

MUSIC DEPRIVATION IN CHILDHOOD AND
ITS RELATIONSHIP TO ADULT
SCHIZOPHRENIC CLIENTS

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We hereby recommend that the Master's thesis prepared under
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CHAPTER I

INTRODUCTION

The importance of early childhood experiences as related to sensory stimulation and creativity continues to be studied by researchers (Coleman, 1972; Morgan, King, & Robinson, 1979). With heredity and environment being basic to the development of personality, there are many approaches to the problem (Jersild, 1968). Within the environmental structure, various aspects influence an individual, e.g., subgroups, interpersonal relationships, social roles, physical settings, life styles, and sensory input.

Whether the etiology of schizophrenia is biological, environmental, or both continues to be debated in the field of mental health. It is thought that concrete thinking, characteristic of clients who are diagnosed as having schizophrenia, results in their generally suffering from the inability to use creativity and alternative thinking. Their problem-solving and decision-making abilities are severely impaired. Various sources such as Coleman (1972) and Bernheim and Lewine (1979), as well as the Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition (DSM-III, currently under revision by the American Psychiatric Association) discuss the disorganization of thought processes in

clients diagnosed as schizophrenic, and this is further confirmed by the clinical experience of the writer and by information gained from other clinicians.

Statement of the Problem

The problem of this study, therefore, was to determine whether there is any relationship between music deprivation in early childhood and individuals who are diagnosed as schizophrenic as adults, based on the idea that music experiences enhance creativity and thus may assist in enabling a person to develop alternative thinking and may enhance problem-solving abilities.

Operational Definitions

For the purpose of this study, the following definitions were used.

Music deprivation: Defined in relation to the two test instruments used for the study. Any score below 40% of the total score was considered deprived. For A Test of Musicality, 4th Edition, Page 1 (Gaston, 1957), the total possible score was 40; therefore, any score below 16 was considered deprived. For the investigator's self-made Questionnaire for Music Experience in Childhood (Crowell, 1979), the total possible score was 756; therefore, any score below 302.4 was considered deprived.

Childhood: Period of life between birth and twelve (12) years of age.

Adulthood: Period of life over eighteen (18) years of age.

For purposes of this study, adults between the ages of eighteen (18) and fifty-five (55) were selected as subjects.

Schizophrenic: Any person who meets all the following specifications.

A. Has been diagnosed as having "schizophrenia" (any type described in the DSM-III) on at least two occasions and was currently carrying a diagnosis of schizophrenia.

B. Was currently taking prescribed antipsychotic (phenothiazine) medication.

C. Had at least two admissions to the inpatient unit of a psychiatric facility.

D. Had a history of exhibiting at least four of the following symptoms:

- a. Ambivalence
- b. Autism
- c. Bizarre behavior
- d. Catatonia
- e. Delusions
- f. Disorganized thinking
- g. Dissociation
- h. Eating and/or sleeping disturbances
- i. Flat or blunt affect
- j. Hallucinations
- k. Inappropriate emotional behavior (smiling,

laughing, crying, etc.)

- l. Lack of reality orientation
- m. Loose associations
- n. Mutism
- o. Paranoid ideations
- p. Pressure of speech
- q. Regression
- r. Talking to oneself
- s. Tangential thought or speech
- t. Withdrawal

(Coleman, 1972; DSM-III, 1978; A Psychiatric Glossary, 1975)

Creative and alternative thinking: Mental activity (utilizing insight, judgment, logic, reason, and exploration) which allows one to make a variety of rational choices, thus enabling a person to reach opinions and conclusions and improve his/her coping techniques.

Need for the Study

The purpose of this study was to determine what, if any, relationships might exist between music deprivation and individuals diagnosed schizophrenic who are currently in treatment in either the Day Treatment Unit or the Outpatient Unit of Dallas County Mental Health and Mental Retardation Center, District VI (DCMHMRC, DVI), and how such relationships may compare with a non-client group from similar demographic circumstances.

Gaston (1957), in developing his test of musicality, found it important to get some background information regarding the musical experiences which participants had, stating:

The musicality of the average or normal child is not directly dependent upon separate sensory abilities, but instead is dependent upon his interaction with things of musical influence in his environment (p. 1).

Evidence of the importance of studying early experiences to determine sensory deprivation is supported by many researchers. Von Buddenbrock (1958) took the position that the world of any organism is richer as the sensory development is increased. Rosen and Gregory (1965) stated that psychopathological behavior results from learning under conditions of failure, conflict, and deprivation. Hebb (1958) in his work with animals believed that they would be more likely to have motivational or personality disturbances if they were deprived of sensory stimulation at an early age.

If relationships exist between music deprivation and the inability of schizophrenic adults to think creatively, perhaps music deprivation is an important factor in the development of the schizophrenic person. Outcomes of this study may have the following implications:

- (1) To provide support for the use of music therapy in public school and pre-school settings, i.e., to assist in the development of normal children who show signs of earlier

deprivation by offering more creative outlets and sensory experiences through music.

(2) To provide further support for the use of music therapy in the treatment of childhood schizophrenia, based on the theory that providing creative music experiences might positively affect the general ability to develop creative thinking.

(3) To provide further rationale and support for the use of creative music experiences as a therapeutic tool in working with adult schizophrenics, i.e., to aid development of creativity, allowing for more possibilities for alternative thinking patterns, as well as helping clients to become less rigid, enabling them to develop more appropriate coping techniques. It is realized that many adult schizophrenics will need long-term treatment, and various techniques can be employed for working with them in improving their functioning abilities. An increase in clients' self-awareness through therapeutic music activities may provide the potential for developing better insight into clients' problems.

To summarize, as a justification of the need for the study, the findings might:

(1) Reinforce the importance of childhood aesthetic (especially music) experiences as possibly preventive medicine (for good mental health).

(2) Imply a relationship between creative thinking

applied to alternative solutions to personal problems and the development of creativity in music (and other arts).

(3) Explain the relatively high level need or "hunger" for music experiences often found in adults who have been deprived in childhood, thus reinforcing the importance of music in therapy for such adults (Graham, in Gaston, Ed., 1968).

(4) Relate to other factors/findings of sensory deprivation as possible contributing factors in the development of psychotic behaviors in schizophrenic adults.

Delineation of the Problem

Several therapeutic theories center around the common goal of developing alternative ways of behaving; thus, it becomes apparent that if a person could become more creative, he could then perhaps learn various coping techniques in his daily living (Coleman, 1972). Gestalt therapy emphasizes the treatment of the whole self--stressing awareness of one's self and one's environment (Perls, Hefferline, & Goodman, 1951). Through role playing a client can learn to get beyond the "impasse" and learn alternate ways of behaving. Rational therapy emphasizes cognitive changes to aid clients in living lives which are more self-fulfilling and creative (Harper, 1959). Reality therapy (Glasser, 1965), as well as the theory surrounding Values Clarification (Simon, Howe, & Kirschenbaum, 1972), centers around evaluation of values and helping the client to live more responsibly, thus

increasing the possibility for him to find, through alternative behavior patterns, a greater sense of fulfillment. Existential therapy, emphasizing the importance of existence, the concern about the lack of meaning in the lives of people, and the capability and confrontation of a person to do something about his predicament, focuses on the here and now, and encourages clarifying and choosing alternative ways of being (Harper, 1959; Frankl, 1963). Transactional Analysis points out various "games" which are "played" through one's personal interactions (Berne, 1964; Harris, 1969). Use of this therapeutic technique requires analysis of those games, thus making one aware of various coping patterns and encouraging development of alternate patterns.

Since the importance of creative, aesthetic, and sensory experiences on the development of healthy individuals has been espoused, then what could be the effects of deprivation of these areas during childhood? Sensory deprivation has been a subject of intensive study, as researchers have attempted to determine the long-term effects of various types of deprivation. Coleman (1972) speaks of early trauma and deprivation as possible factors contributing to schizophrenia and other mental disorders in later life. Gaston (1963) states, "Children not only of our culture, but of all cultures, need music for their healthy and normal development" (p. 62). Thus the problem of this study was to determine

if patterns of music deprivation in childhood are common among adult schizophrenic clients and suggests the following research questions:

(1) Will a group of clients currently in treatment at a community mental health center, and diagnosed as "schizophrenic", be found to have similar backgrounds of childhood deprivation of music experiences as compared with a control group of non-clients?

(2) Will such deprivation, if found, be positively correlated with normative data from part of a standardized test of musicality taken by these clients and a control group?

(3) Will such deprivation, if found, appear to be related to the lack of creative ability, especially as regards seeking alternative solutions to life adaptive problems?

CHAPTER II

RELATED LITERATURE

Background literature for subjects related to the stated problem are explored in this chapter. Areas of discussion will center around (1) schizophrenia, (2) the importance of childhood development as it encompasses sensory stimulation and sensory deprivation, (3) creativity, and (4) aesthetics.

Schizophrenia

In all cultures and at all times, to the best of our knowledge, there have been people who have acted strangely, i.e., bizarre and unpredictable (Brown & Menninger, 1940). We know this as "schizophrenia". While there is much to be learned about this disorder, and professionals are in controversy as to the causes, it is agreed that there are disturbances in the areas of mental, emotional, and relational abilities of the schizophrenics (Bernheim & Lewine, 1979).

While most people experience some of the same feelings and symptoms as schizophrenics, the intensity, frequency, and longevity of these feelings is never as pronounced nor as extreme as with the schizophrenic (Bernheim & Lewine, 1979). One of the primary symptoms of schizophrenia is the thought disorder. Their thinking becomes confused,

disjointed, and distorted, and they are unable to sort out reality from fantasy. Kraus (1978) speaks of their inability to think in meaningful and logical terms. Thomas and Chess (1977) refer to the "concreteness" of thinking and their inability to think abstractly and creatively. Morgan, King, and Robinson (1979) refer to the thinking of schizophrenics as being very "rigid", unable to develop alternatives. Bernheim and Lewine (1979) discuss the difficulty of organizing thoughts and directing them toward a goal, as thinking is "fragmented". Chapman and Chapman (1973) refer to the exaggeration of the thought process, indicating that they operate on the same system of logic as the non-schizophrenics, but in a much more exaggerated and extreme form. Koh and Kayton (1974) suggest that schizophrenics may not have the capabilities to organize incoming stimuli into appropriate thought patterns. Disordered thinking is involuntary, but it is believed that coping techniques can be taught through various therapeutic methods.

A second symptom is the emotional disturbance. Inappropriate expressions of emotion are frequent, i.e., either reacting in an indifferent manner to a situation which would normally elicit strong reactions, or reacting intensely for no apparent reason. They may laugh at a situation which would normally warrant sad expressions, or become upset or angry at inappropriate times (Arieti, 1974; Bernheim &

Lewine, 1979).

