The Relationship between Mode of Communication and the Development of Self-esteem in the Deaf Child of Hearing Parents

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THE RELATIONSHIP BETWEEN MODE OF COMMUNICATION
AND THE DEVELOPMENT OF SELF-ESTEEM IN
THE DEAF CHILD OF HEARING PARENTS

by

Marie H. Kelliher

A Dissertation Submitted to the Faculty of the School of Education
of Loyola University of Chicago in Partial Fulfillment
of the Requirements of the Degree of
Doctor of Education

February
1976
ACKNOWLEDGEMENTS

I wish to express my appreciation to the many people who have assisted me in the preparation and execution of this project. I am indebted to the members of my dissertation committee: Dr. Gerald Gutek; Dr. Jack Kavanagh, for his statistical guidance; and Dr. Anne McCreary Juhasz, director, for her interest, encouragement, and guidance in the preparation of this research.

My gratitude is extended to the directors, principals, teachers, parents, and students of the four programs for the deaf, in Chicago and suburbs. Their cooperation and willingness to participate made this study an enjoyable experience.

Finally, I would like to thank my friends, Julia Lane, and Christine Suzda, and my family. Their understanding and encouragement throughout the time spent on this project has sustained me and brought this work to fruition.
VITA

Marie H. Kelliher, was born in Canowindra, New South Wales, Australia, on December 21, 1940.

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She is a member of the American Instructors of the Deaf, the Alexander Graham Bell Association for the Deaf, and the National College of English Teachers of the Deaf, and has served on several professional educational committees.
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CHAPTER I

INTRODUCTION

Because the ear can perceive sound and the brain can interpret it, man is enabled to reach out from his own small world of self into the minds, hearts, and worlds of his fellow man; to enter other eras, cultures and civilizations; to become one of the company of mankind. He does this through the medium of verbal language, and the "miracle of language" is the epochal outcome of man's ability to hear.\(^1\)

Such is the role of hearing in man. The counterpart of hearing is deafness, and the ramifications of this tremendous handicap are little realized except by those afflicted. It does not make the pathetic appeal to our sympathies that blindness does; it lacks the dangerous menace of contagious disease, and the unpleasant aspects of physical deformity. Yet once deafness is established it is, with rare exceptions, incurable.

Our society is becoming more aware of the deaf population within it, and making some provisions for these individuals. Special education is now available to most of those who need it; the federal government provides grants for research into problems associated with deafness, while at the local level more services are now being made available to deaf persons. However, the progress made in the last decade only lessens the isolation of the deaf person, who for the most part still remains alienated from the mainstream of society.

One of the most important factors which differentiates the

contributing, productive individual from the non-productive person is the quality of self-esteem. The latter term is now being used instead of ego strength to describe the anxiety free individual. However, before a person can have this quality he must have felt himself being esteemed. That is, self-esteem is a reflection of an esteeming environment.²

Background of the Problem

The inability to hear sound in itself is not the major handicap of the person who is deaf. The major handicap is essentially a by-product—difficulty in communication. To comprehend the significance of this statement one must realize that the majority of deaf persons are born into hearing families. Thus, they have hearing parents and usually hearing siblings. How do they communicate?

Since the opening of the first school for the deaf in the United States at the beginning of the nineteenth century there has been controversy over the methods employed in communicating with the deaf. Schools, educators, parents, and the deaf themselves have been responsible for the gradual evolution of the two main methods in vogue today—oral communication and total communication.

History shows that the pendulum of popularity has swung back and forth between communication methods.³ The advocates of each of today's


methodologies maintain that their respective method will bring about optimum intellectual, emotional, and social growth of the deaf child.4

When deafness is first diagnosed in a small child, parents are forced into this methodology battle-arena. Reeling from the emotional shock of finding out that they have a handicapped child, they are forced to choose the method of communication they will use with their child. This decision must be made quickly, usually without adequate information. The initial choice has far reaching implications. For parents, siblings, relatives, and friends this decision determines their method of communication with the deaf child. In addition it influences the type of schooling he will receive, and by implication partially determines his ultimate place in society.

The small deaf child who is the center of all this controversy has no voice in the decisions that are made for him. He is a member of a hearing family whose efforts will either allow him entry into the world, within which there exists a small group of deaf people, or cause him to withdraw from the mainstream of society. Thus, the joint responsibility of parents and schools is to provide the conditions for

maximum academic, social, and psychological achievement by deaf persons.

It is a well established fact that achievement in these areas is influenced by innate intelligence, abilities, skills, and training. However, to be meaningful, the latter cannot be considered in isolation, for in doing so the important concept "the self" is neglected and not taken into account. A person's self is the sum total of all he can call his--both cognitive and affective, and it is from this total self that he draws his self concept.

The formation of the self concept involves the slow process of differentiation, (real self, ideal self, and self as thought to be seen by others), as a person gradually defines just who and what he is. Heredity, maturation, environmental influences, and personal experiences are important factors which contribute to the self concept. Communication is another important influence, for it is through communication, regardless of form, that we give and receive much information about ourselves.

The Statement of the Problem

Communication, for both deaf and hearing persons, is based on our most common symbol system, the English language. In its broadest sense, communication involves a sender and a receiver, and involves expressive and receptive language. However, frequently a sender's expressed idea is not fully understood or is misinterpreted by a receiver. This type of non-communication can be very damaging to the developing self concept. Hence, clarity in communication should be the major priority with all children--hearing or deaf.

Fitts maintains that "the more optimal the individual's self
concept the more effectively he will function." If this is so then a question of greater importance than the deaf methodology controversy is the question of the self-esteem of the deaf child from the hearing family. Self-esteem is that attribute of self concept that is significantly associated with personal satisfaction and effective functioning. It can be defined as "a personal judgement of worthiness that is expressed in the attitudes the individual holds towards himself."

Self-esteem depends on the nature of the inner image against which we measure our own self, as well as on the ways and means at our disposal for enabling us to live up to it. This study is designed, therefore, to look at the relationship between the deaf child's method of communication and his self-esteem.

Justification for the Study

In 1970 it was reported that eighty-five percent of children enrolled in schools for the deaf were instructed by the oral method, at least in their early years. Since that time there has been a rapid change to total communication, as the principal mode of instruction in schools.

This change has caused intense controversy because it rests mainly either on a non-experimental empirical base, or an experimental

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base that has no application to over ninety-one percent of deaf children. These are the deaf children who have hearing parents rather than deaf parents.

If total communication is beneficial to some deaf children then it should be considered. If it is not, then students, parents, and teachers should not be forced on the "bandwagon" of current popularity, by the testimonials of exponents of the total philosophy rather than by research evidence.

Sufficient time has now elapsed for research studies to be conducted which can begin to evaluate the value of total communication to the deaf child from the hearing home. The present study is one such piece of work. The focus of this research is narrow as it looks at subjects with a profound hearing impairment only. However, the results of this study together with future research, will provide information which will assist students, parents, and educators in the decisions they make for and with the deaf child.

**Purpose of Research**

The purpose of this investigation is two fold:

1. To compare the level of self-esteem in deaf students who use oral communication with that of deaf students who use total communication.

2. To compare the level of self-esteem of deaf students and non-deaf students.
Hypotheses of the Study

The following hypotheses were formulated to be tested in this study:

1. Within the deaf population of the study, there is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication as measured by the five dependent variables.

2. Within the total population of the study, there is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects as measured by the five dependent variables.

3. Within the total population of the study, there is no significant difference in the level of self-esteem between the sexes as measured by the five dependent variables.

4. Within the total population of the study, there is no significant difference in the level of self-esteem by age group as measured by the five dependent variables.

5. Within the deaf population of the study, there is no significant difference in the level of self-esteem by degree of hearing loss as measured by the five dependent variables.

Definition of Terms

For the purpose of clarity, terms used throughout the study are presented and defined:

Communication Methodologies

Oral Method: This utilizes speech, amplification, and speech-reading. The student receives input through speechreading, and amplification of sound. He expresses himself through speech.
Manual Method: This utilizes signs and the manual alphabet (fingerspelling). The student receives information through signs and fingerspelling. He expresses himself through signs and fingerspelling.

Total Method: (This is a combination of the Oral and Manual Methods). This utilizes speech, speechreading, amplification, signs, and fingerspelling. The student receives input through speechreading, amplification, signs, and fingerspelling. He expresses himself through speech, signs, and fingerspelling.

Deafness (Anacusis)

This is a broad and inclusive condition which encompasses a wide variety of problems as well as degrees of hearing loss.

Slight Handicap: An average hearing loss across the speech frequencies of 26 dB to 40 dB (ISO) in the better ear.

Mild Handicap: An average hearing loss across the speech frequencies of 41 dB to 55 dB (ISO) in the better ear.

Marked Handicap: An average hearing loss across the speech frequencies of 56 dB to 70 dB (ISO) in the better ear.

Severe Handicap: An average hearing loss across the speech frequencies of 71 dB to 90 dB (ISO) in the better ear.

Profound or Extreme Handicap: An average hearing loss across the speech frequencies of 91 dB (ISO) or greater, in the better ear. Subjects used in this study will be prelingually deaf with a profound handicap.

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Limitations

This study is limited by the following:

1. The sample is small and non-randomized due to difficulty in obtaining subjects who match on the necessary variables.

2. The matched pair design itself, is a limitation in generalizing results to a larger population.

3. Total communication is a new philosophy and a pure sample of students, within the age range selected for testing, was not available. Thus, students who had been exposed to the method for the longest time period had to constitute the total communication group.

4. Since it was necessary to use many special education programs to obtain the sample, some uneveness in the currency of school records was found.

Significance of the Study

The 1972 census showed that 91.7 percent of the deaf population have hearing parents.\(^9\) This fact, that most deaf children are born to hearing parents, is well established. However, it presents a number of problems. Hearing parents, in contrast to deaf parents, are not prepared for the difficulties they face in rearing a deaf child. They do not plan to have a deaf baby and they often feel guilt and unhappiness over the child's deafness, particularly during the early years when communication is minimal and their knowledge of the handicap scant. Past studies in the area of self image usually matched deaf children of

hearing parents with deaf children of deaf parents. This study will match and involve only deaf students, who have hearing parents.

Research with deaf subjects is always difficult because of the linguistic and language comprehension problems. The latter difficulties are probably responsible for the few studies that have been attempted in the area of self concept, self image, or self-esteem with deaf students. Thus, there is a need for research and investigations in this particular area.

In the past most studies involving deaf students have been carried out with residential students in residential schools. This is understandable, as until recently, the vast majority of deaf students lived and were educated in residential facilities.10 This study will mark a departure from this, as only students attending day school facilities will be used.

Therefore, it would seem that the significance of this study is that the deaf offspring of hearing parents will be matched with the deaf offspring of hearing parents. All subjects will be drawn from day schools where they have contact with hearing students, and in the case of high school subjects, attend classes with hearing students. Since this research looks at self-esteem in terms of general self, social self and peers, home and parents, and school and academic functioning, it should provide parents and teachers with information on how self-esteem influences personal happiness and effective functioning in deaf students, as well as the effect the chosen method of communication has on the latter.

10 Northern and Downs, Hearing in Children, p. 247.
Chapter II contains two major divisions. The first is a review of the literature concerning the communication of the deaf. The historical background and the current status of the communication methodologies is presented. Following this is a survey of the literature covering the other major area studied in this investigation—self-esteem. Ancillary studies of self concept in the deaf and communication and self-esteem is also reviewed under this division.

Chapter III consists of a description of the research methodology and research design. It discusses the selection, construction, and adaption of the instruments used. Following this is the method of procuring the sample, and the selection of the subjects used. Testing procedure, data collection and recording, is then discussed. The chapter concludes with the hypotheses stated statistically and the method elected for the statistical treatment of the data.

In Chapter IV the data is presented and analysed using the independent variables of the study: subjects' method of communication, and the matching variables—sex, age, IQ, hearing loss, teacher ratings of subjects, and race, in relation to the dependent variables: subjects' scores on the Total, Self, Peer, Home, and School Scales of the Modified Self-esteem Inventory. A discussion of the data follows the analysis.

Chapter V is a brief summary of the study. It also describes the conclusions, implications, and recommendations drawn for the investigation.
CHAPTER II

REVIEW OF THE LITERATURE

The literature reviewed in this chapter was selected to focus on two major areas. The first deals with the methods of communication used with and by the deaf. The historical background is traced and the three main communication methods, manual, oral, and total communication are discussed.

The second major area is a survey of the literature on self-esteem. The theoretical base of the subject is presented. This provides a background for the specific thrust of the present research as it relates to the development of self-esteem in the deaf child of hearing parents. Studies pertaining to self-esteem specifically in the deaf, and the effect of communication on self-esteem are then reviewed.

Methods used in Communication with the Deaf

Historical Background

Since the inception of the first schools for the deaf there have been intense controversy and debate over the most effective and efficient method of communication. The differences of opinion in regard to methods of instruction are not unique to the United States. Conflicting ideas and divergent practices had existed in European countries for a number of years prior to the establishment of schools for the deaf in this country.

Origins of Instructional Methods: In 1775, the Abbe de l'Epee
(1712-1289), opened the first school for the deaf in France. He was the founder and proponent of a language of signs which he regarded as the vernacular of the deaf. He did not use speech as a method of instruction.¹

Samuel Heinicke (1729-1790), de l'Epee's contemporary in Germany, opened the first public school in that country. He instructed by speech and speechreading and has become known as the "father of the German oral method." Heinicke's method was diametrically opposed to the French method since he insisted upon the spoken word as the only vehicle of thought and instruction.² Thus the methodology debate began with these two teachers entering into a lengthy correspondence, arguing the merits of their respective approaches.

Meanwhile, in Scotland and later in London, Thomas Braidwood (1715-1806), used a method which was basically oral. However, he did not exclude the manual alphabet and natural signs as aids to instruction.³ His eclectic system combined speech and other means of communication in the same total instructional program.⁴ Speech was regarded as an end to be attained, rather than as a means to an end.⁵ The controversy

²Ibid., pp. 52-56.
³Ibid., pp. 66-70.
Regarding instructional methods was soon to spread to the United States.

Instructional Methods in the U.S. prior to 1900: Credit for the establishment of education for the deaf in the United States has been given to Thomas Hopkins Gallaudet (1787-1851). He was sent from the United States to England in 1815. There he proposed to remain for a few months to learn the English oral method and then planned to combine this method with the French manual method, choosing what he judged best from both. However, this was unacceptable to the English educators and he was refused admittance to several schools. Thus, Gallaudet proceeded to Paris where he was warmly welcomed by the Abbe Sicard who had succeeded de l'Epee. He studied the French manual method and then returned to the United States. In 1817 he opened the first school for the deaf at Hartford, Connecticut, where students were instructed by the manual method.

In 1843, Dr. Horace Mann and Dr. Samuel Howe made a tour of the deaf schools in Europe. A subsequent report published by Mann advocated the superiority of the oral method of instruction. In 1867 the Clarke Institution for the Deaf at Northampton, Massachusetts, was founded as the first oral school in the United States. This marked the beginning of a dual system of instruction of the deaf in this country.

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9 Max A. Goldstein, Problems of Deafness (St. Louis: Laryngoscope Press, 1933), p. 36.
In 1880, the first International Congress of educators of the deaf was held in Milan, Italy. Among the resolutions proposed and passed almost unanimously were the following:

I. The Congress—
Considering the incontestable superiority of speech over signs in restoring the deaf-mute to society, and in giving him a more perfect knowledge of language, Declares—
That the oral method ought to be preferred to that of signs for the education and instruction of the deaf and dumb.

II. The Congress—
Considering that the simultaneous use of speech and signs has the disadvantage of injuring speech, lipreading and precision of ideas, Declares—
That the Pure Oral Method ought to be preferred. 10

In all countries, except the United States, oralism received a new impetus and was adopted as the preferred instructional method. Here, too, oral instruction began to spread rapidly, but the country as a whole remained the last stronghold of the manual method. 11

1900-1930: Day schools and a few of the residential schools tended more and more toward oral teaching alone. Many schools advocated the complete separation of oral and manual departments, arguing that it was like "teaching pupils to swim in ankle deep water" to expect them to develop speech unless they were surrounded by a speech atmosphere. 12

In 1924-25 Gallaudet College conducted a survey of the methods of instruction employed in schools throughout the country. This

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10 Bender, The Conquest of Deafness, pp. 164-165.
11 Ibid., pp. 167-168.
revealed that the method of instruction followed in the typical school was the combined system. If pupils were not succeeding by the oral method they could be transferred to manual classes. Transfer from manual to oral classes also prevailed but was employed with less frequency. In most classrooms employing the manual approach, the use of signs was discouraged in favour of fingerspelling and writing. However, signs were not restricted outside the classroom. 13

Throughout this period there were marked differences of opinion expressed by authorities. Many decried the fact that orally taught children were not totally segregated from manually taught pupils in many of the combined system schools. Wright called the process he criticized "commingling." 14 However, strong expressions of confidence in the combined system continued to come from the well-educated deaf themselves.

