

THE USE OF MUSIC AS AN AID IN DEVELOPING  
SOCIAL SPEECH AND LANGUAGE SKILLS  
AMONG DEVELOPMENTALLY DISABLED  
ADOLESCENT MALES

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BY  
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SOCIAL SPEECH AND LANGUAGE SKILLS AMONG

DEVELOPMENTALLY DISABLED ADOLESCENT MALES

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## CHAPTER 1

### INTRODUCTION AND REVIEW OF THE LITERATURE

#### Introduction

Social skills are necessary to social behavior. As a basis for discussion some definitions of the terms social, socialization, and skills are necessary. Webster's Third Dictionary defined social as:

marked by or passed in pleasant companionship with one's friends or associates; taken, enjoyed, or engaged in for the sake of companionship; forming or having a tendency to form cooperative and interdependent relationships with one's fellows; of or relating to the interaction of the individual and the group. Socialization: the process by which a human being beginning at infancy acquires the habits, beliefs, and accumulated knowledge of his society through his education and training for adult society.

Skill is proficiency in performing a task. The chief reason for acquiring a skill is to correct for some inadequacy of adjustment or to enable adjustment to occur (Munn, 1965).

The first area to be covered is the broad area of what social behavior including speech and language is, how it is

acquired, and why it is important. Man begins as an asocial being, according to Munn. Babies at first cannot be communicated with or their behavior modified except by attending to physical matters. From birth we are in a social situation in which many types of interactions are possible. Elementary social communication requires the proximity of two or more organisms, but people may be drawn together for non-social reasons and even when together may not interact. Social development starts with simple acts such as smiling when smiled at, crying to indicate waiting to be picked up, imitations of simple acts and making simple sounds, and, important to music therapy, responding differently to human and nonhuman sounds. The complexity of social interactions increases throughout childhood and the adolescent years and on into adulthood. By the time we are "adult" we have become involved in a complex web of social interrelationships; these can be in social classes, family ties, occupational ties, etc. Almost everything man does is with other people in some respect. Man is truly a "social animal" by adulthood. A great deal of research has been done concerning social behavior and communication of animals and it has been found that animals generally prefer those of their own kind, even very early in life. This kind of attachment is called imprinting and understanding it may increase our understanding of the initial stages of human socialization.

One theory is that children do not develop normally unless they receive enough attention and handling during a critical period at the beginning of infancy. This goes along with the theory of deprivation as a possible cause of mental retardation (Munn, 1968).

Asocial beings may be socialized in many areas and ways. Music therapy can play an important part in improving or establishing needed social speech and language skills at whatever level the patient is. For the purpose of this study the term social speech takes on the meaning of the actual verbalization of ideas or feelings. Social language on the other hand takes on the meaning of physical communication through posture or other means of nonverbal communication. Man is socialized according to the characteristic social behaviors of his culture. Each culture has its own ideas on what it considers appropriate social behavior. Both children and adolescents tend to act according to the social behavior they have observed around them. Social interactions may take many forms, such as 1) stimulus-response types; 2) imitative behavior types which aid in learning simple skills; 3) reciprocal stimulus-response types.

Status is man's position in a social system. It varies often in complex human society. Different statuses require playing different roles. Roles are "organized



actions of a person's coordinate with a given status or position" (Munn, 1965). We are expected to act and react in certain ways quite often in keeping with our status level. Both children and adolescents learn to identify and interact by role playing, imitating others, and through instructions on how to act from teachers and parents, etc. Interaction among groups of adolescents and children often involves "practicing" and trying out new roles. The ability to identify with others is an important social skill, which can cause problems if not learned adequately. This is usually not a calculated procedure but can be. Often people are not consciously aware that they are role-playing. When appropriate roles necessary to adequate functioning in society are not learned, people must be consciously and deliberately taught them.

Studies conducted concerning social facilitation show that the facilitation effect of group activities may be due to a presence of rivalry. When subjects working in small groups were told there would not be any comparison of their work, there was no facilitating effect. When other subjects working alone were told their scores would be compared with those of others, the amount accomplished did not vary from that found in a group situation. Sometimes group situations can have adverse effects. Recent research with small groups has been concerned with interpersonal relationships.

Studies of "group dynamics" stressing the dynamic as well as static qualities has been done by Lewin (p. 220). The essence of a group is the interdependence of its members, it is a dynamic whole in Lewin's opinion. Four methods used to study interpersonal relationships are 1) social field analysis such as Lewin's "group dynamics," 2) sociometric procedures, 3) interaction process analysis, and 4) studies of collective group problem solving. Social field analysis briefly deals with (according to Lewin), concepts of life space, social field, and locomotion. Life space is the individual and his environment as he perceives it. Social field is concerned with others, either their actual or symbolic presence (Lewin). Locomotion according to Lewin is moving from place to place and may be symbolic or actual. Human interaction may be based on individual perceptions or objective facts. Sociometric studies of interpersonal relationships refer to or deal with how interacting parties view each other in a limited sense. Sociograms are made of group members' opinions of each other to give information on how members perceive each other. Interaction process analysis deals with the interactions of individuals in temporary problem situations of a more casual nature than dealt with in the previous methods, such as collective problem solving (Munn, 1965).

Two interesting psychological views of man as related to socialization and his social nature are as follows briefly. Adler has developed a theory of psychology based on the individual in his social setting. He believes the problems of life are invariably social problems, and he believes that the principal aim of education should be social adjustment which is the goal of his individual psychology (Adler, 1969). Rogers believes that the heart of the process of socialization may be discovering that accepting positive feelings from others is not devastating and does not have to end in hurt always. He feels that evidence from clinical experience is pointing out that man's innermost core is positive in nature and is basically socialized. For many years the opposite view that is asocial has been accepted without question. Man has always been viewed as irrational, unsocialized, and destructive to self and others. Rogers believes that man socializes himself out of need for affiliation and communication with others; that when man is fully man and his awareness is fully working, he is socialized (Rogers, 1961).

Since man lives with others and has a need for relationships with them, this is why acquisition of adequate social speech skills is important to his functioning. Social skills are the tools with which man adapts and copes with problems in relating to others. Adaptive or coping behavior is an integral aspect of social behavior and has to do with

levels of independent functioning, levels of personal responsibility, levels of social and civic responsibility, and encompasses most social skill areas, such as communication of all kinds, both verbal and nonverbal.

### Statement of the Problem

Will the use of music and socio-music experiences improve social speech for adolescent male retardates in the following areas.

I. Developing functional social speech and language areas:

- A. Appropriate responding and making of greetings and farewells.
- B. Using correct names when addressing people.
- C. Appropriate responding to simple questions such as: How are you today?

What are you wearing today?

Do you have any news for me today?

### Definition of Terms

In order to clarify the population used in the study and their problems, the following paragraphs will define the terms used.

According to the Lanterman Developmental Disabilities Act now found in the Health and Safety Code, Chapter I, Section 38003 (h): (California State Capital, Sacramento, 1976).

Developmental Disability means a disability attributable to mental retardation, cerebral palsy, epilepsy, or other neurological handicapping conditions found to be closely related to mental retardation or to require treatment similar to that required for mentally retarded individuals. Such disability originates before an individual attains age 18, continues or can be expected to continue indefinitely, and constitutes a substantial handicap for such individuals.

To be eligible for services from the Developmental Disabilities Program, Department of Health, a person with developmental disabilities must be substantially handicapped which is defined below:

Substantially handicapped describes a developmentally disabled individual whose needs cannot be met adequately from participating in and benefiting from those social, education, vocational, recreational, medical, or other resources which generally are expected to be available to other non-handicapped individuals in the community.

The following are the handicapped conditions which are included as developmentally disabled:

Mental Retardation. Mental retardation refers to significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period and is associated with impairment in adaptive behavior (Manual on terminology and classification in mental retardation, 1973, revision, page 5, definition).