A third impairment of the schizophrenics is that of their inability to relate well to others. There are, at times, periods of extreme withdrawal; they may become isolated, although not always physically removed from the presence of others. They appear to have a world of their own, while fantasy becomes more important to them than reality (Astrachan, 1972; Bernheim & Lewine, 1979).

While marked by hallucinations and delusions, looseness of associations, bizarre behaviors, inappropriate emotions, and other symptoms, the schizophrenics have developed feelings of worthlessness and inferiority, never having developed an adequate role or self-concept, lacking self-confidence, and having a poor self-esteem (Coleman, 1972; Robbins & Sibley, 1976).

The question of the cause of schizophrenia remains controversial. Various professionals support different possibilities, i.e., biochemical, physiological, precipitating events, family patterns, societal factors (Bernheim & Lewine, 1979). Morgan, King, and Robinson (1979) classified theories into three different categories:

- (1) Life-experience theories that attribute the onset of schizophrenia to family and other life experiences;
- (2) genetic-biochemical theories that treat schizophrenia as primarily an inherited disease;
- (3) interaction

theories stating that schizophrenia arises from a combination of a genetic predisposition and life experiences (p. 557).

Studying these classifications in a broader sense, it is found, in relation to the life-experience theories, that schizophrenia tends to run in families, causing some researchers to support the idea that family conflict may, indeed, be a vital aspect. Family theorists view schizophrenia as a manifestation of poor family interactions (Bateson, 1972; Erikson & Hogan, 1972; Maher, 1966). Earlier researchers supported such causes as the "schizophrenogenic mother" who was dominant, cold, distant, and aloof (Arieti, 1959; Coleman, 1972) and the "double bind theory" in which the individual received mixed messages (Bateson, 1972; Bateson, Jackson, Haley, & Weakland, 1956). Lidz (1973) cited incidents showing marital discord in families of schizophrenics, which places schizophrenics in the middle of the conflict.

The second classification is the genetic-biochemical theories. Guthrie (1973) supports this category, suggesting that because symptoms similar to schizophrenia can be produced by drugs, there is a possibility of a metabolic factor at the midbrain level. Studies of twins and adopted children have supported the genetic view. Gottesman and Shields (1972), in studying identical twins who had been adopted into separate homes, found both to be schizophrenic in 52% of the cases.

According to these researchers, being the identical twin of a schizophrenic raises the risk of the development of schizophrenia in their children. Another area of possible support for the genetic factors has come from the study of dopamine, one of the most important substances used to transmit impulses in the central nervous system. It has been suggested, in studies by Martin (1977), that excessive amounts of dopamine are found in the schizophrenics. Phenothiazine medications, which reduce the symptoms of schizophrenia, have been found to block the dopamine receptors in the brain (Carlsson, 1978).

The third classification, interaction theories, seems to recognize the possibility for both the genetic-biochemical predisposition and the influence of the environment. Rosenthal, Wender, Kety, Schulsinger, Welner, and Rieder, (1975) concluded that the quality of rearing and hereditary input both affect development of a psychopathological disorder.

Other sources have enlarged the aspect of environmental influences to include more than family stress. They include such things as age, sex, and socio-economic levels. While schizophrenia is not limited to any one economic group, some researchers support the belief that there is a high rate in the lower socio-economic sections of urban areas (Eaton, Peterson, & Davis, 1976; Kohn, 1973).

Early Development, Sensory Stimulation,
and Sensory Deprivation

It appears that many researchers of human development and behavior are supporting the interaction or interplay of heredity and environment, called the "nature-nurture" question, rather than one or the other, independently (Bernheim & Lewine, 1979; Millon & Millon, 1974). Nature refers to the innate or inborn characteristics influencing behavior, while nurture refers to the effects of the environment. It would seem that both have characteristics that are worthy of recognition. While it is obvious that a great deal of what influences a child's development is beyond control, there are certain aspects which can be controlled. It has been suggested that quantity, as well as quality of early experience is crucial to the development of personality. As a result of impoverished stimulation during critical periods of neurological growth, certain capacities will fail to develop (Bell, 1968; Yarrow, 1971). Although many of the studies have been conducted with lower animals, implications for human development have been made.

Exploration of the vital aspects of sensory stimulation and possible detriment of sensory deprivation during the early stages of development will be primary to this section. At what point sensory stimulation is most important, and to what extent the development of an organism is hampered by

deprivation, varies with the writer and with the theory.

Various researchers refer to "critical periods" of development, the time during which an animal or human is particularly sensitive to certain stimuli. Levine (1962), who conducted much of his study with rats, spoke of these "critical periods". He noted that the interest in the importance of environmental factors has gone on for centuries, while systematic laboratory investigations have become more important since the 1940's. In one study he found the rate of development corresponded with the greater amount of stimulation--the weight gain was greater in the rats which experienced more stimulation. In other studies related to methods of shock (1957 & 1960), he concluded that even painful stimulation was better than no stimulation at all. Scott (1957) believed there is a period in all animals, usually early, during which primary social bonds are formed. Rosen and Gregory (1965) spoke, too, of critical periods of development during which time several types of stimulation and experience are essential for good mental health. In a study by Bexton, Heron, and Scott (1954) it was found that sensory deprivation made the human adult behave abnormally, even to the point of hallucinations when subjected to prolonged monotony in isolation. Similar emotional effects were achieved by Lilly (1956) and Suinn (1969). Hebb, Heath, and Stuart (1954) were able to create emotional changes in humans

by reducing the amount of auditory stimulation, causing irritability, feelings of inadequacy and symptoms of withdrawal. Zubek and Wilgosh (1963) found alteration in the EEG when the body experienced prolonged immobilization. In naturally-caused sensory deprivation, hallucinatory experiences were reported by Ritter (1900) after being alone in the Arctic for long periods of time and by Slocum (1900) while sailing alone around the world.

Several sources have dealt with sensory deprivation in experiments with animals. In his well-known study using surrogate mothers with monkeys, Harlow (1958) concluded that intimate physical contact is vital for providing feelings of security. Monkeys were observed in convulsive jerking and rocking movements, which also have been noted in human children deprived of maternal care. Maternal deprivation was also the subject of studies by Ribble (1954) and Spitz (1945) in which they noted retarded rates of development, increased susceptibility to disease and less adaptability in adulthood. Deprivation of visual stimulation was found to damage the sight of cats (Weiskrantz, 1958) and changed the structure of retinal nerves of infant primates (Riesen, 1966). In an experiment with dogs, Melzack and Scott (1957) reared one group in a sensory and socially deprived environment and found them, at maturity, reacting passively to painful stimulus without moving away. Social deprivation was found

to cause psychological impairment in young monkeys (Rowland, 1964). When being placed in social situations after having been reared in total social isolation for 12 months, they appeared terrified, clutching themselves, hiding in the corners with their heads covered, and remaining passive when approached with dangerous aggression.

There is much support for sensory stimulation in infancy and early childhood, with both animals and humans being used for research. Beach and Jaynes (1954) believed, as do many of the researchers, that fuller understanding of effects of early experience upon subsequent behavior is important for a science of psychology and the broader field of animal biology. According to Berkowitz (1970) and based on his work with rats, those receiving more than the usual amounts of stimulation during infancy showed superior learning ability and less stress than those experiencing later stimulation, thus indicating that stimulation from a wide variety of sensory modalities is reinforcing. Christman (1971) discussed stimulation in terms of producing pleasure, noting that human infants, when provided with such simple stimulation as gentle rocking, stroking, caressing, and soft rhythmic sounds, behave in such a way as to indicate they are experiencing pleasure. He considered such things as music, rhythm, odors, tastes, and gentle physical contact as being vital sensory stimuli. Fuller and Waller (1962) took the view that the

effects of early experience are not as easy to reverse as are the effects of later experience. Drive states are more intense and learning is heightened at an earlier age. Their studies performed on animals indicated that because the older animal cannot be as strongly deprived, early experience in an enriching environment cannot be replaced. In dealing with congenitally blind children, and observing the amount of autistic disturbance, Freedman (1971) took the view that personality disturbances, often irreversible, may be caused by early deprivation of sensory experiences. Infant mice, when subjected to intense sound stimulation by Hall and Whiteman (1951) appeared to suffer emotional instability because of infantile trauma. Sensory deprivation during youth causes permanent behavior deficits in animals, according to Thompson and Heron (1954), who admitted that new learning is possible but did not believe the essential form is changed.

Numerous researchers report on the effect of sensory deprivation on the development of intelligence. In his work with rats, Liberman (1962) showed a stunting of development in intelligence when young animals were deprived of sensory stimuli. Kuhlen and Thompson (1970) viewed those environmental influences which stimulate the education effort as being essential to the development of intellectual ability, more so than heredity. Gaston (1968) believed that the development of a healthy and normal individual required an

adequate amount of sensory stimuli. He referred to several experiments performed with young animals which indicated that development of their intelligence was inhibited because of deprivation of adequate sensory stimulation. Hebb (1961) supported the view that being reared in environments which lacked sensory stimulation would stunt the intellectual development of animals. Hunt (1961) contended that the level of intelligence is affected by experiences during early development. Recent studies reported by Pines (1979) provide support for that contention. In an interview by Pines, and in response to her question "Do you still believe that we can raise the intelligence of the next generation by providing the right kind of environment and stimulation in early childhood"? Hunt replied, "Yes. And we have more evidence now" (p. 59).

Creativity

The creative process goes beyond the day-to-day involvement of interactions between man and his environment-- it provides enlargement of the human experience, expands the universe by adding new dimensions, enriches the life of man, and liberates him from his usual choices (Arieti, 1976). From the work by Guilford (1967), related to measuring creativity in people, came concepts of two types of thinking, "convergent" and "divergent".

Convergent thinking is concerned with a particular

end result. The thinker gathers information relevant to the problem and then proceeds by using problem-solving rules....The result of convergent thinking is usually a solution that has been discovered by someone else. Convergent thinking is not the type of thought people primarily use when they are thinking creatively.

The characteristic of divergent thinking is the variety of thoughts involved. When thinking creatively, people tend to think in a divergent manner, thus having many varied thoughts about a problem...It is the kind of thinking a person does that makes for creativity (Morgan, King, & Robinson, 1979, p. 191).

There is support for the fact that creativity can be learned and taught. Eaton, Peterson, and Davis (1976) state that the ability to test reality and to think logically is acquired. Hamel (1971) and Berelson and Steiner (1967) support the idea that creativity is not based on intelligence, but rather that it can be developed. Campbell (1977) believes all people have the power of imagination and creative talent. While it is developed in some people, and people benefit from results of the works of great creators, these abilities are untapped in many people. According to deBono (1970), thinking is a skill and can be developed and improved. He uses the term "lateral thinking", relating it to insight and creativity, and complementary, although differing,

from "vertical thinking", which is the traditional type of thinking. "Lateral thinking" seeks to generate new ideas, change attitudes and approaches, emphasize the dangers of rigid patterns, and encourage the use of alternatives. Robbins and Sibley (1976) consider creativity as an extension of the self-actualization process. They are involved in the use of art therapy (one of the areas of aesthetics) as a process for self-expression and realization.