1930-1955: Despite differences in instructional methods and philosophies, electronic amplification, which was introduced after 1945, was embraced by all. The advocates of the various methods all agreed that the aiding of residual hearing was advantageous to deaf education. In 1930, 2.2 percent of deaf children wore hearing aids compared with


53.3 percent by the end of 1955.\footnote{Data taken from Tabular Statements of American Schools for the Deaf, American Annals of the Deaf, January issues, 1930 and 1955.}

A survey conducted in 1954-55 showed that 55.5 percent of students in residential schools received all oral instruction; 38.6 combined instruction, and 5.5 percent were taught by pure manual instruction.\footnote{Schumhoff, The Teaching of Speech and by Speech in Public Residential Schools for the Deaf in the United States, 1815-1955, pp. 70-75.} Thus, the pendulum of popularity was swinging towards the oral method.

1955-1975: The common problems of education in the late fifties and early sixties were student overcrowding and shortage of teachers, and these did not bypass deaf education. In fact, the position was perhaps worse in this field than in many others.

The situation grew worse in the early sixties with the outbreak of the 1964-65 rubella epidemic. The latter affected the hearing of approximately 40,000 babies and placed a further burden on an already overcrowded branch of education.\footnote{Richard L. Mosland, "Rubella Can Rob Children of their Hearing," The Volta Review 70 (May 1968): 304-305.} Many teachers not prepared for special education were forced into deaf classrooms, as certified teachers were withdrawn to train teachers at the college level.

Toward the end of the sixties standards in deaf classrooms had reached an all time low. Many people in the field maintained that the poor classroom standards were due to oralism being used as the main method of instruction. A new current began to gain momentum and manual
communication for the young deaf child was again advocated.  

This led to a new philosophy of deaf education called total communication. This instructional method, is a new name for the old simultaneous method, (used at Gallaudet College since its opening), and primarily employs the use of residual hearing, speech, speechreading, fingerspelling, and signs. No statistics are yet available but it is estimated that more than half the deaf children in schools today are using this form of communication. Thus the pendulum swung away from pure oral instruction and back toward a combination of methods.

The whole subject of instructional methodology was aired in an opening debate at the 1972 National Convention of the Alexander Graham Bell Association for the Deaf, in Chicago. Exponents of the total philosophy and exponents of the oral philosophy both put forward the theoretical basis and rationale of their respective methods of instruction. This was a heated debate, and the controversy over the best method of communication instruction, that has characterized education of the deaf throughout the world and the United States for the past 200 years, is still with us today.

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Manual Communication

While a review of the literature on manual communication is important to this discussion it should be noted that few children are educated exclusively by this method today. The most common argument raised against manual communication is that it detracts from the development of linguistic skills. Over the past fifteen years numerous studies have been carried out in this country in an attempt to shed some light on this issue.

Quigley and Frisina looked at sixteen non-residential deaf children of deaf parents (manual group), and compared them with sixteen non-residential deaf children of hearing parents (oral group). They found that children in the manual group were superior in vocabulary, speechreading, and general educational achievement, while the oral group had better speech. In another matched pair comparison of 134 deaf students of deaf parents with 134 deaf students of hearing parents, Stevenson reported that in 90 percent of the matchings, those with deaf parents were superior in educational achievement. This 'ex post facto' study looked at the educational achievement of deaf students enrolled at the California School for the Deaf, Berkeley, between 1914 and 1961.

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Hester reported on two groups of children from the New Mexico School for the Deaf. One group at beginning school age was exposed to fingerspelling while the other group was taught orally. Results on standardized achievement tests showed the fingerspelling group to be educationally more advanced. Another study showing the superiority of manualism involved the academic top 10 percent of students, aged 12, 15, and 18, from 26 schools for the deaf. The manual students had deaf parents and the oral students had hearing parents. The mean achievement test score of the manual group was 8.2 while that of the oral group was 7.7.

Stuckless and Birch reported in 1966 that deaf manual students were superior to deaf oral students in reading, speechreading, and written language, with no difference in speech. This study involved 105 manual students with deaf parents and 337 oral students with hearing parents.

Quigley investigated the influence of fingerspelling on the development of language, communication, and educational achievement, over a five year period. His research involved two studies -- a survey


study and an experimental study. Students in the survey study were divided into two groups— one group used the Rochester method (fingerspelling with speech) while the comparison group was largely oral but some students used fingerspelling according to their needs. In the experimental study two groups of students were again compared. The experimental group was taught by the Rochester method and the control group was taught by the pure oral method. The results indicated that children using the Rochester method were superior in all the sub-tests of the Stanford Achievement Test administered each of the five years. They were also better in fingerspelling. No differences were found between the groups in speech or speechreading.

In 1968 Meadow reported deaf children of deaf parents were advanced over deaf children of hearing parents 1.25 years in arithmetic, 2.1 years in reading, and 1.28 years in overall achievement. No differences in speechreading or speech were found. This research involved 59 matched pairs. The sample was drawn from the California School for the Deaf in Berkeley. Another study using the matched pair design in California was carried out by Vernon and Koh. Their findings also indicate that manual communication is advantageous, as children using the communication form were superior on an average of 1.44 years in academic achievement. They also reported no difference in speech intelligibility,


speechreading, or psychological adjustment.

Collectively these studies are in agreement that manual communication facilitates the development of language and academic achievement. The results also seem to indicate that manual communication has little effect, either positive or negative, on the use of speech itself or on the ability to use residual hearing. However, it should be noted that when investigating the effects of manual communication, six of the eight studies cited used deaf children of deaf parents as their manual sample and deaf children of hearing parents as their oral sample. There are great differences between these two groups of deaf children, and comparing them "is like comparing apples and oranges." 28

Owrid reviewed and analyzed the studies of Hester, Stuckless and Birch, and Quigley. 29 He points out that there are some common features of these studies and some considerations which cause him to doubt whether manual communication does best prepare hearing impaired children for the hearing world, as the studies would imply.

Vernon and Koh, and Quigley reviewed a number of studies supporting manual communication and concluded that it is beneficial to the very


young deaf child. Alterman suggests that sign language is the natural language for the prelingually and profoundly deaf. Schlesinger reported in 1972 that milestones in sign language acquisition generally paralleled milestones of spoken language acquisition in four deaf subjects studied for a two year period.

Brill investigated the performance IQ's of deaf children of deaf parents and deaf children who did not have deaf parents. He found significant differences which favoured the deaf parent group. He concluded that the deaf child with deaf parents, using manual communication from an early age, begins his cognitive growth and utilizes the various thinking processes earlier than the deaf child with hearing parents does. The study suggested that in order to facilitate language acquisition hearing parents should use manual communication with their deaf child during the preschool years.

Oral Communication

The purpose of using oral communication with the deaf is to allow as complete an integration as possible of the deaf person into society. "Oralism . . . is a philosophy of education that moves with the child. . .

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It is not an academic exercise! It is a way of life." The dichotomy of a 'hearing' world and a 'deaf' world is contested by oralists. They contend that there is only one world and that every child should be assisted and helped to live in it.

In order for the hearing impaired individual to fully participate in a society which consists of more than ninety-nine percent hearing individuals, it is necessary for that individual to develop the communication skill which will enable him to code and decode speech. He must also develop the other channels for language transmission which are commonly used by his society.

A review of the literature which favors oral communication reveals that few empirical studies are concerned with comparing this method with other instructional methods used in deaf education. However, three studies of note which did attempt to compare the results of different methods were conducted by Meier, Kates, and Lane and Baker.

Meier in an attempt to examine the effects of manual and oral communication used 50 deaf children (age 1½ - 5½ years) of hearing parents, and set up an experimental, longitudinal investigation. The experimental group was started off with fingerspelling taught to them by their parents. After they had learned fingerspelling they were to be taught speech, speechreading, and auditory recognition. The control group

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was started off immediately with speech, speechreading, and auditory recognition. The study did not reach a conclusion because after one year the mothers in the experimental group dropped manual communication because they found they could communicate just as well with their children orally.\footnote{Meier, "The Role of Nonverbal Symbols in Education of the Deaf," p. 148.}

Another comparison study conducted in 1972 by Kates, looked at aspects of language development in deaf and hearing adolescents. Three groups of deaf adolescents—a pure oral group, a Rochester group (finger-spelling with speech), and a manual-oral group, and two groups of hearing students were used in the investigation. One hearing group was matched with the deaf in age, and another in comprehension of written language. The orally trained deaf were reported to be more like both hearing groups in their comprehension of multiple-meaning words and in their control over distracting associations when questions on meaning were asked.\footnote{Kates, \textit{Language Development in Deaf and Hearing Adolescents.}}

Reading achievement of deaf students is an important indicator of linguistic competence and academic success. Lane and Baker, in a recent report compare the reading scores of 134 former pupils of Central Institute for the Deaf (CID), between ages 10 and 16, with scores of reading achievement from other studies. The oral students at CID had a mean grade level achievement of 5.8, based on five consecutive achievement tests administered within a four year period. These scores indicate a steady
improvement of 2.5 grades during the period. In comparison, other studies report only 0.8 grade progress with an average achievement level of third grade.

Lane and Baker also compare the CID results with the 1970 Vernon-Koh study which found manual deaf children's reading achievement superior to oral deaf children's scores. When this comparison was made no significant difference was found between the reading achievement scores of the manual deaf group and the oral CID group. The authors suggest that the steady improvement demonstrated in the study may be the result of continuous education in the same school with emphasis at all levels on language development and oral communication in school and at home.

Numerous articles supporting oral communication as the preferable method for use with the deaf appear in the literature. Representative of this body of literature are the following two articles. Alexander Graham Bell, quoted by Bruce, supported both the oral method and day schools to decrease isolation and improve communication possibilities for the deaf.

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39 Lane and Baker, "Reading Achievement of the Deaf: Another Look," p. 495.
40 Ibid., p. 497.
42 Lane and Baker, "Reading Achievement of The Deaf: Another Look," p. 498.
He opposed the use of sign language because he felt it was limited in precision, flexibility, and the power of abstraction, and had the power of imprisoning the deaf individual both intellectually and socially. Drumm, a deaf adult, argues that total communication is a fraud from a realistic point of view. He stresses that the opportunities of a person patterned in the language of the majority are much greater and thus more desirable.

Oral communication ability seems to be directly related to occupational level. Three reports in the United States in the last sixteen years indicate this. Lunde and Bigman studied the occupational conditions among 7,920 deaf adults. They found 2 out of 3 deaf persons used writing at work, compared to 1 in 3 who used speech. These results varied considerably by occupational groups, but professional and technical persons used speech more often than any other form of communication.

Crammatte in his study of deaf persons in professional employment, compared his group of deaf professionals to those of Lunde and Bigman. He noted that his group had reported far more oral communication skills—90 percent used speech with hearing colleagues at work whereas only 62 percent

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44 Phillip R. Drumm, "Total Communication—Fraud or Reality?" The Volta Review 74 (December 1972): 564-569.


46 Lunde and Bigman, Occupational Conditions Among the Deaf, p. 66.
of Lunde-Bigman's group reported using speech at work. His study also revealed that 93 percent used speech reading to some extent. 47

Grammatte's monograph also permits a direct comparison with the findings of the National Census of the Deaf Population (NCDP) published in 1974. Eighty-five percent of the NCDP professional and technical personnel use speech at work. 48 Across all occupations this same census found that at work speech was the most widely used form of communication (39.4 percent) with writing the next most popular (25 percent). 49 The report concludes that "because deaf people constitute a small minority within the general population, they must accommodate to the larger group, rather than vice-versa." 50

Several other studies from the general body of literature supporting the oral method are worthy of inclusion in this review. Van Uden attests that with the oral method children at St. Michielsgestel, Holland, have achieved a high degree of success in speech, with near normal tempo and high levels of intelligibility and rhythm. 51 This is significant as speech intelligibility is primarily dependent on rhythm.

Lach and others studied the phonological development of seven deaf

47 A. Grammatte, Deaf Persons in Professional Employment, p. 11.
48 Schein and Delk, The Deaf Population of the United States, p. 64.
49 Ibid., p. 66. 50 Ibid., p. 8.
children, initially aged 11 to 32 months, during the first year of a parent guidance program which emphasized vocalization and optimal use of residual hearing. Significant gains were said to be made which indicated that early speech rehabilitation can be advantageous to the young deaf child.

Lach's findings support the rational and theoretical base of the oral-aural procedure. The latter emphasizes the need for early identification of hearing loss in order that the auditory modality can be stimulated simultaneously with cognitive, social, and emotional development and language growth.

**Total Communication**

Total communication is the philosophy of teaching deaf children by every and all means of communication. It is essentially a combination of the oral and manual methods, and involves gestures, signs, finger-spelling, speech, speechreading, reading, writing, and use of residual hearing.

Under the new name of total communication this method of instruction was first employed in the late sixties. In the years since its introduction several studies have been reported which support the superiority of this method over existing methodologies.

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Klopping investigated the level of comprehension of language under three auditory-visual conditions: lipreading with voice, the Rochester method (fingerspelling with speech), and total communication. 55 Thirty students, aged 13 to 20 years, attending the Arizona State School for the Deaf and the Blind constituted the sample. It was found that total communication produced the best comprehension scores (76.36 percent), followed by the Rochester method (55.10 percent). Lipreading with voice was the least adequate method of communication (35.15 percent). 56

In another study that supports total communication Furfey took a random sample of 137 deaf adults in Baltimore and investigated how the deaf fitted into community life. 57 Subjects were divided into two groups—oral and total, dependent on the school they had attended. The principal findings reported were: i) the total communication group, despite a greater hearing loss, equalled the oral subjects in communication with the hearing, and were superior in communication with the deaf; ii) manual communication was very important for socialization of the deaf through club life and for religious activities, and iii) pupils attending oral schools often failed to learn either oral or manual communication.

A recent study by White and Stevenson drew a stratified random sample of deaf students from two residential schools and presented equated material through oral communication, total communication, manual


56 Ibid., p. 393.

communication, and reading to determine under which mode of communication students assimilated the most information. The sample was drawn from the Maryland School for the Deaf, which employs total communication as the instructional method, and the Michigan School for the Deaf where "administrators have professed firm preference for the oral method of instruction." Factual information was presented through the four modes of communication. The results reported indicate that students assimilated most material through reading. More factual information was gained through total and manual communication than through oral communication. There was no significant difference between total and manual communication reception.

The literature is rich in articles that address the topic— the supriority of total communication. Vernon and Scherer author articles representative of this view. According to Vernon total communication provides the deaf child with a language environment of symbols which is the key to language development. Oralism on the other hand, is said to be psychologically crippling because it deprives children of the opportunity to communicate openly with their parents and families. Scherer, in her testimony for total communication states:


59 Ibid., p. 54.

60 Vernon, "Mind Over Mouth: A Rationale for 'Total Communication',' 529-540.

61 Ibid., pp. 536-537.
I prefer to call "total communication" a diagnostic approach to teaching because it is based on the concept that children differ. For years, most of us have given lip service to the idea that we are diagnostic teachers; and yet, in presenting language we offered only one alternative to all deaf children. Research studies indicate that if any single approach is applied indiscriminately to all children, the results generally end in failure. A rigid approach, therefore, cannot be classified as diagnostic teaching.

The latter statement implies that oral communication is a rigid form of communication for the deaf child while total communication offers alternative forms of communication which will provide for every deaf child.

Exponents of total communication cite a number of reasons for supporting the combined oral-manual method. Firstly, deaf people as a group stand solidly behind this method, despite the fact that most were educated orally; secondly, there is an overwhelming ambiguity inherent in speechreading, as two-thirds of what is said is invisible or ambiguous on the lips; thirdly, signs, fingerspelling, and gestures provide clear and visible language symbols, and fourthly, total communication combines the best of the oral method with the best of the manual method to provide a communication system suitable for all deaf people.

**Self-Esteem**

Self-esteem is essentially a person's own evaluation of himself. Psychologists and educators are now convinced that it is this evaluation, either positive or negative, that determines how one behaves and learns. Self-esteem is based on the attitudes and reaction of others, particularly significant others.

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Theoretical Base of Self-Esteem

Many personality theorists including James, Sullivan, Horney, Fromm, Erikson, and Rogers include self-esteem as an important variable or adjunct in their theories. However, only in the Individual Theory of social psychologist, Alfred Adler, does self-esteem play a major role.

Cooley and Mead underscore the importance of personal values in making self evaluation, and identify the sources of high and low esteem. For William James values and aspirations play a significant role in determining a favorable or unfavorable self evaluation. He states:

I, who for a time have staked my all on being a psychologist, am mortified if others know much more psychology than I, but I am contented to wallow in the grossest ignorance of Greek. My deficiencies here give me no sense of personal humiliation at all. Had I 'pretensions' to be a linguist, it would have been just the reverse. So we have a paradox of a man shamed to death because he is only the second pugilist... in the world...

Yonder puny fellow, however, whom everyone can beat, suffers no chagrin about it, for he has long ago abandoned the attempt to 'carry the line,' as the merchants say, of self at all. With no attempt there can be no failure; with no failure no humiliation. So our self-feeling in the world depends on what we back ourselves to be or do.

Cooley and Mead both feel that the self is rooted in the social


65 James, The Principles of Psychology, p. 310.
milieu, which in turn greatly influences how an individual views himself. Cooley formulated the theory that the self grows as a result of interpersonal interaction. From this he posited his well known concept of "the looking-glass self" which implies that an individual's self-conception develops as he sees a reflection of what he is, expressed in the actions of others towards him.  

