THE EFFECTS OF BACKGROUND MUSIC UPON GROUP PLAY THERAPY

by

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ABSTRACT

The purpose of this study was to determine the effects of one type of background music upon the social interactions observed in group play therapy with children. A behavioral checklist was developed to determine the frequency of five target behaviors: the children's verbalizations, proximity with peers in the group, proximity with the group co-therapists, involvement in toy exchanges, and involvement in acts of physical aggression. Six pilot studies were done which led to the revision of the original checklist a total of four times.

Ten male children between the ages of eight and ten were involved in the group play therapy sessions which met for one hour per week. Data were collected from a total of eight one-hour observational periods.

The data were tabulated in simple frequency counts and analyzed in four ways. Behavior 5, involvement in physical acts of aggression, had such an insignificant level of occurrence as to be considered negligible in the analysis of data.

The resulting statistics are suggestive of music being a factor in an increased number of social interactions.
Consideration of such milieu factors as music may prove valuable to nurses in their planning of nursing care for clients in many varying situations.
CHAPTER 1

INTRODUCTION

Guidance clinics are seeing with increasing frequency large numbers of children who do not suffer gross disorganization of personality but do evidence symptomatic reactions to stressful situations and emotional conflicts (Ginott, 1961, p. 1). The emphasis in working with such children and their significant others is upon immediate, short-term intervention. The modality play therapy is employed to promote such intervention and is considered uniquely effective in dealing with the personality of a child.

The paramount need to establish a relationship between the child client and the therapist and to reduce anxiety levels before other psychotherapeutic efforts may be initiated is not unique to child psychiatry. However, the inability of the child to relate to the therapeutic milieu could delay such an initiation of efforts and obstruct the goal of immediate, short-term intervention.

A facilitating environment may be created or modified by the nurse-therapist to reduce possible external stressors for the child and to promote the play therapy goal of establishing or re-establishing intrapsychic equilibrium.
This balance in the structure of a child's personality is developed in part through catharsis, which may be verbal or non-verbal (Ginott, 1961, p. 2). The nurse-therapist may seek to recognize milieu factors that may hinder or may facilitate this catharsis.

Music is one such factor being investigated in psychiatry. Gaston (1968, p. 55) stated all mankind has a need for esthetic expression and experience and that such an experience may be one of the best devices to help man adjust and adapt to his environment. Nordoff and Robbins (1965, p. 41) viewed music as vitally important in the work with exceptional children because it is a universal and non-threatening means of communication.

This investigator reports on the effects of one type of background music upon children involved in hourly sessions of group play therapy.

Statement of the Problem

Using music as the milieu variable to be investigated, the investigator sought to answer the following questions:

1. Will the use of one type of background music affect the verbalizations of children in a group play therapy session?
2. Will the use of one type of background music affect the number and type of social interactions within a group play therapy session?

The Hypothesis

This study of the relationship between music and play was concerned with the null hypothesis that the use of one type of background music would not facilitate catharsis nor increase the number of social interactions in group play therapy sessions. More specifically, the following four null hypotheses were tested:

1. The use of one type of background music in group play therapy will not affect the frequency of verbalizations.

2. The use of background music will not affect the frequency of acts of aggression in group play therapy.

3. The use of background music will not affect the direct exchange of toys or other play objects in the play room.

4. The use of one type of background music will not affect the frequency of non-aggressive social interactions.

Significance of the Study

There was once question as to whether nurses should do psychotherapy but this debate is seen as an increasingly
outmoded one since the rather widespread adoption of milieu therapy during the past thirty years has swiftly moved nurses into direct psychotherapeutic work (Almeide and Chapman, 1972, p. 418). Evans (1971) reports "It is widely acceptable by the health team that the nurse is responsible for the milieu in psychiatric treatment" (p. 85). The profession of nursing is based upon sound nurse-patient relationships (Almeide and Chapman, 1972, p. 15) and milieu therapy has its therapeutic strengths in the use of such healthy interpersonal relationships (Almeide and Chapman, 1972, p. 23).

The nurse is responsible for creating a health-producing environment for all patients (Johnston, 1971, p. 203) but has been specifically charged by the American Nurses Association's Statement on Psychiatric Nursing in 1966 to serve as innovators in effecting therapeutic changes in the health and welfare of children (Middleton and Pothier, 1970, p. 53).

A recent Group for the Advancement of Psychiatry (1973) stated: "A child-oriented person can do much to catalyze, create, or uncover a facilitating environment for a child . . ." (p. 580). A nurse-therapist involved in child care would be such a facilitator when investigating the effects of various milieu factors upon a child's behavior, and determining which factors facilitate psychotherapeutic goals and implementing use of these factors.
This effort, directed toward reducing the anxiety and fear aroused by a new environment, prepares the way for the initiation of other psychotherapeutic measures.

In the efforts to create a supportive milieu, the nurse-therapist may be more effective after considering the influence environmental factors have upon clients such as background noise and music. The effects of the latter may be measured objectively and may be more easily controlled as an environmental influence.

Assumptions
1. Play is the child's symbolic language of self-expression.
2. A child's verbal and non-verbal expressions in play may be objectively appraised.
3. Milieu is part of the total treatment approach.
4. Auditory stimulus is part of the milieu and is at times a controllable factor.
5. There are environmental factors that may be manipulated by the nurse-therapist.
6. Music may be used as an ordered phenomenon having an effect upon human behavior.

Definitions
1. Milieu therapy: A conscious use of the social setting or environment in the treatment of psychiatric clients meant to emphasize the clients'
strengths with a view to facilitating more satisfying patterns of interaction.

2. Aggression: Observable behavior of hitting, striking, making threatening gestures, pursuing with the intent of inflicting a blow, pushing, pulling, holding, snatching or damaging property of another.