Several sources refer to various personality traits relating to creativity. A study of creative writers revealed they had greater resources for the maintenance of psychological health than those who were less creative (Institute for Personality Assessment and Research, 1961). In their attempt to disprove the link between creativity and abnormality, which some researchers support, Terman and Oden (1959) reported that the intellectually gifted, with whom they worked, had a greater resistance to mental illness. There was no significant relationship found by MacKinnon (1962) between creativity and mental disorder. He reported that the creative people showed tendencies toward self-acceptance, lack of defensiveness, openness to new experiences, and richness of personality. According to Hamel (1971), creative people are perceptive and aware, spontaneous and flexible. She believes that the better one feels about oneself, the more able one is to be creative. Being ill at ease and lacking

confidence can only limit one's use of alternatives. Barron (1963) referred to creative persons as being independent, self-assertive, and dominant, and seeming to show a preference for complexity.

All of the traits mentioned seem to be indicative of people with a healthier mental state. These are generally not characteristic of schizophrenics, as they usually have a poor self-concept, lack confidence in themselves, and have often seen their attempts at success thwarted by failure.

Aesthetics

Aesthetics can be defined as being the means of organizing thinking, feeling and perceiving into an expression that communicates these thoughts and feelings to someone else. The organization of words we call prose or poetry, the organization of tones we call music, the organization of body movements is usually referred to as dance, and the organization of lines, shapes, color and form makes up art. There are no set standards or rules that are applicable to aesthetics; rather the aesthetic criteria are based on the individual, the particular work of art, the culture in which it is made, and the interest or purpose behind the art form. There is a tremendous variety of organization in art. We find that an aesthetic form is not created by the imposition of any external rule but rather that a

creative work grows by its own principles (Madenfort, 1972, p. 10).

The importance of sensory stimulation to the development of healthy individuals has been discussed, and there are those who support the view that aesthetic expression is one of the vital forms of stimulation. Music is one form of aesthetic expression--probably the most universal form, as there are no boundaries to the groups of people (cultural, economical, educational, etc.) who use and enjoy music. According to Lowenfield and Brittain (1970), aesthetics is closely tied with personality. Masserman (1955) included the need for aesthetic expression when he spoke of aspects important to the motivation of organisms. Murphy (1958) believed that one of the major factors which makes the human being function at a higher level than the less complex animals is the development of the sensory and motor experiences, particularly those to which we refer as being "aesthetic". In order to obtain information from our environment, according to Medawar (1959), we are totally dependent on our senses. In stressing the importance of the aesthetic experience, Gaston (1968) held it to be "one of the best devices to help man adjust and adapt to his environment" (p. 4). He believed that adequate sensory stimulation is important to the development of young humans and lower animals; he also felt that music expressions and experiences in all cultures or

ances are vital to the development of man's health.

Summary

It is clear that there is yet much to be learned from the study of schizophrenia, as well as in the areas of deprivation, creativity, and aesthetics. It has been discussed that the thinking patterns of schizophrenics are generally rigid and concrete, and they appear to have in common a lack of ability to find alternatives. If, in fact, divergent thinking and creativity can be taught, as is the consensus of many researchers, then it would seem feasible that by using various creative experiences (such as music) schizophrenics could be taught to use more alternative thinking. This could, perhaps, enable them to become less rigid. As has been indicated, schizophrenia requires long-term treatment. If aesthetics can be used in this treatment to enrich their lives, increase their levels of confidence, enable them to be more spontaneous and flexible, and teach them more varied ways of functioning in their daily living, it would seem essential to create this means of treatment.

CHAPTER III

DESIGN

This chapter focuses on the design of the study. The hypotheses, stated in alternate form, are as follows:

Hypothesis 1. There will be a significant difference in music deprivation between schizophrenics and non-clients when using the scores from the Crowell instrument.

Hypothesis 2. There will be a significant difference in music deprivation between schizophrenics and non-clients when using the scores from the Gaston instrument.

Hypothesis 3. There will be a significant difference in music deprivation between schizophrenic females and non-client females when using scores from the Crowell instrument.

Hypothesis 4. There will be a significant difference in music deprivation between schizophrenic females and non-client females when using scores from the Gaston instrument.

Hypothesis 5. There will be a significant difference in music deprivation between schizophrenic males and non-client males when using scores from the Crowell instrument.

Hypothesis 6. There will be a significant difference in music deprivation between schizophrenic males and non-client males when using scores from the Gaston instrument.

Hypothesis 7. There will be a significant difference in music deprivation between races when using scores from the Crowell instrument.

Hypothesis 8. There will be a significant difference in music deprivation between races when using scores from the Gaston instrument.

Hypothesis 9. There will be a significant difference in music deprivation between sexes when using scores from the Crowell instrument.

Hypothesis 10. There will be a significant difference in music deprivation between sexes when using scores from the Gaston instrument.

Hypothesis 11. There will be a significant difference in music deprivation between age groups when using scores from the Crowell instrument.

Hypothesis 12. There will be a significant difference in music deprivation between age groups when using scores from the Gaston instrument.

Hypothesis 13. There will be a significant difference in music deprivation between levels of education when using scores from the Crowell instrument.

Hypothesis 14. There will be a significant difference in music deprivation between levels of education when using scores from the Gaston instrument.

Hypothesis 15. There will be a significant difference

in music deprivation between numbers of hospitalizations when using scores from the Crowell instrument.

Hypothesis 16. There will be a significant difference in music deprivation between numbers of hospitalizations when using scores from the Gaston instrument.

Hypothesis 17. There will be a significant correlation between the scores on the Crowell instrument and the Gaston instrument when the two are compared.

Subjects

Two groups of subjects, ranging in age from eighteen (18) to fifty-five (55) years, were selected for this study.

The 40 subjects in Group A were chosen from the population diagnosed as having schizophrenia and currently being treated in either the Day Treatment Unit or the Outpatient Unit of Dallas County Mental Health and Mental Retardation Center, District VI. Criteria for selection of this group included: (1) current diagnosis of schizophrenia and a schizophrenic diagnosis on at least one other occasion, (2) currently taking prescribed antipsychotic (phenothiazine) medications, (3) at least two admissions to the inpatient unit of a psychiatric facility, and (4) a history of at least four psychotic symptoms relating to schizophrenia, as recognized by the psychiatric profession.

Group B, the comparison group, consisted of 36 subjects selected from a non-client population (having never been

diagnosed as having schizophrenia or any other mental illness) within the same geographical boundaries served by DCMHMRC, DVI. These subjects were chosen from church members and their friends, primarily from two churches within the designated area.

Setting

Dallas County Mental Health and Mental Retardation Center, District VI, is a community mental health center located in the South Dallas area. Clients treated in facilities in District VI are residents in South Dallas and portions of Oak Cliff. The area is comprised mainly of people who are considered to be in the middle to lower economic classes, and many are of the Negro race.

Group A subjects were seen in two facilities: (1) Cerata House, the Day Treatment Unit, and (2) the Charles Street Outpatient Clinic. Group B was seen in the two churches mentioned. Various offices were used in each facility for the administration of the test instruments.

Equipment and Materials

The equipment and materials used in this study were as follows:

Clinical records of clients

Instructions for clinicians

Checklist for Selection of Group A Subjects

Form for Demographic Information

Form for Consent to Act as a Subject for Research
and Investigation

Test Instrument I, Questionnaire for Music Experience in Childhood (Crowell, 1979)

Test Instrument II, adapted from A Test of Musicality (Gaston, 1957)

(See appendices, listed below)

Test Instruments I and II

Both test instruments were constructed so as to determine the amount of music exposure one remembered having had during childhood. While the Gaston instrument was used as an informational tool for the Test of Musicality, it was hoped that the Crowell instrument would be more detailed and would further delineate more specific data.

Test Instrument I

Test Instrument I (Crowell, 1979), designed by the writer, sought to determine specific contact with music, as the subjects remembered their childhood (see Appendix A). The 7-point rating scale ranged from "Severe Deprivation" to "No Deprivation", with lower scores indicating more deprivation. Weights were applied to each question, based on the importance of the music experience as determined by the writer and two other Registered Music Therapists (see Appendix B). Using the total of 756 possible points, comparisons were made between the groups of subjects.

Test Instrument II

Test Instrument II (see Appendix C) was adapted from page 1 of A Test of Musicality (Gaston, 1957). Slight changes were made in questions in order to reflect information from the childhood memories of the subjects rather than current information, e.g., Question 1 was changed from "Does your father play a musical instrument or sing?" to read "Did your father play a musical instrument or sing?" The scoring procedure used was the same as the one developed by Gaston.

Procedure

For the selection of Group A subjects, clinical records of clients who were to be seen in treatment on a given day were obtained from Medical Records in advance. Clinicians assisting in obtaining information were given the form "Instructions for Clinicians for the Selection of Group A" (see Appendix D) and the form "Checklist for Selection of Group A Subjects" (see Appendix E) with which to determine the appropriateness of the client for the study. The checklist was designed based on the operational definition of "schizophrenic" established for purposes of this study. At the time the chosen subjects came to the center for their appointments, they were called into an office by a clinician, were given a brief description of the study, and were asked if they would be willing to participate.

Group B subjects were selected by the ministers of the

churches, in order to determine that the persons had never received treatment for mental illness. They, too, were given a brief description of the study by the clinician before making their decisions to participate. In addition to church members and their friends, some of the DCMHMRC staff members who live in the designated geographical area were chosen as subjects.

Subjects were seen individually on a one-time basis. The oral description was presented (see Appendix F), allowing subjects to ask questions prior to their signing the Consent Form (see Appendix G). Demographic information was then obtained by the clinician asking questions of each of the subjects and was recorded on the appropriate form (see Appendix H). Prior to the administration of the test instruments, a brief instruction was given to the subjects (see Appendix I), clarifying that the questions related to the first 12 years of their lives. The test instruments were then administered.

Evaluation

The raw data as listed in Appendix J were collected from the Demographic Form and from the answer scales for Test Instrument I (see Appendix K) and Test Instrument II, with the following statistical techniques utilized:

(1) T-tests on each of the two instruments for comparisons of:

(a) Total schizophrenic sample vs. total

non-client sample.

(b) Schizophrenic females vs. non-client females.

(c) Schizophrenic males vs. non-client males.