There are five levels of retardation: (1) borderline, (2) mild, (3) moderate, (4) severe, and (5) profound. The I.Q. levels are illustrated in Table 1. The Revised Stanford-Binet Intelligence Scale (1960) uses a standard deviation of 16 (last column of Table 1). The Wechsler Intelligence Scale for children uses the standard deviation of 15 (Robinson and Robinson, 1965, p. 386). This study involves subjects in the lowest categories, the severe and profound levels of mental retardation, as determined by the Revised Stanford-Binet Intelligence Scale.

Individual function at the severe and profound levels of retardation is minimal. These people generally need daily care for their most basic needs. Primary goals for profoundly and severely retarded clients include increasing self-help skills, such as toileting, dressing, bathing, and eating. Learning these skills allows the individual to attain some level of independent functioning. Speech is usually poorly developed or totally absent in these levels.

Autism. Autism is a syndrome first appearing in the very early years of life, which is characterized by extreme withdrawal language disturbance, inability to form effective ties, frequent lack of responsiveness to other people, monotonously repetitive motor behaviors, inappropriate response to external stimuli, and not all children may be severely impaired to inherent intellectual capacities.

Table 1

AAMD Standard Deviation Ranges According to  
Measured Intelligence Levels  
(Heber, 1961: 58-59)

Descriptive Term	Level of Deviation in Measured Intelligence	Range in SD Value	Corresponding Range in IQ Scores for Tests with SD	
			15	16
Borderline	-1	-1.01 to -2.00	70-84	68-83
Mild	-2	-2.01 to -3.00	55-69	52-67
Moderate	-3	-3.01 to -4.00	40-54	36-51
Severe	-4	-4.01 to -5.00	25-39	20-35
Profound	-5	Below -5.00	Under 25	Under 20

Cerebral Palsy. Cerebral palsy is a non-progressive pathologic lesion in the developing infant or child's brain, causing permanent motor impairment (American Academy of Pediatrics).

Epilepsy. Epilepsy is a convulsive disorder and a clinical disorder characterized by recurrent paroxysmal episodes of central nervous system dysfunction which may be manifested by loss of consciousness, convulsive movements, and/or disturbances of feeling or behavior.

Neurological. Neurological refers to other disorders not included in the previous definitions, but meeting the criteria of substantial handicap to the individual, as defined in AB 846 (1973).

### Purpose of the Study

The purpose of this study is to determine if the use of music and socio-music activities can aid toward the improvement of various areas of social speech and language. The experimenter attempted to improve the development of social speech skills through the use of music therapy techniques. Observational forms were designed by the experimenter in order to assess the techniques used during the treatment period of the study. The method and procedure of this study will be discussed and examined in the following chapters.

### Need for Proposed Study

In reviewing the research literature concerning the topics important to this project, it was found that a very limited amount of the research exists which is involved in the actual teaching of social speech skills to enable developmentally disabled persons to function socially in the community, through the use of music therapy.

There is a great need for the improvement of social speech skills among developmentally disabled persons today. It is necessary to explore new and different ways in which these skills can be achieved. Purtilo (1973) states that the success of verbal communications depends on:

1. the way material is presented - the vocabulary used, the clarity of voice and the organization.



2. the attitude of the speaker.
3. the tone and volume of his voice.
4. the degree to which both speaker and receiver are able to listen effectively.

A very meaningful sentence loses its impact when poorly articulated, spoken too softly or rushed. This is the case for many clients in various institutions. If some of these problems in social communication could be improved, then the individual would benefit greatly. The need for expression, communication, and social relationships are necessary manifestations of life and getting along in this world.

This study is designed to determine the validity of the assumption that music can aid toward the development of various areas of social speech and language. The experimenter attempted to improve social speech and language skills through the use of music therapy techniques. Both verbal and non-verbal behaviors were discussed and examined.

In assessing capacities and problems, the social competencies of individuals should be considered: the adequacy of verbal and non-verbal communication of feelings and ideas, evidences of positive and negative contributions to the content of the music social experience, adequacy of performance of roles in the community and the institution,

balance between freedom of expression and self-control, the appropriateness of ego defenses, and adequacy of perception of reality.

#### Delimitation of the Study

Environmental Factors. The size of the room where the study was conducted was rather small for the purpose of this research. The experimenter found there was very little room to move around in once the group was set up in a circle of chairs. This could have had an effect upon the subjects and how they feel about their own personal space. On the other hand, it kept the group together and highly structured.

During the time of treatment there was at various times some environmental construction noise outside the room where the study was being conducted. This could have had a direct effect upon the subjects' concentration during the activity presented.

Experimenter Factors. The issue of body and facial affect of the experimenter could have had an important effect on the results of this study. The experimenter controlled as much of this variable as humanly possible by keeping body and facial expression at a constant with all subjects in both experimental and control groups.

Consistency of both presentation and reinforcement was vastly important to the design of this study. The presentation, whether it was musical or non-musical was

delivered the same way each time by the experimenter. Reinforcement was also the same for each subject. It was delivered both verbally and physically with a stroke on the shoulder and a verbal "thank you, good job (subject's name).\" This was the procedure after each subject had taken his turn in the group process.

Population Factors. The subject size of both testing groups was an important factor to the results of this study. Due to scheduling problems of the subjects involved in this study, the experimenter had a difficult time getting all of the 12 subjects together.

The issue of the subjects' attitudes and behaviors prior to their involvement in the treatment as well as pre- and post-testing was another variable to take into consideration. This variable is one which cannot be controlled and should at this time be noted as an important factor possibly affecting the results of this study.

Absenteeism was another variable to consider. The subjects' absences were counted and tabulated, (see Appendix G1 and G2). An extra session (11 total) was conducted to counteract this variable.

Testing and Treatment Factors. During the treatment sessions, the experimenter did not have an assistant to help control the group's behavior and keep all variables at a constant. This could not be provided due to scheduling problems with staff members.

The observer used for the purpose of testing in this study was found to be reliable, by checking observation data with an other observer.

The testing person or instructor used for both pre- and post-tests was not familiar with the subjects used in this study and was also found to be reliable. Information about the study was kept from her and the testing procedure was explained by the experimenter.

The time of day for the treatment of both groups was:

Tuesday and Thursday

Experimental group    10:00 a.m. - 11:00 a.m.

Control group        11:00 a.m. - 12:00 p.m.

It is the experimenter's belief that the afternoon would have been a more appropriate time for treatment. This conclusion was drawn due to the medication effects on the subjects causing a few of them to be drowsy and nonattentive. This was noted in both the control and experimental groups.

The subjects during the pre- and post-test were taken from the residence at random in groups of four. The

observer and testing person or instructor were not aware of which subject was in the experimental or control groups.

### Review of Literature

The first principle of music therapy stated in the foreword of Music In Therapy, (Gaston, 1968) is the establishment of interpersonal relationships (p. 5). He goes on to add that "Man is a social being" (p. 7). We as humans need to have other humans to relate with to develop patterns of existing. Gaston (1968) speaks of our relationships with others as being part of our humanness and partly differentiates man from lower animals. He states that man needs "a place and a function with his fellows" (p. 6) and to achieve this, man needs social skills. Music therapy goals are often concerned with utilizing the socializing effects of musical group activities to improve social skills of patients. Music can help direct patients in their relationships with others and music sessions are excellent settings for patients to learn to achieve in socially acceptable ways. Sears (1968) lists these processes which directly relate to social skills and social behavior: Music provides: "opportunities to experience socially acceptable reward and nonreward; . . . means by which self-expression is socially acceptable; . . . verbal and non-verbal social interaction and communication; . . . for experiencing cooperation and competition in socially acceptable forms; . . .



opportunities for acceptance of responsibility to self and others; . . . for developing other-directed behavior; . . . for developing self-directed behavior; opportunities for individual choice of response in groups; . . . and for learning realistic social skills and personal behavior patterns acceptable in institutional and community peer groups" (Sears, in Gaston, p. 33).