3. Social hunger: A person's desire to gain acceptance by his peers; to attain and maintain status in a group.

4. Social interaction: A gesticulation, verbalization, or a physical approach specifically directed to one or more other persons.

5. Verbalization: Spoken, audible, and intelligible word(s).

6. Toy transaction: An actual exchange of a toy or object given willingly and crossing from the hand(s) of one person to the hand(s) of another person.

Limitations of the Study

1. The target population consisted of only ten children.

2. The group was an open one resulting in varying membership and interfering with a longer term study of effects.

3. Data were collected from only eight one-hour sessions of group play therapy.
4. A lack of significant occurrence of Behavior 5, involvement in physical acts of aggression, lessened its role as a factor to be considered and leaves its association with background music in need of more investigation.

5. The investigator collected the data alone after an initial reliability check, thus introducing the possibility of observer bias.

6. No subjective responses from the group participants were directly sought upon the termination of the data collecting.

7. The checklist of behaviors lacked a category such as "solitary play" to indicate what the child was doing when not interacting with others.

**Conceptual Framework**

Children's play has been observed and conjectured about for centuries and varying theories have been popular at different times. Freud (Miller, 1968, p. 98) felt play was a motivated, meaningful behavior and was an attempt to master environmental events. Groos (Takata, 1971, p. 282) viewed play as a practicing of skills for survival and a learning to control oneself. Spencer (Erikson, 1963, p. 214) postulated play to be a child's drive to rid the body of surplus energy. Contrastingly, Piaget (1973, p. xi) theorized play as an assimilation or repetition of an
achievement and an accommodation which helped the child to mentally digest novel situations. Buhler (Miller, 1968, p. 6) stated the pleasure of task completion and problem solving in play is an indispensable prerequisite for a child's successful performance in school. Ginott (1961, felt play to be a child's form of communication to an adult world in which the play is his talk and the toys are his words. Klein (Miller, 1968, p. 110), in working with children in a psychoanalytical approach, used spontaneous play to replace free word association. Erikson (1963, p. 222) described play as the child's way to make up for defeats, sufferings, and frustrations; a way to gain emotional autonomy and to move forward to mastery of daily living tasks. Smart and Smart (1967, p. 267) conjectured play to be the main occupation of the child and his mode of learning new patterns of thought and feelings and of integrating them as a preparation for adult life.

Play, then, is not the result of a plan and has no formal structure but is an attempt to combine bodily and social processes with the self (Erikson, 1963, p. 211). Isaacs (Hartley, Lawrence, and Goldenson, 1952, p. 17) stated this externalized form of expression increases the child's relating to the ordered world of real relations.

Relating to the real world is a universal need as man was not born to live in isolation but rather is a social being, needful of others to fulfill his physical and
psychological needs (Alvin, 1966, p. 86; Dimick and Huff, 1970, p. 151). These needs are particularly acute in times of physical and emotional distress but the tragedy of illness is that it creates isolation and insecurity and impairs normal relationships of man with his environment (Alvin, 1966, p. 86). Psychotherapy seeks to bring man more in contact with his environment, increase his sense of personal security and his ability to communicate his needs and to fulfill them (Ginott, 1961, p. 2). The psychotherapeutic factors that create this intrapsychic balance are relationship, catharsis, insight, reality testing, and sublimation (Ginott, 1961, p. 3).

Play therapy is a psychotherapeutic method that employs the above reconstructive factors through two media, play and verbalization (Hartley et al., 1952, p.28). Each child may choose whichever means of expression will best meet his need at any moment. The premise of play therapy is that play is the natural medium of self-expression for children and the act of "playing it out" is a self-healing measure childhood efforts (Hartley et al., 1952, p. 17). The specific goals of play therapy are to help the child learn to make decisions, to gain independence, and to express feelings and thoughts in a constructive way (Ginott, 1961, p. 183). Axline (1947) described this form of therapy as:
The [play] therapy experience is a growth experience. The child is given the opportunity to get rid of his tensions . . . and by doing so he gains the understanding of himself. Through his vivid experiences in the playroom he discovers himself as a person as well as new ways to adjust to human relationships in a healthy, realistic manner (p. 132).

Others describe the play therapy experience as a tool which reflects and encourages changes in attitude and adjustment and supplies a laboratory in which the child may experiment with possible solutions to his problems (Hartley et al., 1952, p. 54). A child may become more mature, more positive in his attitudes and more constructive in the way he expresses his inner drives given this chance in play therapy (Axline, 1947, p. 15).

Individual play therapy has been expanded to group play therapy as there are children experiencing anxiety and emotional conflict who are less likely to be on guard in their play while engrossed in play with other children (Bettelheim, 1950, p. 233). These children are especially suitable for group play therapy as they have social hunger and in return for peer acceptance, are motivated to change behaviors (Ginott, 1961, p. 17). Bettelheim (1950, p. 236) affirms group play is beneficial for both withdrawn and aggressive children as the peer pressure draws these children into the group, making it much more difficult for the withdrawn child to resist forming positive relations and reducing the aggressive child's fears of losing control.
Social relations are further encouraged as total dependence upon the adult therapist(s) is not possible with the demands of the other children ever present (Bettelheim, 1950, p. 219).

