a developmental program based on rhythmic expression, circle and singing games, and moving into more patterned folk and social dancing).

2. Personal satisfactions and feelings of success (group singing, musical dramatizations, individual and group experiences built around the normal interests of children).

3. An orderly sequence of educational experiences (use of simple instruments).

4. Growth in social awareness (variety of group experiences suited to the physical, emotional, and mental capacities of the participants).

5. Satisfaction of the desire for achievement (success in the mastery of a skill, even though it be of the simplest type).

6. Means of changing behavior attitudes from negative to positive (functional and pleasurable individual and group experiences).

7. Expansion of horizons, enrichment in other areas of learning, and enhancement of human values (listening and the use of the inherent creative power native to all children).21


GOALS OF THE MUSIC PROGRAM FOR THE EXCEPTIONAL CHILD

Is there any reason why these same objectives and techniques cannot apply to the exceptional child as well as the so-called normal? From my own experiences I have found (often through trial and error) that the cerebral-palsied child can develop a happy functional experience through music if it is suited to his basic physiological and psychological needs; I have learned with the deaf and hard of hearing that the application of the law of vibrations can change behavior patterns from negative to positive; I am more and more aware that music for the blind child expands horizons, offers personal satisfactions, and enhances human values of living; I have discovered that through listening and participation the emotionally maladjusted child finds satisfactions and feelings of success which have far-reaching effects; and, finally, with those children who show a tendency to withdraw from the world of reality, music may prevent the closing of the door to reality and provide new avenues of self-realization through more constructive behavior patterns.22

Two basic considerations concerning the use of music with the exceptional child need to be understood:

1. "The exceptional child must first be considered as a child and in the light of normative growth and development."23

2. All children have similar emotional needs, although the expression of these needs may be distorted in the exceptional child. The intelligent use of music will be enhanced because of these similar needs. Music as a modality, will help to accomplish their gratification.24

Almost invariably, mentally retarded children respond to rhythm (music's most dynamic component) as do infants, senile and regressed patients. The retarded, having the same needs, desires and aggressions as others yet

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22 Ibid. p. 161.


24 Gaston, Basic Concepts, p. 296.
lacking normal intellectual means of expression, crave all the more for such emotional outlet which is within their reach and may yield immediate gratification. Verbal symbols are often too complicated and bewildering for these youngsters, causing them to withdraw, but rhythm and music can still provide contact and reach them on a non-verbal level.  

This has been observed frequently by parents and others who work with aphasic, brain-damaged or otherwise severely mentally retarded children. Under the influence of music and rhythm evident defense mechanisms are abandoned. Children who have been in constant motion may, at least temporarily, quiet down and listen.  

The retarded child has ego limitations which the normal child does not possess. He must be offered satisfying emotional experiences through creative activities of the kind suitable to his handicap and to his stage of maturity. He must be helped to develop some means of self-expression at his own level especially since it is usually in the communications skills that these children have the most difficulty. Music is one channel of communication which could contribute to the development of personality and it is also believed that music has educational values yet untapped.  

Music should play an important and continuous role in the total educational program for the whole child, i.e., his social, physical, spiritual, mental and emotional development.  

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26 Ibid.
To sum up the values of music in the life of the retarded child, the basic needs to be met are:

1. acceptance for what he is with adequate preparation for making necessary life adjustments in terms of his individual abilities and limitations

2. satisfaction that he is a valuable and contributing member of a group and of society

3. emotional release of tension

4. a media for expression

5. development of potential to the maximum through success in the performance of profitable activities.

In working with the mentally retarded child, we should remember that reactions are more important than knowledge, and expressive experiences are more important than the acquisition of factual information. He needs confidence and compensation for definite lacks, as well as feelings of security and adequacy in group situations. The child lacks initiative and is afraid to attempt things that are new to him. It is therefore necessary to present experiences and


34 Coogan, "Music-An Exceptional Medium", p. 489.

materials that will provide success, satisfaction and accomplishment at his individual level. . . . 36 "Thus, music acts as a bridge which spans the gap between the normal and the exceptional." 37

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37 Ibid., p. 495.
CHAPTER II

REVIEW OF LITERATURE

The literature reviewed shall be classified according to Heber's two-dimensional definition of mental retardation which states, "Mental retardation refers to subaverage general intellectual functioning which originates during the developmental period and is associated with impairment in adaptive behavior."