Frank (1973) says variations or disrupted functioning of a person's social behavior (skills) often are the basis for labeling them as mentally ill and identifying their specific illness. He feels that a person's perception of himself and his life, to a large extent, determine his actions toward himself and others. Active participation, according to Frank, in a situation or activity increases one's susceptibility to persuasive communication and music can induce active participation. Ensuing changes in patient's social skills that need modifying will be accomplished in part because of their desire to participate.

Jorgenson and Parnell (1970) state that "Human behavior is social behavior, for which appropriate functioning requires certain skills" (p. 83). Many problems of patients stem from their inadequacies in certain social skills. In their article they point out that one problem in modifying social behaviors is specifically identifying them. Ulrich, Stachnik, and Mabry (1966) state that "social behaviors

involve the interaction of two or more organisms with one another or their action together in relation to a common environment" (p. 97). For music therapists this common environment can be music, the interactions may be verbal or non-verbal and they may be imitative, initiated, or reactive. Music is a valuable medium with which to work on social skill improvement. The first step Jorgenson and Parnell state is to choose and define specific behaviors to be worked on and set a time table to be followed. For example, if improving participation is to be worked on, specify what will be considered participation; or if interaction is the goal specify whether it is to be initiated, imitative, or reactive and for how long it is expected. Music can be used as a reward to stimulate patients to work on social skills, such as letting children choose a song to be played as a reward for appropriate social behavior.

Braswell (1962) speaks of supportive therapy which is concerned with the social nature of an individual and how to help him adapt to the environment. He goes on to discuss adjustment as a problem faced by many patients which concerns their adjustment in their family, job, and their relationships to others on both formal and informal levels. Adjustment on a secondary level is concerned with dress, manner of meeting people, ability to assume varying roles, and his repertory of other social skills. Braswell views

social skills as those skills which aid the patient to be accepted in community groups and even just to gain admittance to these outside groups. He believes there is a definite relationship between social isolation and behavior disorders. The greater the social isolation in a majority of subjects studied, the less healthy in terms of adjustment they were. All therapists need to be aware of the value of adequate social facility, which is those social skills and techniques which contribute to adjustment. Leighton (1976) lists these conditions which are conducive to the breaking up of human relationships: 1) weakness of both followership and leadership, 2) deficient channels of communication, 3) sentiment patterns which are confused and lacking in affective strength except for hostility. Many former mental patients have asocial characteristics which hamper their acceptance in community groups. Working in a team, a social worker, hospital personnel, and a music therapist can provide and investigate the situation the individual patient will be returning to, and assess what social skills he will need to work on to enable him to become a member of these groups. Individually designed programs can be set up for each patient. Braswell (1962) discusses the important point that performance levels (behavior-wise) which are expected in hospital activities are rarely as high as those demanded in similar community groups. The music therapist who is aware of this fact can help bring



the patient to an adequate level of functioning so he can attempt to fit into a community group to the best of his ability.

In various studies music was used as a stimulus in teaching language discrimination and as an aid in teaching specific consonants to speech handicapped children (Stadsklev in Michel, 1976). A case study of cerebral palsied children reported the results of 45-min. weekly music sessions. These results presented a "noticeable improvement" in speech, muscle coordination, self-expression, and socialization for all of the children involved in the study. Slonin reported that as a result of music therapy speech sessions with a seven-year old boy who had a severe hearing loss, the boy developed a six-note singing range, ability to match six random pitches, ability to sing three familiar folk songs with acceptable articulation of the words, ability to respond appropriately to rhythm in music, and the ability to play simple chords on the autoharp. Davis found music therapy helpful in teaching a fifteen-year old deaf girl to interact with a group; she learned to perceive the rhythm and its response in others and move in time with them. Walker worked with a twelve-year old boy who had a partial hearing loss. Music therapy goals judged to have been achieved included vocal production (inflection, voice projection); ability to follow directions for playing

instruments like the autoharp; increased attention span, and the development of better physical coordination through rhythmic responses to music.

In a coordinated speech and music therapy program Lathom, Edson, and Toombs (1965) used music therapy to create a situation which required a developmentally disabled child to use the words learned in speech therapy. Music enabled the child to attain a greater meaning and significance for the child. While the child was learning new words in the speech therapy sessions, he was also incorporating what he learned into his music therapy sessions.

### Hypotheses

1. The use of music and socio-music activities will not increase to a significant degree ( $p \leq .05$ ) the improvement of social speech skills for a group of developmentally disabled adolescents, as compared to a contact control group.

2. The use of music and socio-music activities will increase to a significant degree ( $p \leq .05$ ) the improvement of social speech skills for a group of developmentally disabled adolescents, as compared to a contact control group.

The hypotheses are applied to specific problem areas mentioned in the statement of problem section.

## CHAPTER II

### EXPERIMENTAL DESIGN

This study was designed to determine if the use of music and socio-music activities can aid toward the development of various areas of social speech and language. The experimenter attempted to improve social speech skills through the use of music therapy techniques. Both verbal and non-verbal forms of communication will be discussed and examined. Observational forms were designed by the experimenter in order to assess the techniques used during the treatment period of this study.

#### Selection of Subjects

Subjects chosen for this study were 12 severely and profoundly retarded individuals with limited expressive speech skills, institutionalized in the Adolescent Social Development Program at Fairview State Hospital in Costa Mesa, California. Subjects came from a program of approximately 200 clients ranging in age from 12 to 21 years, with similar developmental problems. The subjects are ambulatory and typically in need of behavior management, self-help skills, communication skills, sensory-motor training, education, socialization skills, recreation activities and

a protective environment with 24-hour care. Those subjects for this study came from Residence 24. All subjects used in this study were male, and ranged widely in the area of social speech skill including expressive and receptive language.

The subjects were divided into two groups, experimental and control, and matched on the basis of individual scores on the Fairview Language Scale (Appendix A). A stratified random sample was made with all subjects' scores taken into account. The subjects were divided into three levels according to the Fairview Language scores. The groups were divided into high, medium, and low, and from each of these three groupings, the subjects were randomly placed into the two subject groups, experimental and control. Each of the two groups used had a fairly equal distribution of speech and language skill. The experimental group was composed of six adolescent male subjects, with a range on the Fairview Language Scale from 132 to 21. Subjects in the control group ranged from 141 to 13 on the Fairview Language Scale. The control group was also composed of six adolescent male subjects.

### Setting

The treatment setting for both experimental and control groups was the music therapy room of the Adolescent Social Development Program. The room was small, 13' by 15', and



designed for groups of not more than 10-12 persons. The room was easily accessible from the residence where the clients were chosen. Musical instruments and equipment of various types, including a piano, were kept in the room, along with chairs. Minimum visual stimulation was provided during treatment sessions. The experimental group viewed only instruments used in treatment, while the control group was suppressed from any music stimuli. The treatment sessions including both experimental and control groups were administered by the experimenter.

#### Method of Testing

The measured area in the pre- and post-tests were the actual verbal responses of the subjects involved. The correct responses which were desired were:

- (1) Verbal response of hello.
- (2) Verbal response of good morning.
- (3) Proper verbal response of name of individual sitting next to him.
- (4) Simple verbal responses to sample questions such as:
  - a. How are you today?
  - b. What are you wearing today?
  - c. Do you have any news for me today?
- (5) Verbal response of goodbye.

Verbal responses were measured by the sound production of each individual. Scoring was divided into three areas:

0 = Client gives no response.

\*1 = Client gives approximation of task.

2 = Client gives correct response.

\*Approximation will be noted as any attempt to communicate verbally or with gestures such as pointing, looking in the direction of, etc.

The instructor directed the activities to each subject, while the observer took down scores of each subject, according to the observation form designed by the experimenter.