Mead's self is socially formed and is constituted by an organization of the attitudes of other individuals towards him. The organization occurs as the individual engages in social behavior and participates with significant others. Mead views self-esteem as being largely derived from the reflected appraisal of others: that "no man is an island in his self-appraisal" and that significant others are the key to the formation of self-esteem. 

Closely related to the social interaction theory of Cooley and Mead is the theoretical position of neo-Freudian, Harry Stack Sullivan. He believes that the individual from birth is continually guarding himself against the loss of self-esteem. In interpersonal situations there is an unceasing flow of reflected appraisals which have either a positive or negative effect on self-image. Like Sullivan, Horney also theorized on

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the origins of self-esteem. Her chief contribution to the subject being in her discussion of the consequences and defences the individual musters against feelings of anxiety. 70

The study of self-esteem, particularly self-esteem and its relationship to the hearing handicapped, finds a firm theoretical base in Alfred Adler's Individual Theory of Personality. More than any other theorist, Adler places stress on the importance of actual weakness and infirmities in producing low-esteem. He sees a person's life style determined largely by the specific inferiorities the person has. Handicaps and defects are primary features in determining a person's total reaction to his environment. The important focal point is that the individual sets up a certain life plan that is directed towards overcoming or compensating for his handicap or defect.

With acceptance and support, children with inferiorities can compensate for their weaknesses and turn them into strengths; without such support they become without hope and embittered. 71

Practical application of Adler's theory can be made to the deaf child, and within this theoretical framework the antecedents of positive and negative self-esteem can be viewed.

The views of Fromm and Rogers have less bearing on the development of self-esteem than Adler's, however, they do integrate self-esteem into their respective theories. Fromm deals with the debilitating effects of

70 Horney, Our Inner Conflicts, p. 41.
71 Coopersmith, The Antecedents of Self-Esteem, p. 34.
social isolation. The isolation he talks about can occur within the family unit as well as within the wider society. It is the product of an unstable and inconsistent frame of reference, in terms of acceptance, concern, and respect. 72

Rogers, on the other hand, feels that all persons develop a self-image that will serve to guide and maintain them in the external world. "The organism has one basic tendency and striving—to actualize, maintain, and enhance the experiencing organism." 73 This implies that parents and significant others need to accept the views and values of the child, whether they agree with them or not. Through this 'unconditional positive regard' the child learns to evaluate, trust, and respect himself as a locus of experience.

Erikson and Anderson both subscribe to the theory that early single identification with the mother is extremely significant for identity formation during adolescence. Erikson writes engagingly about the self, without using the terms self concept or self-esteem. However, he states that after a child develops a sense of trust an "ego identity" can begin to grow. 74 Although not explicitly stated by Erikson, "we may assume from his description of 'basic trust' that it represents the basis of 'self-esteem' as well." 75 For Anderson the first year of life is the most important for the development of self-image. Each succeeding

72 Ibid.

73 Rogers, Client-Centered Therapy, p. 487.


year becomes less important and self-image is seen to be structured by adolescence.  

The two major empirical studies in self-esteem which have relevance to this theoretical base are the works of Morris Rosenberg and Stanley Coopersmith. 77 Rosenberg studied adolescents and looked at how self-esteem is associated with family and sociological factors, while Coopersmith investigated the antecedents of self-esteem in pre-adolescents.

Rosenberg's general findings reveal that parental attitudes towards the child are the important determinants of self-esteem, and not social class, religious affiliation, sex, or where one lives. His data suggests that an extreme level of parental indifference is associated with lowered self-esteem, and the feeling that one is important to a significant other is essential to the development of a feeling of self worth. 78

Coopersmith used Rosenberg's results to narrow the focus of his investigation to see what specific parental attitudes and behaviors influence self-esteem. He summarizes his findings by saying that the antecedents of self-esteem can be given in terms of three conditions:

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78 Rosenberg, Society and the Adolescent Self-Image, p. 146.
Total or nearly total acceptance of the children by their parents, clearly defined and enforced limits, and the respect and latitude for individual action that exists within clearly defined limits. 79

These three response clusters supply effective feedback to the child's cognitive system during the process of structuring the information derived for interaction.

In summary these theoretical views encompass the nature of the perceptual process. They indicate how treatment, values, and experiences of success and failure can influence the emerging self-esteem.

**Influences of Self-Esteem in the Deaf Child**

Historically three stages in attitudes towards the handicapped child can be recognized. First, during the pre-Christian era the handicapped were persecuted, mistreated, and neglected; second, during the spread of Christianity they were pitied and protected, and third, in recent years there has been a movement towards accepting and integrating them into society to the fullest extent possible. 80

In the past there is little record of any general positive response to the deaf. Helen Keller's and Anne Sullivan's achievement is the exception. Deaf children together with other handicapped persons have inherited a general societal devaluation. 81 This results in attitudes of fear, prejudice, misunderstanding, scorn, and pity. The latter feelings and reactions are also typical of most hearing parents who have


a deaf child.

A child who is handicapped from birth or early life receives societal attitudes regarding his disability, firstly through family mediators. After studying blind adolescents Sommers concluded:

The feelings which the individual has with regard to his own inferiority, incompetence, uncertainty, and the realization of his physical defect seem to be conditioned principally by the attitude of those around him, especially his parents. Moreover, the manner in which the defect is accepted by the handicapped person appears to be closely related to the manner in which it is accepted by those surrounding him. This seems to be particularly true for those who are born with a physical incapacity or who have acquired it at a very early age. It is not so much the physical fact of being without sight, as the psychological fact of being treated as a person without sight, which is the source of mental conflicts and feeling of inferiority and insecurity for the blind person.  

For deaf parents the acceptance and rearing of a deaf child does not present the problems that it does for hearing parents. Few hearing families have had personal experience of any kind with deaf persons, particularly deaf infants or children. This is quite significant as over ninety percent of the deaf population come from hearing families.

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84 Schein and Delk, The Deaf Population of the United States, pp. 35-36.
Hence, there are a number of associated problems, apart from the child having a hearing handicap, which account for differences and variations in hearing parents responses to deafness in a young child. Amongst these are the implacable necessity, in our child-oriented culture, to love one's child; the personal guilt associated with producing such a child; the aesthetic disavowal of others towards the handicapped child; the restrictions placed on hopes and dreams for the future, and the lack of societal support.

Self-Esteem Research with Deaf Children

A review of the literature shows that few studies have investigated the area of self-esteem in deaf children. This is probably because the communication handicap makes any type of testing difficult. However, a Personality Inventory reported by Brunschwig in 1936 compared deaf and hearing subjects on a self rating scale. Items relating to social relationships and self-evaluations showed considerable differences between the two groups. Deaf subjects tended to rate themselves superior to other children, as smarter, or prettier. Commenting on this study Roger Barker suggests that the deaf child's ratings of superiority may be an attempt to rationalize basic feelings of inadequacy or, may reflect


a real feeling of well-being. He points out that children in special schools probably learn to rate themselves unrealistically because of the overreaction of their teachers to accomplishments, which for hearing children, would be considered insignificant.

Four research studies which look at self concept in the deaf child have been reported in the past ten years. Craig adapted a sociometric instrument to compare the self concept of three groups of children: one from a residential deaf school; one from a day school for the deaf, and one group from a public school for hearing children. She found the self concept of deaf students to be less accurate than the self concept of hearing students. Also the residential deaf students rated themselves significantly more positive in self acceptance than did the other groups in the study. Craig states that:

the results would indicate that although self-accuracy is related to deafness, or the communication handicap, self-acceptance may be more the function of the protective institutional environment, than of deafness itself.

Meadow investigated the self-image of deaf children at the California School for the Deaf, in Berkeley. The study involved 58

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89 Ibid., p. 470.

matched pairs. The two groups matched were deaf children of deaf parents and deaf children of hearing parents. A number of test scores, teacher-counselor ratings, and family interviews were utilized to collect data. Rank on an index of family climate was also used. Children of deaf parents showed significantly more positive self-image. They also performed better in many areas of social, intellectual, and communicative functioning when compared with children of hearing parents. In this study communication ability had the strongest effect on the self-image of children with hearing parents. 91

A replication of this research was conducted with deaf students of hearing parents enrolled in day programs. 92 Students in the replication group were comparable in age, sex, IQ scores, and residual hearing to those recruited for the original research. The two original groups and the replication group were then compared. The scores on the self-image instrument showed that children of deaf parents attending the residential school generally held more positive attitudes about themselves. Younger children of hearing parents attending day schools were more positive in their self-image than were children of hearing parents in the residential situation. However, the scores of the older children in the latter two groups were just the opposite—that is, adolescent children of hearing parents in day schools showed significantly lower self-esteem than the comparison group in the residential facility. 93 It

91 Ibid., p. 436.


93 Ibid., p. 134.
suggested that:

Since the pattern of self-image scores in day schools follows that of residential children with deaf parents, this lends additional support to a crisis in deaf adolescent identity, tied to peer group and school context. 94

Lloyd made an investigation into the relationship between speech-reading ability and self concept in deaf students. 95 The sample was composed of ninety-nine students, aged 14 to 18 years, in a facility that was chiefly residential. No attempt was made to define the sample by hearing loss. Two self concept scales and a filmed lipreading inventory, without the sound track, were administered. No significant degrees of correlation between the two variables was found for the total sample. There was a significant degree of correlation between self concept of academic ability and speechreading for females. 96

A number of recent publications address the topic of the deaf child's self concept. Instructional television, flexibility in communication, effective use of motivational techniques and strategies, as well as interaction with hearing peers, are discussed as possible means of building and/or reversing self-esteem in the deaf child. 97 Rainer emphasizes

94 Ibid., p. 136.
96 Ibid., p. 49.
the importance of the deaf child's self-image, suggesting that parental aspirations are often too high or too low, moving from unrealistic optimistic goals to frustration and complete pessimism.98

A study of the different perceptions of five hundred handicapped children, including those who were deaf, was reported in 1971.99 Students ranged in age from 10 to 16 years and on all perception factors parents were found to claim prime position, teachers second, self third, and classmates fourth. This data supports the claims of a number of writers in the field, and indicates that a reexamination of the current curriculum structure and present teacher preparation program should be made.

Communication and Self-Esteem

There are relatively few specific studies linking the major aspects of this study. However, communication which is the central problem of the deaf child, is also a central issue in the theoretical considerations of self-esteem. The sources previously reviewed are in general agreement on the origins of self in social interaction, and as social interaction presupposes adequate transfer of emotions and ideas, the importance of communication is inherent in these theories.

Horrock and Jackson suggest that through interactive feedback of


word and deed the small child learns to make finer discriminations between self and others, to acquire self-meaning as a unique individual, and to locate and define himself as a member of his social group. These authors also state that self-reflexiveness is the feedback of others' evaluation of an individual's role, and is directly related to the individual's emerging self-esteem. 100

Williams investigated the extent to which classroom loquacity is related to underlying personality variables, including self-esteem. 101 Three levels of locquacity were identified in students. He found that active participation by subjects was related to positive self-esteem, low insecurity, superior language skills, and originality of thought: intermediate participation was related to relatively high self-esteem, low insecurity, but significantly lower language skills and creative originality than the active subjects, and non-participation was related to low self-esteem, high insecurity, and low intellectual productivity.

In a study involving 80 male and female undergraduates the relationship between self-esteem and tactile communication was investigated. 102 The higher the subjects self-esteem, the more intimate they


were in communicating through touch. Also, subjects high in self-esteem found the task easier, and perceived the communication being transmitted more easily than did the low self-esteem subjects.

In 1973 Pukacová reported on the self-esteem of 74 children who varied in type and severity of stuttering. Low self-esteem scores were obtained by 94 percent of the subjects. This suggests that stutters regard their speech disorder as a severe defect in communication. In addition, 75 percent of the subjects showed various signs of shyness, self-consciousness, and increased sensitivity when faced with authority.

While children who have communication handicaps, such as stuttering, show lowered self-esteem compared with normals, their handicap cannot be considered the equivalent of deafness. For deaf children, in addition to their communication problems, also have a language handicap.

Meadow studied the self-image of deaf children with differing communication skills. Two groups of students were involved: deaf children of deaf parents, and deaf children of hearing parents. The sample was drawn from a residential school. She found that communicative ability had the strongest effect on the self-image of the children with hearing parents. Only 21 percent of these children, who were rated below average on communication skills, scored high on the Self-Image Test.


compared to 56 percent whose communicative ability was rated high. Among children with deaf parents, 60 percent scored high on self-image, regardless of their communication rating. This data indicates that communication skills are related to the deaf child's self-image, particularly if he has hearing parents.

Two articles concerning the deaf, which are written from different methodology 'camps,' both stress the need for good communication to facilitate the development of positive self-esteem. Bolton discusses the effects of deafness on language development and communication skills and how the latter affect the deaf person's self concept.¹⁰⁵ He advocates manual communication for low achieving young deaf adults so that they will have some means of giving and receiving information by which they can evaluate themselves.

John and Howarth suggest that the ability to communicate orally enhances the deaf child's self-image, as well as other people's image of him.¹⁰⁶ They believe that while "a deaf person seems to be biologically ill equipped to learn an acoustic communication system" it is through this system that he can attain the most realistic and global image of himself.¹⁰⁷

¹⁰⁵ Brian Bolton, "The Deaf Young Adult: Research and Rehabilitation Services," Rehabilitation Research and Practice Review 3 (Summer 1972): 37-41.


¹⁰⁷ Ibid., p. 104.
Summary

Since its earliest beginnings the history of deaf education has been marked by sharp controversy over instructional methods. Manual communication was the first method employed in this country but, in its purest form, has now almost disappeared. Comparison studies supporting this method are prolific in the literature and indicate that manual children are superior in language and academic achievement. However, most investigations compare manual deaf children of deaf parents with oral deaf children of hearing parents.

Oral communication and total communication are the two methods enjoying popularity today and educators are sharply divided on the merits of each. Research results into these methods are inconsistent and confused. Some are too vague to be of much value while more prove too neatly what the researcher set out to find. At the present time, the dual system of instruction continues to flourish, and has spread from the residential schools to the day schools.

Self-esteem, "the attitudes the individual holds towards himself," is the second area reviewed. The theoretical base of self-esteem is rooted in the theories of many prominent psychologists. Parental attitudes, personal experiences and values, and social interaction influence the developing self-esteem, either positively or negatively.

Deaf children, in general, have lowered self-esteem when compared with normals. Deaf children of hearing parents are less positive in their self-attitudes than deaf children of deaf parents. The latter is significant, as the majority of deaf children are born to hearing parents.

Through communication, regardless of form, self-image is arrived at. Children of hearing parents attending day schools are now exposed to
two different forms of communication. Do those who use oral communication develop more positive self-esteem than those who use total communication? The literature provides no evidence of research on this question.

This background information supports the thrust of the present research. Chapter III will be directed towards the selection and modification of instruments, as well as the collection of data, methodology, research design, and statistical analysis.
CHAPTER III

RESEARCH INSTRUMENTS, METHODOLOGY, AND PROCEDURE

This chapter describes the instruments used in the study, the research design, the selection of subjects, and the collection of data. It will conclude with the hypotheses stated statistically which will serve as a format for the presentation of the data in Chapter IV.

As stated in Chapter I, the purposes of this research were:

1. To compare the level of self esteem in deaf students who use oral communication with that of deaf students who use total communication.

2. To compare the level of self-esteem of deaf students and non-deaf students.

Research Instruments

A review of the literature indicated that a number of self-concept instruments have been developed for use with children in the past fifteen years. Four of these instruments were designed specifically for use with deaf subjects. However, none of these tools proved suitable and/or

acceptable to the deaf subjects who used oral communication, the deaf subjects who used total communication, or the non-deaf subjects in this study.

A pictorial self-esteem instrument eliminates many language problems, particularly when deaf subjects are being tested. However, such an instrument also allows for the inclusion of students' whose academic and communicative functioning is very low.

In the past many deaf students who were regarded as "oral failures" were changed to manual communication when it was found they were not succeeding by the oral method. To avoid the inclusion of such students, in the total communication group in this study, it was considered important that all subjects should have had success with oralism for as long as they had used this method alone. Thus, it was decided that a written instrument which required a minimum reading age of 3.5 grades would be administered. This research then, was geared to look at deaf subjects who had been successful in school, but who differed in their method of communication.

An exhaustive investigation of self-concept instruments used with hearing subjects was then made. This resulted in the selection of the Coopersmith Self-esteem Inventory (SEI). This instrument consists of 50 items concerned with subjects' self-attitudes in four areas--personal characteristics, social self and peers, home and parents, and school and teachers.

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The selection of this instrument was based on the following:

a. the language could be modified to suit the comprehension level of the deaf subjects to be tested;

b. the required subject response to each item was relatively simple;

c. the instrument included the four areas which are considered the principle sources from which deaf students' derive self-attitudes, and

d. the form of the instrument was acceptable to each of the sample groups.