The child in group play therapy is affected by the other persons present and also by what he hears, sees, and experiences in the play environment (Schwartz and Schockley, 1956, p. 114). The removal of the states of inattention, anxiety, and tension is necessary in this setting in order to initiate psychotherapeutic measures (Schullian and Schoen, 1948, p. 271). A therapeutic milieu will reduce these obstructions and will help the child mobilize his drive for health (Cumming and Cumming, 1966, p. 72). The milieu therapy will then focus upon social appropriateness and the use of social skills (Stauble, 1971, p. 197). Investigation of milieu factors and their effects upon group play therapy has produced the Cumming and Cumming (1966, p. 90) report which stated the physical environment gives information about the goals and values of the therapist and provides the client with clues to reinforce his identity. Ginott (1961, p. 64) and Palmer (1970, p. 164) have reported on the playroom size most appropriate for group play therapy and upon the furnishings for such a room. Another milieu factor which affects the group play is extraneous sound. This latter factor may contribute to distraction and inattention to the group play of an already anxious or
distractable child (Ginott, 1961, p. 42). Music is described as a milieu sound factor having a socializing effect which frees the child from painful self-consciousness and thus helps him to become better acquainted with his peers (Hartley et al., 1952, p. 320). Music is of particular benefit for the child who finds it difficult to become part of a group (Hartley et al., 1952, p. 320).

Music, medicine, and psychiatry have a mutual involvement. Some contend man is not only a social being but a rhythmic being (Schullian and Schoen, 1948, p. 268). Aboriginal people used song as part of their curing ritual, the purpose being to heighten and intensify the sick man's resolve to become well (Schullian and Schoen, 1948, p. 4). Plato and Aristotle called music the medicine of the soul, an instrument promoting self-control, emotional catharsis, and providing harmless pleasure for others (Schullian and Schoen, 1948, p. 59). Music was described as a remedy for despair and melancholy during the Renaissance when psychotherapeutic measures were increasingly recognized to be of value (Schullian and Schoen, 1948, p. 145).

That people react to music is well documented. Lundim (1967, p. 153) noted music to cause physiological changes in people listening to it. Children have been found to be more sensitive to music than adults as measured by galvanic skin responses (Smart and Smart, 1967, p. 258). Nordoff and Robbins (1965, p. 19) attributed the effect of
music upon its listeners to its ability to gain non-conflictual entrance into man's consciousness by way of the thalamus which is believed to be the relay station for emotions, sensations, and feelings. Altshuler (Schullian and Schoen, 1948, p. 279) supports this view, feeling music has a more subtle and primitive and therefore a greater appeal than words which must appeal to the logic and may meet intellectual resistance. Thus music has been viewed as a universal, non-verbal language (Nordoff and Robbins, 1965, p. 41).

Newnham (1966, p. 35) used music as a stimulus to social relationships in his work with exceptional children. Cooke (1969, p. 69) also used music as an external support for a nine year old in play therapy and credited the music with decreasing her anxiety in the setting, helping to screen out disturbing fantasies and increasing reality realization, and facilitating the development of a therapist-child relationship.

The purpose of this study was to combine the previously established principles of a child's play and a therapeutic milieu with the socializing effects of music to create an environment in which anxiety would be more quickly reduced than in the traditional playroom setting. Music has been characterized as the most social of all the arts, with a powerful integrating force giving a sense of order, time, and continuity (Alvin, 1966, p. 97). This
external force, acting as a non-threatening means of communication, may act as a stimulus to social relationships. This study was concerned with the effect of one type of background music upon group play therapy and the social interactions occurring within that group.
CHAPTER 2

REVIEW OF THE LITERATURE

Studies reviewed in this chapter focus upon the physiological and psychological reactions of adults and children to music's presence and to the type of music present, and the use of music in group situations.

Physiological Reactions to Music

The effect of music upon man has been documented in several different areas of study. Physiological reactions to music documented have been: increased body metabolism, change in respiratory and cardiac rates with the tendency being to increase rather than to decrease, change in blood pressure and pulse, a decrease in the threshold for sensory stimuli of varying modes, and a tendency to decrease or delay fatigue and increase muscular endurance (Schullian and Schoen, 1948, p. 379). Burdisk (Lundim, 1967, p. 277) found the induction of anesthesia was accomplished with less resistance when music was played in the background. McGlinn (Lundim, 1967, p. 276) similarly studied spinal anesthesia administration in relation to music and found it decreased the possibility of complete loss of consciousness and decreased anxiety levels by masking disturbing noises in the room. Burris-Meyer of Stevens Institute (Schullian and
Schoen, 1948, p. 355) studied the effects of auditory stimuli upon man in an industrial setting and correlated the industrial use of music with decreased absenteeism, increased overall production, and decreased dips in output. He concluded that music could influence moods and mental tempos in a non-threatening manner by remaining a part of the environment.

**Use of Music in Psychotherapy**

Music has been described by Dr. Karl Menninger (Dinklage, 1965, p. 129) as the most widely applicable tool that psychiatry has available and the use of music has been encouraged by him as an adjunct to the total psychiatric treatment program. Blair (Alvin, 1966, p. 151) reported psychotherapists in one institution preferred to see their patients immediately following music therapy sessions as these sessions seemed to facilitate the emergence of repressed unconscious material which was of significant value.

In psychotherapy music is used to make contact with a patient by removing the states of inattention, anxiety, and tension. Vectoring of moods via music has been a deliberate effort (Shatin, 1970, p. 81). This is done by matching music to the mood of the patient to grasp the patient's attention, with the desired goal of directing moods from sad to cheerful, bored to stimulated, restless
to tranquil. Altshuler (Schullian and Schoen, 1948, p. 278) compared the verbal output for patients in cold sheet packs with and without background music. He found an initial increase in number of verbalizations with the music, followed by a calmness that was more quickly attained with the music than without it.