This concept of mental retardation provides two rich and complementary dimensions--measured intelligence and adaptive behavior. These two dimensions should not be considered independent of each other; they are correlated positively. However, the dual nature of the classification allows for the frequent discrepancies found in the level of performance in one or the other of the two dimensions.

Table 1 identifies the levels of measured intelligence. Table 2 lists the levels of adaptive behavior. Adaptive behavior is best explained as a composite of many aspects of behavior and a function of a wide range of specific abilities and disabilities. Intellectual, affective, motivational, social, sensory, and motor factors all contribute to, and are a part of, total adaptation to the environment.

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3Ibid., p. 76.
TABLE 1
Levels of Measured Intelligence

<table>
<thead>
<tr>
<th>Level</th>
<th>IQ</th>
</tr>
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<tbody>
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<td>Borderline</td>
<td>1</td>
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<tr>
<td>Mild</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
</tr>
<tr>
<td>Severe</td>
<td>4</td>
</tr>
<tr>
<td>Profound</td>
<td>5</td>
</tr>
</tbody>
</table>

TABLE 2
Levels of Adaptive Behavior

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<tr>
<th>Level</th>
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<tbody>
<tr>
<td>Mild</td>
<td>1</td>
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<td>Moderate</td>
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<td>Severe</td>
<td>3</td>
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<tr>
<td>Profound</td>
<td>4</td>
</tr>
</tbody>
</table>

One advantage of the use of behavioral and measured intelligence classifications is that it places emphasis on the present level of functioning of the individual. The teacher will be concerned with the individual's adaptation to his total environment, particularly with the way he copes with problems as they arise. Attention will be centered on the changes that occur in the retardate's behavior as he functions in the music activity, rather than on the musical outcomes. 4

It is to the teacher's advantage to know the developmental level of the retardate. A retardate may have a chronological age of fourteen, but his developmental level may be around four years. Motor retardation may be greater than often supposed as indicated by the research of Francis and Rarick. The fact that motor development may be considerably lower than the child's development in other areas emphasizes the need for individualization. We see once again, that intelligence quotient and mental age alone do not furnish sufficient data in indicating the best procedure.

We must base lessons and activities on the child's developmental level, taking into account specific learning disabilities and handicaps. Hunt, in testing the responses of various types of retardates to meaningful auditory material, found that the particular learning disability rather than the type of retardation is an indication of the retardates' responses. Physical, intellectual, emotional and social development are so closely interwoven that a handicap rarely affects just one area of the child's personality. "Music . . . is flexible enough to be adapted not only to the specific disability of the child, but also to each of the stages of his maturation."  

Classifications herein shall be based upon the previously mentioned information and therefore shall be very broad in range and scope.


MILDLY RETARDED

The mildly retarded (educable) population is estimated at 1,500 - 2,000 per 100,000 children of school-ages five to seventeen. Adults are likely to be capable of maintaining themselves in unskilled jobs but will need supervision in handling their social and financial affairs. Appropriate jobs include cleaning, harvesting and assisting skilled workers. Women are more capable of adequate married life because homemaking skills and social relationships are less demanding and stressful than public work. For some of the men, sheltered-workshop positions are most appropriate.

It is the opinion of Balkin that music should be an integral part of any educable group, and that the music program for an educable class need differ only slightly from that of a regular music class.

Working with the mildly retarded, we find that rhythm activities are essential... for it helps them develop coordination of their muscles and in turn helps them in their other studies and areas of learning.

Miller conducted a study which manifested significant results in the improvement of personality. Prior to the experiment, it was found that the subjects with an intelligence quotient range of 55-72

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had little basis for security in social contact. (Each child had a history of academic failure. The pupils attended the Lincoln Nebraska Junior High School class for mentally retarded pupils). Convinced that the greatest need for these children was to provide some activity to afford them confidence, a feeling of accomplishing, and group achieving, Miller postulated that, through regular participation, music and rhythm was perhaps the only area of the curriculum in which pupil growth could be completely unhampered by dependence on a basic body of factual knowledge.

It was found that singing and dancing were excellent for the involvement of total and simultaneous participation. The goals which were striven for were obtained by the use of music and rhythm situations. At the end of the study it was evidenced that music:

1. Improved the speech of the pupils in rate, diction, and enunciation.

2. Served as a positive emotional outlet through musical activity and dramatization.

3. Improved poise—embarrassment and shyness declined to the point of almost total absence in the group participation of the pupils.