The SEI was administered individually to eight deaf students. It was determined from this experience that all statements would have to be reworded into "straight" language to ensure a self-esteem measure rather than a linguistic measure.

**Modified Self-esteem Inventory**

A modified language form of the SEI was prepared with the assistance of four teachers of the deaf, one of whom was profoundly deaf; seven graduate students; two deaf students aged 13 and 18 years; and two hearing students aged 8 and 9 years. This instrument was then examined by a jury to determine if it would be suitable to the language levels of the deaf subjects to be tested. Several suggested changes by the jury were

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4 The jury consisted of two teachers, a psychologist, and a social worker, all of whom worked with the deaf.
incorporated into the modified instrument.

The revised Modified Self-esteem Inventory (MSEI) was then administered to eleven deaf students aged 12 to 15 years. Five students were given the instrument individually while the other six students took the inventory in a group. The latter approach was evaluated as the more successful as it was non-threatening and there was less chance of students responding to the influence of the researcher.

Reliability on the MSEI was established by the successive administration of the alternative forms. To determine this twenty 5th grade students from a Chicago school were divided into two groups, A and B. At the first testing Group A completed the SEI and Group B completed the MSEI. One week later the alternative form of the test was administered to each group. That is, Group A took the MSEI and Group B took the SEI. The data was then analysed to see if the modified language form of the test, the MSEI, was a reliable instrument.

Table 1 indicates the mean scores, standard deviations, and correlation coefficients for all students on the SEI and the MSEI. The full scale scores and sub scale scores on the MSEI do not differ significantly from these scores on the SEI. Therefore, the MSEI should be valid and have the same properties as the SEI.

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5 Appendix A, pp. 143-147.

6 Since Coopersmith established the reliability of the SEI with 5th grade students, (The Antecedents of Self-esteem, p. 10), it seemed appropriate to use this same age group to test the reliability of the parallel form.
TABLE 1

COMPARISON OF MEAN SCORES, STANDARD DEVIATIONS, AND CORRELATION COEFFICIENTS OF THE SEI AND MSEI

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Scale</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEI</td>
<td>Total Scale</td>
<td>20</td>
<td>68</td>
<td>16.3</td>
<td>.8698</td>
</tr>
<tr>
<td>MSEI</td>
<td>Total Scale</td>
<td>20</td>
<td>67.2</td>
<td>16.6</td>
<td></td>
</tr>
<tr>
<td>SEI</td>
<td>Self</td>
<td>20</td>
<td>33.6</td>
<td>9.22</td>
<td>.7324</td>
</tr>
<tr>
<td>MSEI</td>
<td>Self</td>
<td>20</td>
<td>33.7</td>
<td>8.42</td>
<td></td>
</tr>
<tr>
<td>SEI</td>
<td>Peer</td>
<td>20</td>
<td>11.1</td>
<td>3.53</td>
<td>.572</td>
</tr>
<tr>
<td>MSEI</td>
<td>Peer</td>
<td>20</td>
<td>10.9</td>
<td>2.56</td>
<td></td>
</tr>
<tr>
<td>SEI</td>
<td>Home/parents</td>
<td>20</td>
<td>12.1</td>
<td>3.25</td>
<td>.7149</td>
</tr>
<tr>
<td>MSEI</td>
<td>Home/parents</td>
<td>20</td>
<td>11.4</td>
<td>3.58</td>
<td></td>
</tr>
<tr>
<td>SEI</td>
<td>School/teachers</td>
<td>20</td>
<td>11.2</td>
<td>3.86</td>
<td>.6456</td>
</tr>
<tr>
<td>MSEI</td>
<td>School/teachers</td>
<td>20</td>
<td>11.2</td>
<td>3.18</td>
<td></td>
</tr>
</tbody>
</table>

Communication Questionnaires

In order to evaluate the relationship between communication and self-esteem, the method of communication used by a student had to be considered. The deaf subjects had all been exposed to oral communication in their early years both at home and at school. However, since the late sixties many schools and classes for deaf students have changed their educational philosophy to total communication. The result is that deaf students in these schools and classes now use total communication. Other educational facilities have continued to support the oral philosophy and educate deaf students who use oral communication only.

While this would seem to allow for a neat division of students
into groups according to their method of communication, the assignment to a particular group is not as simple as it may appear. This is mainly because many students' method of communication is not consistent at home and at school. In an effort to eliminate students who did not have the advantage of the one consistent form of communication three questionnaires were constructed.

**Parent Questionnaire:** This instrument was designed to be sent home to parents with an accompanying letter which outlined the research project and invited participation. It consisted of five multiple choice questions printed directly below the parental permission form.

**Teacher Questionnaire:** A four page instrument was developed and given to five teachers of the deaf for evaluation. Suggested changes were incorporated and resulted in a one page multiple choice questionnaire. The revised instrument was then reviewed and approved by the jury.

**Student Questionnaire:** A multiple choice tool was developed to find the subject's method of communication and degree of interaction with parents, siblings, peers, and teachers. The questionnaire was administered to eight deaf students aged 12 to 14 years. Some vocabulary comprehension difficulties were noted. The instrument was then revised and a number of changes made.

**Rating Scale**

A Rating Scale devised by Meadow was modified for use in the

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7 Appendix B, pp. 149-150.
9 Appendix D, pp. 155-158.
Areas covered by items on the modified Rating Scale were: personal style and characteristics; social relationships; intelligence and work performance; family relationships and home environment, and rater's judgement.

Ratings were made on a ten point scale. To avoid the halo effect the positive and negative ends of the scale were shifted at random for different items. Thus a rating of ten was the highest score for some items, and the lowest score for others, depending on the description to the left and right of each item. For scoring the ten point scale was collapsed into high, medium, and low. Scores assigned to the latter were three points, two points, and one point respectively. Item scores were then summed to find the total score on the Rating Scale.

**Research Design**

The research design selected to test the hypotheses of the study was deaf matched pairs with a non-deaf matched control. The task of matching is extremely laborious and time consuming. The whole aim of this design is to control as many variables, other than the experimental variables, as possible. Pairing subjects in parallel groups is more accurate in making the groups like each other than if they had been selected independently. With the present hypotheses it was decided this design was the most suitable.

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11 Appendix E, pp. 160-165.

The independent variables of the study were:

1. The differential treatment variable—the subject's method of communication:
   Group I  Deaf subjects who used oral communication;
   Group II Deaf subjects who used total communication, and
   Group III Non-deaf subjects who used normal communication.

2. The matching variables were:
   Sex, age, hearing loss, IQ, race, and teacher ratings.

The five dependent variables of the study were:

1. The subject's total score on the MSEI
2. The subject's self score on the MSEI
3. The subject's social self and peers' score on the MSEI
4. The subject's home and parents' score on the MSEI
5. The subject's school and teachers' score on the MSEI

Extraneous variables controlled for in the study were:

1. The independent variables stated previously
2. Deaf parents
3. A secondary handicap
4. A reading level below 3.5 grades
5. Deafened after 2 years.

Statistical analysis of the data was done by using analysis of variance. Data were run on a 360-65 Computer using a Statistical Package for Social Science (SPSS) Version 600.

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Population and Setting of the Research

The 1972 deaf census indicated that the largest prevalence rate for prevocational deafness was to be found in the North Central region of the United States, with the highest concentration in the urban areas of the region.14 Thus, Chicago and environs was and ideal location from which to draw a deaf sample for this study. All subjects invited to participate were attending day classes in Chicago city and suburban schools during the 1974-75 academic year.

Obtaining entree to the deaf population was extremely time consuming. The first step was to arrange interviews with the directors of the four deaf education programs in the area. Following these interviews sixteen principals were contacted. After the support of the latter was gained the researcher arranged meetings with the special education faculties in each of the sixteen schools. All interviews yielded one-hundred percent support for the research.

One week before each level of authority was contacted for an interview appointment, a brief but explicit overview of the research project and a cover letter introducing the researcher, was mailed. This, together with educators' interest in the study topic, were perhaps the major factors in the excellent response.

The same procedure was followed three months later in soliciting the non-deaf sample. This sample was drawn from two schools—one in

Chicago and one in a Chicago suburb.

Selection of Deaf Subjects

Administrators of two deaf programs permitted the researcher to enter their files to locate students with the following characteristics:

a. hearing parents
b. age 12 to 19 years
c. hearing loss of 91 dB (ISO) or greater, across the speech frequencies
d. prelingually deaf
e. no secondary handicap
f. average or above intellectual ability
g. reading grade level of 3.5 years or above
h. oral communication, or total communication for at least the last four years.

Teachers in schools in the other two deaf programs suggested students who had the above characteristics. 15

This initial screening resulted in 117 deaf students being invited to participate in the research. The parents of 110 of these students consented to their child's involvement. Permission was also obtained for data to be taken from the school files. This data resulted in the elimination of another 13 students who did not meet the study characteristics.

Thus, 29 students who attended pure oral programs formed the base  

15The directors in these two programs were adhering to "The Family Educational Rights and Privacy Act of 1974" or "The Buckley Amendment" which prohibits the release of personal information contained in school records without written consent.
line of the deaf matched pairs. The other 68 students in total communication programs made a pool from which the pairs were formed. All 97 students with the required characteristics were tested. This action was taken because one of the three criteria for assignment to a specific communication group was the student's own report of his method of communication. The latter was obtained through the communication questionnaire which was completed by each student during the testing period.

Matching Procedure

Of the 97 MSEI tests completed by deaf students 89 were considered valid. These valid tests were put aside until all matching had been completed. The Subject Communication Questionnaires (SCQ), of each of the 89 students whose MSEI was considered valid, were divided into two groups according to the differential independent variable—the mode of communication. The criteria established for the latter was agreement by subject, parent, and teacher on the mode of communication used. This caused another 32 subjects to be eliminated. Thus, 24 oral subjects and 33 total subjects remained to be paired on the independent matching variables. From this subject pool a total of 15 deaf pairs were judged to be suitably matched. A sample of non-deaf subjects was then matched to these deaf pairs.

16 Teacher questionnaires were completed on the same day as student testing.

17 Sample matching was approved by the jury and the dissertation committee.
Description of Matchings

Sex: Sex distribution was the same in each of the three samples with 6 males and 9 females in each.

Age: The age range for the whole sample was 12 to 19 years. Each deaf matched pair and non-deaf control was matched within 10 months of age.

Hearing Loss: This variable was strictly controlled for in the initial screening. Only prelingually deaf subjects, who had a pure tone hearing loss of 91 dB (ISO) or greater, were included. The pure tone hearing level, across the speech frequencies, was computed for each of these subjects. To obtain this the hearing threshold levels in decibels (dB) at the frequencies 500, 1000, and 2000 Hz, was averaged. All subjects who formed the deaf matched pairs had a profound hearing loss. The deaf oral communication sample had a mean hearing loss of 98.73 dB with a standard deviation of 5.04 and a range from 91 dB to 108 dB. The deaf total communication sample's mean hearing loss was 103.2 dB with a standard deviation of 5.67 and a range from 93 dB to 110 dB. Non-deaf subjects had no hearing loss.

IQ: Collectively the school records of the deaf subjects showed little consistency in terms of the numbers and types of IQ tests administered during years in school. Many older students had been given a battery of tests which yielded a fairly reliable IQ score. These included verbal as well as performance scales. Because of inadequate language and

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testing difficulties, younger students had scores on performance scales, only. In an attempt to equate the deaf samples it was decided to match students on the basis of a performance test. The most common IQ performance score recorded was on the Wechsler Intelligence Scale for Children (WISC). Four students did not have a WISC score but had a Leiter International Performance Scale (LIPS) score. An intelligence quotient of 95 is the norm for children in the continental United States, on the LIPS. However, so that scores on this test can be directly comparable with IQ's obtained from other intelligence scales where mean is 100, a constant 5 points of IQ is always added. This adjusted IQ is the one that is always reported but never labeled the adjusted IQ, in a psychological report. Thus, all deaf students had either an original or equivalent WISC IQ score.

Non-deaf students' scores on the Lorge-Thorndike Multi-Level Battery, given in elementary school, were used for matching purposes. Norms for the WISC, LIPS, and Thorndike were established on non-deaf subjects. The tests have a mean of 100. The standard deviation of the WISC is 15, while the standard deviation of the LIPS and the Thorndike is 16.

Each deaf pair and their control was matched within one standard deviation. Thus the IQ scores of the three samples are equivalent with subjects falling in the average to bright ranges. The deaf oral communication sample had a mean IQ score of 106.6 with a standard deviation of

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20 Ibid.
12.02 and a range from 90 to 125. The deaf total communication sample's mean IQ was 109.2 with a standard deviation of 9.35 and a range from 97 to 129. The non-deaf sample had a mean IQ of 107.6 with a standard deviation of 7.48 and a range from 97 to 121.

Race: Data was collected on black and minority group students, however, it was not possible to match any of these subjects. Thus, the total sample consisted of 45 Caucasian subjects.

Teacher Ratings: After deaf subjects had been matched on sex, age, hearing loss, IQ, and race a rating scale was mailed to each subject's teacher, and also to another teacher who had previously taught the subject. This was deemed necessary to ensure that the difference between the matched pairs was the method of communication only. By having two persons complete a rating for each subject and averaging these ratings it was possible to assess the extent to which the deaf matched pairs were actually comparable in terms of personal functioning and home environment. Of the 17 pairs that remained at this point two pairs had to be eliminated when teacher ratings had been compared. These two pairs showed a discrepancy of more than sixteen points—the criterion set for a suitable match on this variable.

Teacher ratings of non-deaf subjects were compared before these students were tested, as the deaf matched pairs formed the base line for the matching of these subjects on all but the hearing loss variable. The deaf oral communication subjects had a rating scale mean of 82.93 with a standard deviation of 10.18 and a range from 64 to 95. The deaf total communication sample had a mean of 83.13 with a standard deviation of 8.89 and a range from 65 to 96. The non-deaf sample's rating scale mean was 84.6 with a standard deviation of 5.56 and a range from 77 to 94.
<table>
<thead>
<tr>
<th>Variables</th>
<th>Group I Deaf--Oral Communication</th>
<th>Group II Deaf--Total Communication</th>
<th>Group III Non-deaf--Normal Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Age:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Age</td>
<td>15.67 (15 yr. 6 mo.)</td>
<td>15.72 (15 yr. 8 mo.)</td>
<td>15.66 (15 yr. 8 mo.)</td>
</tr>
<tr>
<td>S.D.</td>
<td>2.22</td>
<td>1.71</td>
<td>1.8</td>
</tr>
<tr>
<td>Range</td>
<td>12-2 to 18-10</td>
<td>12-11 to 18-5</td>
<td>12-11 to 18-4</td>
</tr>
<tr>
<td>Hearing Loss:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Loss</td>
<td>98.73 dB</td>
<td>103.2 dB</td>
<td>no loss</td>
</tr>
<tr>
<td>S.D.</td>
<td>5.04</td>
<td>5.67</td>
<td>no loss</td>
</tr>
<tr>
<td>Range</td>
<td>91 dB to 108 dB</td>
<td>93 dB to 110 dB</td>
<td>no loss</td>
</tr>
<tr>
<td>IQ:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean IQ</td>
<td>106.6</td>
<td>109.2</td>
<td>107.6</td>
</tr>
<tr>
<td>S.D.</td>
<td>12.02</td>
<td>9.35</td>
<td>7.48</td>
</tr>
<tr>
<td>Range</td>
<td>90 to 125</td>
<td>97 to 129</td>
<td>97 to 121</td>
</tr>
<tr>
<td>Race:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Teacher Ratings:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Rating</td>
<td>82.93</td>
<td>83.1</td>
<td>84.6</td>
</tr>
<tr>
<td>S.D.</td>
<td>10.18</td>
<td>8.89</td>
<td>5.56</td>
</tr>
<tr>
<td>Range</td>
<td>64 to 95</td>
<td>65 to 96</td>
<td>77 to 94</td>
</tr>
</tbody>
</table>
In Table 2 the differential independent variable, mode of communication, is compared with the matching independent variables of the study. The means, standard deviations, and ranges for each sample are shown. The data of individual subjects, on the matching independent variables, is reported in Appendix F. 21

Collection Data

The Modified Self-esteem Inventory (MSEI) and the Subject Communication Questionnaire (SCQ) were administrated to 97 deaf students in 14 schools. 22 Testing of subjects was supervised by the researcher and class teachers in 13 of the 14 schools. 23 Instructions and explanations were given to students by means of the communication form used by each specific school. Subjects aged 12 to 15 years were tested in groups of approximately four to six. The MSEI was administered to these students question by question. Older subjects were tested in groups of approximately eight to ten, with two persons assisting so that individual attention and supervision were possible. Testing of the deaf subjects was completed in a three week period.

The 15 non-deaf subjects were tested two months later. The researcher and school counselor supervised the testing in one school,


22Two schools that were willing to participate in the study did not have students with the required characteristics.

23One high school was willing to participate if the instruments could be administered during the students' free periods by two teachers working together in the resource room. This was agreed to and the researcher prepared 8 student test kits and test administration instructions (Appendix G, pp. 170-171). Four deaf students who were absent during the scheduled testing in their schools also completed the instruments under these conditions. Three students tested under these conditions, that is, without the researcher present, were included in the research sample.
while in the other school the researcher was assisted by a class teacher.