Use of Music in Group Situations

Music has been introduced into group situations by several researchers. Sommer (Gaston, 1968, p. 167) did a control study with two groups using music as the independent variable. The result was an increased number of social and verbal interactions in the experimental group not found in the control group. Sommer's explanation of this result was that music is a non-intrusive stimuli. Reiber (Reardon and Bell, 1970, p. 156) introduced music to groups of children and found an increase in play activity during both sedative and stimulative music, with the greater increase during stimulative music.

Children's Reactions to Music

Children have been found to be more susceptible to the effects of background music than adults (Bigelow and Reuben, 1970, p. 501). Smart and Smart (1967, p. 258) noted a more pronounced emotional response in children to music as measured by the galvanic skin response.
Scott (1970, p. 678) introduced background music in an attempt to test manipulation of the stimulus field for the control of hyperactivity. He found it to have a calming effect upon his group of four children who were able to work more productively on academic assignments. His findings suggested that hyperactivity may be reduced by altering levels of stimulation rather than always lowering the levels.

Music was used by North (1966, p. 22) as a means of establishing relationships with autistic children, and he found that music increased the child's awareness of his situation and of the feelings of others, and decreased the child's avoidance behaviors in social situations. Dreikurs and Crocker (Gaston, 1968, p. 177) similarly found music increased communication efforts of the psychotic child.

Music was used in play therapy by Cooke (1969, p. 67) with a nine-year-old female who was unable to maintain attention or to concentrate because she could not separate fantasy from reality. She had difficulty establishing close relationships with adults and was anxious and inappropriate with peers. Music was prerecorded on cassette tapes and Cooke encouraged her to select a tape and paint or play what the music communicated to her. He concluded that when the music was playing, her rate of speech decreased, intelligibility increased, anxiety decreased, and a more positive interaction occurred between therapist and child. He described music as particularly effective in
providing a bridge or framework for their therapeutic relationship.

Music was used by Weigl (1959, p. 672) in his work with mentally retarded children with intelligence quotients ranging from 40-75. He met with groups of five to ten children once a week for 45 minutes for a ten week period and taught the children how to use musical instruments. Reports were made midterm and upon completion of the term on each child's attitude toward peers and adults, body control, language, memory, and social adjustment. The most significant results were reported on the emotional and social levels. The onset of fatigue was found to be delayed and the attention span was prolonged in 90% of the children. Seventy per cent of the children had changes in classroom behavior with a carry over into the home.

Similarly, Wayne (Gaston, 1968, p. 177) reported his results of an 18 month study of teaching 35 maladjusted children how to play musical instruments and he concluded that music could be of value in relieving tension and promoting socialization among children. Gaston (1968, p. 179) cites a study in which music was used successfully to relax children who were not deeply disturbed but who were under pressure to achieve.
Reactions to Type of Music

The effects of music upon adult and child are related by researchers to the type of music being used. Thalamic responses have been measured by Altshuler (Alvin, 1966, p. 69) and Weir (Alvin, 1966, p. 82) and both reported high or low pitched music produced a corresponding effect on nervous tension or relaxation, though this was not always related to the general character of the music. Slow vibrations were found to have a more relaxing effect. Solo songs were found not to be productive or catalytic and avoidance of their use has been suggested by Newnham (1966, p. 33). Nordoff and Robbins (1965, p. 41) stated the choice of music is especially important with exceptional children, who seem to be as a group sensitive to it.

Wascho and Hyde (Lundim, 1967) studied responses to varying types of music and concluded "most people are unfavorably affected psychologically and physiologically by music that is characterized by tragic, mournful tones, and favorably affected by gay, rhythmical, rich-toned harmonic melodies . . . " (p. 154).

Weschler (Lundim, 1967, p. 156) played a military march, an operatic aria, and a ragtime selection to a group of college students and assessed reactions to each via galvanic skin responses. He concluded that affective reactions to music were functions of many characteristics
of the stimulus, including tempo, pitch, harmony, and rhythm as well as the organism's familiarity with the stimulus.

Sudden contrasts in music were noted by Alvin (1966, p. 96), in his work with handicapped children, to be disturbing to the children. High speed or strong percussive rhythms could cause an entire group of disturbed children to lose their self-control.

Nordoff and Robbins (1965, p. 48) found that music could impart a sense of well-being and security to children even though children differ in their responses and susceptibilities to music. This sense of security (Lathom, 1971, p. 113) is imparted by music's redundancy, making it a predictable stimulus which does not demand the full attention of the listener. Valentine (Farnsworth, 1968, p. 99) indicated in his study of children and music that children at 6 or 7 years of age showed no constant preference for consonance over dissonance but as the children grew older, preferences for certain chords increased.

Graham (Gaston, 1968, p. 20) found anxious and fearful patients in a group therapy were much more likely to join in group activity when the tempo and rhythmic patterns of the background music were kept constant.

Scott (1970, p. 678) and Lundim (1967, p. 310) reported the need to play background music at a normal listening level and at a constant level. Bigelow and Reuben (1970, p. 506) stated the silences as well as the
sound of music had healing properties. Farnsworth (1968, p. 95) provided a summary of the factors influencing the effects music type has on its listeners with this ordered arrangement of musical elements according to degree of effect: tempo, modality, pitch, harmony, and of minor significance, rhythm.
CHAPTER 3

DESIGN OF THE INVESTIGATION

This chapter includes the development of the instrument and the manner of collecting the data. The instrument was a behavioral checklist consisting of five target behaviors: verbalizations, proximity with peers, proximity with the co-therapists, involvement in toy exchanges, and involvement in acts of physical aggression (see Appendix A). The techniques of gathering data and the analysis of data constitute the second section of the chapter.

Setting

The setting for this investigation was a small community mental health clinic located in a predominantly Mexican-American neighborhood. Permission for the investigation was granted by the director of the clinic and the two co-therapists involved in the group therapy sessions.