4. Provided opportunities for individual initiative and leadership.

5. Improved dexterity and freedom of movement resulting in the attainment of retention and recall in musical activities, and in acceleration of initial learning rate to a marked degree.

6. Provided more significantly for the future of the individual child whose greatest growth was shown in their acceptance of each other, implicit in such practices as taking turns, sportsmanlike behavior, democratic selection of partners, and in self-discipline of the group.

The greatest meaning for each child, as a result of this study, was found to be the continued rewarding sense of achievement without which the other outcomes would not have
been realized. The author's structuring of this study, while controlling environment favorable to its effectiveness, is of special value.  

In addition to the above mentioned personality improvements, great strides were made between the initial and final marking stages on classroom behavior traits i.e., work habits, interest in helping self, co-operation with teacher, etc. There was a marked improvement between initial check list scores and the final scores. This shows that music does help to improve classroom behavior.

Two case studies by Weigl, conducted at the Flower and Fifth Avenue Hospital Clinic, exemplify the extensive use of music and rhythm in the improvement of muscle control, self-assurance, co-operation and the "satisfaction of being on the 'giving end.'"  

Studies conducted at the Edenwald School, Unit of Jewish Child Care in New York, and reported by Joseph and Heimlich are significant in their findings regarding children who were considered hopeless and who would show "no improvement." Results for one such child were reported:

While the formal music school is not the goal, it is a sign of Morris's wish to be part of the real, outside world where performance and not just verbalization is expected of him. He has since conducted himself in a much more mature and realistic fashion. The striking

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13 Ibid., p. 311.


17 Ibid., p. 48.
improved behavior has allowed for a far better adjustment in school and in social situations.18

The utilization of a child's interest in music to aid in other studies and areas of learning are reported by Gaston19 and Iogha-Kaliski.20 Gaston used receptive language skills to provide a basis for developing expressive language skills. Improvements in attitude, participation and higher performance on the Stanford-Binet retest were significant.

A rather unique case study is that of Iogha-Kaliski reporting on the use of music in the improvement of handwriting. Here we see that the teacher must begin where the child is. Through an expressed interest in music and rhythm and a desire to play the piano, a seven year old girl overcame her visuo-motor problems, improved her fine muscle co-ordination, increased her attention span, acquired left to right orientation and transferred the musical approach to her written classroom work with success. The teachers report that:

A musical approach has been beneficial to Joan. She is learning to express herself in a written form. Her rhythmic and musical capabilities helped us to lead her to her success in achieving the giant step she has taken in handwriting, thus opening another door in her developmental processes.21

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18 Ibid.


21 Ibid., p. 30.
The use of music, aiding in the development and bringing about changes in behavior in the children classified as mildly retarded, has been exemplified in the above mentioned studies. These studies also show that there is really very little difference, but much similarity between all children; they have the same basic needs and these needs can be met in many of the same ways.

MODERATELY RETARDED

In dealing with the moderately retarded, self-care rather than independent employment usually becomes the focus of attention. This range corresponds roughly to the so-called "trainable" group in so far as formal education is concerned. Many moderately retarded individuals who are able to remain with their families are well accepted in the neighborhood, and a few can hold regular full-time or part-time jobs, such as mowing lawns, routine laundry, and simple assembly. Most of these adults do useful work around the house with little or no supervision and can be left at home alone for several hours. Speech is usually understandable although simple and concrete. Hardly any of these adults marry, and although a few bear children, the majority apparently have little heterosexual social contact and few friends of their own.22

Many moderately retarded persons are able to live in the community, but others not capable of independent self care reside in institutions.

Retarded children who are institutionalized usually have more severe personality disorders than do children who reside in the community, although intellectually they may be much the same. The basic goals of music • • • whether provided for in the community or in special institutions, are basically the same: to help the children to higher adaptive behavior levels; to establish better interpersonal relationships, which some authorities consider a part of adaptation; and

to help them develop self-esteem. In accomplishing these goals, music sometimes enables retarded children to function more adequately than individual tasks would indicate.23

Graham24 reports of a case history where ten children of low measured intelligence (aged 7 to 10) were students in a special ungraded room of a public school in a large city. Each child was taught minimal techniques on certain rhythm (percussion) instruments. These children were then incorporated into a group that performed alternately as a rhythm band and as a free and unstructured music-making group. The music session was the only purposely designed group activity. The remainder of the day was spent in the special class curriculum that consisted of reading, writing, arithmetic and speech.