**Statistical Hypotheses**

The statistical hypotheses of this research were related to the independent and dependent variables of the study. They were formulated to be tested using analysis of variance procedures.

**Hypothesis 1**

The first major statistical hypothesis was concerned with the effect of different methods of communication used by deaf subjects on the five dependent variables. It was stated as follows:

1. Within the deaf population of the study, there is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication as measured by the five dependent variables.

From the major hypothesis, the following five sub-hypotheses were stated for each of the dependent variables:

a. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variables of the subjects' total scale scores on the MSEI.

b. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variable of the subjects' self scale scores on the MSEI.

c. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variable of the subjects' social self and peers' scale scores on the MSEI.
on the MSEI.

d. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variable of the subjects' home and parents' scale scores on the MSEI.

e. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variable of the subjects' school and teachers' scale scores on the MSEI.

**Hypothesis 2**

The second major hypothesis was concerned with the effect of hearing status on the five dependent variables of the study. It was stated as follows:

2. Within the total population of the study, there is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects as measured by the five dependent variables.

From the major hypothesis, the following five sub-hypotheses were stated for each of the dependent variables:

a. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' total scale scores on the MSEI.

b. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' self scale scores on the MSEI.
c. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' social self and peers' scale scores on the MSEI.

d. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' home and parents' scale scores on the MSEI.

e. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' school and teachers' scale scores on the MSEI.

Hypothesis 3

The third statistical hypothesis was concerned with the effect of sex on subjects' scores on the five dependent variables. It was stated as follows:

3. Within the total population of the study, there is no significant difference in the level of self-esteem between the sexes as measured by the five dependent variables.

From the hypothesis, the following five sub-hypotheses were stated for each of the dependent variables:

a. There is no significant difference in the level of self-esteem between the sexes on the subjects' total scale scores on the MSEI.

b. There is no significant difference in the level of self-esteem between the sexes on the subjects' self scale scores on the MSEI.
c. There is no significant difference in the level of self-esteem between the sexes on the subjects' social self and peers' scale scores on the MSEI.

d. There is no significant difference in the level of self-esteem between the sexes on the subjects' home and parents' scale scores on the MSEI.

e. There is no significant difference in the level of self-esteem between the sexes on the subjects' school and teachers' scale scores on the MSEI.

**Hypothesis 4**

The fourth statistical hypothesis dealt with the effect of age on subjects' scores on the five dependent variables. It was stated as follows:

4. Within the total population of the study, there is no significant difference in the level of self-esteem by age group as measured by the five dependent variables.

From the hypothesis, the following five sub-hypotheses were stated for each of the dependent variables:

a. There is no significant difference in the level of self-esteem by age group on the subjects' total scale scores on the MSEI.

b. There is no significant difference in the level of self-esteem by age group on the subjects' self scale scores on the MSEI.

c. There is no significant difference in the level of self-esteem by age group on the subjects' social self and peers' scale scores on the MSEI.

d. There is no significant difference in the level of self-esteem by age group on the subjects' home and parents' scale scores
on the MSEI.

e. There is no significant difference in the level of self-esteem by age group on the subjects' school and teachers' scale scores on the MSEI.

Hypothesis 5

The last major hypothesis formulated for statistical testing was concerned with the effect of degree of hearing loss on deaf subjects' scores on the five dependent variables. It was stated as follows:

5. Within the deaf population of the study, there is no significant difference in the level of self-esteem by degree of hearing loss as measured by the five dependent variables.

From the major hypothesis, the following five sub-hypotheses were stated for each of the dependent variable scores:

a. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' total scale scores on the MSEI.

b. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' self scale scores on the MSEI.

c. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' social self and peers' scale scores on the MSEI.

d. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' home and parents' scale scores on the MSEI.

e. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' school
and teachers' scale scores on the MSEI.

Summary

This chapter dealt with the research instruments, design of the study, subject selection, data collection, and the statistical hypotheses. In summary, three communication questionnaires were designed for subjects (SCQ), parents, and teachers. A modified language form of the Coopersmith Self-esteem Inventory was prepared to measure the dependent variables. This was called the Modified Self-esteem Inventory (MSEI). A Rating Scale, devised by Meadow, was adapted for use as a matching tool in the study.

The research design selected was deaf matched pairs with a non-deaf control. Deaf subjects who used oral communication and deaf subjects who used total communication were assigned to different communication groups. From these two groups fifteen deaf pairs were matched on sex, age, hearing loss, IQ, race, and teacher ratings of subjects. The non-deaf subjects were matched to the deaf pairs on all variables except hearing loss.

The researcher collected data from students in day schools in Chicago and suburbs. Testing of deaf subjects was completed in a three week period. The five major hypotheses stated in Chapter I, were restated statistically. These hypotheses were formulated to be tested using analysis of variance procedures.

Chapter IV will consist of the presentation, results, and discussion of the data.
CHAPTER IV

PRESENTATION, RESULTS, AND DISCUSSION OF THE DATA

Introduction

This study was designed to investigate the relationship between modes of communication and the development of self-esteem in deaf and non-deaf subjects. It was postulated that regardless of mode of communication deaf students of equal abilities and from similar home environments would not differ significantly in their level of self evaluation. The study also postulated that the sex, age, and severity of hearing loss may have some interacting effect on the subjects' scores on the five dependent variables—Total, Self, Peer, Home, and School Scales of the Modified Self-esteem Inventory (MSEI). This chapter will be concerned with the presentation and analysis of the study data. It will be divided into four areas: the description of the sample; a descriptive analysis of the Subject Communication Questionnaires (SCQ); the statistical analysis of the major variables; and a discussion of the data.

Description of the Subjects

The forty-five subjects used in this study were Caucasians between the ages of twelve and nineteen years. All had hearing parents and were attending day school facilities in the Chicago area. The subjects were average or above average in ability and had a grade point reading level of 3.5 or above. Thirty subjects were deaf and fifteen subjects were hearing students. The prelingually deaf subjects had an average hearing loss of 91 dB (ISO) or greater, across the speech frequencies. They had no
secondary handicap.

To facilitate the interpretation of the data, the subjects were categorized into groups according to their hearing status and their mode of communication. The criteria established for the latter was agreement by subject, parent, and teacher on the method of communication used. (See Chapter III, page 60). This division resulted in two samples. Group I, deaf subjects who used oral communication, and Group II, deaf subjects who used total communication were matched on sex, age, hearing loss, IQ, teacher ratings of subjects, and race. A third sample, Group III, a non-deaf control group, was matched to the deaf pairs on all but the hearing loss variable.

Table 3 shows the method of communication and hearing status of the subjects. (For a comparison of the samples on all the matching variables see Chapter III, page 64.)

**TABLE 3**

**COMMUNICATION MODE AND HEARING STATUS OF SUBJECTS**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Hearing Status</th>
<th>Communication Mode</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Deaf</td>
<td>Oral</td>
<td>15</td>
</tr>
<tr>
<td>II</td>
<td>Deaf</td>
<td>Total</td>
<td>15</td>
</tr>
<tr>
<td>III</td>
<td>Non-deaf</td>
<td>Normal</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total:</strong></td>
<td>45</td>
</tr>
</tbody>
</table>

To provide the data for this study, subjects completed two instruments—the Subject Communication Questionnaire (SCQ), and the Modified Self-
Analysis of Subjects' Communication Questionnaires (SCQ)

The communication questionnaire sought specific information related to the study. It concerned the subjects' relationships, and mode and frequency of communication with family members, teachers, and friends.

Communication and Relationships with Family Members: Table 4

In Table 4 the subjects' mode of communication with parents and siblings is presented. The form of communication used between subjects and their mothers is consistent in each of the three groups. The students' report on this question was part of the criteria used for the assignment of subjects to the different groups. All Group I subjects have a father present in the home; in Group II two fathers are absent, while in Group III one male parent is absent. It can be observed that Group II, deaf total subjects, use a number of methods to communicate with their fathers. One female subject in this group reports that her mother acts as an interpreter for any communication she has with her father.

The subjects in Groups I and II all have siblings present in the home. All non-deaf students and over ninety percent of deaf oral students report speech as the form of communication they use with siblings. Table 4 shows that deaf total subjects use a variety of communication methods with siblings.

The majority of students in Group II and all students in Groups I and III use speech when talking with relatives. This information is not presented in Table 4, as the data included was restricted to family members in the home.
TABLE 4

SUBJECTS' REPORT OF COMMUNICATION
MODE WITH FAMILY MEMBERS
SHOWN IN PERCENTAGES

<table>
<thead>
<tr>
<th>Family Member</th>
<th>Communication Mode</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Speech</td>
<td>100.00</td>
<td>0.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Mother</td>
<td>Speech and fingerspelling</td>
<td>0.00</td>
<td>40.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Speech, fingerspelling, and signs</td>
<td>0.00</td>
<td>60.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Mother absent</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Father</td>
<td>Speech</td>
<td>93.33</td>
<td>33.33</td>
<td>93.33</td>
</tr>
<tr>
<td></td>
<td>Speech and fingerspelling</td>
<td>6.67</td>
<td>26.67</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Speech, fingerspelling, and signs</td>
<td>0.00</td>
<td>20.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0.00</td>
<td>6.67</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Father absent</td>
<td>0.00</td>
<td>13.33</td>
<td>6.67</td>
</tr>
<tr>
<td>Siblings</td>
<td>Speech</td>
<td>86.66</td>
<td>20.00</td>
<td>86.67</td>
</tr>
<tr>
<td></td>
<td>Speech and fingerspelling</td>
<td>6.67</td>
<td>20.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Speech, fingerspelling, and signs</td>
<td>6.67</td>
<td>40.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0.00</td>
<td>20.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>No siblings</td>
<td>0.00</td>
<td>0.00</td>
<td>13.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Rating of Communication Interaction with Family Members: Table 5

Subjects were asked to what degree they communicated with their parents and siblings. The words often, (meaning, all of the time), sometimes, not much, and never were used on the questionnaire. These terms were used because they are known by young deaf children who have limited language concepts. However, for clarity in reporting the degree of communication interaction in Table 5, the terms above average, average, poor, and none will be substituted for the terms actually used on the SCQ. Table 5 shows the subjects' rating of their communication interaction with parents and siblings.

**TABLE 5**

**SUBJECTS' RATING OF COMMUNICATION INTERACTION WITH FAMILY MEMBERS SHOWN IN PERCENTAGES**

<table>
<thead>
<tr>
<th>Communication Rating</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>With Mother:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above Average</td>
<td>86.67</td>
<td>60.00</td>
<td>73.34</td>
</tr>
<tr>
<td>Average</td>
<td>13.33</td>
<td>20.00</td>
<td>13.33</td>
</tr>
<tr>
<td>Poor</td>
<td>0.00</td>
<td>20.00</td>
<td>13.33</td>
</tr>
<tr>
<td>None</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Mother absent</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>With Father:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above average</td>
<td>80.00</td>
<td>26.67</td>
<td>66.66</td>
</tr>
<tr>
<td>Average</td>
<td>20.00</td>
<td>33.33</td>
<td>20.00</td>
</tr>
<tr>
<td>Poor</td>
<td>0.00</td>
<td>26.67</td>
<td>6.67</td>
</tr>
<tr>
<td>None</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Father absent</td>
<td>0.00</td>
<td>13.33</td>
<td>6.67</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>With Siblings:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above average</td>
<td>66.67</td>
<td>46.67</td>
<td>66.67</td>
</tr>
<tr>
<td>Average</td>
<td>33.33</td>
<td>33.33</td>
<td>20.00</td>
</tr>
<tr>
<td>Poor</td>
<td>0.00</td>
<td>20.00</td>
<td>0.00</td>
</tr>
<tr>
<td>None</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Siblings absent</td>
<td>0.00</td>
<td>0.00</td>
<td>13.33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>
In each of the three groups subjects state that they communicate better with their mothers than with other family members. Groups I and III, who use speech alone as their form of communication, report significantly more interaction with fathers. This is quite significant, as Coopersmith reported that adolescents who have closer relationships with their fathers are higher in self-esteem than those with more distant, impersonal relationships.¹

Only one male subject, in Group II, was consistent in reporting poor communication with all family members. Other subjects in this same group who chose the poor communication response in a specific category, report average or above average communication interaction with other family members.

In summary, the information reported by subjects regarding their relationships and interaction within the family shows deaf oral and non-deaf subjects to be significantly similar to each other. Deaf total subjects, Group II, appear to be less positive about their family relationships when compared with the other two groups.

Communication and Relationships with Teachers: Table 6

Subjects were asked the method of communication they use with their class or homeroom teacher. They were also asked if they communicate with other teachers in school, and to describe the communication form they use. Table 6 shows this data.

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Communication Mode</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class/Homeroom Teacher:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech</td>
<td>73.33</td>
<td>0.00</td>
<td>100.00</td>
<td></td>
</tr>
<tr>
<td>Speech and fingerspelling</td>
<td>26.67</td>
<td>6.67</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Speech, fingerspelling, and signs</td>
<td>0.00</td>
<td>86.66</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Fingerspelling and signs</td>
<td>0.00</td>
<td>6.67</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Signs</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>No communication</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td></td>
</tr>
<tr>
<td>Other Teachers:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech</td>
<td>86.66</td>
<td>20.00</td>
<td>93.33</td>
<td></td>
</tr>
<tr>
<td>Speech and fingerspelling</td>
<td>6.67</td>
<td>6.67</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Speech, fingerspelling, and signs</td>
<td>6.67</td>
<td>66.66</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Fingerspelling and signs</td>
<td>0.00</td>
<td>6.67</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Signs</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>No communication</td>
<td>0.00</td>
<td>0.00</td>
<td>6.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>
In Table 6 it can be observed that subjects in Group I and the majority of subjects in Groups I and II communicate with teachers by the specific mode of communication expected by their group. That is, Groups I and III use speech while Group II utilized a combination of speech, fingerspelling, and signs. With the exception of one elementary student in Group III, subjects report interaction with other teachers, in addition to their class or homeroom teachers.

Rating of Communication Interaction with Class/Homeroom Teacher: Table 7

Table 7 indicates that all subjects in Group I and eighty percent of subjects in Groups II and III, rate their interaction with their class or homeroom teacher as average or above average.

<table>
<thead>
<tr>
<th>Communication Rating</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class/Homeroom Teacher:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above average</td>
<td>53.33</td>
<td>33.33</td>
<td>26.67</td>
</tr>
<tr>
<td>Average</td>
<td>46.67</td>
<td>46.67</td>
<td>53.33</td>
</tr>
<tr>
<td>Poor</td>
<td>0.00</td>
<td>20.00</td>
<td>20.00</td>
</tr>
<tr>
<td>None</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

In general, subjects' reports of relationships and interaction with teachers do not denote any major differences between the three samples. The form of communication used with teachers is consistent with the subjects' communication group. It is hypothesized that the poor inter-
action reported by twenty percent of students in Groups II and III, (Table 7), is a function of personality preference, rather than communication ability or mode of communication. These same students, in rating their relationships and interaction with family members and friends, reported quite positively.

Data pertaining to the subjects' school and non-school friends was also collected. The specific information sought regarding these social relationships was the sex, hearing status, and mode of communication used with friends.

Characteristics and Communication Mode with School Friends:

Table 8

Table 8 presents data concerning social relationships with school friends. It can be observed that all subjects have friends at school, and that at least eighty percent of students in each category have both male and female friends. The majority of deaf students state that their school relationships are with both hearing and deaf students. Non-deaf students on the other hand, report having hearing friends only at school. The mode of communication that subjects use with their friends at school is related to their hearing status. Group III use normal verbal communication. Over ninety percent of Group II, and over fifty percent of Group I, utilize both oral and manual communication forms. Only forty percent of Group I students restrict communication with their school friends to speech alone.
TABLE 8
SUBJECTS' REPORT OF CHARACTERISTICS AND MODE
OF COMMUNICATION WITH SCHOOL FRIENDS
SHOWN IN PERCENTAGES

<table>
<thead>
<tr>
<th>Status and Mode of Communication with School Friends</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male and female</td>
<td>86.66</td>
<td>80.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Male</td>
<td>6.67</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Female</td>
<td>6.67</td>
<td>20.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Hearing Status:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-deaf and deaf</td>
<td>93.33</td>
<td>86.67</td>
<td>0.00</td>
</tr>
<tr>
<td>Non-deaf</td>
<td>0.00</td>
<td>0.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Deaf</td>
<td>6.67</td>
<td>13.33</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Mode of Communication with School Friends:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech</td>
<td>40.00</td>
<td>0.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Speech and fingerspelling</td>
<td>6.67</td>
<td>6.67</td>
<td>0.00</td>
</tr>
<tr>
<td>Speech, fingerspelling, and signs</td>
<td>53.33</td>
<td>93.33</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Characteristics and Communication Mode with Non-school Friends:

Table 9

In Table 9, the data shows that over ninety percent of subjects in Groups I and III, and eighty percent of students in Group II, have non-school friends. Of all subjects who have friends outside school the majority, in each of the three samples, have friends of both sexes. Group III, non-deaf students, report non-deaf friends only. Over fifty percent of Group I, deaf oral subjects, state they have non-school, hearing friends, while over fifty percent of Group II, deaf total subjects, have both hearing and deaf, non-school friends.