#### Equipment and Materials

Equipment used in the experimental group sessions include:

Piano

Osi Drum and Mallets

Tambour

Alto Zylophone and Mallets

Bells

Guitar

#### Activity Books and Song Material

Alike and Different by Carol Bitcon, RMT, which contains Orff-Schulwerk chants and various music activities. Some of the chants were used during treatment sessions. The

total process of Orff-Schulwerk was not used for the purpose of this study, however, the rondo form was used as a structure for the research design. The rondo form (A B A C A D etc.) is frequently used in the beginning of Orff-Schulwerk because:

1. The Rondo provides a strongly recognizable structure for elements of sound (tonal, verbal, rhythmic) into which every given part has a particular place and function.
2. The Rondo provides natural opportunities for individual creation which occur organically in the structure of the whole.
3. The Rondo provides by its process of repetition an unforced and musical basis for teaching skills; instrumental, vocal or movement techniques, can be worked and reworked in every recurrent "A" theme.
4. The Rondo allows for maximum variety of responses within a balanced rondo form, and therefore, fits well in group teaching in which ways to original and individual participation must be expedited.

The Small Singer by Roberta McLaughlin and Lucille Wood.

One greeting song was chosen from this songbook to be used in the treatment sessions (See p. 28).

The BCP or Behavioral Characteristics Progression-Assessment tool and communication tool. The BCP is a non-standardized continuum of behaviors in chart form, which was designed as a part of the Santa Cruz County's California Special Education Management Project. This booklet was instrumental in the initial thought process and design of this study (Appendix I).

Fairview Language Scale. The raw scores were taken and subjects were matched according to the individual testing ability (Appendix A).

Observation sheet designed by the experimenter was used to collect pre- and post-test data (Appendix H).

### Testing Instrument

#### Pre- and Post-Test Design.

1. The subjects were directed to sit in chairs which were formed in a circle.
2. The instructor then stated, "Let's shake hands and say hello, let's shake hands and say hello, hello to you."
3. The instructor then stated, "What do you say when you see a friend?" Correct answer: Hello.
4. The instructor went around the circle until each subject had a chance to respond. The subjects were given ten seconds to give the correct response. Each question was given only once.
5. The instructor then stated, "Let's shake hands and say good morning, let's shake hands and say good morning, good morning to you."
6. The instructor then stated, "What do you say to a friend in the morning?" Answer: Good Morning.



7. The instructor went around the circle until each subject had a chance to respond. The subjects were asked once and given ten seconds to respond.

8. The instructor then stated, "Who's in town, take a look around, who is sitting next to you?" The instructor would respond first by telling the subjects who was sitting next to her.

9. The instructor then stated, "(Subject's name), who is sitting next to you?" Subject was asked once and given ten seconds to respond. Correct answer: Name of subject next to him.

10. The instructor then moved the piano bench in front of her and stated, "Who will come to my table, who will talk with me?"

11. The instructor then stated, "(Subject's name), won't you come and talk with me?" The instructor then asked simple questions of the subjects in order for them to answer, such as:

- a. How are you today?
- b. What are you wearing today?
- c. Do you have any news for me today?

12. The subject was given ten seconds to start answering the question which was asked once. Each turn lasted approximately 30-60 seconds after which the client was asked to sit back down in his chair.

13. After each client had taken a turn, the piano bench was put back and the instructor stated, "Let's shake hands and say goodbye, let's shake hands and say goodbye, goodbye to you."

14. The instructor then asked each subject, "What do you say when you leave the music group?"

15. This question was asked once of each subject and he was given ten seconds to give the response of goodbye.

16. The instructor then directed the clients out of the music room and back to the residence.

### Procedure

Activities for the experimental group were planned as a medium for motivating social speech and language, and provide an environment for developing appropriate verbal and non-verbal responses from the subjects involved. The difference between the two groups was in the presentation of material by the experimenter. Both groups were presented the same material, only one with music and the other without.

#### Music and Communication or Experimental Group

Music and Verbal Presentation by experimenter.

Verbal Response desired from subjects.

#### Communication or Control Group

Verbal Presentation by experimenter.

Verbal Response desired from subjects.

The design of the post- and pre-tests was to determine the communication level of functioning of each subject and determine the amount or lack of improvement.

The treatment section was divided into five basic areas:

- 1) Greetings
- 2) Names
- 3) Communication-Spontaneous Speech
- 4) Please and Thank You
- 5) Farewells

#### Example of a Sample Session-Experimental

##### 1. Greetings

The six adolescent male subjects were directed to sit in the chairs arranged in a circle. The experimenter would then state, "Listen to my hello song for today." Behaviors which were preferred would be eye contact and attentive behavior. The experimenter would then move to the piano and play the good morning song and sing the lyrics. Verbal responses of good morning during the use of the piano accompaniment was observed by the experimenter. Each client would have a chance to fill in the phrase "good morning" with the experimenter. (See Appendix J, Musical Examples.)

The experimenter would then start a greeting chant such as "Let's shake hands and say hello, let's shake hands

and say hello, hello to you." The experimenter would extend a hand out to be shaken by each of the clients. The response of hello was observed as well as a proper handshake. The experimenter would wait ten seconds for each response. This process was continued until each client had a turn to respond.

## 2. Names

The experimenter then said, "Now let's learn about names." The experimenter led the subjects through the name song with instrumental accompaniment. "Names, names, we all have names, tell us your name," or instead, "tell us your neighbor's name." The experimenter started out by telling her name and who was next to her. This process was continued until everyone had a chance to respond. The experimenter would end this section of the session by saying, "Now we know everybody's name."

## 3. Communication-Spontaneous Speech

The experimenter would then set up the piano bench in front of her with an instrument on top of it. The subjects were seated in a semicircle in front of the experimenter. The experimenter then stated, "Who will come to my table, who will talk with me?" Then ask "name, won't you come and talk with me?" The subject asked would then walk up to the bench or bring his chair and sit in front of it, and the experimenter would then ask simple questions of the subject such as:

How are you today, name?

What color is your shirt, pants, etc.?

What is your news today?

If the subject is unable to answer, the experimenter would ask other simple questions dealing with activities of the hospital such as movies, dances, Boy Scouts, etc., in order for the subject to respond successfully. The instruments were used only as a presentation tool, and the subjects were not allowed to respond with the instruments. This activity was continued until each subject had a chance to respond.

#### 4. Please and Thank You

The subjects formed a full circle again and the experimenter stated, "Let's play a hide-and-seek game." The instructor began the song with instrumental accompaniment. "White horse, white horse, ding, ding, ding, ding, and on the way I found something." The experimenter hid her keys and asked one of the subjects to find them for her. The subject would turn himself around while the keys were being hidden. The experimenter would then state, "Subject's name, won't you please help me find my lost keys?" The song was sung while the subject searched for the lost keys. The client would find the keys and bring them to the experimenter, the experimenter would then say, "Thank you," and the subject was encouraged to say "You're welcome." This activity was



How are you today, name?

What color is your shirt, pants, etc.?

What is your news today?

If the subject is unable to answer, the experimenter would ask other simple questions dealing with activities of the hospital such as movies, dances, Boy Scouts, etc., in order for the subject to respond successfully. The instruments were used only as a presentation tool, and the subjects were not allowed to respond with the instruments. This activity was continued until each subject had a chance to respond.

#### 4. Please and Thank You

The subjects formed a full circle again and the experimenter stated, "Let's play a hide-and-seek game." The instructor began the song with instrumental accompaniment. "White horse, white horse, ding, ding, ding, ding, and on the way I found something." The experimenter hid her keys and asked one of the subjects to find them for her. The subject would turn himself around while the keys were being hidden. The experimenter would then state, "Subject's name, won't you please help me find my lost keys?" The song was sung while the subject searched for the lost keys. The client would find the keys and bring them to the experimenter, the experimenter would then say, "Thank you," and the subject was encouraged to say "You're welcome." This activity was

continued until each subject had a chance to find the lost keys and respond.

Adaptations for this activity are:

Object can be partially visible.

Clients should follow around chairs.

Keys could be placed in a box or under a scarf.

The responses of please and thank you were not a part of the results of this study; however, they were incorporated into the treatment procedure.

#### 5. Farewells

The experimenter then stated, "It's time to sing our goodbye song." The experimenter would then sing the goodbye song and ask each subject to fill in the word goodbye.