(2) One-way analyses of variance (ANOVA) on each of the two instruments for comparisons of music deprivation as related to:

(a) Race

(b) Sex

(c) Age groups

(d) Level of education

(e) Number of hospitalizations in an inpatient psychiatric facility.

(3) Pearson product-moment coefficient of correlation to determine the relatedness between the two instruments.

CHAPTER IV

RESULTS

It is the intent that the material in this chapter shall present the statistical findings of the study, providing the results as they relate to the hypotheses.

Description of Subjects

Two groups of subjects were selected for this study. Group A consisted of 40 subjects who were diagnosed as schizophrenic clients and who were currently being treated in either the Day Treatment or the Outpatient units of DCMHMRC, DVI. Group B was composed of 36 subjects who have never been diagnosed as schizophrenic. Most are members or friends from two churches which are located in the same geographical catchment area as is covered by the DVI center. Table 1 shows the breakdown of subjects into the various areas: (1) sex, (2) age, (3) number of hospitalizations, (4) race, and (5) years of education.

Treatment of the Data

All calculations were computed by a DEC-system 20 in the University Computing Center at Texas Woman's University, Denton, Texas, using the Statistical Package for Social Sciences. Data were treated for analysis in four types of computer sub-programs. First,

Table 1

Description of Subjects

Group*	Sex		Age			Number of Hospitalizations		
	Male	Female	18-30	31-43	44-55	2-4	5-7	8-10
A	25	15	10	21	9	24	11	5
B	7	29	15	15	6	--	--	--

Group*	Race			Years of Education		
	Caucasian	Negro	Mexican-American	1-6	7-12	13-19
A	17	22	1	4	31	5
B	1	35	--	--	24	12

*Group A, Schizophrenic; Group B, Non-client

the T-test was used to analyze the scores on both the Crowell and the Gaston instruments in three different ways: (1) the total schizophrenic sample vs. the total non-client sample, (2) schizophrenic females vs. non-client females, and (3) schizophrenic males vs. non-client males. Second, five one-way ANOVA's were used to examine music deprivation as it related to the following areas: (1) race, (2) sex, (3) age, (4) level of education, and (5) number of hospitalizations in an inpatient psychiatric facility. In connection with these areas, the Breakdown sub-program was utilized to determine the means of each category. The fourth sub-program

was the Pearson Corr, used to compute the correlation between the Crowell instrument and the Gaston instrument.

Hypotheses 1 and 2. Table 2 reflects the statistical results of the total schizophrenic sample (male and female) vs. the total non-client sample (male and female). Using the separate variance estimate on the Crowell instrument, it was shown that the t-test was statistically significant. The schizophrenics scored statistically significantly lower than the non-clients. The same was true of the Gaston instrument scores. Using the pooled variance estimate, the t-test was again statistically significant. These hypotheses were accepted.

Table 2

T-test
Comparison of Schizophrenics vs. Non-clients

Grp*	Number of Cases	Mean	Standard Deviation	Standard Error	T-value	df	p
Crowell							
A	40	143.69	69.81	11.04	-7.91	60.63	0.000**
B	36	305.08	103.00	17.17			
Gaston							
A	40	16.24	6.08	0.96	-6.28	74	0.000**
B	36	25.36	6.59	1.10			

* Group A, Schizophrenic; Group B, Non-client

** Statistically significant

A graphical analysis of this information can be found in Figures 1 and 2 in which a frequency polygon was

constructed. Frequency of scores was divided into intervals for the purpose of the graphs. Figure 1 represents the scoring on the Crowell instrument, illustrating the scores of the schizophrenics to be lower than those of the non-clients.

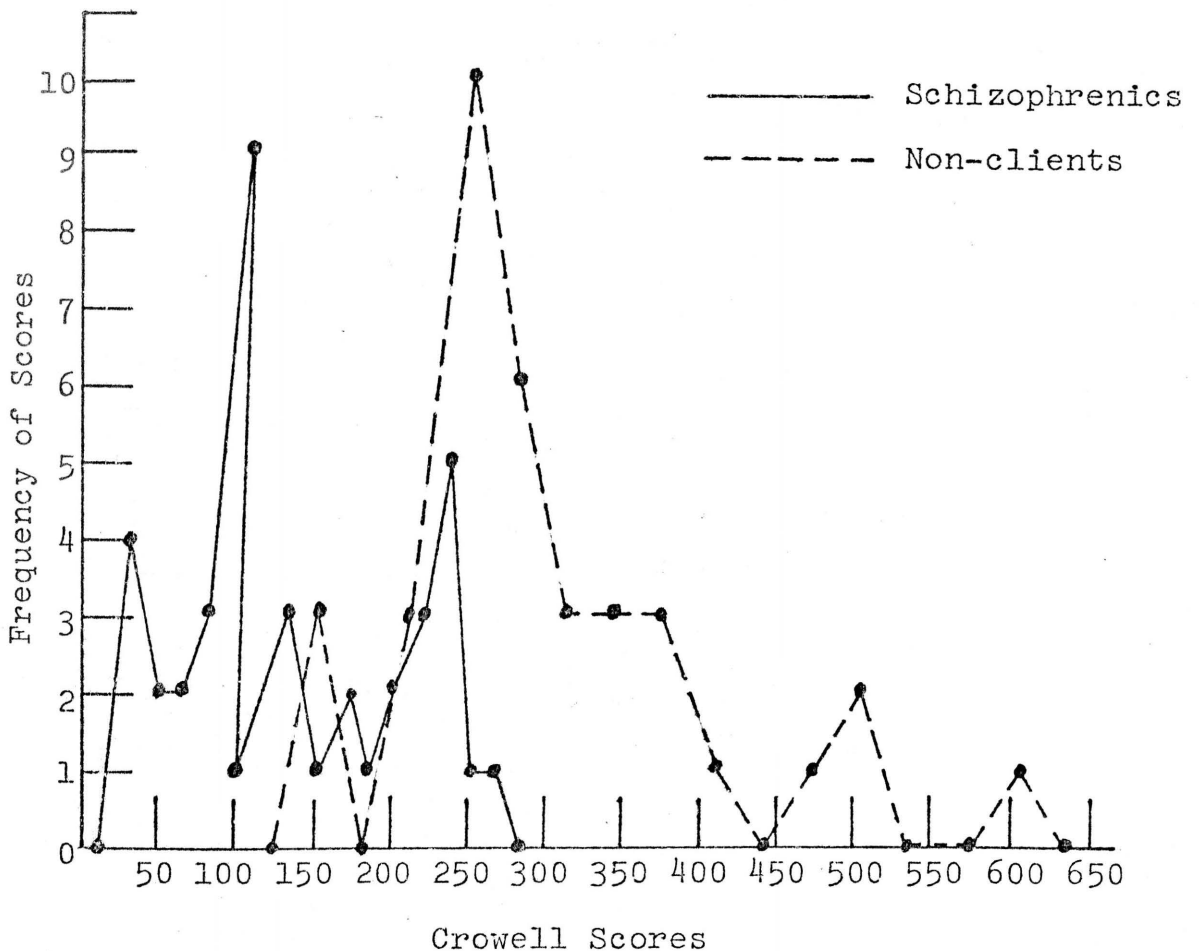


Fig. 1.--Crowell instrument. Schizophrenics vs. Non-clients.

Figure 2 represents scoring on the Gaston instrument. It also illustrates that the schizophrenics scored lower than the non-clients.

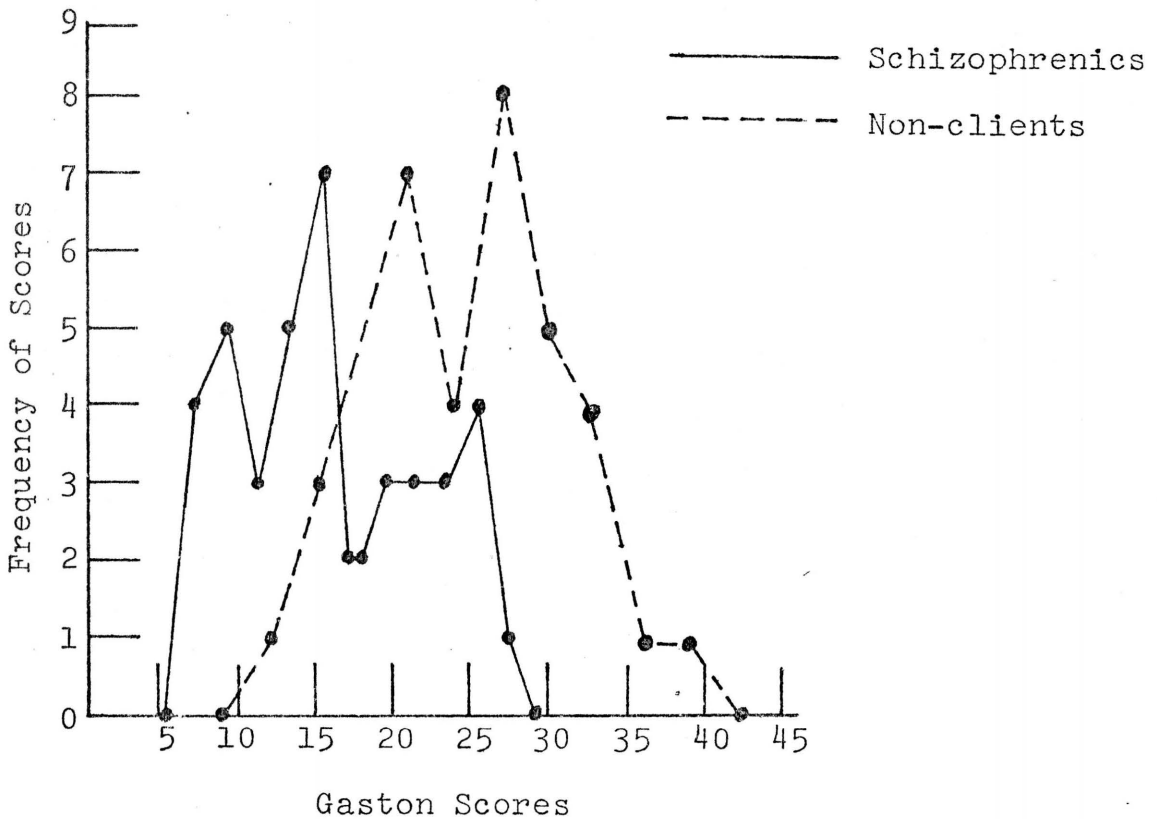


Fig. 2.--Gaston instrument. Schizophrenics vs. Non-clients.

Hypotheses 3 and 4. Table 3 presents the results of the female subjects. The t-test using the separate variance estimate on the Crowell instrument was statistically significant. On the Gaston instrument, the pooled variance estimate was used, and the t-test was again statistically significant. Therefore, both sets of results indicate that the schizophrenic females scored statistically significantly lower than the non-client females. The third and fourth hypotheses were accepted.