The mode of communication used by the majority of subjects with their non-school friends is consistent with the subjects' communication groups. That is, all subjects in Group III, and the majority of subjects in Group I, use verbal communication, while over sixty-four percent of subjects in Group II, who have non-school friends, utilize both oral and manual forms.

In summary, the three samples do not differ significantly in their school relationships. All students have friends, and the majority have friends of both sexes. Deaf subjects, unlike hearing subjects, report both deaf and non-deaf friends. When deaf students interact with each other, total communication is the preferred method of the majority, ever for Group I subjects. Most subjects have social relationships outside school. Non-deaf subjects report interaction with both sexes, while deaf subjects report less flexibility in their relationships. Over fifty percent of Group I, deaf oral subjects, report only hearing friends outside school. This could be attributed to geographical location. However, it might also
TABLE 9
SUBJECTS' REPORT OF CHARACTERISTICS AND MODE
OF COMMUNICATION WITH NON-SCHOOL FRIENDS
SHOWN IN PERCENTAGES

<table>
<thead>
<tr>
<th>Status and Mode of Communication with Non-school Friends</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male and female</td>
<td>60.00</td>
<td>53.34</td>
<td>93.33</td>
</tr>
<tr>
<td>Male</td>
<td>13.33</td>
<td>13.33</td>
<td>0.00</td>
</tr>
<tr>
<td>Female</td>
<td>20.00</td>
<td>13.33</td>
<td>0.00</td>
</tr>
<tr>
<td>No friends</td>
<td>6.67</td>
<td>20.00</td>
<td>6.67</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Hearing Status:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-deaf and deaf</td>
<td>40.00</td>
<td>53.33</td>
<td>0.00</td>
</tr>
<tr>
<td>Non-deaf</td>
<td>53.33</td>
<td>26.67</td>
<td>93.33</td>
</tr>
<tr>
<td>Deaf</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>No friends</td>
<td>6.67</td>
<td>20.00</td>
<td>6.67</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Mode of Communication with Non-school Friends:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech</td>
<td>73.33</td>
<td>26.67</td>
<td>93.33</td>
</tr>
<tr>
<td>Speech and fingerspelling</td>
<td>6.67</td>
<td>20.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Speech, fingerspelling, and signs</td>
<td>13.33</td>
<td>33.33</td>
<td>0.00</td>
</tr>
<tr>
<td>No friends</td>
<td>6.67</td>
<td>20.00</td>
<td>6.67</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>
be an attempt by parents to isolate their deaf offspring from other deaf people, and integrate them fully into our hearing society.

Subjects' Preferred Mode of Communication: Table 10

The last question of importance that students were asked pertained to the communication method they preferred and found the most adequate. This question was open ended and allowed subjects to qualify their choice. Table 10 shows the responses of the three samples.

<table>
<thead>
<tr>
<th>COMMUNICATION MODE</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech</td>
<td>66.66</td>
<td>40.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Speech and fingerspelling</td>
<td>6.67</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Speech, fingerspelling, and signs</td>
<td>20.00</td>
<td>33.33</td>
<td>0.00</td>
</tr>
<tr>
<td>Fingerspelling and signs</td>
<td>0.00</td>
<td>26.67</td>
<td>0.00</td>
</tr>
<tr>
<td>Signs</td>
<td>6.67</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00</strong></td>
<td><strong>100.00</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Table 10 indicates that non-deaf students in Group III, all use verbal communication as would be expected. Within the two deaf samples there is some variation. In Group I, deaf oral subjects, over sixty-six percent, state they prefer to use speech alone, which is consistent with their communication group. However, twenty percent of these students qualify their choice by stating that even though they prefer speech they would use other communication forms if clarity of meaning demanded it. In this same group, over twenty-six percent prefer a combination of oral and manual methods while one student reports signs alone as his preference.
In Group II, deaf total subjects, there is an even wider variety of student preference. Forty percent prefer oral communication alone; over thirty-three percent state a preference for the combination of oral and manual modes, while over twenty-six percent indicate that their choice is a combination of the two manual forms--fingerspelling and signs.

In general, speech is the form of communication preferred by the majority of subjects in each of the three samples. It may be concluded that deaf students do not fit rigidly into their assigned communication groups by personal choice. This may indicate that the preference of the deaf individual is considered subordinate to that of his parents and educators.

**Analysis of Variables**

Table 11 presents the scores on the five dependent variables of the study: the MSEI Total Scale, and its four component subscales--general self (Self), social self and peers (Peer), home and parents (Home), and school and teachers (School). These scores were used in testing the statistical hypotheses stated in Chapter III. The method used by Coopersmith in scoring the original Self-esteem Inventory (SEI) was followed in scoring the alternative form--the MSEI. That is, the fifty items intended to measure the general assessment of self-esteem were each assigned two points. A maximum score on the Total Scale of the Instrument is 100 points. The Peer, Home, and School Scales consisted of eight items each. The highest possible score on each of these scales is 16 points. The Self Scale has twenty-six items and a maximum score in this area was 52 points. The scores of all subjects on these five dependent
### TABLE 11

**MEAN AND STANDARD DEVIATION SCORES ON THE MSEI TOTAL, SELF, PEER, HOME, AND SCHOOL SCALES**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Total Scale</th>
<th>Self Scale</th>
<th>Peer Scale</th>
<th>Home Scale</th>
<th>School Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>15</td>
<td>M</td>
<td>64.40</td>
<td>33.46</td>
<td>10.40</td>
<td>10.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>7.13</td>
<td>5.37</td>
<td>2.64</td>
<td>2.90</td>
</tr>
<tr>
<td>II</td>
<td>15</td>
<td>M</td>
<td>65.46</td>
<td>33.46</td>
<td>10.66</td>
<td>10.40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>9.63</td>
<td>6.02</td>
<td>3.35</td>
<td>2.52</td>
</tr>
<tr>
<td>III</td>
<td>15</td>
<td>M</td>
<td>70.66</td>
<td>37.33</td>
<td>12.00</td>
<td>11.73</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>9.09</td>
<td>5.98</td>
<td>1.51</td>
<td>2.91</td>
</tr>
</tbody>
</table>
variables are reported in Appendix H.²

The five major hypotheses of the study were analyzed using the analysis of variance technique. Data were run on a 360–65 Computer using a SPSS (Statistical Package for the Social Sciences) Program—Version 600. A probability level of .05 or less was set as the acceptable level of significance.

Hypothesis 1

The first major statistical hypothesis was concerned with the effect of different methods of communication used by deaf subjects on the five dependent variables. It was stated as follows:

1. Within the deaf population of the study, there is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication as measured by the five dependent variables.

From the major hypothesis, the following five sub-hypotheses were stated for each of the dependent variables:

a. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variables of the subjects' total scale scores on the MSEI.

b. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variable of the subjects' self scale scores on the MSEI.

² Appendix H, pp. 173–175.
c. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variable of the subjects' social self and peers' scale scores on the MSEI.

d. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variable of the subjects' home and parents' scale scores on the MSEI.

e. There is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication on the dependent variable of the subjects' school and teachers' scale scores on the MSEI.

The analysis of variance technique was used to find the between group variance and the within group variance of the three samples. Table 12 presents this analysis for each of the five dependent variables. Collectly the data indicates that as predicted, there is no significant difference between the three samples on the Total, Self, Peer, Home, and School Scales of the MSEI.

To test hypothesis 1, planned contrasts of deaf subjects' scores in the two different communication groups were analyzed. Table 13 presents this data and shows that as predicted, there is no significant difference in the scores of these subjects on the five dependent variables that can be accounted for by different methods of communication. A
### TABLE 12

**ANALYSIS OF VARIANCE ON THE MSEI TOTAL, SELF, PEER, HOME, AND SCHOOL SCALE SCORES**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>337.1875</td>
<td>168.5937</td>
<td>2.233</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within groups</td>
<td>42</td>
<td>3170.7500</td>
<td>75.4940</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>3507.9375</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Self Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>149.5000</td>
<td>74.7500</td>
<td>2.222</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within groups</td>
<td>42</td>
<td>1412.8164</td>
<td>33.6385</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>1562.3164</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peer Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>22.0469</td>
<td>11.0234</td>
<td>1.614</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within groups</td>
<td>42</td>
<td>286.9336</td>
<td>6.8318</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>308.9805</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Home Scale</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>14.0430</td>
<td>7.0215</td>
<td>0.902</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within groups</td>
<td>42</td>
<td>326.9375</td>
<td>7.7842</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>340.9805</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>School Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>27.9141</td>
<td>13.9570</td>
<td>1.844</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within groups</td>
<td>42</td>
<td>317.8672</td>
<td>7.5683</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>345.7812</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 13

PLANNED CONTRASTS OF DEAF SUBJECTS' SCORES ON THE MSEI TOTAL, SELF, PEER, HOME, AND SCHOOL SCALES

<table>
<thead>
<tr>
<th>Scale</th>
<th>Value</th>
<th>S. Error</th>
<th>t Value</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>-1.0667</td>
<td>3.1727</td>
<td>-0.336</td>
<td>42.0</td>
<td>0.738 N.S.</td>
</tr>
<tr>
<td>Self</td>
<td>0.0000</td>
<td>2.1178</td>
<td>0.000</td>
<td>42.0</td>
<td>1.000 N.S.</td>
</tr>
<tr>
<td>Peer</td>
<td>-0.2667</td>
<td>0.9544</td>
<td>-0.279</td>
<td>42.0</td>
<td>0.781 N.S.</td>
</tr>
<tr>
<td>Home</td>
<td>0.4000</td>
<td>1.0188</td>
<td>0.393</td>
<td>42.0</td>
<td>0.697 N.S.</td>
</tr>
<tr>
<td>School</td>
<td>1.6000</td>
<td>1.0045</td>
<td>-1.593</td>
<td>42.0</td>
<td>0.119 N.S.</td>
</tr>
</tbody>
</table>
multiple range test, using the Turkey-HSD Procedure, was applied. This indicated that the subsets of the samples were homogeneous. Thus, the first major hypothesis and the five sub-hypotheses will not be rejected.

Hypothesis 2

The second major hypothesis was concerned with the effect of hearing status on the five dependent variables of the study. It was stated as follows:

2. Within the total population of the study, there is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects as measured by the five dependent variables.

From the major hypothesis, the following five sub-hypotheses were stated for each of the dependent variables:

a. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' total scale scores on the MSEI.

b. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' self scale scores on the MSEI.

c. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' social self and peers' scale scores on the MSEI.

d. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' home and parents' scale
scores on the MSEI.

e. There is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects on the dependent variable of the subjects' school and teachers' scale scores on the MSEI.

The two deaf samples were collapsed into one to test these hypotheses. Planned contrasts, for the scores of deaf and non-deaf subjects on the five dependent variables, were analysed. Table 14 shows the results of this analysis.

The hypothesis that within the population of the study there is no significant difference in the level of self-esteem between deaf and non-deaf subjects must be rejected. The hearing status of subjects is significant. Table 14 indicates that when subjects' scores are analysed on each of the dependent variables there is a significant difference between the samples, at the .05 level on the Total Scale, the .04 level on the Self Scale, and the .04 level on the Peer Scale.

A multiple range test, using the Turkey-B Procedure, was applied and the subsets of the samples were found to be homogeneous. Therefore, hypotheses that state there is no significant difference in the level of self-esteem between deaf and non-deaf students on the dependent variables of the subjects' scores on the Total Scale, the Self Scale, and the Peer Scale will be rejected. However, hypotheses related to the Home Scale and the School Scale will not be rejected.

Hypothesis 3

The third statistical hypothesis dealt with the effect of sex on the subjects' scores on the five dependent variables. It was stated as follows:
<table>
<thead>
<tr>
<th>Scale</th>
<th>Value</th>
<th>S. Error</th>
<th>t Value</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled Variance Estimate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-5.7333</td>
<td>2.7476</td>
<td>-2.087</td>
<td>42.0</td>
<td>0.043*</td>
</tr>
<tr>
<td>Self</td>
<td>-3.8667</td>
<td>1.8341</td>
<td>-2.108</td>
<td>42.0</td>
<td>0.041*</td>
</tr>
<tr>
<td>Home</td>
<td>-1.1330</td>
<td>0.8823</td>
<td>-1.285</td>
<td>42.0</td>
<td>0.206 N.S.</td>
</tr>
<tr>
<td>School</td>
<td>0.9333</td>
<td>0.8700</td>
<td>1.073</td>
<td>42.0</td>
<td>0.289 N.S.</td>
</tr>
<tr>
<td>Separate Variance Estimate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-5.7333</td>
<td>2.8121</td>
<td>-2.039</td>
<td>39.8</td>
<td>0.048*</td>
</tr>
<tr>
<td>Self</td>
<td>-3.8667</td>
<td>1.8634</td>
<td>-2.075</td>
<td>41.6</td>
<td>0.044*</td>
</tr>
<tr>
<td>Home</td>
<td>-1.1330</td>
<td>0.9022</td>
<td>-1.256</td>
<td>41.3</td>
<td>0.216 N.S.</td>
</tr>
<tr>
<td>School</td>
<td>0.9333</td>
<td>0.9775</td>
<td>0.955</td>
<td>36.4</td>
<td>0.346 N.S.</td>
</tr>
<tr>
<td>Pooled Variance Estimate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer</td>
<td>-1.4667</td>
<td>0.8265</td>
<td>-1.774</td>
<td>42.0</td>
<td>0.083 N.S.</td>
</tr>
<tr>
<td>Separate Variance Estimate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer</td>
<td>-1.4667</td>
<td>0.6752</td>
<td>-2.172</td>
<td>32.6</td>
<td>0.037*</td>
</tr>
</tbody>
</table>

* Significant at .05 or less.
3. Within the total population of the study, there is no significant difference in the level of self-esteem between the sexes as measured by the five dependent variables.

From the hypothesis, the following five sub-hypotheses were stated for each of the dependent variables:

a. There is no significant difference in the level of self-esteem between the sexes on the subjects' total scale scores on the MSEI.

b. There is no significant difference in the level of self-esteem between the sexes on the subjects' self scale scores on the MSEI.

c. There is no significant difference in the level of self-esteem between the sexes on the subjects' social self and peers' scale scores on the MSEI.

d. There is no significant difference in the level of self-esteem between the sexes on the subjects' home and parents' scale scores on the MSEI.

e. There is no significant difference in the level of self-esteem between the sexes on the subjects' school and teachers' scale scores on the MSEI.

Table 15 presents the mean and standard deviation scores, by sex, on the five dependent variables. The grand mean scores are also shown in this table. Factorial analysis of variance technique, in a 2 x 3 design, was used to test each sub-hypothesis.