"Let's shake hands and say goodbye, let's shake hands and say goodbye, goodbye for now." The subjects were each given a chance to give the response of goodbye.

The experimenter then stated, "That's all for today, thank you for coming." The subjects were then taken back to the residence.

The experimenter would like to point out at this time that other activities such as movement activities were incorporated into the sessions but were not a part of the treatment of this study. Other songs and chants were also used but are not mentioned in this section.

## CHAPTER III

### PRESENTATION OF DATA

#### Results

This study was designed to test the effectiveness of a music therapy presentation program for improving social speech skills as opposed to a non-music verbal presentation program with developmentally disabled male adolescents. The areas measured were:

Verbal responses of hello and good morning

Proper name response of peers

Proper responses to simple questions

Verbal response of goodbye

Scoring of these areas followed this procedure:

(0) was given for no response.

(1) was given if the client gave an approximation of the task.

(2) was given for a correct response.

The observation form used for the purpose of this study is illustrated in (Appendix H). A comparison was made between the experimental and control groups for improvement in these specific areas of social speech. These measurements were taken for all of the subjects involved in this study.



In order to determine the differences between both groups, the sample t technique was applied (McNemar, 1969). The t test is most often used to compare the means of two groups. In the case of this study, the paired t test yields a significant difference between the two sample means and the experimenter rejects the null hypothesis and accepts the alternate hypothesis.

Looking at the raw data in (Appendices C and D), one can see an indication that the experimental group had improved in social speech skill more than the control group, which was the expected outcome of this study. Elaboration on these findings will follow in the next section.

#### Other Behaviors Observed During and After the Study

During the period of this study, the experimenter noted an improvement in relaxation of the subjects used in both experimental and control groups. This appeared to be an effect of the involvement in the music activities and calming atmosphere set by the experimenter.

Another observation noted by the experimenter and residential staff was the increase in acceptance to human touch by subject 2 in the experimental group, who normally is very shy and negative towards touch. The experimenter feels this was due to the subject's gradual acceptance of her and the subjects in the group.

For the interest of further study with developmentally disabled adolescents the experimenter would like to indicate at this time maladaptive behaviors and attitudes observed and how they were handled.

## I. List of Maladaptive Behaviors and Attitudes

Non-attentive behaviors such as:

Wandering both physical and mental, such as daydreaming, pointing out or looking out the window.

Questions--asking excessive questions of the experimenter.

Aggressiveness--behavior deemed aggressive such as hitting, biting, and kicking. These apply to both actions toward subjects and experimenter.

Destructiveness--behavior of abuse to instruments and materials in the music room.

Any behavior which discontinues the progress of the treatment sessions.

## II. How These Behaviors Were Dealt With During Treatment Sessions.

- 1) Instructor would give verbal command twice after initial command and two trials.

- 2) Instructor would give slight physical prompts such as eye contact or giving slight turn of the head with a finger.
- 3) Instructor would give large physical prompt such as searching out the attention of the subject through looking and verbal directive "Look at me."
- 4) Time-out procedure - ignoring behavior.
- 5) Removing subject from circle by turning chair around or physically taking subject out of the music room.

## CHAPTER IV

### DISCUSSION, RECOMMENDATIONS, AND SUMMARY

#### Discussion of Results

The results of this study indicate that music and communication training involving a musical presentation is an important factor in improving social speech skills in adolescent developmentally disabled male subjects. The data of this research were predicted in the correct direction, and the difference between the two groups was statistically and significant. If the population size had been a larger one, for example 50 subjects in each group instead of six in each group, the outcome of the test might have shown a greater significance between the two groups.

It is believed that the experimental group of subjects did indeed improve their social speech skills, due to the musical presentation. The experimenter feels this was due to the structure provided by the musical activities themselves.

Regarding both groups, some individuals were more resistive during the post-test than in the pre-test, and it is possible that their attitudes and behavior had an effect on the results and outcome as well as the attitudes of the other subjects being tested.

### Recommendations

The results of this study could be useful with a larger population of subjects with different social speech and language skill levels. This study could be useful in other populations with communication skill needs besides the developmentally disabled. It would be interesting to see what results this study would have with a large population of autistic subjects for example. Many activities could be adjusted to meet the needs of that particular subject population. It would also be interesting to see the results of a study such as this conducted over a period of several months on a day to day basis.

It is also suggested that this study be conducted with a coed population, in order to promote social interaction between male and female subjects.

Based upon the results of this study, the following recommendation are made.

1. All individuals involved with music and/or speech and language should pursue the development of music therapy activities for the developmentally disabled as a mode for treatment in the areas of communication and social speech.

The design of this research should be replicated with the following suggested modifications.

- A. It should be conducted over a longer period of time, perhaps six months, and sessions should be every day or at least three times a week.

B. It should be conducted with female as well as male subjects so there can be some coed communication between the individuals involved in this study.

C. It should be conducted with other age groups other than adolescent subjects, with different kinds of communication problems, both verbal and non-verbal.

D. It should be conducted with a population of children under twelve years of age who are physically handicapped, of normal intelligence, or of a very high retardation level.

E. The experimenter should have two observers in order to gain observer reliability in testing.

F. The experimenter should have an assistant helping with the procedure of both experimental and control groups.

G. The subjects should be tested individually during both pre- and post-testing.

H. It should be conducted in a large room with very little environmental noise and distractions.

I. It should be conducted in the afternoon after lunch when subjects tend to be more alert.

Music therapists who work with the developmentally disabled should consult with speech therapists in assisting with such a study designed to improve social speech and language skills.

### Summary

This study was designed to test the effectiveness of a music and communication vs. a communication alone presentation to improve social speech skills of adolescent developmentally disabled male subjects. The research design of this study was a pre-test, post-test for two equivalent samples. The sample  $t$  test was used to analyze data for statistical significance between the two groups, control and experimental.

Subjects were 12 male clients from the Adolescent Social Development Program at Fairview State Hospital in Costa Mesa, California. The subjects selected for this study had similar developmental problems including the area of communication. These subjects were in need of socialization skills and behavior management also. Both groups received communication training in social speech, with the experimental group receiving the special music therapy program and the control group receiving verbal communication training only.

The subjects were matched into 2 groups with the use of the Fairview Language Scale scores. An observational testing tool for both pre- and post-testing was designed by the experimenter, and a pre-test was given to all subjects, see appendix H for observation form.

Subject number one in the experimental group was dropped from the statistical test and results. The reason for this being that the subject scored a perfect 10 in both pre- and post-tests. The subject seemed to be on a much higher level for the design of the test used.

The treatment or experimental phase of the study consisted of two hours per week of the music therapy program for  $5\frac{1}{2}$  weeks. Each individual had two hours a week of group work in communication with and without music depending on which group the individual was in. The sessions were divided into 5 areas which followed this format:

- 1) Greetings
- 2) Names
- 3) Communication-spontaneous speech
- 4) Please and Thank You
- 5) Farewells

After  $5\frac{1}{2}$  weeks of training, all subjects were given the post-test. Improvement in social speech skill was found to be significant at the .05 level.

On the basis of the results of this study the following conclusions can be drawn.

A  $5\frac{1}{2}$  week program of music and communication training statistically increased social speech skill at the .05 level of a small population of adolescent developmentally disabled male subjects.



The first hypothesis can not be accepted, due to the statistical significance. The second hypothesis is therefore accepted.

In summary, a final speculation can be made. The results of this study were found to be significant, but if a larger population were used a greater significance might be found.

A music and communication program such as the one designed for this study may well be useful in conjunction with a speech and language program. The experimenter feels the procedures developed in this study were useful in that they allowed for individual expression regardless of the developmental level at which the subjects may be.