Figure 3 illustrates that the schizophrenic females

Table 3

T-test

Comparison of Schizophrenic Females vs. Non-client females

Grp*	Number of Cases	Mean	Standard Deviation	Standard Error	T-value	df	p
Crowell							
A	15	105.39	60.57	15.64	-7.78	41.77	0.000**
B	29	305.82	110.33	20.49			
Gaston							
A	15	13.30	4.24	1.10	-6.30	42	0.000**
B	29	25.41	6.76	1.26			

* Group A, Schizophrenic; Group B, Non-client

** Statistically significant

scored lower on the Crowell instrument, while Figure 4 represents scores on the Gaston instrument, with the schizophrenic females again scoring lower.

Hypotheses 5 and 6. Table 4 presents the results of the analysis of male scores. The t-test was again utilized, and the pooled variance estimate was used in both. On the Crowell instrument and the Gaston instrument, the t-tests were statistically significant. Both indicated that the schizophrenic males scored statistically significantly lower than the non-client males. Therefore, the fifth and sixth hypotheses were accepted.

Figure 5 illustrates that the schizophrenic males

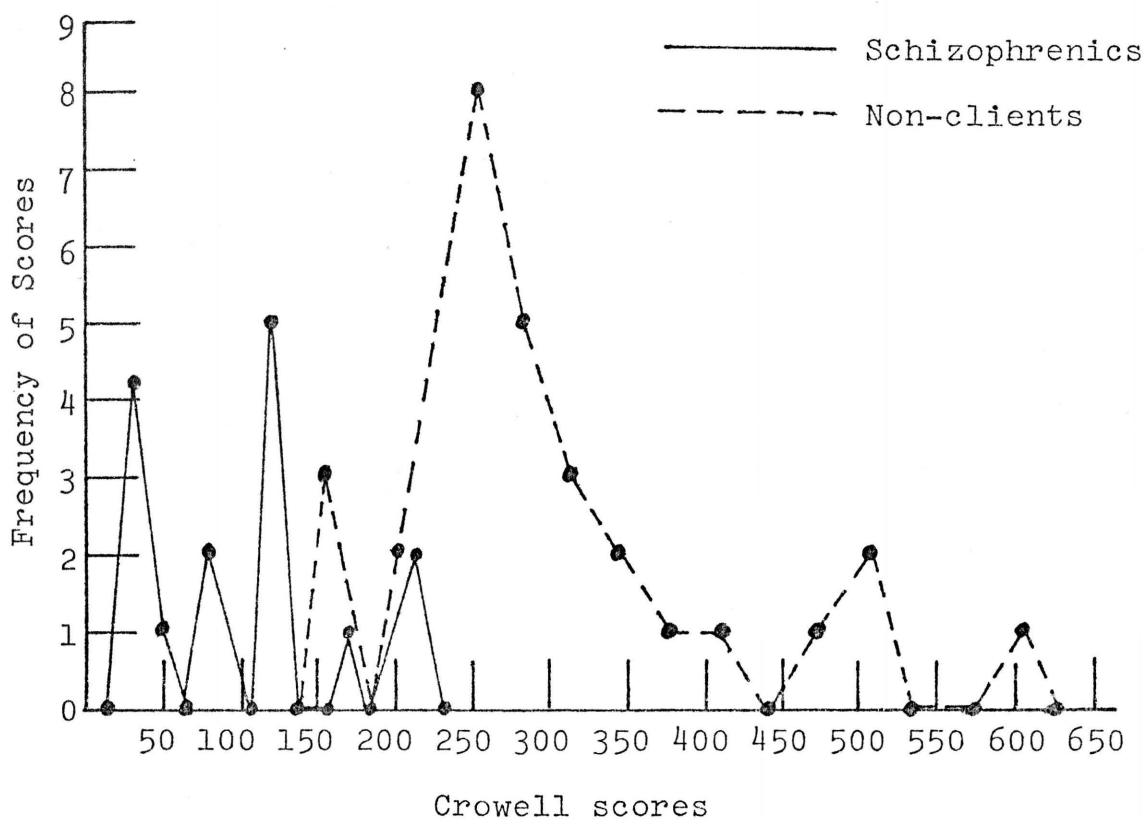


Fig. 3.--Crowell instrument. Schizophrenic Females vs. Non-client Females.

scored lower on the Crowell instrument, while Figure 6 represents scores on the Gaston instrument, with the schizophrenic males again scoring lower.

The next five sets of data were analyzed by conducting the one-way analyses of variance as well as the Breakdown sub-program to determine the means by the following categories: (1) race, (2) sex, (3) age groups, (4) level of education, and (5) number of hospitalizations.

Hypotheses 7 and 8. A statistically significant

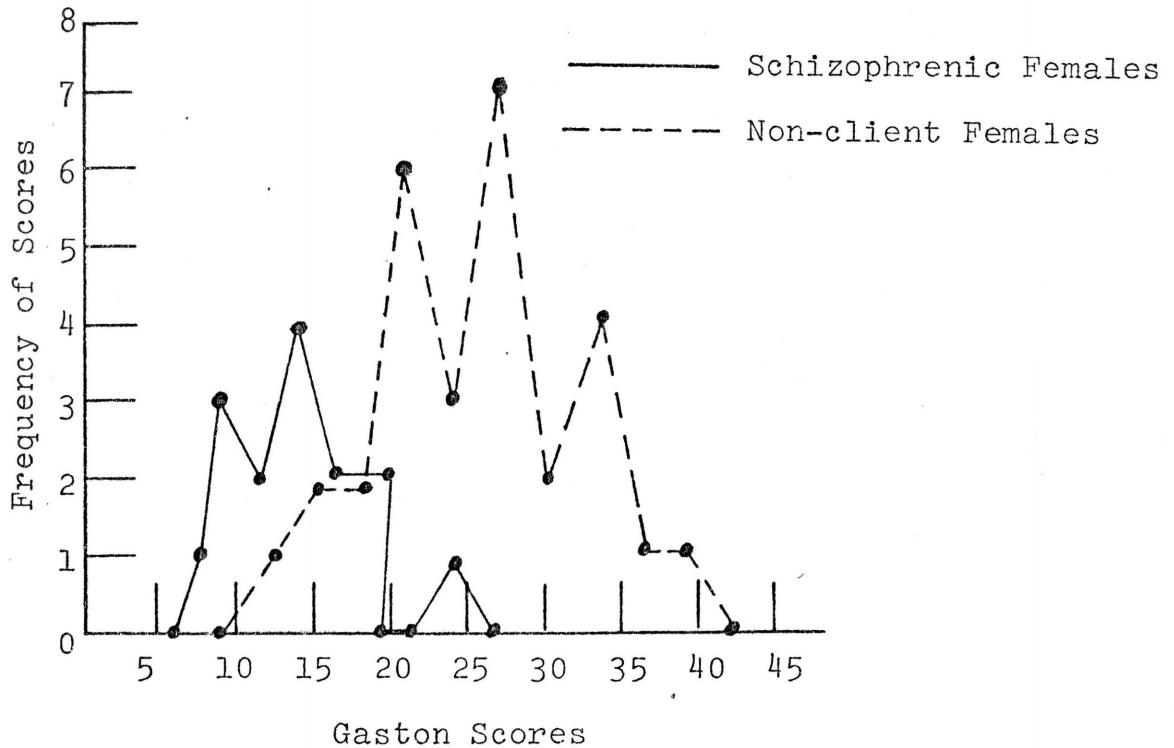


Fig. 4.--Gaston instrument. Schizophrenic Females vs. Non-client Females.

Table 4

T-test
Comparison of Schizophrenic Males vs. Non-client Males

Grp*	Number of Cases	Mean	Standard Deviation	Standard Error	T-value	df	p
Crowell							
A	25	166.66	65.68	13.14	-4.74	30	0.000**
B	7	302.01	71.18	26.90			
Gaston							
A	25	18.00	6.40	1.28	-2.62	30	0.014**
B	7	25.14	6.28	2.38			

* Group A, Schizophrenic; Group B, Non-client

** Statistically significant

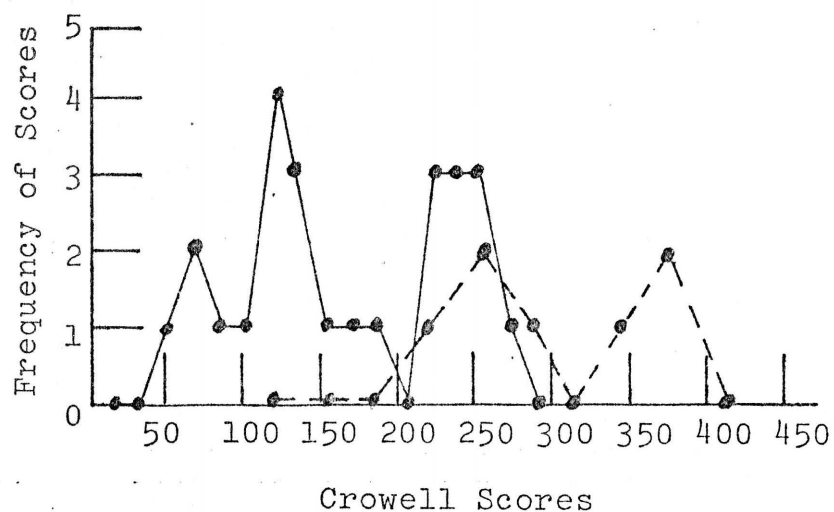


Fig. 5.--Crowell instrument. Schizophrenic Males vs. Non-client Males.

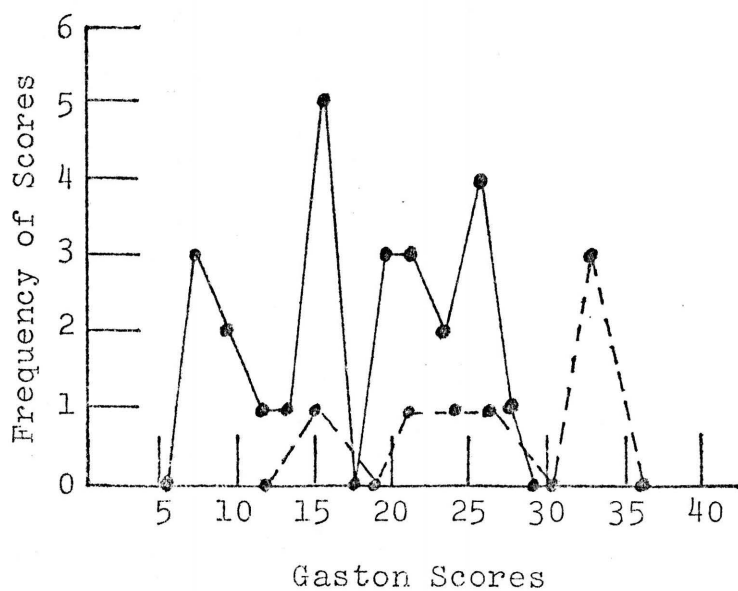


Fig. 6.--Gaston instrument. Schizophrenic Males vs. non-client Males.

difference was found between races when analyzing both instruments (see Table 5). Therefore, the seventh and eighth hypotheses were accepted.