Table 16 shows the results of this analysis. It can be observed that no significant F ratio was obtained on any of the five dependent variables of this study.
### TABLE 15

**MEAN AND STANDARD DEVIATION SCORES BY SEX ON THE MSEI TOTAL, SELF, PEER, HOME, AND SCHOOL SCALES**

<table>
<thead>
<tr>
<th>Group</th>
<th>Sex</th>
<th>N</th>
<th>Total Scale</th>
<th>Self Scale</th>
<th>Peer Scale</th>
<th>Home Scale</th>
<th>School Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>M</td>
<td>6</td>
<td>66.33</td>
<td>35.33</td>
<td>10.00</td>
<td>11.33</td>
<td>9.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD 5.42</td>
<td>3.93</td>
<td>2.82</td>
<td>1.63</td>
<td>2.33</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>9</td>
<td>63.11</td>
<td>32.22</td>
<td>10.66</td>
<td>10.44</td>
<td>9.77</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD 8.13</td>
<td>6.03</td>
<td>2.64</td>
<td>3.57</td>
<td>2.90</td>
</tr>
<tr>
<td>II</td>
<td>M</td>
<td>6</td>
<td>63.33</td>
<td>32.66</td>
<td>10.00</td>
<td>10.66</td>
<td>10.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD 7.23</td>
<td>6.02</td>
<td>3.57</td>
<td>1.63</td>
<td>2.06</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>9</td>
<td>66.88</td>
<td>34.00</td>
<td>11.11</td>
<td>10.22</td>
<td>11.77</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD 11.14</td>
<td>6.32</td>
<td>3.33</td>
<td>3.07</td>
<td>2.10</td>
</tr>
<tr>
<td>III</td>
<td>M</td>
<td>6</td>
<td>70.66</td>
<td>39.00</td>
<td>12.33</td>
<td>10.00</td>
<td>9.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD 6.02</td>
<td>4.49</td>
<td>1.50</td>
<td>3.57</td>
<td>3.01</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>9</td>
<td>70.66</td>
<td>36.22</td>
<td>11.77</td>
<td>12.88</td>
<td>9.77</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD 11.04</td>
<td>6.74</td>
<td>1.56</td>
<td>1.76</td>
<td>3.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grand Mean</td>
<td>66.84</td>
<td>34.76</td>
<td>11.02</td>
<td>10.98</td>
</tr>
</tbody>
</table>
TABLE 16
ANALYSIS OF VARIANCE BY SEX ON THE MSEI TOTAL, SELF,
PEER, HOME, AND SCHOOL SCALE SCORES

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effects</td>
<td>3</td>
<td>337.380</td>
<td>112.420</td>
<td>1.420</td>
<td>N.S.</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.133</td>
<td>0.133</td>
<td>0.002</td>
<td>N.S.</td>
</tr>
<tr>
<td>Group</td>
<td>2</td>
<td>337.247</td>
<td>168.623</td>
<td>2.130</td>
<td>N.S.</td>
</tr>
<tr>
<td>Interaction</td>
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<td>82.757</td>
<td>41.378</td>
<td>0.523</td>
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</tr>
<tr>
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<td>39</td>
<td>3087.770</td>
<td>79.174</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>3507.906</td>
<td>79.725</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effects</td>
<td>3</td>
<td>174.416</td>
<td>58.139</td>
<td>1.687</td>
<td>N.S.</td>
</tr>
<tr>
<td>Sex</td>
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<td>24.904</td>
<td>24.904</td>
<td>0.723</td>
<td>N.S.</td>
</tr>
<tr>
<td>Group</td>
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<td>149.512</td>
<td>74.756</td>
<td>2.170</td>
<td>N.S.</td>
</tr>
<tr>
<td>Interaction</td>
<td>2</td>
<td>44.119</td>
<td>22.060</td>
<td>0.640</td>
<td>N.S.</td>
</tr>
<tr>
<td>Residual</td>
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<td>1343.771</td>
<td>34.456</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>1562.306</td>
<td>35.507</td>
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</tr>
</tbody>
</table>
TABLE 16--Continued

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>p</th>
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<tbody>
<tr>
<td><strong>Peer Scale</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Main Effects</td>
<td>3</td>
<td>23.837</td>
<td>7.946</td>
<td>1.108</td>
<td>N.S.</td>
</tr>
<tr>
<td>Sex</td>
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<td>1.793</td>
<td>0.250</td>
<td>N.S.</td>
</tr>
<tr>
<td>Group</td>
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<td>11.022</td>
<td>1.536</td>
<td>N.S.</td>
</tr>
<tr>
<td>Interaction</td>
<td>2</td>
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<td>2.681</td>
<td>0.374</td>
<td>N.S.</td>
</tr>
<tr>
<td>Residual</td>
<td>39</td>
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<td>7.174</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>44</td>
<td>308.976</td>
<td>7.022</td>
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<td></td>
</tr>
<tr>
<td><strong>Home Scale</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Main Effects</td>
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<td>16.948</td>
<td>5.649</td>
<td>0.751</td>
<td>N.S.</td>
</tr>
<tr>
<td>Sex</td>
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<td>2.904</td>
<td>0.386</td>
<td>N.S.</td>
</tr>
<tr>
<td>Group</td>
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<td>7.022</td>
<td>0.934</td>
<td>N.S.</td>
</tr>
<tr>
<td>Interaction</td>
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<td>30.696</td>
<td>15.348</td>
<td>2.041</td>
<td>N.S.</td>
</tr>
<tr>
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<td>7.521</td>
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<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>44</td>
<td>340.976</td>
<td>7.749</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>School Scale</strong></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Main Effects</td>
<td>3</td>
<td>31.244</td>
<td>10.415</td>
<td>1.299</td>
<td>N.S.</td>
</tr>
<tr>
<td>Sex</td>
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<td>3.333</td>
<td>0.416</td>
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</tr>
<tr>
<td>Group</td>
<td>2</td>
<td>27.911</td>
<td>13.956</td>
<td>1.741</td>
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</tr>
<tr>
<td>Interaction</td>
<td>2</td>
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<td>0.933</td>
<td>0.116</td>
<td>N.S.</td>
</tr>
<tr>
<td>Residual</td>
<td>39</td>
<td>312.666</td>
<td>8.017</td>
<td></td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>44</td>
<td>345.777</td>
<td>7.859</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hypothesis 4

A two factor analysis of variance technique, was again used to study the effect of age on the dependent variables. Coopersmith's criterion for age grouping, was used in assigning subjects to two groups. The major hypothesis formulated for this age factor was stated as follows:

4. Within the total population of the study, there is no significant difference in the level of self-esteem by age group as measured by the five dependent variables.

From the hypothesis, the following five sub-hypotheses were stated for each of the dependent variables:

a. There is no significant difference in the level of self-esteem by age group on the subjects' total scale scores on the MSEI.

b. There is no significant difference in the level of self-esteem by age group on the subjects' self scale scores on the MSEI.

c. There is no significant difference in the level of self-esteem by age group on the subjects' social self and peers' scale scores on the MSEI.

d. There is no significant difference in the level of self-esteem by age group on the subjects' home and parents' scale scores on the MSEI.

Coopersmith in establishing norms on the SEI used two age groups. These were: Preadolescents, 9 to 15 years, and Young Adults, 16 to 23 years.
e. There is no significant difference in the level of self-esteem by age group on the subjects' school and teachers' scale scores on the MSEI.

Table 17 shows the mean and standard deviation scores by age groups on the five dependent variables. The grand mean for each of the five variables is also shown.

Table 18 presents the results of the analysis of variance by age group on the dependent variables. The non-significant F ratios on the Total Scale, Self Scale, Peer Scale, and School Scale scores indicate that age group has no effect on these variables. However, on the Home Scale Scores, age does make a significant difference at the .05 level.

From the mean and standard deviation scores presented in Table 17, it can be observed that in each of the three samples in Age Group 2, the Young Adult subjects, have more positive feelings about their home and parents' than those in Age Group 1, the Preadolescents. These differences between samples, by age group, are more marked in the scores of deaf subjects than in those of non-deaf subjects.

The hypothesis that within the population of the study there is no significant difference in level of self-esteem by age group on the five dependent variables will be rejected. Age group is significant at the .05 level on the Home Scale. However, hypotheses stating there is no significant difference in the level of self-esteem by age group on the other four variables will not be rejected.
<table>
<thead>
<tr>
<th>Group</th>
<th>Age in Years</th>
<th>N</th>
<th>Total Scale</th>
<th>Self Scale</th>
<th>Peer Scale</th>
<th>Home Scale</th>
<th>School Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>12:00-15:11</td>
<td>9</td>
<td>M</td>
<td>60.88</td>
<td>31.55</td>
<td>10.44</td>
<td>10.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD</td>
<td>4.91</td>
<td>4.66</td>
<td>2.96</td>
<td>3.16</td>
</tr>
<tr>
<td></td>
<td>16:00-18:11</td>
<td>6</td>
<td>M</td>
<td>69.66</td>
<td>36.33</td>
<td>10.33</td>
<td>12.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD</td>
<td>6.97</td>
<td>5.42</td>
<td>2.33</td>
<td>2.19</td>
</tr>
<tr>
<td>II</td>
<td>12:00-15:11</td>
<td>9</td>
<td>M</td>
<td>64.66</td>
<td>33.55</td>
<td>11.11</td>
<td>9.55</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>SD</td>
<td>10.48</td>
<td>6.38</td>
<td>3.01</td>
<td>2.40</td>
</tr>
<tr>
<td></td>
<td>16:00-18:11</td>
<td>6</td>
<td>M</td>
<td>66.66</td>
<td>33.33</td>
<td>10.00</td>
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<td></td>
<td></td>
<td></td>
<td>SD</td>
<td>9.00</td>
<td>6.02</td>
<td>4.00</td>
<td>2.33</td>
</tr>
<tr>
<td>III</td>
<td>12:00-15:11</td>
<td>10</td>
<td>M</td>
<td>70.40</td>
<td>37.60</td>
<td>11.80</td>
<td>11.40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td>11.18</td>
<td>7.23</td>
<td>1.75</td>
<td>2.98</td>
</tr>
<tr>
<td></td>
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<td>M</td>
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<td>36.80</td>
<td>12.40</td>
<td>12.40</td>
</tr>
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<td></td>
<td></td>
<td>SD</td>
<td>2.68</td>
<td>2.68</td>
<td>0.89</td>
<td>2.96</td>
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<td>Grand Mean</td>
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<td></td>
<td>66.84</td>
<td>34.76</td>
<td>11.02</td>
<td>10.98</td>
</tr>
</tbody>
</table>

*Coopersmith's age group classification
TABLE 18

ANALYSIS OF VARIANCE BY AGE ON THE MSEI TOTAL, SELF, PEER, HOME, AND SCHOOL SCALE SCORES

<table>
<thead>
<tr>
<th>Score</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effects</td>
<td>3</td>
<td>500.490</td>
<td>166.830</td>
<td>2.262</td>
<td>N.S.</td>
</tr>
<tr>
<td>Age</td>
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<td>163.243</td>
<td>163.243</td>
<td>2.213</td>
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</tr>
<tr>
<td>Group</td>
<td>2</td>
<td>366.519</td>
<td>183.260</td>
<td>2.484</td>
<td>N.S.</td>
</tr>
<tr>
<td>Interaction</td>
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<td>130.671</td>
<td>65.335</td>
<td>0.886</td>
<td>N.S.</td>
</tr>
<tr>
<td>Residual</td>
<td>39</td>
<td>2876.746</td>
<td>73.763</td>
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<td></td>
</tr>
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<td>44</td>
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<td>79.725</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effects</td>
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<td>167.418</td>
<td>55.806</td>
<td>1.639</td>
<td>N.S.</td>
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<td>17.906</td>
<td>0.526</td>
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</tr>
<tr>
<td>Group</td>
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<td>77.826</td>
<td>2.285</td>
<td>N.S.</td>
</tr>
<tr>
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<td>33.293</td>
<td>0.978</td>
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</tr>
<tr>
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</tr>
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<td>1562.306</td>
<td>35.507</td>
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TABLE 18—Continued

<table>
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<th>Mean Squares</th>
<th>F</th>
<th>p</th>
</tr>
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<tbody>
<tr>
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<td></td>
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</tr>
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</tr>
<tr>
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<td>0.547</td>
<td>0.076</td>
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</tr>
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<tr>
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<td>7.022</td>
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<td></td>
</tr>
<tr>
<td>Home Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>15.087</td>
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<td>N.S.</td>
</tr>
<tr>
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<td>31.217</td>
<td>4.153</td>
<td>0.046*</td>
</tr>
<tr>
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<td>N.S.</td>
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<tr>
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</tr>
<tr>
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<td>7.517</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>340.976</td>
<td>7.749</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effects</td>
<td>3</td>
<td>40.686</td>
<td>13.562</td>
<td>1.779</td>
<td>N.S.</td>
</tr>
<tr>
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<td>12.775</td>
<td>1.675</td>
<td>N.S.</td>
</tr>
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<td>13.282</td>
<td>1.742</td>
<td>N.S.</td>
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<td>N.S.</td>
</tr>
<tr>
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<tr>
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<td>44</td>
<td>345.777</td>
<td>7.859</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at .05 or less.
Hypothesis 5

The last major hypothesis formulated for statistical testing was the effect of degree of hearing loss on deaf subjects' scores on the five dependent variables. The John Tracy Clinic's classification of severe hearing impairment was used as the cutting point in assigning subjects to groups. Subjects with a hearing loss of 91 dB to 100 dB ISO formed one group and those with a loss of 101 dB to 110 dB ISO composed the second group. The hypothesis for this factor was stated as follows:

5. Within the deaf population of the study, there is no significant difference in the level of self-esteem by degree of hearing loss as measured by the five dependent variables.

From the major hypothesis, the following five sub-hypotheses were stated for each of the dependent variable scores:

a. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' total scale scores on the MSEI.

b. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' self scale scores on the MSEI.

c. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' social self and peers' scale scores on the MSEI.

The John Tracy Clinic classifies a loss of 90 dB to 100 dB ISO, across the speech frequencies, as severe. The more widely used range for this category is 71 dB to 90 dB ISO. See Chapter I, p. 8.
d. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' home and parents' scale scores on the MSEI.

e. There is no significant difference in deaf subjects' level of self-esteem by degree of hearing loss on the subjects' school and teachers' scale scores on the MSEI.

Table 19 gives the mean and standard deviation scores by degree of hearing loss on the five dependent variables. The grand mean for each of the variables is also given in this table.

Table 20 presents the analysis of variance, by degree of hearing loss on the dependent variables. The non-significant F ratios on the Total Scale, Self Scale, Peer, Scale, and Home Scale scores indicate that on these variables degree of hearing loss has no significant effect. On the School Scale variable, however, the main effects of hearing loss by group is significant at the .03 level. This .03 level of significance is due to the combined effects of hearing loss and communication group. When analyzed separately the effect of hearing loss is not significant but the effect of communication group is significant at the .02 level. The main effect was confounded by the fact that there was significant interaction at the .01 level. However, a more specific examination shows the degree of disordinality is not great. The means of groups that have a hearing loss of 101 dB to 110 dB and who use different modes of communication differ significantly. Group I deaf oral subjects, are restricted to speech alone, and have a mean of 7.66 with a standard deviation of 2.65, while Group II, deaf total subjects, use both oral and manual communication, and have a mean of 11.6 with a standard deviation of 2.67. When
<table>
<thead>
<tr>
<th>Group</th>
<th>Hearing Loss in Decibels</th>
<th>N</th>
<th>Total Scale</th>
<th>Self Scale</th>
<th>Peer Scale</th>
<th>Home Scale</th>
<th>School Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>91-100 dB</td>
<td>9</td>
<td>M</td>
<td>65.55</td>
<td>33.77</td>
<td>10.44</td>
<td>10.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD</td>
<td>7.73</td>
<td>5.60</td>
<td>3.12</td>
<td>3.38</td>
</tr>
<tr>
<td></td>
<td>101-110 dB</td>
<td>6</td>
<td>M</td>
<td>62.66</td>
<td>33.00</td>
<td>10.33</td>
<td>11.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SD</td>
<td>6.40</td>
<td>5.47</td>
<td>1.96</td>
<td>1.96</td>
</tr>
<tr>
<td>II</td>
<td>91-100 dB</td>
<td>5</td>
<td>M</td>
<td>70.00</td>
<td>36.40</td>
<td>11.60</td>
<td>11.20</td>
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<td></td>
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<td>6.06</td>
<td>2.19</td>
<td>1.78</td>
</tr>
<tr>
<td></td>
<td>101-110 dB</td>
<td>10</td>
<td>M</td>
<td>63.20</td>
<td>32.00</td>
<td>10.20</td>
<td>10.00</td>
</tr>
<tr>
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<td></td>
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<td>5.73</td>
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<td>2.82</td>
</tr>
<tr>
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<td>Grand Mean</td>
<td></td>
<td></td>
<td>64.93</td>
<td>33.47</td>
<td>10.53</td>
<td>10.60</td>
</tr>
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</table>

*John Tracy Clinic classification.
TABLE 20
ANALYSIS OF VARIANCE BY DEGREE OF HEARING LOSS ON THE MSEI
TOTAL, SELF, PEER, HOME, AND SCHOOL SCALE SCORES

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effects</td>
<td>2</td>
<td>166.234</td>
<td>83.117</td>
<td>1.181</td>
<td>N.S.</td>
</tr>
<tr>
<td>Hearing loss</td>
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<td>157.700</td>
<td>157.700</td>
<td>2.242</td>
<td>N.S.</td>
</tr>
<tr>
<td>Group</td>
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<td>38.038</td>
<td>38.083</td>
<td>0.541</td>
<td>N.S.</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>26.475</td>
<td>26.475</td>
<td>0.376</td>
<td>N.S.</td>
</tr>
<tr>
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<td>70.352</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
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<td>69.719</td>
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<tr>
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<tr>
<td>Total</td>
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<td>911.463</td>
<td>31.430</td>
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<tr>
<td></td>
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<td>Peer Scale</td>
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<tr>
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<td>2.118</td>
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TABLE 20—Continued

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<td><strong>School Scale</strong></td>
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</tr>
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<td>16.432</td>
<td>3.834</td>
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<td>175.467</td>
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*Significant at .05 or less.
hearing loss is between 91dB and 100dB the mean and standard deviation scores of subjects by group do not differ significantly.

The hypothesis that within the deaf population of the study there is no significant difference in self-esteem by degree of hearing loss on the five dependent variables will be rejected. Hearing loss is significant at the .05 level on the School Scale Variable. However, hypotheses stating there is no significant difference in the level of self-esteem by degree of hearing loss on the other four variables will not be rejected.

Discussion

Because of the dearth of research in this area as it pertains to the deaf, and because of the specific focus of this study, the overall results cannot be compared or specifically related to previous research. No study reported in the literature has looked at the relationship between self-esteem and modes of communication in deaf and non-deaf subjects; all of whom have hearing parents; and all of whom attend day school facilities. Thus, comparison with other research is somewhat limited in this discussion.

In comparing the deaf and non-deaf samples on the five dependent variables several general results were of importance. Firstly, in the general assessment of self-esteem, shown by the total scale scores, there was a significant difference at the .05 level between these samples. Significant differences also appeared when scores on the Self Scale \( p < .04 \) and Peer Scale \( p < .04 \) were analyzed.

The more positive assessment on each of these three scales was made by the non-deaf sample, indicating a higher level of self-esteem.
Since sex, age, intelligence, race, and teacher ratings were controlled, the variable responsible for this difference would appear to be hearing loss. Hearing acuity governs language acquisition, and language in turn facilitates communication ability.