Conclusions drawn by the class teacher, principal and the music supervisor were that the students accepted each other more while taking part in the music sessions than at any other time of the day.

In a teacher survey conducted by Rowland,25 one hundred and seventy-two responses to the question, "Do you think the musical interest of the mentally retarded will correlate most with 1) chronological age; 2) mental age; or 3) reading level?" Teacher replies were 48% in favor of a correlation between musical interest and mental age with the remainder mixed (reading level with just a slight lead over chronological age).

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24Ibid., pp. 81-82.

As part of the same study, one hundred and thirty students were asked to reveal their personal preferences in song and record collections. The selections of the mentally retarded as compared to the normal indicate similar choices.

From this study we can conclude:

1. There was no significant difference between the musical interests of the mentally retarded children and those of normal children of the same chronological age.

2. There was no correlation between the musical interests of the children and their reading levels as reported by the students.

The two studies cited above were done in a special class situation in a regular school. A case study by Graham of a thirteen year old epileptic (classified low level of intelligence) who was institutionalized in a state school for delinquent girls reveals dramatic behavior changes based upon a personal relationship between the music therapist and the subject and their inter-relationship in the music session. The girl had been described as clumsy, unsociable, undisciplined, having a violent temper, easily upset and with a poor background. After six months she demonstrated considerable improvement in her social and personal development, in her work habits, and in her ability to enjoy herself in certain group recreational activities. A refinement in motor activity was observed in her increased proficiency at the piano during her music sessions.

A psychiatric re-evaluation, after seven months of commitment, resulted in reclassifying her level of mental retardation and adaptive behavior from a moderate to a mild level of retardation.27


27 Ibid., p. 85.
In an effort to modify inappropriate social behavior, Jorgenson and Parnell conducted a study using music. Music activities were chosen, but it was music and candy which brought about the desired results. The results being; all interfering behavior decreased and participation increased when a token reward was used. During the next twenty-five sessions, when the token rewards were removed, the interfering behaviors continued to remain low.

Another study which was based upon contingencies was executed by Cotter. This study resulted in a higher mean work rate put out by sixteen moderately retarded girls during an assigned work task. Research on the effects of music on performance of retarded persons in working environments is virtually non-existent. This study is an initial probe into the effects of preferred music on the behavior of retarded persons in work situations.

Results indicated that retarded girls significantly increased work production during periods when music was available. Tasks per minute increased from 3.44 during no music periods to 4.26 for periods with music. Girls worked faster when music was presented contingent on work rate. This agrees with results of earlier studies by Cotter and Toombs and Jeffry, regarding the reinforcing effects of music and


noise on behavior. Comparisons of the Jorgenson and Cotter studies would indicate that music is in itself a good reinforcer. It is not taken, used up or consumed as money, tokens, candy or other tangible rewards; this in itself indicates the unique superiority of music.

Another study, conducted at the Music Therapy Clinic of Parsons (Kansas) State Hospital and Training Center, by Johnson and Phillips,\(^3^2\) demonstrated the potency of planned contingency applied to desired performer and observer behaviors. Two moderately retarded boys were the subjects of this experiment. Inappropriate behaviors observed prior to baseline data were hitting of each other and the teacher, interrupting teacher instructions, breaking, throwing, shouting and leaving the room. Behavior desired in planning the contingency included task-oriented (performer) responses and non-disruptive (observer) responses. Behaviors appropriate to performer and observer roles were specified, defined and tallied. Performer responses included:

1. look at and do not interrupt the music teacher
2. respond properly to instructions
3. sit correctly on the chair
4. refrain from speaking to the other child

Observer responses included: Child should

1. remain seated
2. place ukelele on the table-leave without touching it
3. refrain from speaking
4. refrain from touching the other child
5. refrain from touching the teacher

Rewards included: performing for the other children
recording of voices
private lessons
purchase of phonograph albums

Results - Student I (Tom)

<table>
<thead>
<tr>
<th></th>
<th>Observer</th>
<th>Performer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline I (Aver.) Sessions 1-4</td>
<td>30%</td>
<td>27%</td>
</tr>
<tr>
<td>Contingency - Sessions 5-12</td>
<td>76%</td>
<td>78%</td>
</tr>
<tr>
<td>Baseline II - Sessions 13-17</td>
<td>63%</td>
<td>39%</td>
</tr>
</tbody>
</table>

This demonstrates the potency of planned contingency applied to desired performer and observer behaviors. The boys developed elementary ukelele skills by Baseline II, but these skills were not sufficient to maintain the performer behaviors.