Table 5

One-way Analysis of Variance of
Music Deprivation as Related to Race

SS	df	Mean Squared	F	p
Crowell				
163524.71	2	81762.35	6.70	0.002*
Gaston				
412.32	2	206.16	3.65	0.03*

* Statistically significant

In comparing the means of the three races (see Table 6), it was determined that the Negro subjects scored highest, the Caucasian subjects scored in the middle, and the Mexican-American subject scored lowest. It is thought that this result was somewhat biased by the fact that of the 36 non-client subjects (who scored statistically significantly higher than the schizophrenics), 35 of those tested were of the Negro race, while the schizophrenic sample was more evenly distributed between Negroes and Caucasians.

Hypotheses 9 and 10. According to the one-way analyses

Table 6

Mean Scores by Race

Race	Number	Crowell Means	Gaston Means
Caucasian	18	140.93	16.56
Negro	57	264.88	21.90
Mexican-American	1	121.00	16.00

of variance utilized to compare sex differences, there was no statistically significant difference between sexes on the Crowell instrument or on the Gaston instrument (see Table 7). However, as is shown in Table 8, the females tended to score higher on both instruments even though it was not a statistically significant difference. Therefore, the ninth and tenth hypotheses were rejected.

Table 7

One-way Analysis of Variance of
Music Deprivation as Related to Sex

SS	df	Mean Squared	F	p
Crowell				
31472.90	1	31472.90	2.28	0.14
Gaston				
54.91	1	54.91	0.91	0.34

Table 8

Mean Scores by Sex			
Sex	Number	Crowell Means	Gaston Means
Female	44	237.49	21.28
Male	32	196.27	19.56

Hypotheses 11 and 12. An analysis of age differences in relation to music deprivation provided varying results between the instruments as is shown in Table 9. While the Gaston instrument did not show a statistically significant difference by age group, the results of the scores on the Crowell instrument did indicate a statistically significant difference. Therefore, Hypothesis 11 was accepted and Hypothesis 12 was rejected.

Table 9

One-way Analysis of Variance of
Music Deprivation as Related to Age Groups

SS	df	Mean Squared	F	p
Crowell				
102589.24	2	51294.62	3.93	0.02*
Gaston				
288.78	2	144.39	2.48	0.09

* Statistically significant

The breakdown for the means of the Crowell instrument showed that the oldest group scored lowest, indicating they were more musically deprived, while the youngest group scored highest (see Table 10).

Table 10

Mean Scores by Age Groups

Age Groups	Number	Crowell Means	Gaston Means
18-30	25	272.48	23.16
31-43	36	196.48	18.74
44-55	15	189.66	20.60

Hypotheses 13 and 14. In the one-way analysis of variance comparing the level of education and music deprivation, there was again a difference in results between the two tests, as is shown in Table 11. Scores from the Gaston instrument showed no statistically significant difference. However, the results on the Crowell instrument indicated there was a statistically significant difference in the levels of education. Therefore, Hypothesis 13 was accepted, while Hypothesis 14 was rejected.

Table 12 reflects the means by educational levels. Both instruments are consistent in showing that those with less education scored lower, indicating they were more deprived musically.

Table 11

One-way Analysis of Variance of
Music Deprivation as Related to Level of Education

SS	df	Mean Squared	F	p
Crowell				
97372.87	2	48686.44	3.71	0.03*
Gaston				
281.81	2	140.91	2.42	0.10

* Statistically significant

Table 12

Mean Scores by Level of Education

Years of Education	Number	Crowell Means	Gaston Means
1- 6	4	127.20	15.25
7-12	55	209.13	20.02
13-19	17	277.61	23.56

Hypotheses 15 and 16. There proved to be no statistically significant difference related to the number of hospitalizations in an inpatient psychiatric facility when using scores on either the Crowell or the Gaston instruments (see Table 13). Therefore, the fifteenth and sixteenth hypotheses were both rejected. However, the trend as shown in Table 14 again shows that those subjects who have not

been hospitalized (the non-client sample) scored considerably higher.

Table 13

One-way Analysis of Variance of
Music Deprivation Related to Number of Hospitalizations
in an Inpatient Psychiatric Facility

SS	df	Mean Squared	F	p
Crowell				
10612.25	2	5306.13	1.09	0.35
Gaston				
57.25	2	28.62	0.77	0.47

Table 14

Mean Scores by Number of Hospitalizations
in an Inpatient Psychiatric Facility

Hospitalizations	Subjects	Crowell Means	Gaston Means
0	36	305.08	25.36
2-4	24	145.09	15.75
5-7	11	124.31	15.86
8-10	5	179.56	19.40

Hypothesis 17. To determine the correlation between the Crowell instrument and the Gaston instrument, the Pearson product-moment correlation coefficient was computed. The

results reflected a statistically significant positive correlation between the two tests (see Table 15). This serves as a concurrent validity for the Crowell test. Approximately 40% of the variance was not accounted for between the tests; however, this is perhaps due to the fact that the Crowell instrument was designed to be more detailed than was the Gaston instrument. Hypothesis 17 was accepted.

Table 15

Correlation Between Two Instruments,
Crowell and Gaston

<u>Correlation (r)</u>	<u>Significance (p)</u>
.78	.001*

* Statistically significant

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This chapter was designed to state the conclusions, implications, and speculations which were drawn from the results, as well as recommendations for future study in the area.

Conclusions

Basic to this study were the results reflecting lower scores by the schizophrenics, indicating that they may have been more deprived in music experiences during their childhood. While it is sometimes difficult for early experiences to be remembered, all subjects appeared to make attempts at being as accurate as possible. In trying to remember the past, it is easy for some of the years to "merge" together. However, the explanation which "pin-pointed" the end of the elementary school years seemed to help several of the subjects.

While the Negro subjects appeared to be less deprived musically, these results may have been biased by the racial distribution of the groups. Further studies with a more even balance between races in both groups would perhaps reflect different results.

With age groups, the trend was toward the older subjects being more deprived. The lower educational levels also

reflected more deprivation. Perhaps more of the stimulation which is so vital to early development is now being provided.

There were several indications in the results of the one-way analyses of variance which give some support to the possibility that the Crowell instrument is more sensitive, as it was designed to be: (1) the comparisons of music deprivation with the races (showing the Negro subjects to be less deprived) were significant on both tests, but were stronger on the Crowell; (2) there was no significance in the comparisons of music deprivation with the sexes or the number of hospitalizations, but the results of the Crowell test were closer to statistical significance than were the results of the Gaston test; (3) the comparisons of music deprivation with age groups and with levels of education showed no significance on the Gaston, but both were significant on the Crowell test. All results of the Crowell instrument, with the exceptions of sex differences and number of hospitalizations, were significant, lending support to the stated hypotheses.

Research questions which were asked at the end of Chapter I are now presented with answers.

(1) Will a group of clients currently in treatment at a community mental health center, and diagnosed as "schizophrenic", be found to have similar backgrounds of childhood deprivation of music experiences remembered as compared with a control group of non-psychotic persons? As

related to this study, the answer is yes, and significantly so (see Tables 2, 3, and 4, Chapter IV).

(2) Will such deprivation, if found, be positively correlated with normative data from part of a standardized test of musicality taken by these clients and control subjects? The deprivation was found and was positively correlated with the normative data (see Table 15, Chapter IV).

(3) Will such deprivation, if found, appear to be related to the lack of creative ability, especially as regards seeking alternative solutions to life adaptive problems? There is no statistical answer to this question, but rather speculation. It would seem that since music, as an art form in the realm of aesthetics, has been recognized as a creative outlet, it could be utilized, perhaps, to aid those whose creative potential has not been developed. Whether this would assist in persons being able to utilize alternative solutions is again speculation, but in the mind of this writer and based on the literature supporting the development of creativity, it appears that this is a possible way to increase the problem-solving capabilities.

Further speculation is aimed toward the use of music as a therapeutic tool with adult schizophrenics. While it is recognized that there is no known cure for schizophrenia, there are possibilities for improving the quality of life for the person who suffers from the disorder. It appears possible

that if music could be used to develop creativity, it might enable the schizophrenic person to become less rigid, improve his functioning abilities, and increase his self-awareness so that he could better cope with his life and with his schizophrenia.

Implications could be drawn for the support of music therapy with deprived children in pre-school and public school settings, to further enrich a child during his formative years by providing more creative outlets and sensory experiences. Further implications could be made for the support of music therapy with childhood schizophrenia, to attempt to provide more aesthetic and creative experiences during early childhood. This study leaves an avenue open for the possibility of a longitudinal study with childhood schizophrenics which could be developed in connection with creativity in early development and its effects on adult life.

Recommendations

While this study will not change the world dramatically, it is exciting to have achieved statistical significance in portions of the results. There are, however, some aspects of the study which need to be considered in light of the significance. It should be noted, in terms of the Gaston instrument, that the normative data were obtained from students in grade 9-12, not from the lower socio-economic,

basically Negro, population. Also to be taken into account was the selection of the non-client sample. The majority was selected from church groups. It would perhaps be interesting to obtain results from a more generalized population. It appears that there is enough benefit from the study to warrant further exploration and refinement. It would seem that with the trend of the results, the Crowell instrument would be worthy of further study and replication with a larger and more well-defined sample. Therefore, the recommendations are:

(1) Reliability should be established on the Crowell instrument.

(2) A stratified random sample should be attempted, i.e., more balanced between the sexes, races, and ages, with the non-client group being selected from a more generalized population.

Music is but one area of aesthetics, but it has universal appeal. Music therapy is yet a young field, and the area of music deprivation is relatively untouched. The study of schizophrenia continues to develop and change rapidly. And where do the ideas of alternative thinking, creativity, problem-solving, and decision-making enter in? "The time at last seems ripe for scientists and clinicians to work more closely to explore a human capacity whose potential we have only begun to tap for psychotherapy, education, and creative living" (Singer, 1974, p. 254). Perhaps it is time to consider connecting these with music.