APPENDIX A

Fairview Language Evaluation Scale

45  
**FAIRVIEW LANGUAGE EVALUATION SCALE**  
**BIRTH TO SIX YEARS**

Alan Boroskin, M.A.  
FAIRVIEW STATE HOSPITAL  
California

Name \_\_\_\_\_ Sex: M F Birth date \_\_\_\_\_ No. \_\_\_\_\_  
(CIRCLE ONE)

Observer \_\_\_\_\_ Place \_\_\_\_\_ Today's date \_\_\_\_\_ Subject's age in months \_\_\_\_\_

**A. SPEECH RELATED HANDICAPS**

Please check any of the following which apply:

- |   |   |
|---|---|
| <p>_____ Lisps</p> <p>_____ Stutters</p> <p>_____ Cleft palate</p> <p>_____ Jargon (unintelligible jabber)</p> <p>_____ Cerebral palsy</p> <p>_____ Paralysis</p> | <p>_____ Mute</p> <p>_____ Deaf</p> <p>_____ Hearing aid</p> <p>_____ Knows sign language</p> <p>_____ Blind</p> <p>_____ Other (please specify)</p> <p>_____</p> |
|---|---|

**B. SCORE SUMMARY**

Level I . . . . . _____ Total Points	Level VI . . . . . _____ Total Points
Level II . . . . . _____ Total Points	Level VII . . . . . _____ Total Points
Level III . . . . . _____ Total Points	Level VIII . . . . . _____ Total Points
Level IV . . . . . _____ Total Points	Level IX . . . . . _____ Total Points
Level V . . . . . _____ Total Points	Level X . . . . . _____ Total Points

GRAND TOTAL

LANGUAGE AGE (in months)

LANGUAGE QUOTIENT

LANGUAGE LEVEL

**LEVEL VI. (2 points per item)**

- \_\_\_ 1. Names at least one common object (e.g. ball, cup).
- \_\_\_ 2. Uses gestures to make wants known.
- \_\_\_ 3. Answers questions "yes" or "no."
- \_\_\_ 4. Says two or more words spontaneously.
- \_\_\_ 5. Pays attention to speaker when spoken to.
- \_\_\_ 6. Obeys simple commands (e.g. "stop that!").
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 2)

**LEVEL VII. (1 point per item)**

- \_\_\_ 1. Never or infrequently drools.
- \_\_\_ 2. Waves "by-by."
- \_\_\_ 3. Understands and responds to own name.
- \_\_\_ 4. Imitates sounds (e.g. "pa-pa-pa").
- \_\_\_ 5. Responds appropriately to "no-no" (e.g. stops or hesitates).
- \_\_\_ 6. Looks at picture book.
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 1)

**LEVEL VIII. (1 point per item)**

- \_\_\_ 1. Crying used to get attention.
- \_\_\_ 2. Shows interest in noisemaking toys (e.g. looks, reaches, smiles).
- \_\_\_ 3. Vocalizes four different syllables.
- \_\_\_ 4. Says "da-da" or "ma-ma" or equivalent.
- \_\_\_ 5. Laughs out loud.
- \_\_\_ 6. Listens attentively to familiar words (e.g. baby, mama).
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 1)

**LEVEL IX. (1 point per item)**

- \_\_\_ 1. Turns head toward the source of a sound (e.g. bell or hand clap).
- \_\_\_ 2. Babbling occurs when alone and is related to pleasurable activity (e.g. while playing in crib).
- \_\_\_ 3. Vocalizes two or more different sounds on one breath (e.g. "ah-ba").
- \_\_\_ 4. Turns toward speaking voice.
- \_\_\_ 5. Good voice quality.
- \_\_\_ 6. Smiles appropriately.
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 1)

**LEVEL X. (1 point per item)**

- \_\_\_ 1. High pitched crying when upset.
- \_\_\_ 2. Reacts to a sudden sound (e.g. hand clap) by eye-blink or otherwise.
- \_\_\_ 3. Responds to your soothing voice (e.g. stops crying).
- \_\_\_ 4. Says single syllables (e.g. "da" or "goo").
- \_\_\_ 5. Differential crying (e.g. hunger, pain).
- \_\_\_ 6. Vocalizes to your smile or talk.
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 1)

**LEVEL I. (3 points per item)**

- \_\_\_\_\_ 1. Defines 2 of the 3 following words: "ball," "hat," "stove."
- \_\_\_\_\_ 2. Follows a 3-stage command (e.g. "Get the ball, close the door, and then sit down").
- \_\_\_\_\_ 3. Counts from one to ten or more.
- \_\_\_\_\_ 4. Knows number concept of 3 or 4 (i.e. can select 3 or 4 from a larger number of objects).
- \_\_\_\_\_ 5. Corrects own errors when learning a new word.
- \_\_\_\_\_ 6. Identifies and names 5 colors on command.
- \_\_\_\_\_ 7. Says complete sentences of 5 or more words.
- \_\_\_\_\_ 8. Speech is completely understandable to a stranger.
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 3)

**LEVEL II. (3 points per item)**

- \_\_\_\_\_ 1. Follows 2-stage command (e.g. "Pick up the ball and bring it to me").
- \_\_\_\_\_ 2. Identifies 2 or 3 colors by name.
- \_\_\_\_\_ 3. Speaks in complete sentences (i.e. 3 or more words including a subject and verb).
- \_\_\_\_\_ 4. Seventy-five percent of speech is understandable to a stranger.
- \_\_\_\_\_ 5. Repeats an 8-to-10-word sentence after hearing it ONCE (e.g. "The little dogs are playing in the yard").
- \_\_\_\_\_ 6. Counts from one to five.
- \_\_\_\_\_ 7. Knows number concept of 2 or 3 (i.e. can select 2 or 3 from a larger number of objects).
- \_\_\_\_\_ 8. Uses adverbs and prepositions (e.g. loudly, slowly, softly, in, on, from).
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 3)

**LEVEL III. (3 points per item)**

- \_\_\_\_\_ 1. Identifies the use of activity of things in pictures (e.g. "Which one flies" or "Show me the one that is good to eat").
- \_\_\_\_\_ 2. Fifty percent of speech is understandable to a stranger.
- \_\_\_\_\_ 3. Is able to count to 3.
- \_\_\_\_\_ 4. Repeats 3 digits on command (e.g. 1-5-7 or 9-6-2).
- \_\_\_\_\_ 5. Repeats 5-or-6-syllable sentence (e.g. "The pony ran away").
- \_\_\_\_\_ 6. Repeats 2 or 3 nonsense syllables (e.g. "BIM," "KAK," "LEP").
- \_\_\_\_\_ 7. Uses pronouns and adjectives (e.g. he, she, it, they, we, fast, slow, good, bad).
- \_\_\_\_\_ 8. Vocabulary of 500 or more words.
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 3)

**LEVEL IV. (3 points per item)**

- \_\_\_\_\_ 1. Understands 3 prepositions (e.g. in, on, off, down, from).
- \_\_\_\_\_ 2. Knows concept of "one."
- \_\_\_\_\_ 3. Repeats 2 digits (e.g. 2-7 or 8-4).
- \_\_\_\_\_ 4. Can eat chewy meats (e.g. steak, pork chop, hamburger).
- \_\_\_\_\_ 5. Says simple sentences and phrases (i.e. 3 or more words).
- \_\_\_\_\_ 6. Names five or more common objects on command.
- \_\_\_\_\_ 7. Points out doll's eye, ear, nose, mouth and hair on command.
- \_\_\_\_\_ 8. Says and answers to own name.
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 3)

**LEVEL V. (2 points per item)**

- \_\_\_\_\_ 1. Says sentences of 2 words (e.g. "Give me").
- \_\_\_\_\_ 2. Names at least 3 common pictures (e.g. ball, dog, boy).
- \_\_\_\_\_ 3. Names 2 or more objects (e.g. ball, spoon, glass).
- \_\_\_\_\_ 4. Points to own eye, ear, nose and mouth on command.
- \_\_\_\_\_ 5. Has speaking vocabulary of at least 5 words.
- \_\_\_\_\_ 6. Obeys more complex commands (e.g. "Get the ball" or "Give it to me").
- \_\_\_\_\_ TOTAL POINTS (Number of check marks times 2)