Cantor and Girardeau\(^ {33} \) performed a study in which they attempted to discover whether the mongoloid child had an unusual sensitivity to rhythmic stimulation. Previous studies by Tredgold and Soddy\(^ {34} \) and Shuttleworth\(^ {35} \) refer to the mongoloid's idea of time as remarkable and indicate that they possess a marked sense of rhythm. Results did not correspond with the previously mentioned studies. Several factors may have influenced the outcome, such as: there were twice as many mongoloid subjects as normal. The mental age level of normals was significantly higher (1 yr. 2 mo.) than that of the mongoloid children. These factors must be considered in weighing the findings of this study.

In performance both the mongoloids and normals as groups did significantly better than would be expected by chance, but the normals significantly exceeded the mongoloids.


\(^{34}\)Roger F. Tredgold and K. Soddy, A Textbook of Mental Deficiency (Baltimore: Williams and Wilkins, 1956), p. 43.

Work with the use of Tonettes and the formation of a drum corps are reported by Gaston. Both studies concluded that the treatment goals were met by most, if not all, the students. The children were reported to have developed a sense of achievement and success, self-discipline, neatness and generally were more sociable because of these group instrument experiences.

Studies included herein have been positive in results, confirming the fact that music does indeed, possess the properties to bring about behavioral changes in the moderately retarded child.

**SEVERELY RETARDED**

Severely retarded persons... are very likely also to have sustained neurologic damage which further restricts their social behavior. The death rate in this group... is fairly high. These persons need special training in learning to talk and care for their own simple cleanliness and health needs: they do not profit from academic training. Habits of dressing, eating, and finding their way around a neighborhood require careful, prolonged, and supervised practice. Very little independent behavior is observed; lethargy and apathy are frequent. Sometimes, in the way of little children, adults of this level are openly friendly and attach themselves to persons with whom they come in contact, but in the main they are incapable of communicating on any but a momentary concrete level.

The main goal in working with the severely retarded is to help them adjust to the environment by teaching and guiding them to use all the capacities they possess; thus encouraging full self-actualization.

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The basic goals of music therapy . . . are to help them adapt to their environment, develop interpersonal relationships, and learn certain basic skills. This is accomplished by establishing a therapeutic relationship through the music activity. The retarded learn to relate to the therapist and others in the group; they adjust to the demands of the situations and, at the same time, learn other basic skills in living.\textsuperscript{39}

Considerable research has been conducted using the severely retarded child. These children have difficulty discriminating themselves from their environment; they are confused about their physical body image. Lathom\textsuperscript{40} attempted to discover the effect of action songs on body concept. The test results were not statistically significant, but several uncontrolled variables did enter into and affect the findings.

Many social changes seemed to occur as the subjects in the training groups seemed to get improved orientation to self in relation to objects and other people. These children would usually be prescribed to music therapy for increased social interaction. It might, therefore, seem that songs that deal with body orientation would be a useful place to start socialization for the young patients. . . .\textsuperscript{41}

Music in this instance proved to be a socializing device.

Phillips\textsuperscript{42} gives a personal account of the surprising interest and actual accomplishment of mentally retarded boys at the Circle "Y" Ranch in Lancaster, California. These boys were learning. Music had reached them where words and actions had failed, it was a medium which they could respond to and accept.

\textsuperscript{39}Ibid.

\textsuperscript{40}Wanda Lathom, "The Effect of Certain Action Songs on Body Concept", in Music Therapy-1962, ed. by Erwin H. Schneider (Lawrence, Kansas, 1963), pp. 116-121.

\textsuperscript{41}Ibid., p. 121.

Alvin reports a study conducted at the Fuller Co-operative School for severely mentally retarded children in San Leandro, California. Twenty-four children in three groups (based on chronological age), were watched and rated according to their reactions to music.