APPENDIX A*

Test Instrument I (Crowell)

APPENDIX A

QUESTIONNAIRE FOR MUSIC EXPERIENCE IN CHILDHOOD

1. a. Did you have a piano?
b. For how many years?
c. How often did you play it?
d. How often did you listen to someone else play it?
2. a. Did you have an organ?
b. For how many years?
c. How often did you play it?
d. How often did you listen to someone else play it?
3. a. Did you have a guitar?
b. For how many years?
c. How often did you play it?
d. How often did you listen to someone else play it?
4. a. Did you have drums?
b. For how many years?
c. How often did you play them?
d. How often did you listen to someone else play them?
- 5.₁ (Use back of answer sheet if there are more than three additional instruments.)
a. Did you have any other instruments?
b. Name of the instrument.
c. For how many years?
d. How often did you play it?
e. How often did you listen to someone else play it?
- 5.₂ a. Name of the instrument.
b. For how many years?
c. How often did you play it?
d. How often did you listen to someone else play it?
- 5.₃ a. Name of the instrument.
b. For how many years?
c. How often did you play it?
d. How often did you listen to someone else play it?
6. a. Did you have a radio?
b. For how many years?
c. How often did you turn it to a station with music?
d. How often did you listen to it when someone else had it turned to a station with music?
7. a. Did you have a record player and records?
b. For how many years?
c. How often did you play records with music?
d. How often did you listen to records with music when someone else was playing them?
8. a. Did you have a television set?
b. For how many years?
c. How often did you watch programs that had music?
d. How often did someone else have it turned on to a program with music when you were in the house?
9. a. Did you ever say or listen to nursery rhymes?
b. For how many years?
c. How often did you say them?
d. How often did you listen to someone else say them?
10. a. Did any family member ever sing to you or sing in your presence?
b. For how many years?
c. How often did that happen?
11. a. Did you ever sing at home by yourself or with other family members?
b. For how many years?
c. How often did that happen?
12. a. Did you ever attend or participate in any music programs in the community, other than church or school?
b. For how many years?
c. How often did you attend?
13. a. Did you attend nursery school and/or kindergarten where music activities were available?
b. For how many years?
c. How often were you involved in a music activity?
14. a. Did you attend an elementary school where general music activities or classes were available?
b. For how many years?
c. How often were you involved in a music activity?

15. a. Did you attend church services where there was any type of music?
b. For how many years?
c. How often did you attend?
16. a. Were you ever involved in any music activities with a church group (i.e. youth choir, handbell group, dance group, camp sing-songs, etc.)
b. For how many years?
c. How often did the group practice or perform?
17. a. Were you ever in a band?
b. What instrument did you play?
c. For how many years?
d. How often did your group practice or perform?
18. a. Were you ever in a choral group?
b. For how many years?
c. How often did your group practice or perform?
- 19.₁ (Use back of answer sheet if there are more than three additional instruments.)
 - a. Did you ever take private music lessons?
 - b. Name instrument, voice, or dancing.
 - c. For how many years?
 - d. How often were your lessons?
 - e. How often did you practice?
- 19.₂
 - a. Name instrument, voice, or dancing.
 - b. For how many years?
 - c. How often were your lessons?
 - d. How often did you practice?
- 19.₃
 - a. Name instrument, voice, or dancing.
 - b. For how many years?
 - c. How often were your lessons?
 - d. How often did you practice?
20. a. Did you ever dance--either formally with a group or informally in your home?
b. For how many years?
c. How often did you dance?

APPENDIX B

Weighting Scale for Test Instrument I

APPENDIX B

Weighting Scale

<u>Weights</u>			
1. 3	6. 2	11. 2	16. 3
2. 2	7. 3	12. 3	17. 3
3. 2	8. 1	13. 1	18. 3
4. 2	9. 2	14. 1	19. 3
5. 2	10. 1	15. 3	20. 1

Years - Transformed for Answer Scale

0	1	2	3	4	5	6	7
0	1	2-3	4-5	6-7	8-9	10-11	12

APPENDIX C

Test Instrument II (Gaston)

APPENDIX C

QUESTIONNAIRE

Adapted from A Test of Musicality (Gaston, 1957)

1. Did your father play a musical instrument or sing? No___ Yes___
2. Did your mother play a musical instrument or sing? No___ Yes___
3. Did any of your grandparents play or sing? No___ Yes___
4. Did any of your brothers or sisters play or sing? No___ Yes___
5. Did you have a piano in your home? No___ Yes___
6. How many years have you taken lessons on a musical instrument?
None___ One___ Two___ Three___ Four or more___
7. Was a phonograph played in your home? No___ Yes___
8. Did your father and mother like music? No___ Yes___
9. Did your parents ever tell you that they would like to
have you study music? No___ Yes___
10. Would you like to play in a band? No___ Yes___
11. Would you like to play in an orchestra? No___ Yes___
12. Did you like your school music? No___ Yes___
13. Would you like to sing in a chorus or glee club? No___ Yes___
14. Did you like to listen to phonograph music? No___ Yes___
15. Would you like to be a musician? No___ Yes___
16. Would you give up some of your recreation in order to
practice on a musical instrument? No___ Yes___
17. In the list below, are several things which you are to number in the order
in which you enjoy them. Place a "1" after that thing which you most enjoy.
Place a "2" after that which you enjoy next best. Place a "3" after that
which you enjoy next best, and so on until you have numbered each item in
the list. Be certain to place a number after every item in the list.

Swimming_____	Music_____	Reading_____
Baseball_____	Basketball_____	Dancing_____
Movies_____	Softball_____	Fishing_____
Hiking_____	Parties_____	Radio_____
Football_____	Sewing_____	Hobbies_____

APPENDIX D

Instructions to Clinicians for the
Selection of Group A

APPENDIX D
INSTRUCTIONS TO CLINICIANS FOR THE
SELECTION OF GROUP A

Clients must meet all the following criteria in order to be selected for the study. If any question does not meet the guidelines, return the chart to Medical Records and begin with another one.

1. Age - eighteen (18) to fifty-five (55) years of age.
2. Current diagnosis - schizophrenia.
3. Medication - antipsychotic (phenothiazine) currently prescribed.
4. Hospitalizations - inpatient unit of a psychiatric facility at least two times for a period of at least two weeks each.
5. Diagnostic history - schizophrenia during at least two of the inpatient hospitalizations.
6. Symptoms - history of or currently exhibiting at least four of the symptoms listed on the checklist.

APPENDIX E

Checklist for Selection of Group A Subjects

APPENDIX E

CHECKLIST FOR SELECTION OF GROUP A SUBJECTS

Day Treatment Unit _____ Selected _____
 Outpatient Unit _____ Rejected _____

1. Age: _____
2. Current diagnosis: _____
3. Check any of the following antipsychotic (phenothiazine) medications which are currently prescribed:

_____ Haldol	_____ Mellaril	_____ Navane	_____ Quide	_____ Thorazine (CPZ)
_____ Loxitane	_____ Mobane	_____ Prolixin	_____ Stelazine	_____ Trilafon

 Other _____
4. Number of hospitalizations (for a period of at least six weeks each) in a state mental facility: _____
5. Has client been diagnosed as a schizophrenic during at least two of the state hospitalizations:

_____ Yes _____ No
6. Check any of the following symptoms which have been recorded in past history or which client is currently exhibiting:

_____ Ambivalence	_____ Inappropriate emotions (smiling, laughing, crying, etc.)
_____ Autism	_____ Lack of reality orientation
_____ Bizarre behavior	_____ Loose associations
_____ Catatonia	_____ Mutism
_____ Delusions	_____ Paranoid ideations
_____ Disorganized thinking	_____ Pressure of speech
_____ Dissociation	_____ Regression
_____ Eating and/or sleeping disturbances	_____ Talking to oneself
_____ Flat or blunt affect	_____ Tangential thought or speech
_____ Hallucinations	_____ Withdrawal

APPENDIX F

Oral Description of the Study

APPENDIX F
ORAL DESCRIPTION OF THE STUDY

To the clinician:

Read the following oral description to each subject and then ask him/her to sign the consent form:

We are doing a study about childhood music experiences. I would like for you to answer some questions about how much music you remember when you were growing up, such as what instruments you had, whether or not you took private lessons, and how much you listened to somebody else play or sing.

The study is being conducted with several adult clients who are being treated in a mental health center, as well as adults who have never been in need of treatment.

There will be no names used in reporting the results of the study. No medical service or compensation is provided to subjects by the university as a result of injury from participation in research.

I will be happy to answer any questions which you may have before signing this consent form.

APPENDIX G
Consent Form

APPENDIX G

TEXAS WOMAN'S UNIVERSITY

(Form B)

Consent to Act as a Subject for Research and Investigation:

I have received an oral description of this study, including a fair explanation of the procedures and their purpose, any associated discomforts or risks, and a description of the possible benefits. An offer has been made to me to answer all questions about the study. I understand that my name will not be used in any release of the data and that I am free to withdraw at any time.

Signature_____
Date_____
Witness_____
DateCertification by Person Explaining the Study:

This is to certify that I have fully informed and explained to the above named person a description of the listed elements of informed consent.

Signature_____
Date_____
Position_____
Witness_____
Date

APPENDIX H
Demographic Information

APPENDIX H

DEMOGRAPHIC INFORMATION

1. Race: _____
 _____ Negro _____ Caucasian _____ Mexican _____ Oriental _____ Other
2. What is your current address? _____
3. What is your birthdate? _____
4. a. What is the name of the city or town where you grew up?

- b. Do you know the approximate population? _____
5. How many years did you complete in school? _____
6. Who did you live with when you were growing up? _____
7. a. Who made the main salary? _____
- b. What was his/her occupation? _____
- c. What was the approximate salary? _____
- d. Did anyone else in the family make money? _____
- e. If so, what was the occupation? _____
- f. What was his/her approximate salary? _____
8. a. How many children were in your family? _____
- b. What position did you fall in the line of brothers and sisters? _____
9. a. Do you currently receive any income? _____ Yes _____ No
- b. From what source? _____
- c. What is your approximate salary? _____
- *10. How many times have you been hospitalized for psychiatric problems? _____
- *11. Age of client when first diagnosed schizophrenic? _____

* Omit these two questions with Group B. On Question 11, determine that information from the medical record rather than asking the client.

APPENDIX I

Instructions to Subjects

APPENDIX I
INSTRUCTIONS TO SUBJECTS

I want you to think about how much music you were around from the earliest age you can remember until you were 12 years old--that would have been about the end of the elementary school years. I will be asking you some questions about that period of your life. When I talk about whether you had different instruments, that means either you had them in your home or they were in the home of a neighbor or relative where you spent a lot of time.