No attempt was made to limit the group composition to one sex but all participants were male. The target population for the study consisted of ten male children who had been referred to the clinic during the period of January 13, 1974, through April 26, 1974, and who had met the following criteria to be placed into the group play therapy sessions. The child must be:
1. Between the ages of eight through ten years.
2. Assessed as unable to "get along with peers."
3. Given parental permission to participate in the study.

The size of the group was limited to five children per session, a number suggested by Ginott (1961, p. 14) as the most conducive to the goals of group therapy. The size of the room also prohibited a greater number of children for reasons of comfort and safety.

The group sessions were conducted by two co-therapists, one male and one female, from the clinic's Children's Team, both having a similar working approach with children. Both remained non-directive, allowing the children to choose their own activities from the play materials available within the playroom. Though they did not initiate the play, both actively participated in play initiated by the children. Both were informed the investigator was interested in the effects of background music upon group play therapy.

The music used for this investigation was pre-taped by a community FM radio station. The selection of the music was based upon the following criteria: The music must:

1. Be entirely instrumental with no vocal production.
2. Have no sudden changes in tempo, rhythms, or volume.
3. Not have a fast-moving tempo.
The music was so judged and selected by two of the radio station employees and concurred upon by the two group co-therapists involved in the group play therapy sessions.

Development of the Instrument

A behavioral checklist was devised to record the frequencies of target behaviors chosen to measure the child's social interactions within the group play sessions. This checklist was revised and tested a total of four times before being used to actually collect the data. Initially the checklist was designed to measure not only the frequency of interactions but also the initiator of such interactions, whether the child or co-therapist. Simultaneously the checklist was being used to measure responses to the initiations of interactions. Due to a difficulty in defining "initiation" and "response" satisfactorily in measurable terms, this effort was deleted from the final checklist.

A second revision was an attempt to evaluate the type of play, using the categories of isolated, parallel, competitive, and cooperative, to the periods with and without music. This effort was seen as more fittingly an extension of the present study once a relationship between interactions and music in the milieu had been investigated.

A third revision was in the manner of measuring the frequency of each behavior. Initially a check mark was
placed beside the behavior if it was seen to occur at any
time during the group session. This was found to be in-
adequate and unreliable as the observers were unable to
view the group's actions in total. A sixty-second observa-
tion period for each child during each five minute time
span (or one minute for each of the maximum number of
children present during the time span) was experimented
with. This time span was found to be inadequate as it did
not give a comprehensive and valid picture of the group
activity and of the total interaction.

This inadequacy led to the fourth revision to a
twenty-second observation period, or a total of three
observational periods for each of the maximum number of
children within each five minute time span. This was felt
to give a more comprehensive view of group interactions and
behavior. If less than the maximum number of children (5)
were present, the number of observations remained a total
of three for each child. This meant if only four children
were present, during the period of observation designated
for the absent child, no data were collected. After the
allotted time span had passed for the absent child, the
previous pattern of data collecting continued. Affirmative
actions within each time span were indicated by a check mark
beside the behavior and the total number of check marks for
each behavior were tabulated.
Proximity was monitored by premeasured rectangles of tape on the playroom floor. Each rectangle measured three by two feet and affirmative proximity was determined by two people or parts of their bodies being within the same marked rectangle.

Aggression was defined and measures as:

1. Hits or strikes.
3. Snatches or damages property of others.
4. Pushes, pulls, or hold others.
5. Pursues or runs after or follows with the intent of inflicting a blow.

Techniques of Data Collection

Initially the investigator was one of the two co-therapists and a third adult was inside the playroom operating video equipment and taping the sessions. The original plan was to measure the frequency of the behaviors from a review of the videotapes. The children were encouraged to investigate the video equipment that they would become more comfortable with its presence. They were told the adult operating the equipment would not be able to talk with them during the session but would be available after the session to talk with them. Artificial boundaries were drawn around the equipment to discourage the children from remaining near the equipment during the session. This
approach was discontinued as the equipment was not able to have the entire room in focus at one time. Therefore the total group activity was not observed and an accurate frequency could of behaviors was not possible. An added influence for discontinuing this approach was the presence of a new group participant on the average of every other session as it was felt that each new participant would be reacting to the presence of the video equipment during his initial sessions and this reaction would influence the data collected.

The investigator gradually phased out of the group as a co-therapist and simultaneously a new co-therapist was introduced. The investigator then became the observer of the groups from behind a one-way mirror. A reliability check was done with the investigator and a second, pre-instructed observer tabulating frequencies from opposite ends of the playroom. An 87% reliability score was obtained. The investigator collected data alone after this reliability check was done.

The equipment used in this second approach were two tape recorders. One was placed inside the playroom and played the pretaped music and silences; a second recorder was placed in the observational room and played a tape of pre-recorded beeps occurring every 20 seconds to indicate the end of each observational period.
The experimental design used a total of two 120-minute tapes with prerecorded periods of music and silence in time spans of 15 minutes each. The design patterns were as follows with a total of 2 sessions per each individual pattern:

1. The first time span of the session with music, the second time span without music, the third with music, and the fourth span without music (taped silence).

2. The first time span of the session with taped silence, the second span with music, the third with silence, and the fourth with music.

3. The first and second time spans with music and the third and fourth spans without music.

4. The first and second time spans were without music and the third and fourth were with music.

A total of 14 weeks was involved in data collecting with the first 6 weeks used as pilot studies. The data collected from these pilot studies are not included in the final research data and analysis.

**Analysis of Data**

The data collected during the group play therapy observations were analyzed in four ways.