Objectives of the study included:

- to reach the children's consciousness
- to observe and study the influence of a live musical performance on their behavior
- to provoke some reaction of curiosity, interest, pleasure, recollection, or happiness
- to awake a desire to move with the music, imitate, speak or participate
- to make the children watch, listen, observe, keep attentive to develop sense perception—auditory, visual and tactile
- to establish communication between child and performer, child and musical instrument, child and music, and the child and the group of children.

Teacher conclusions based on the individual reactions of the children were:

We had achieved the results aimed at during the experiment and we were satisfied that:

1. Music had proved to be a means of communication with each of the children.

2. The response to music was;
   a. physical, through rhythmical or imitative movements
   b. verbal
   c. emotional: we observed visible signs of interest, pleasure, satisfaction and happiness.

3. There was some development in sense perception and a substantial increase in the span of attention.

4. Social integration took place in each of the three groups.

It clearly emerged that such experiences had been beneficial to the children.

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44 Ibid., p. 993.
Rhythmic responses of the severely retarded are the object of the extensive career of Jennet and Ferris Robins. This husband and wife team have devoted their lives to aiding children through rhythmics. They direct the Johanneum Home for the advancement of the mentally handicapped in Neu St. Johann, St. Gallen, Switzerland. Observations by the directors and teachers report:

the children always look forward to the rhythmic lesson, and start asking for it days beforehand. . . . Through these Educational Rhythmics a spontaneous interest is awakened to name and to write the large alphabetical letters. One strongly erratic boy, who never succeeded in writing alphabetical letters clearly, now can do so neatly and correctly. . . .

As in everything else, the abilities of these children also differ greatly in the rhythmic lessons. But here the interest and happiness in what was offered is shared by all the children. Whenever a child has to be relaxed, awakened or inspired, one will surely not fail with co-ordinated movements of music.45

Dependency and lack of stimulation associated with a custodial type environment frequently result in social withdrawal as well as marked physical inactivity among the long-term institutionalized severely retarded. Rhythmical auditory stimulation and music activities may offer an effective means of establishing social contact with retarded who are otherwise largely inaccessible.

The effectiveness of using rhythm band instruments to stimulate gross rhythmical motor activities among long-term institutionalized retardates was investigated by Luckey.46 The gross motor response


of twelve women to music was determined from ratings prior to, during and following their exposure to rhythm band instruments. "The results disclosed that rhythm band activities significantly increased severely retarded adults' rhythmical motor responsiveness to music."47

This experiment took place at the Abilene State School, with the average age of the women participants at 53.5 years and the mean years of institutionalization being 20.6 years.

Striking behavioral changes were observed during the study. Initially, four women were extremely inactive and did not exhibit any perceivable interest in their surroundings. Three smiled when talked to by the experimenter; one monotonously leafed through a magazine while another occupied herself by playing with a doll. Only two tapped or moved their feet in time when music was played.

On the sixth day, only one woman remained completely inattentive to the music and when rhythm instruments were introduced, all the women exhibited some form of motor response to the music.

Dr. Richard Weber of Trenton State College has developed a revolutionary concept of teaching retarded children basic communication skills through the medium of music. As a five year Doctoral Project, Dr. Weber worked to develop a method for teaching severely retarded children to play musical instruments. Instruments included in teaching these handicapped children (IQ's 25-50) are the piano, clarinet, alto saxophone, cornet, baritone horn and guitar.

Dr. Weber's approach is based on six notes and he compares it to teaching simple conversational phrases of language before being

47Ibid., p. 616.
plunged into the complexities of grammar. The fact that a child cannot master the entire alphabet in the allotted time, cannot learn quickly such words as cat, hat, rat, does not mean he cannot be taught at all. I find that severely handicapped individuals can learn to recognize letters, six at a time, can comprehend their similarities and differences, and can interpret and put them into performance. This is quite a departure from the student's imitation of a musical fragment played by the teacher.

The amazing part of Dr. Weber's work is that skills developed in the perceptual matching process (left to right eye movement, correct visual perception, auditory discrimination, eye-hand coordination, coping with repeated letters in a series, moving down the page) have served to advance the student's learning abilities beyond previous expectations.

Music has served as a motivator for developing reading and writing ability, speaking skills and numerical concepts.

Natalie Jaffe, education writer on the staff of the New York Times, wrote:

Twenty-one year old Peter Connolly, who is so severely mentally retarded that nobody ever tried to teach him anything but how to keep clean and quiet, carried a clarinet yesterday confidently up to a piece of music he had never seen before and played it--note perfect. His performance was preceded by that of a small whirlwind named Scorpio, a seven-year-old with a brain injury that makes him so irrepressibly active that he had been considered completely unteachable.