APPENDIX J

Raw Data

APPENDIX J

RAW DATA

S	Age	Race	Education	Hospitalization	Crowell	Gaston
Schizophrenic Females						
1	51	M	2	3	121	16
2	32	C	10	5	42	11
3	47	C	12	3	81	13
4	43	N	7	4	129	8
5	38	C	12	4	214	17
6	35	C	7	10	28	9
7	42	C	6	2	114	15
8	32	N	8	2	128	13
9	38	N	12	4	125	13
10	51	C	7	2	207	24
11	36	N	10	6	39	13
12	49	N	9	2	54	10
13	40	C	4	3	32	11
14	53	N	11	3	172	18
15	43	N	14	6	95	9
Schizophrenic Males						
16	47	C	6	9	242	19
17	21	N	9	5	158	26
18	43	N	7	9	243	20
19	45	C	8	3	55	15
20	28	N	12	5	281	24
21	25	N	11	4	128	15
22	25	C	10 (+GED)	4	128	15
23	19	N	12	2	262	16
24	32	N	8	4	227	16
25	36	N	12	7	62	26
26	23	C	12	4	248	20
27	44	C	16	6	220	26
28	25	N	14	2	245	26
29	38	C	14	7	63	14
30	29	N	12	8	215	21
31	40	C	9	9	170	28
32	33	N	9	5	181	8
33	22	N	12	2	146	22
34	43	C	9	2	113	12
35	47	C	14	4	82	8
36	41	C	9	5	143	8
37	19	N	10	2	126	10
38	27	N	10	5	146	10
39	22	N	12	4	110	23
40	27	N	11	4	237	22

RAW DATA

S	Age	Race	Education	Crowell	Gaston
Non-Client Females					
41	35	N	8	323	31
42	39	N	12	276	25
43	37	N	12	292	19
44	30	N	16	240	15
45	42	N	15	523	32
46	24	N	11	352	28
47	44	C	16	356	33
48	23	N	12	144	11
49	41	N	12	167	20
50	44	N	10	218	18
51	44	N	11.5	241	23
52	51	N	12	264	22
53	19	N	12	293	21
54	38	N	12	250	28
55	19	N	12	248	28
56	29	N	19	496	40
57	20	N	11	614	35
58	18	N	11	479	30
59	19	N	12	275	28
60	39	N	12	369	28
61	31	N	13	237	27
62	40	N	18	319	21
63	28	N	12	253	21
64	20	N	12	331	25
65	18	N	12	223	20
66	31	N	11	146	15
67	54	N	12	263	34
68	35	N	18	279	26
69	37	N	15.5	400	33
Non-Client Males					
70	37	N	10	345	30
71	25	N	11	214	24
72	45	N	19	269	30
73	18	N	12	390	31
74	39	N	16	252	20
75	26	N	15.5	388	27
76	36	N	15	256	14

APPENDIX K.

Answer Scale for

Questionnaire for Music Experience in Childhood

APPENDIX K

SCORE SHEET
FOR
QUESTIONNAIRE FOR MUSIC EXPERIENCE IN CHILDHOOD

<u>Do Not</u> <u>Remember</u>	<u>Annually</u> <u>Or Less</u>	<u>Semi-</u> <u>Annually</u>	<u>Monthly</u>	<u>Semi-</u> <u>Monthly</u>	<u>Weekly</u>	<u>Semi-</u> <u>Weekly</u>	<u>Daily Or</u> <u>More Often</u>
0	1	2	3	4	5	6	7
1.a. Yes _____ No _____	5. a. _____	10.a. Yes _____ No _____	17.a. Yes _____ No _____				
b. _____	b. _____	b. _____	b. _____				
c. 0 1 2 3 4 5 6 7	c. 0 1 2 3 4 5 6 7	c. 0 1 2 3 4 5 6 7	c. _____				
d. 0 1 2 3 4 5 6 7	d. 0 1 2 3 4 5 6 7	11.a. Yes _____ No _____	d. 0 1 2 3 4 5 6 7				
2.a. Yes _____ No _____	5. a. _____	b. _____	18.a. Yes _____ No _____				
b. _____	b. _____	c. 0 1 2 3 4 5 6 7	b. _____				
c. 0 1 2 3 4 5 6 7	c. 0 1 2 3 4 5 6 7	12.a. Yes _____ No _____	c. 0 1 2 3 4 5 6 7				
d. 0 1 2 3 4 5 6 7	d. 0 1 2 3 4 5 6 7	b. _____	19. a. Yes _____ No _____				
3.a. Yes _____ No _____	6. a. Yes _____ No _____	c. 0 1 2 3 4 5 6 7	b. _____				
b. _____	b. _____	13.a. Yes _____ No _____	c. _____				
c. 0 1 2 3 4 5 6 7	c. 0 1 2 3 4 5 6 7	b. _____	d. 0 1 2 3 4 5 6 7				
d. 0 1 2 3 4 5 6 7	d. 0 1 2 3 4 5 6 7	c. 0 1 2 3 4 5 6 7	e. 0 1 2 3 4 5 6 7				
4.a. Yes _____ No _____	7. a. Yes _____ No _____	14.a. Yes _____ No _____	19. a. _____				
b. _____	b. _____	b. _____	b. _____				
c. 0 1 2 3 4 5 6 7	c. 0 1 2 3 4 5 6 7	c. 0 1 2 3 4 5 6 7	c. 0 1 2 3 4 5 6 7				
d. 0 1 2 3 4 5 6 7	d. 0 1 2 3 4 5 6 7	15.a. Yes _____ No _____	d. 0 1 2 3 4 5 6 7				
5. a. Yes _____ No _____	8. a. Yes _____ No _____	b. _____	19. a. _____				
b. _____	b. _____	c. 0 1 2 3 4 5 6 7	b. _____				
c. _____	c. 0 1 2 3 4 5 6 7	16.a. Yes _____ No _____	c. 0 1 2 3 4 5 6 7				
d. 0 1 2 3 4 5 6 7	d. 0 1 2 3 4 5 6 7	b. _____	d. 0 1 2 3 4 5 6 7				
e. 0 1 2 3 4 5 6 7	9. a. Yes _____ No _____	c. 0 1 2 3 4 5 6 7	20. a. Yes _____ No _____				
	b. _____		b. _____				
	c. 0 1 2 3 4 5 6 7		c. 0 1 2 3 4 5 6 7				
	d. 0 1 2 3 4 5 6 7						

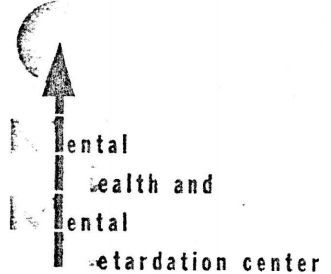
APPENDIX L

Correspondence Related to the Study

APPENDIX L

DISTRICT VI COMMUNITY MENTAL HEALTH CENTER
721 South Peak Street • Dallas, Texas 75223 • (214) 826-2170

dallas county



September 12, 1978

TO: Dorothy Crowell
FROM: Jim Moss *J.M.*

Re: Research Proposal

I have reviewed your research proposal and find it reasonable, feasible and applicable to your work situation in the Day Treatment Program.

Your proposal is approved by me and may now be submitted to the research committee for review.

Jim Moss

DISTRICT VI COMMUNITY MENTAL HEALTH CENTER
721 South Peak Street • Dallas, Texas 75223 • (214) 826-2170

dallas county

↑
Mental
Health and
Mental
Retardation Center

September 25, 1974

Paul Scott, Ph.D.
Interim Executive Director, DOMHRC
Central Office
2710 Stemmons Freeway
Dallas, Texas

Dear Dr. Scott:

I am a registered Music Therapist with District VI Day Treatment and am currently working toward my Master's degree at Texas Woman's University.

Enclosed you will find a copy of the prospectus for my thesis which has been read and approved by Jim Moss. He instructed me to send this to the Research Committee, and I am therefore contacting you, as chairman of that committee.

The study will not involve treatment with clients, as it utilizes two questionnaires which District VI clinicians will administer to clients on a one-time interview.

I would appreciate input from you at your earliest convenience.

Sincerely,

Dorothy Crowell
Dorothy Crowell, RMT

DISTRICT VI COMMUNITY MENTAL HEALTH CENTER
2323 Charles Street • Dallas, Texas 75228
(214) 324-3621

June 11, 1979

dallas county



Department of Music
Graduate Division of Texas Woman's University
Dallas, Texas

Re: Music Deprivation in Childhood
and Its Relationship to Adult
Schizophrenic Clients, a research
proposal by Dorothy Crowell, BME

To Whom It May Concern:

The above research proposal was reviewed and approved some months ago by Dr. Paul Scott, the Executive Director of this agency. Dr. Scott felt the study met all relevant policies and procedures of this agency and saw it as worthwhile to invest the required staff and materials of the agency.

I am the Chairperson of the Research Committee for this agency. Since this committee was formed after the above proposal was approved by the Executive Director, this letter is merely a formal notification of agency approval for Ms. Crowell's study. Please let me know if I may be of any further service.

Yours truly,

Jon C. Baughman, M.A.
Chairperson, Research Committee

JCB:ta

INVESTIGATOR AFFILIATION AGREEMENT:

(To be signed and filed with Chairman Research Committee)

Dallas County Mental Health and Mental Retardation Center and Dorothy Crowell
 enter into the following agreement of research affiliation for the purpose of providing the investigator with the opportunity to carry out a supervised research project.

1. Dallas County Mental Health and Mental Retardation Center agrees to:
 - A. Provide a staff member to monitor and supervise the research activities of the investigator.
 - B. Provide to the investigator limited, and previously agreed to, access to staff, materials, clients and the clinical records of clients for the purpose of abstracting relevant research information.
 - C. Safeguard the confidentiality of clients.
11. The Investigator agrees to:
 - A. Provide a statement of all affiliations (universities, etc.) regarding the research.
 - B. Follow all policies and procedures of Dallas County Mental Health and Mental Retardation Center as they relate to research activities, and confidentiality.
 - C. Follow the directives of the designated Center supervisor of the investigator with respect to all research activities.
 - D. Provide the Chairman of the Research Committee with monthly progress reports and a final status report of the research, including a copy of any completed research.
 - E. Provide a copy of any proposed publication in assurance of the appropriate use of the Center's name and the safeguarding of the human rights of the clients and staff of the Center.

Dallas County Mental Health and Mental Retardation Center reserves the right to terminate this research agreement upon the request of the Executive Director, the Research Committee, or the Human Rights Committee. Dallas County Mental Health and Mental Retardation Center will provide the investigator with a written statement indicating the reason for such action.

I, Dorothy Crowell, have read and reviewed policies and procedures of Dallas County Mental Health and Mental Retardation Center. I understand and agree with the principles therein. It is my full intention to comply with these policies to the best of my ability.

I am aware that Dallas County Mental Health and Mental Retardation Center has the right to discontinue the research relationship, if it is deemed necessary by the Executive Director of Dallas County Mental Health and Mental Retardation Center, the Research Committee, or the Human Rights Committee.

I signify to abide by these policies and procedures by affixing my signature to this document.

Signed Dorothy Crowell, RMT

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