# INSTRUCTIONS FOR ADMINISTERING AND SCORING THE FAIRVIEW LANGUAGE EVALUATION SCALE:

1. Always start evaluating at Level I making a check mark at every item the patient DOES NOW. Continue evaluating until ALL items at some level are checked or you reach Level X. For example: If the subject received credit for all items at Level IV, you STOP and do NOT GO to Level V.
2. The total for each level is the number of check marks for that level times the number of points per item for that level. For example: If at Level IV, 4 items were checked, then 4 times the 3 points-per-item equals a total of 12 for Level IV.
3. When scoring, full credit is given for all levels following the one at which all items are checked. For example: If all items at Level IV were checked full credit would be given for levels V through X.
4. The grand total is obtained by summing totals at each level. The grand total divided by 2 gives the Language Age in months. To determine the Language Quotient divide the Language Age by the patient's Chronological Age (in months) and multiply the result by 100. THE MAXIMUM CHRONOLOGICAL AGE THAT CAN BE USED is 180 months (15 years). If a subject's chronological age is greater than 180 months, then 180 months MUST BE USED in computing the Language Quotient.
5. The Language Level is obtained from the following table:

<u>Language Quotient</u>	<u>Language Level</u>
84+	0
68 - 83	I
52 - 67	II
36 - 51	III
20 - 35	IV
0 - 19	V

APPENDIX B

Subject Scores on Fairview  
Language Scale



## Appendix B

## Fairview Language Scale Results of 1977

<u>Subject</u>	<u>Experimental Group</u>
1	132
2	87
3	27
4	51
5	63
6	138
	<hr/>
	$\bar{X}_e = 83.0$

---

<u>Subject</u>	<u>Control Group</u>
1	50
2	99
3	62
4	141
5	96
6	13
	<hr/>
	$\bar{X}_c = 76.83$

## APPENDIX C

Experimental Group Raw Data for  
Social Speech Skill

## Appendix C

Experimental Group Raw Data for Social Speech Skill.

<u>Subject</u>	<u>Pre-Test</u>	<u>Post-Test</u>	<u>Difference</u>
1*	10	10	0
2	0	4	4
3	4	10	6
4	0	5	5
5	0	2	2
6	5	9	4
<hr/>			
	$\bar{X} = 1.8$	$\bar{X} = 6.0$	$\bar{X} = 4.2$
<hr/>			

\*Subject 1 was dropped.

## APPENDIX D

Control Group Raw Data For  
Social Speech Skill

## Appendix D

## Control Group Raw Data for Social Speech Skill

<u>Subject</u>	<u>Pre-Test</u>	<u>Post-Test</u>	<u>Difference</u>
1	0	1	1
2	4	3	-1
3	4	3	-1
4	9	10	1
5	7	7	0
6	0	2	2
<hr/>			
	$\bar{X} = 4.0$	$\bar{X} = 4.33$	$\bar{X} = .33$
<hr/>			

## APPENDIX E

Formula for the Small Sample  
t Technique



## Appendix E

Formula for the Sample t Technique

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left( \frac{\sum (X_1 - \bar{X}_1)^2 + \sum (X_2 - \bar{X}_2)^2}{N_1 + N_2 - 2} \right) \left( \frac{(1 + 1)}{N_1 N_2} \right)}}$$

$$\frac{4.2 - .33}{\sqrt{\left( \frac{8.8 + 7.33}{9} \right) \left( \frac{1}{5} + \frac{1}{6} \right)}} = \frac{3.87}{\sqrt{\left( \frac{16.13}{9} \right) (.37)}}$$

$$\frac{3.87}{\sqrt{(1.79) (.37)}} = \frac{3.87}{.6623} = t = 5.84$$

Critical Value = 2.262

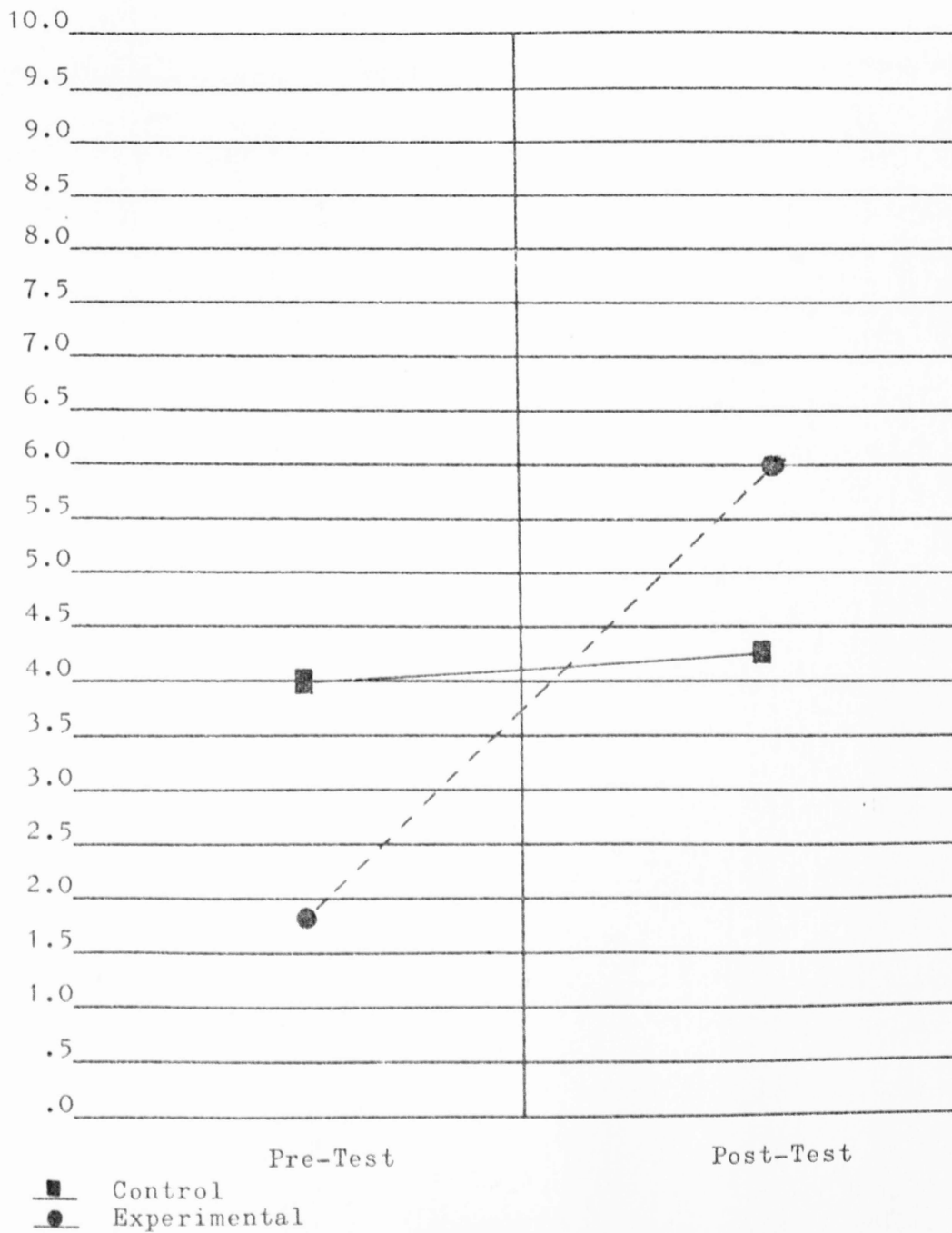
df = 9

(McNemar, 1969, : 114-116).