The first analysis pssess the relationship of the five target behaviors to each other by use of the Pearson
Product-Moment Coefficient. This correlation test expressed the extent to which a change in one behavior was associated with a change in another behavior. A high association of one behavior to another indicated positive correlation.

The second analysis compared the mean frequency of each behavior across the eight weekly sessions using a one factor analysis of variance. The purpose of this analysis was to determine if one or more of the individual sessions had a higher mean frequency for each target behavior than the other sessions and therefore had an undue influence upon the data. Such an undue influence would obscure the relationship of music to the mean frequency of each behavior.

The third analysis compared the mean frequency of each behavior across the four fifteen-minute time periods, using a one-factor analysis of variance. This was done to determine if any one or more of the time periods had a consistently higher mean frequency for each target behavior than the other periods and therefore had an undue influence upon the data. Such an influence would obscure the relationship of music to the mean frequency of each behavior.

The fourth analysis compared the mean frequency of each behavior across periods with versus without background music, using a one-factor analysis of variance, to test the hypothesis of this investigation.
CHAPTER 4

PRESENTATION OF THE DATA

The data resulting from this investigation of the effects of one type of background music upon the social interactions observed in group play therapy are descriptively and graphically presented in this chapter.

The ethnic backgrounds of the ten male participants of the group play sessions were six Caucasians, three Mexican-Americans, and one Black. The mean age was 8 years 9 months with a standard deviation of 7 months.

The number of children present for each session ranged from three to five participants with a new participant introduced on the average of every other session. Two participants had been previously diagnosed as hyperkinetic and both were receiving morning and noon doses of Ritalin.

Data were collected from a total of eight one-hour sessions. Each child was observed three times during a five minute time span or a total of thirty-six times during the group therapy hour.

Findings from the Data

The data collected during the group play therapy observations were analyzed in four ways.
The first analysis assessed the relationship of the five target behaviors to each other by use of the Pearson Product-Moment Coefficient. A consistent association was found among the first four target behaviors. Behavior five did not have a consistent association with any of the other four behaviors. These data are presented in Table 1.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>p Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.87***</td>
<td>.49**</td>
<td>.60***</td>
<td>.32*</td>
<td>P &lt; .001 = ***</td>
</tr>
<tr>
<td>2</td>
<td>.53***</td>
<td>.59***</td>
<td>.35*</td>
<td>p &lt; .01 = **</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>.56***</td>
<td>-.24*</td>
<td>p &lt; .05 = *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>-.02*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The second analysis compared the mean frequency of each behavior across the eight weekly sessions using a one factor analysis of variance. The mean was computed by dividing the total frequency of each behavior by the number of children present during the session. The F-ratios for the first four behaviors, verbalizations, proximity with peers, proximity with co-therapists, and involvement in toy exchanges, were not significant at the p < .05 level. Results for Behavior 5, involvement in physical acts of
aggression, did reach a statistical significance $p < .05$. These data are presented in Figures 1 through 5.

The third analysis compared the mean frequency of each behavior across the four fifteen-minute time spans of each group session using the one-factor analysis of variance test. F-ratios for this analysis were not significant for any of the five target behaviors. These data are presented in Figures 6 through 10.

The fourth analysis compared the mean frequency of each behavior during the presence and absence of the independent variable music, using a one-factor analysis of variance. Highly significant results were obtained for the first four target behaviors. Behavior 5, involvement in acts of physical aggression, did not produce significant results. These data are presented in Table 2 and are presented graphically in Appendix B.

The total frequency of each behavior for time periods with and without music are presented in Table 3.

Variables not analyzed were individual participant's mean frequency of each behavior across the eight weekly sessions, across the four fifteen-minute time periods, and across periods with and without music.

**Additional Findings**

Included in this section are the verbal statements of the children regarding the music and those of the
Figure 1. Comparison of the Mean Frequency of Behavior One Across the Eight Weekly Sessions: Verbalizations

$F = 1.69, \ df = 7,24, \ p < 1.6$
Figure 2. Comparison of the Mean Frequency of Behavior Two Across the Eight Weekly Sessions: Proximity with Peers

\[ F = 1.00, \text{df} = 7,24, p < .45 \]
Figure 3. Comparison of the Mean Frequency of Behavior Three Across the Eight Weekly Sessions: Proximity with Cotherapists

\[ F = .73, \text{ df } = 7,24, p < .65 \]

Figure 4. Comparison of the Mean Frequency of Behavior Four Across the Eight Weekly Sessions: Toy Exchange

\[ F = .66, \text{ df } = 7,24, p < .71 \]
Figure 5. Comparison of the Mean Frequency of Behavior Five Across the Eight Weekly Sessions: Physical Acts of Aggression

F = 5.88, df = 7, 24, p < .001

Figure 6. Comparison of the Mean Frequency of Behavior One Across the Time Spans: Verbalizations

F = 1.02, df = 3, 28, p < .40
Figure 7. Comparison of the Mean Frequency of Behavior Two Across the Time Spans: Proximity with Peers

\[ F = 2.37, \text{df} = 3,28, p < .09 \]

Figure 8. Comparison of the Mean Frequency of Behavior Three Across the Time Spans: Proximity with Cotherapists

\[ F = .16, \text{df} = 3,28, p < .92 \]
Figure 9. Comparison of the Mean Frequency of Behavior Four Across the Time Spans: Exchange of Toys

\[ F = 0.98, \text{ df } = 3,28, \ p < 0.42 \]

Figure 10. Comparison of the Mean Frequency of Behavior Five Across the Time Spans: Physical Acts of Aggression

\[ F = 0.46, \text{ df } = 3,28, \ p < 0.71 \]
### Table 2. Comparison of the Mean Frequency of Each Behavior During the Presence and Absence of Music