Scorpio sat quietly at a piano and played for ten minutes, matching letters printed on the music of Jingle Bells with letters drawn on the keyboard. Then with


equal concentration, he helped an older, similarly unteachable child learn to play the matching game.51

The performance of these students disproves the generally accepted belief that severely retarded persons are not capable of responding to musical training.

At the Music Educators National Conference at Philadelphia in the spring of 1964, Thomas F. Seale attended a concert given by a group of students who had received instruction from Dr. Weber.

Having witnessed 'the proof of the pudding', I took immediate steps to introduce Weber's method to the special education department of the Baytown schools. A pilot project was set up using keyboard instruction. The learning process was quite evident from the very beginning. Teachers and administrators were enthusiastic over the results.

... As our work with exceptional children has progressed, educators from public schools, private schools, state schools and universities have learned of our work, made inquiries and visited our program. We had a recent visitor from Venezuela who plans to found a school for Mongoloid children in Spain.52

At a recent workshop at a state school in the Deep South, Mr. Seale worked

with over 100 severely retarded children, many of whom had known only institutional care all their lives, the learning process was evident with EVERY student. The result is always the same--SUCCESS!53

51Weber, "Teaching UNTEACHABLES", p. 35.


53Ibid.
Profoundly retarded persons are frequently very restricted in their ability to move about and usually cannot protect and care for themselves. Many, having sustained severe neurologic damage, are confined to a bed or a wheelchair. They may learn to walk and to vocalize a greeting, and some but not all can be trained to use the toilet and feed themselves. Total supervision is required. Little learning of any kind will be exhibited, although the patient may come to recognize familiar faces and obey familiar commands.54

The above description indicates little if any hope of social adjustment or behavior changes brought about through any media.

Kondorossy expressed a contrary belief in these words, "Music can bring into the lives of all these children a potential for enjoyment that recognizes no handicaps."55 We have the same hope expressed in the words of Egg.56

Even though all our children cannot be termed musical, music appeals to them without exception. Every child is touched emotionally by music, because it means something to each one. Even when the children do not participate actively, even when they cannot produce a single note, we can see from their faces that they are taking part inwardly.

The most optimistic view of the influence of music on the profoundly retarded being:

I have NEVER had a group of students (including those with IQ's below 20) who did not respond to melody, and who could not actively participate in producing such melodies as Jingle Bells, This Old Man, When the Saints Go Marching In and many many others.57

57. Weber, "Teaching UNTEACHABLES", p. 64.
A case study at the Edenwald School in New York describes a sixteen year old girl for whom "there was no point in treatment". After one and one-half years in music therapy her report reads:

Mary is still a very much retarded girl. She has gained... in ego development, in her ability to concentrate, and to some degree in her ability to relate to others.  

Murphy conducted a study at the Woodbine, New Jersey State Colony. During the first session in the cottage of one hundred-twelve hyperactive adolescent boys (average MA 1-7; CA 12 to 20), they screamed, pawed and grabbed at the musicians who had to retire to the kitchen behind a screen in order to begin the music. Shortly after the onset of the music, one-half of the cottage residents huddled in front, some rocked, rolled, clapped and hummed. Others merely listened. Those in back engaged in various forms of gross motor activities in time with the music such as body rocking and head, arm and leg movements. By the time that the first series of three selections had been played, the group had become orderly. They applauded enthusiastically. Attendant personnel merely stood listening to the program as there was no need of establishing discipline.

The progressive learning observed in the cottage... where weekly music therapy programs have been presented during a nine month period, suggests the possibility of rather dramatic hold-over effects, especially since this unit has frequently been referred to as "the worst behavior cottage on the grounds."  

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58 Joseph and Heimlich, "Therapeutic Use of Music", p. 47.  
59 Ibid.  
60 Mary M. Murphy, "A Large Scale Music Therapy Program for Institutionalized Low Grade and Middle Grade Defectives", Amer. J. ment. Defic., LXIII (September, 1958), pp. 268-273.  
61 Ibid., p. 272.
In the cottage of the smaller boys (average MA 1-1; CA 4 to 11), the charge attendant has reported that wetting and soiling seldom occur while the music program is in progress although approximately half of the cottage residents have not completed toilet training.