## APPENDIX F

### Relative Score Graph

## Appendix F

Relative Score GraphActual  
Score

## APPENDIX G1-2

### Attendance Data

## Appendix G1

Attendance Data

Pre-Test March 21, 1978

Sessions

Subject

		4/11	4/13	4/18	4/20	4/25	4/27	5/2	5/4	5/9	5/11	5/16
Experimental	1	✓		✓	✓		✓	✓	✓	Treatment not held due to residential conflict		✓
	2	✓	✓	✓	✓	Treatment not held due to residential conflict	✓	✓	✓		✓	✓
	3	✓		✓			✓	✓			✓	✓
	4	✓	✓	✓	✓		✓	✓	✓		✓	✓
	5	✓	✓		✓			✓	✓		✓	✓
	6	✓	✓	✓	✓			✓	✓		✓	✓
Control	1	✓		✓	✓	Treatment not held due to residential conflict	✓	✓		Treatment not held due to residential conflict	✓	✓
	2	✓	✓		✓		✓		✓		✓	✓
	3	✓	✓	✓	✓		✓	✓	✓		✓	✓
	4	✓	✓	✓	✓		✓		✓		✓	✓
	5	✓	✓	✓	✓		✓	✓			✓	✓
	6	✓	✓	✓	✓		✓	✓	✓		✓	✓

Post-Test May 18, 1978

## Appendix G2

## Attendance Data

Experimental Group

<u>Subject</u>	<u>Absences</u>
1	2
2	0
3	3
4	0
5	2
6	1
Total	8

---

Control Group

<u>Subject</u>	<u>Absences</u>
1	2
2	2
3	0
4	1
5	1
6	0
Total	6

---

## APPENDIX H

Pre- and Post-Test Observation Form



# Pre-Test Post-Test Observation Form

Observer: Josh Haskett Ph.D.

Date: 4/21/78 and 5/18/78 Fairview State Hospital

## Scoring:

Each client will be given 10 sec. to respond or complete each task.

0 = Client gives no response

\*1 = Client gives approximation of task

2 = Client gives correct response

\*Approximation will be any attempt to communicate verbally or with gestures

### Social Speech Skill

	Subject 1	2	3	4	5	6	7	8	9	10	11	12
1. Can give verbal response of Hello.												
2. Can give proper name response.												
3. Can give verbal response of Good Morning.												
4. Can answer simple questions.												
5. Can give verbal response of Goodbye.												

Appendix H

APPENDIX I

BCP Social Speech Section

30  
65  
**SOCIAL SPEECH**

IDENTIFYING BEHAVIORS:

Stutters, stammers, mumbles ● Speaks rapidly, nervously ● Speaks rapidly with short lapses of time between words ● Speaks slowly with long lapses of time between words ● Speaks using inappropriate volume (yells, whispers, etc.) ● Speaks in a muffled, garbled, unclear manner ● Uses verbal obscenities and vulgarities ● Rarely participates in class discussions ● Doesn't follow verbal rules of etiquette (doesn't say "please", interrupts, prevents others from speaking, etc.) ● Continually changes subject without closure on any one area ● Stands too near/far when speaking to another ● Becomes stiff or moves in involuntary manner when trying to speak ● Forgets previously-used word needed to complete sentence often

Date of observation \_\_\_\_\_

- ✓ 1.0 Maintains appropriate social distance when speaking to another . . . . .
- 2.0 Responds to and makes verbal greetings and farewells . . . . .
- 3.0 Asks for what is desired . . . . .
- ✓ 4.0 Says "thank you", "you're welcome", or "please" when reminded . . . . .
- 5.0 Says "thank you", "you're welcome", or "please" after some hesitation. . . . .
- 6.0 Says "thank you" for compliments or service. Says "please" with requests . . . . .
- 7.0 Makes excuses for interruption. . . . .
- 8.0 Looks up/says "oh" while interrupting. . . . .
- 9.0 Raises hand while interrupting. . . . .
- 10.0 Hesitates or stops self while interrupting. . . . .
- ✓ 11.0 Says "excuse me" when interrupting. . . . .

1	2	3	4	5	6

	1	2	3	4	5	6
✓12.0 Waits to be acknowledged verbally or by gesture before speaking . . . . .						
✓13.0 Remains quiet when others are talking . . . . .						
✓14.0 Uses correct titles when addressing people. . . . .						
15.0 Laughs at slapstick comedy. . . . .						
✓16.0 Laughs at comments intended to be humorous. . . . .						
17.0 Answers telephone and carries on simple conversation . . . . .						
✓18.0 Speaks using appropriate volume in different situations. . . . .						
19.0 Speaks using appropriate pitch in different situations. . . . .						
20.0 Speaks at appropriate speed for the situation . . . . .						
21.0 Speaks using appropriate tone in different situations. . . . .						
22.0 Speaks without stuttering or stammering . . . . .						
23.0 Speaks without pausing between words or word groups - flowing speech . . . . .						
✓24.0 Speaks clearly without mumbling . . . . .						
25.0 Requests food or other items appropriately in public . . . . .						
✓26.0 Participates in class discussions . . . . .						
✓27.0 Uses acceptable language - does not use obscenities or vulgarities. . . . .						
28.0 Initiates or pursues topics in conversation consistent with place, role, social situation. . . . .						
✓29.0 Pauses to allow others to speak . . . . .						
30.0 Adjusts responses or actions to type of call at door or on phone . . . . .						
✓31.0 Models speech/tone after others in group . . . . .						
32.0 Speaks on one subject long enough to obtain closure . . . . .						

- 33.0 Concludes or accepts conclusion of conversation in a polite manner . . . . .
- 34.0 Intentionally makes appropriate humorous remarks . . . . .
- 35.0 Makes introductions . . . . .
- 36.0 Takes message given on telephone. . . . .
- 37.0 Orders service or goods by telephone. . . . .
- 38.0 Carries on complex conversation over extended period of time. . . . .
- 39.0 Participates in class discussions using average vocabulary for peer group . . . . .
- 40.0 Tells story/joke . . . . .
- 41.0 Gives oral reports, speeches. . . . .
- 42.0 Expresses a concept verbally. . . . .
- 43.0 Converses with people in various classes/situations, making self clear and understandable. . . . .

## APPENDIX J

### Music Examples

## Music Examples

## Greetings

R.M.

Handwritten musical notation for 'Greetings'. The first staff is a treble clef with a key signature of one sharp (F#) and a 3/4 time signature. It contains a melody of eighth notes. The second staff is a bass clef with a key signature of one sharp (F#) and a 3/4 time signature, containing a bass line of eighth notes. The lyrics 'Good Morn-ing, good morn-ing, so some people say,' are written below the first staff.

Good Morn-ing, good morn-ing, so some people say,

Handwritten musical notation for 'Greetings'. The first staff is a treble clef with a key signature of one sharp (F#) and a 3/4 time signature. It contains a melody of eighth notes. The second staff is a bass clef with a key signature of one sharp (F#) and a 3/4 time signature, containing a bass line of eighth notes. The lyrics 'Good Morn-ing, good morn-ing and have a good day.' are written below the first staff.

Good Morn-ing, good morn-ing and have a good day.

## Hello Song

Handwritten musical notation for 'Hello Song'. The first staff is a treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It contains a melody of eighth notes. The lyrics 'Lets shake hands and say Hello, Lets shake hands and say Hello, Hello to you.' are written below the first staff.

Lets shake hands and say Hello, Lets shake hands and say Hello, Hello to you.

## Name Song

Handwritten musical notation for 'Name Song'. The first staff is a treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It contains a melody of eighth notes. The lyrics 'Hey Down Ho Down tell us whos in town, Hey Down Ho Down Stop and Look around, whos sitting next to you.' are written below the first staff.

Hey Down Ho Down tell us whos in town, Hey Down Ho Down Stop and Look around, whos sitting next to you.

## Talking Song

Handwritten musical notation for 'Talking Song'. The first staff is a treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It contains a melody of eighth notes. The lyrics 'Who will come to my table Who will talk with me.' are written below the first staff.

Who will come to my table Who will talk with me.

## Finding Song

Handwritten musical notation for 'Finding Song'. The first staff is a treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It contains a melody of eighth notes. The lyrics 'White horse white horse ding ding ding and on the way I found something' are written below the first staff.

White horse white horse ding ding ding and on the way I found something



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