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Music</th>
<th>No Music</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>1. Verbalization</td>
<td>21.81</td>
<td>3.56</td>
<td>16.63</td>
<td>2.73</td>
</tr>
<tr>
<td>2. Proximity with Peers</td>
<td>21.44</td>
<td>5.43</td>
<td>14.56</td>
<td>3.65</td>
</tr>
<tr>
<td>3. Proximity with co-therapists</td>
<td>16.86</td>
<td>3.72</td>
<td>11.06</td>
<td>3.71</td>
</tr>
<tr>
<td>4. Toy Exchange</td>
<td>6.75</td>
<td>2.65</td>
<td>3.38</td>
<td>2.36</td>
</tr>
<tr>
<td>5. Physical Acts of Aggression</td>
<td>.875</td>
<td>1.40</td>
<td>.875</td>
<td>1.09</td>
</tr>
</tbody>
</table>

### Table 3. Total Frequency of Each Behavior Across the Eight Weekly Sessions

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Frequency Total</th>
<th>Music</th>
<th>No Music</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>615</td>
<td>349</td>
<td>266</td>
</tr>
<tr>
<td>2</td>
<td>576</td>
<td>343</td>
<td>233</td>
</tr>
<tr>
<td>3</td>
<td>447</td>
<td>370</td>
<td>77</td>
</tr>
<tr>
<td>4</td>
<td>162</td>
<td>108</td>
<td>54</td>
</tr>
<tr>
<td>5</td>
<td>31</td>
<td>14</td>
<td>17</td>
</tr>
</tbody>
</table>
therapists. During the 8 sessions with 16 time periods of 15 minutes each of background music present, there were 4 direct references made to the music during the actual sessions by 4 different children. Three of these children asked one of the therapists when the music was going to come back on during periods of taped silence. The fourth child asked if he could start the music again as it had stopped playing. One child told a therapist after a group session that he enjoyed having the music and a second child told the same therapist after a session that having music was a good idea.

The therapists report being aware of the presence of the music occasionally and being startled to realize music is playing when they did become cognizant of its presence. One therapist reported feeling "livlier" during periods of music. This therapist was noted to yawn a total of 5 times across the eight sessions, all during the taped silences.
CHAPTER 5

DISCUSSION OF THE FINDINGS AND CONCLUSIONS

The data presented in the preceding chapter described statistically and graphically the effect of one type of background music upon the interactions of children during eight one-hour group play sessions. The purpose of the following discussion is to present an interpretation of those findings and their significance. Included are the recommendations arising from this study for future investigations.

The Significant Variables

The first four behaviors, verbalizations, proximity with peers, proximity with co-therapists, and involvement in toy exchanges did show a significant association with the presence of music at the p < .05 level. These behaviors were seen as positive or as helpful in obtaining social skills and ease with peers. This statistical significance of these behaviors with the presence of music suggests it is possible to influence children's observable behaviors through the manipulation of milieu factors and that it is possible to direct this influence into a desired positive outcome. It further suggests music may be valuable
as an external support in group play therapy sessions as the child-initiated contacts with peers and with co-therapists increased during periods of music. This may be interpreted as supportive of Cooke's (1969) assertion that background music reduces levels of anxiety of a child in play therapy.

The second significant finding was the high positive correlation between the first four behaviors, verbalizations, proximity with peers, proximity with co-therapists, and involvement in toy exchanges. This correlation suggests efforts to increase one of these behaviors may lead to simultaneous increases in the remaining three behaviors. A second possibility suggested by the correlation is that the first four behaviors may be parts of one general behavior or that only one, rather than four, behavior is being measured.

The Insignificant Variables

Two variables and one behavior did not reach a statistical significance, p < .05.

The mean frequencies of the five target behaviors did not increase across the eight weekly sessions. This lack of statistical significance p < .05 indicates music had more of a relationship to the social interactions than the session attended did. This may have been influenced by the frequent introduction of a new group participant under
the open group policy and by the sporadic attendance of several regular group members.

The mean frequency of each behavior did not increase across the four fifteen-minute time periods. This lack of statistical significance \( p < .05 \) indicates music had more of a relationship to the social interactions than a particular time period did.

Behavior 5, involvement in acts of physical aggression, did reach a statistically significant level in the comparison of mean frequency across the eight weekly sessions and this was due to the unusually high number of aggressive acts in session 7. This behavior lacked consistent association with the other four behaviors and had a negative correlation with behaviors 3 and 4. This may be due to its infrequent and small occurrence rate. This behavior may have had a higher frequency level if verbal aggression was measured.

**Discussion of Limitations**

Limitations considered by the investigator to have had the most effect upon the data gathered are presented in this section.

The first major limitation was the dual role of the investigator as the originator of the investigation and the observer collecting the data. This duality introduced the possibility of observer bias. The possibility of bias may
also have been introduced by the investigator collecting the data alone rather than two trained observers who were unrelated to the study and did not have knowledge of the hypothesis.

The second major limitation of the study was the co-therapists' knowledge of the research hypothesis. This may have introduced the possibility of bias.

A third limitation was the lack of categories for non-interacting behaviors such as withdrawn behavior, solitary play. Mean frequencies of these non-interacting behaviors compared to mean frequencies of the four target behaviors may have added strength to the relationship of music and social interactions.

**Nursing Implications**

The implications for the nurse-therapist are to examine and experiment with milieu factors such as music to create a less threatening environment for the child that promotes increased social interactions. A second implication is that the nurse-therapist may increase the frequency of a social behavior in a child and other social behaviors may simultaneously increase.