The Woodbine Colony music therapy experiment has suggested that presentation of the "live" music program may promote developmental learning in the social, emotional, motor and language areas. Such results appear to be particularly significant in view of the fact that institutions engaged in care, training and treatment of mental defectives have heretofore been able to offer little more than custodial care to the large group who are incapable of deriving benefit from participation in trainable classes and occupational-recreational group therapeutic activities. 62

These reports illustrate many principles and techniques that may be useful to music teachers who conduct group activities. The teacher will soon discover that the children themselves provide all the inspiration he needs for the creative use of these principles and also for the creation of new ones.

Each child, no matter how handicapped is an individual. The individual child must never be lost sight of; his needs as well as his abilities should become a vital part of any structured activity. There should be an inter-action between the individual and the group which is therapeutic for all. When the activity in which the group engages is right and good, all the children will respond to it and enrich each other with their responses. There will be an interplay of responsiveness, which will make the group "reverberate" to experience. 63

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62 Ibid., p. 272.

Through dedication and a deep desire to bring each child to his potential, great advances using music have been made and are continuing to be made. This may be an indication that in the future we will no longer have the label of the "UNTEACHABLE CHILD".
CHAPTER III

SUMMARY

Man's basic response to music and rhythm has been described and the benefits of music to man have been enumerated. We then applied these responses and benefits to the life of the mentally retarded person. Individual and group studies have been reviewed; the results of all cases cited were positive and therefore encourage the continued use of music as beneficial in effecting the mentally retarded. Behavioral changes which resulted indicate that the mentally retarded individual was better able to adapt and function in his environment as a result of his exposure to music or musical activities.

Research has been divided into reports of studies with the mildly, moderately, severely and profoundly retarded. "These studies . . . present evidence of the deep penetration of music . . . It would seem that the music educator, by judicious choice and application of music, could exert considerable influence on the behavior of his students."¹

It is further indicated that

the importance of music in the life of the retarded child cannot be over-emphasized. Music aids in the

child's spiritual, physical and mental development. Many retarded children seem to find themselves in some form of music and are imbued with a greater sense of self-confidence in other phases of their lives.  

An attempt has been made to show that music plays a very important role in the lives of mentally retarded persons.

It is still undetermined why, as evidenced in all classes involving musical activity, mentally deficient children follow a pattern of coming together in a group with less friction and more anticipatory happiness than they do in any other activity. There are no proven theories about this, no scientific proof, the conjecture being that these children feel a definite and common bond of communication in music, since it provides effective organization and orderly emotional responses.

Simply stated, through musical expression, retarded children can benefit most greatly in their social relationships. Music is an exceptional medium and their differences are lost as they become absorbed in the total harmonious performance.

Observations would indicate further statistical research based on objective findings in the areas of social, physical, emotional and mental development of the mentally retarded individual. Research is suggested

on the effects of music and rhythm on behavior and on learning receptivity in mentally retarded children.

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Study of the use of music for evaluation of the child's potential and for group therapy purposes is also proposed. It is felt that it would be worthwhile to do further research upon definite developmental patterns of music responses in small children and to compare them with the responses of the mentally retarded. It may help in the general evaluation of retardates to know more about these responses in different kinds of mental retardation and age groups, and about the effects of rhythm and music upon the learning receptivity in these children.5

If one is a teacher in special education, it is important to know well the potentials of music, to know how retardates respond to music and to understand why music is an effective tool with retardates. With this knowledge and understanding great results can be achieved. It is not magic that causes the retardate to respond so well to music. He responds to the same basic features of music as the normal child. Music has unique and unexplainable characteristics that make it an ideal means to help achieve appropriate behavioral changes.6

We have identified research in which music has been employed to bring about communication with the mentally retarded child, to provide security, gratification, self-esteem, socialization, to encourage participation, initiative, leadership and release, to im-


prove dexterity and freedom of movement, to accelerate initial learning and to aid recall.

The goals of the music programs studied have been varied, but the outcomes have been consistent—SUCCESS.

We have a duty to explore every avenue of possible achievement with each child placed into our care and what better area than one in which he has yet to meet defeat?

As an anonymous author states simply and sincerely his personal concern for the retardate:

As one star differs from another in glory, so do the children of men differ in power and strength. Each child of God, even if not richly endowed, has his place in this great scheme of life in which, under proper guidance, he can find happiness and usefulness.7

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