**Recommendations for Further Study**

The investigator suggests the following topics for further study:
1. An investigation of the same hypothesis with a control group and a longer data-collecting period.
2. A comparison of the effects of background music upon a mixed population in group play therapy.
3. A comparison of the effects of background music upon a population of overtly psychotic children.
4. An investigation of the same hypotheses using various types of background music.
5. An investigation of the study with a population of diagnosed hyperkinetic children, those medicated versus those not medicated.
6. A replication of the study with an analysis and categorization of verbalizations for periods with and without music.
7. An investigation of individual children's reactions to the presence of music and determine effects upon certain symptomology.
8. A replication of this study with two researchers collecting the data for continuous reliability checks.
9. An investigation of the effects of music played intermittently versus continuously during the therapy sessions.
CHAPTER 6

SUMMARY

This chapter is a summarization of previous chapters, including the statement of the problem, the purpose, the methodology, and the findings and conclusions related to the four original null hypotheses.

Statement of the Problem

Using music as the milieu variable to be investigated, the investigator sought to answer the following questions:

1. Will the use of one type of background music affect the verbalizations of children in a group play therapy session?

2. Will the use of one type of background music affect the number and type of social interactions within a group play therapy session?

Purpose of the Study

The influence milieu factors have upon social interactions of the people within that milieu needs to be investigated. Such investigations could result in a less anxiety arousing environment and foster a more immediate
Methodology

Ten male children were observed during eight one-hour group play therapy sessions in a southwestern mental health clinic for the occurrence of five target behaviors. These behaviors were tabulated for frequency on a checklist devised for this investigation. The five target behaviors were: (1) verbalizations, (2) proximity with peers, (3) proximity with co-therapists, (4) involvement in actual toy exchanges, and (5) involvement in physical acts of aggression.

The data were analyzed in four ways. The first analysis assessed the relationship of the five target behaviors to each other by use of the Pearson Product-Moment Coefficient. The second analysis compared the mean frequency of each behavior across the eight weekly sessions using a one-factor analysis of variance. The third analysis compared the mean frequency of each behavior across the four fifteen-minute time spans of each group session using the one-factor analysis of variance test. The fourth analysis compared the mean frequency of each behavior during the presence and absence of the independent variable music, using a one-factor analysis of variance,
Findings of the Study

The frequency of the first four behaviors, which were seen as positive behaviors or helpful in obtaining social skills and ease with peers, was significantly higher \((p < .05)\) in time periods when music was present than in time periods with no music.

The mean frequency of each behavior was not significantly related to the session nor to the time periods of each session.

The first four behaviors were found to have a high positive association between them.

Conclusions

Music may be used intermittently during a group play therapy session to increase the number of social interactions. An increase in one social behavior may stimulate an increase in other social interactions.

These data, when validate, may prove helpful to the nurse-therapist concerned with creating a therapeutic milieu for children.
APPENDIX A

BEHAVIOR CHECKLIST

Music ____  no music ____  1. _______  2. _______

3. _______  4. _______

5. _______  6. _______

<table>
<thead>
<tr>
<th>Target Behaviors</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did child verbalize within time span?</td>
<td></td>
</tr>
<tr>
<td>2. Did child come in proximity with other child during time span?</td>
<td></td>
</tr>
<tr>
<td>3. Did child come in proximity with co-therapists within time span?</td>
<td></td>
</tr>
<tr>
<td>4. Did child take part in an actual toy transaction?</td>
<td></td>
</tr>
<tr>
<td>5. Was child involved in any act of physical aggression?</td>
<td></td>
</tr>
</tbody>
</table>

Each time block = 20 seconds
APPENDIX B

GRAPHICAL REPRESENTATION OF BEHAVIOR FREQUENCIES
DURING THE PRESENCE AND ABSENCE OF MUSIC

Pattern for Session #1: The first and third time periods were with music; the second and fourth periods were without music.

Pattern for Session #2: The first and third time periods were with music; the second and fourth periods were without music.

Pattern for Session #3: The first and third time periods were without music; the second and fourth periods were with music.

Pattern for Session #4: The first and third time periods were without music; the second and fourth periods were with music.

Pattern for Session #5: The first and second time periods were with music; the third and fourth periods were without music.

Pattern for Session #6: The first and second time periods were with music; the third and fourth periods were without music.

Pattern for Session #7: The first and second time periods were without music; the third and fourth periods were with music.
Pattern for Session #8: The first and second time periods were without music; the third and fourth periods were with music.

An asterisk in the following graphs denotes time periods with music.
Session #1, Target Behavior #1

Session #1, Target Behavior #2
Session #1, Target Behavior #3

Session #1, Target Behavior #4

Session #1, Target Behavior #5
Session #2, Target Behavior #1

Session #2, Target Behavior #2
Session #2, Target Behavior #3

Session #2, Target Behavior #4

Session #2, Target Behavior #5
Session #3, Target Behavior #1

Session #3, Target Behavior #2
Session #3, Target Behavior #3

Session #3, Target Behavior #4

Session #3, Target Behavior #5
Session #4, Target Behavior #1

Session #4, Target Behavior #2
Session #4, Target Behavior #3

Session #4, Target Behavior #4

Session #4, Target Behavior #5
Session #5, Target Behavior #1

Session #5, Target Behavior #2
Session #5, Target Behavior #3

Session #5, Target Behavior #4

Session #5, Target Behavior #5
Session #6, Target Behavior #1

Session #6, Target Behavior #2
Session #7, Target Behavior #1

Session #7, Target Behavior #2
Session #7, Target Behavior #3

Session #7, Target Behavior #4

Session #7, Target Behavior #5
Session #8, Target Behavior #1

Session #8, Target Behavior #2
Session #8, Target Behavior #3

Session #8, Target Behavior #4

Session #8, Target Behavior #5
SELECTED BIBLIOGRAPHY