Deaf students who are deprived of significant amounts of stimulation and informational feedback have less data available upon which to base their self evaluations. Thus, it is understandable that with less information to draw from, profoundly deaf students would be less positive in their attitudes towards themselves and their peers. It is postulated that when deaf students attend either a hearing class or a special deaf class in a hearing school they evaluate themselves, at least with regard to self and peers, in relation to the hearing majority.

When the deaf and non-deaf samples were compared on the Home and School Scales no significant differences were found. On the Home Scale this could be explained by the equivalence of the samples. This equivalence was obtained by having two teachers rate each subject's family relationships and home environment. From these ratings it was possible to make suitable matches. The School Scale was concerned with students' interaction with class or homeroom teachers. Since the teachers in both the deaf and non-deaf classes would be specifically trained for their respective situations, it is feasible that no significant difference between the samples appeared on this variable.

In analyzing the two deaf samples on the five dependent variables, no significant differences in scores, at the .05 level of probability appeared. However, on the School Scale there was an indication that there was some difference between the samples on the mean scores. It was
observed that the deaf and non-deaf samples that communicated orally in
school had very similar means on this scale. However, the deaf sample
that utilized manual, as well as oral communication for at least the past
four years had a higher mean. This indicated that the deaf total sub-
jects, Groups II, had a higher level of self-esteem on this variable.
One plausible reason for this difference is that all deaf total subjects
had had oral teachers in their past educational experiences. Thus, this
group had the unique advantage of being taught by teachers who used both
communication methods--oral and total. The directional trend favoring
the superiority of total communication, at least in the school situation,
could be interpreted as a vote of student approval for the total method.

To further test this trend an analysis by degree of hearing loss
was applied to the School Scale. This produced an interesting and
significant result. Subjects in the samples did not differ significantly
regardless of mode of communication, when their hearing loss was between
91 dB and 100 dB. However, when hearing loss was between 101 dB and
110 dB, the mode of communication did make a significant difference at the
.03 level of probability. Subjects, with a loss of 101 dB or greater, in
Group II, deaf total subjects, evaluated school and teachers much more
positively (p < .02) than subjects with the same hearing loss in Group I,
who were limited to oral communication alone. This evidence indicates
that when hearing loss is in the lower range of the profound category,
students should have the option and advantages of the total method.
Before a strong statement should be made, however, stronger statistical
evidence needs to be produced in further well designed and controlled
research.
The sex of subjects was found to make no significant difference in the scores on the five dependent variables, regardless of hearing status or communication mode. This result supports the research of Lipsitt, Piers and Harris, and Coopersmith who found no difference in self-esteem by sex. However, an interesting observation appeared on the Home Scale when it was analyzed by sex.

Deaf males and females evaluated their homes quite similarly. Non-deaf males were less positive about their homes than non-deaf females. This difference in attitudes by sex between non-deaf subjects supports the body of literature that indicates that males sever ties and seek independence from home, earlier than females. Deaf males, unlike their non-deaf counterparts, did not show this movement towards independence.

The analysis of the dependent variables by age groups, as well as communication groups, showed that some interesting patterns existed. The patterns indicated that differences may exist between the samples in the assessment of self-esteem shown in the total scale scores. Because of the way the subjects fell within the cells, no statistical t-test for matched pairs could be applied to sample means. However, from the means of the samples several hypotheses can be suggested.

Firstly, preadolescents did not evaluate themselves as positively as young adults did. This is a fact that has been well researched and

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is supported by a vast body of literature.

Secondly, in this study oral deaf young adults were very similar to non-deaf young adults in their general level (Total Scale) of self-esteem, while the opposite was true for the preadolescent subjects. The latter difference may be attributed to the oral deaf student's stage of psychosocial development. Non-deaf preadolescents, aged 12 to 15 years, are approaching the developmental stage of identity consolidation. This stage brings a new understanding of self, and a growth in interpersonal relations with family, society and the learning environment. For this group it also marks the birth of ego identity and growth in self-esteem. Oral deaf preadolescents, on the other hand are usually still at the previous stage of development--industry. Their developmental focus is still directed toward "I am what I learn," rather than "I am who I am." Deaf students in this preadolescent stage usually show lack of self understanding and inferior interpersonal relationships, due to their language deficit and lack of experience. The latter was demonstrated in this study by oral deaf students' lower level of self-esteem, when compared with normals.

This developmental lag between oral deaf and non-deaf students is

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9 Ibid., pp. 55-56.
bridged, to a degree, in young adulthood. At this stage oral deaf students' language and oral communication skills greatly improve and this growth permits them to enter into and to interact within the wider hearing society. A consequence of the latter was reflected in this study in the more positive evaluations of deaf oral subjects, at the young adult age level. The mean scores of Group II, deaf total subjects, showed trends similar to those of oral deaf subjects. However, the discrepancies of this group, when compared with the non-deaf group, were not so marked either negatively with preadolescents, or positively with young adults.

The data indicated that there was a significant difference at the .05 level of probability by age group on the Home Scale between the samples. The more positive evaluation by the 16 to 19 year age group, in all samples, is contrary to the popular belief of parents, that children at this age, are less influenced by the attitudes of home and parents, than are younger children. It is posited that parents interpret the questions of adolescents as a threat to their esteem and values. What adolescents may actually be seeking in their interactions with parents at this age is cognitive information, which will provide them with a rationale for the attitudes they hold and have gained from home and parents.

**Summary**

This chapter dealt with the presentation, results, and interpretation of the data. In summary, the analysis of the Subject Communication Questionnaire (SCQ) indicated that all subjects communicate more with their mothers than with other family members. Non-deaf and deaf
subjects who used verbal communication, reported better interaction with their fathers. Interaction with teachers was fairly similar in each of the samples.

All subjects stated that they had friends at school, and the majority reported friends of both sexes. However, mode of communication with these friends was related to hearing status. The majority of deaf subjects, regardless of communication group, used both oral and manual forms of communication with their school friends.

The majority of subjects, in both deaf samples, chose speech alone, over alternative methods, as their preferred form of communication. However, all deaf subjects did not fully support, by personal choice, the communication form by which they were being educated.

The analysis of variance technique was employed in analyzing the data on the five dependent variables of the MSEI. It was observed that non-deaf subjects had a higher level of self-esteem than deaf subjects. Differences between these samples were significant on the Total Scale at $p < .05$, the Self Scale at $p < .04$, and the Peers Scale at $p < .04$. There was no significant difference between deaf and non-deaf samples on the variables related to home and school.

The sex of subjects made no significant difference on any of the five dependent variables. However, within the total population of the study, young adults (aged 16 to 19 years) had a higher level of self-esteem on the Home Scale. The significance level of this variable was $p < .05$.

When deaf subjects' scores were analysed by communication mode, no significant differences were found on the five scales of the MSEI. However, when deaf subjects' scores were analyzed by degree of hearing
loss, a difference of \( p < .03 \) was found on the School Scale variable. This result was only found when degree of hearing loss was between 101 dB and 110 dB, and was attributed to the total method of communication. When the degree of hearing loss was between 91 dB and 100 dB, no significant difference, by mode of communication was found.

Chapter V will present the summary, conclusions, and recommendations based on the study.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

It was pointed out in Chapter I, that deaf education in the United States is undergoing a rapid change in the principal mode used in teaching the deaf. This change has caused intense controversy because it rests mainly either on a non-experimental empirical base, or on an experimental base that has no application to over ninety percent of deaf children. These are the deaf children who have hearing parents rather than deaf parents.

With all persons, hearing or deaf, the major goal in education is the maximizing of human potential. Scientific research indicates that this goal is best attained by individuals who hold positive attitudes towards themselves. These self attitudes—the individual's self-esteem are gained through communication with others. It is 'what is communicated', regardless of form, that needs to be the prime consideration of parents and educators of the deaf.

Purpose

This study was concerned with the development of self-esteem in non-deaf and deaf students, who had hearing parents, attended day school facilities, and used different modes of communication. The areas in self-esteem chosen for study were those identified in the literature as the main sources of the handicapped student's perceptions—parents, teachers, self, and peers. The purpose of the research were:

1. To compare the level of self-esteem in deaf students who use
oral communication with that of deaf students who use total communication.

2. To compare the level of self-esteem in deaf students and non-deaf students.

Instruments

Three communication questionnaires were prepared, for subjects, parents, and teachers. The Subject Communication Questionnaire (SCQ) was also designed to gain information regarding communication and relationships with family members, teachers, and friends. A modified language form of Coopersmith's Self-esteem Inventory (SEI) was prepared to measure the dependent variables. This was called the Modified Self-esteem Inventory (MSEI). A Rating Scale, devised by Meadow, was adapted for use as a matching tool in the study. This rating scale was concerned with the same areas as the dependent variables of the MSEI—personal characteristics, social relationships, school relationships, and family relationships and home environment.

Sample

Forty-five Caucasian subjects, aged between twelve and nineteen years, constituted the study population. All had hearing parents and attended day school facilities in the Chicago area. Thirty subjects were profoundly deaf and fifteen subjects were hearing students. The subjects were matched on five variables—sex, age, IQ, teacher ratings of subjects and race. In addition, deaf students were matched on degree of hearing loss.

The subjects were organized into three categories according to hearing status and mode of communication: Group I, deaf students who used oral communication; Group II, deaf students who used total communication;
and Group III, non-deaf students who used normal communication. Each category consisted of six males and nine females, making a total of fifteen students in each of the three samples.

Research Design and Statistical Methodology

The research design used in the study was deaf matched pairs with a non-deaf matched control. One way analysis of variance was used to study the relationship between mode of communication and level of self-esteem. Double classification analysis of variance was used to study the effect of sex, age group, and degree of hearing loss on the dependent variables.

Hypotheses

Five major hypotheses were formulated and tested:

1. Within the deaf population of the study, there is no significant difference in the level of self-esteem between deaf subjects who use oral communication and deaf subjects who use total communication as measured by the five dependent variables.

2. Within the total population of the study, there is no significant difference in the level of self-esteem between deaf subjects and non-deaf subjects as measured by the five dependent variables.

3. Within the total population of the study, there is no significant difference in the level of self-esteem between the sexes as measured by the five dependent variables.

4. Within the total population of the study, there is no significant difference in the level of self-esteem by age group as measured by the five dependent variables.

5. Within the deaf population of the study, there is no signifi-
cant difference in the level of self-esteem by degree of hearing loss as measured by the five dependent variables.

**Major Findings**

1. No relationship was found between mode of communication and level of self-esteem in deaf subjects who used oral communication and deaf subjects who used total communication on the MSEI Total, Self, Peer, Home, and School Scales.

2. Degree of hearing loss had no significant effect on self-esteem on the MSEI Total, Self, Peer, and Home Scales.

3. Degree of hearing loss had a strong effect on self-esteem on the School Scale, $p < .03$. No difference was found in scores, by communication group, when hearing loss was 91 dB to 100 dB. When hearing loss was between 101 dB and 110 dB a significant difference in scores, $p < .03$, attributed to total communication, was found.

4. Non-deaf subjects were more positive in the general assessment of self-esteem than were deaf subjects, on the MSEI Total Scale, $p < .05$.

5. Non-deaf subjects had a higher level of self-esteem than deaf subjects on the MSEI Self Scale, $p < .04$, and Peer Scale, $p < .04$.

6. No difference was found in self-esteem between non-deaf and deaf subjects on the MSEI Home Scale or School Scale.

7. Sex had no effect on scores of non-deaf or deaf subjects on the five dependent variables of the MSEI.

8. Age group had no effect on non-deaf or deaf subjects scores on the MSEI Total, Self, Peer, or School Scales.

9. Age group had a significant effect on the MSEI Home Scale, $p < .05$. Young adults, aged 16 to 19 years, had a higher level of self-
esteem than preadolescents, aged 12 to 15 years.

10. All subjects reported communication and interaction within the family, to be superior with mothers.

11. Similar family relationships were reported by non-deaf and deaf oral students. In addition to superior relationships with mothers, they reported good communication and interaction with fathers and siblings.

12. Similar communication and interaction with teachers was reported by subjects in each of the three samples.

13. All subjects had friends at school and the majority had friends of both sexes.

14. Method of communication with school friends was related to hearing status. The majority of deaf students, regardless of communication group, used a combination of oral and manual communication forms with school friends.

15. The majority of subjects, in all samples, had friends outside school. Deaf oral subjects had significantly more hearing friends only, than deaf subjects who used total communication.

16. As the preferred mode of communication, speech was chosen over alternative methods by the majority of subjects in both deaf samples.

17. Some deaf subjects in both samples did not support, by personal choice, the communication form by which they were being educated.

Conclusions

The conclusions of this study will be presented in two parts—firstly, those that pertain to deaf students only, and secondly, those
that concern both non-deaf and deaf students.

**The Effect of Communication Mode on Self-esteem in Deaf Students**

This study found no significant difference in the level of self-esteem of deaf students who used oral communication and deaf students who used total communication on the five dependent variables. However, there were some differences in students' self-reports by communication group.

Within the family, both samples reported relationships and communication with mothers to be superior. Group I, deaf oral subjects, had significantly more communication and interaction with fathers than Group II, deaf total subjects. This may be attributed to a lack of verbal skills by students and/or a lack of manual skills by fathers. The point is significant, however, as Coopersmith reports that, "Adolescents who have a close relationship with their fathers are higher in self-esteem than are those with more distant impersonal relationships."¹

This same pattern, indicating the better relationships of oral deaf students, was reported with siblings. However, with siblings the difference in pattern was not so extreme.

The conclusion drawn from the students' self reports is that while hearing mothers are prepared to learn manual communication, fathers and siblings are not. This trend would need to be studied in larger samples who have been exposed to total communication for a longer period of time. If the trend persists it could have the effect of isolating, and perhaps even alienating, the deaf child who uses total communication.

from all family members except mothers.

Subjects' self-report of their communication and interaction with school friends showed no real differences by communication group. All students had friends and the majority had friends of both sexes. However, most students, irrespective of communication group, used total communication with deaf school friends. This indicates that regardless of the educational mode used in school and at home deaf subjects desire "the language of the deaf" to use with their deaf friends in social intercourse.

The only marked difference in students' self-reports regarding non-school friends pertained to the hearing status of these friends. Group I, oral deaf subjects had significantly more hearing friends only, than Group II, total deaf subjects. This may be attributed to geographical location or may be an attempt by hearing parents to isolate their deaf offspring from other deaf people, and integrate them fully into the hearing society. If parents are attempting to restrict their deaf children from social contact with deaf persons it would appear to be a most unrealistic and futile endeavor, particularly with deaf children who have an extreme hearing impairment. With or without parental approval or cooperation deaf persons seek the friendship of those who are similarly handicapped. Schein and Delk's research indicates that over sixty-five percent of the deaf population marry, and of these over eighty-five percent choose deaf spouses.\(^2\) The high percent of deaf persons who remain single is accounted for by discrepancies in the proportions of

deaf males and deaf females at the different age levels. Thus, parents should be considerate of the wishes of their deaf offspring and permit them to associate socially with deaf friends, if they desire to. This is especially important where children with a profound hearing impairment are involved, as research indicates that few of these persons can fully and successfully integrate into the wider society.

Despite no acceptable significant difference between the two deaf samples, there was some movement towards a difference on the School Scale variable. To further test this trend in the data, on each of the five scales of the MSEI, the scores of deaf subjects were analyzed by degree of hearing loss. A significant difference appeared only in scores on the School Scale. When hearing loss was between 91 dB and 100 dB no difference in self-esteem, regardless of communication mode, was found. However, when hearing loss was between 101 dB and 110 dB, the mode of communication made a significant difference in self-esteem scores. Students, with a hearing loss of 101 dB or greater, who used total communication, evaluated school and teachers much more positively than students, with the same hearing loss, who were limited to oral communication alone. This data could support Meadow's finding that "school achievement and communicative skills both are related to the deaf child's self-image, particularly if he has hearing parents."}

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3 Ibid., p. 40.

Subjects' self-report of communication and interaction with teachers indicated that Group I, oral deaf students, rated both class and other teachers more positively than did Group II, total deaf students. Thus, the data which shows that Group II have a higher level of self-esteem cannot be attributed to a "halo effect" rating error.

The conclusion drawn from the statistical evidence in relation to the superiority of the total communication group is that when hearing loss is in the lower range of the profoundly deaf category, students should have the option and advantages of the total method. Before a forceful statement is made on this point further well designed and controlled follow-up studies should be conducted. These studies should pertain to the self-attitudes of deaf children of hearing parents who use different methods of communication.

Subjects' self-reports revealed that a high percentage of students in both deaf samples did not support, by personal choice, the mode of communication by which they were being educated. This may be attributed to the geographical location of programs for the deaf, which offer students communication options in education, or it may indicate that the preference of the deaf individual is considered subordinate to that of his parents and/or educators.

The data shows that neither a single method, nor a program offering an eclectic method, is suitable to the preferences, skills and needs of all students, parents, or educators. The first decision made for very young deaf children regarding mode of communication should be prescriptive in nature, and based on the results of diagnostic testing. Later, the opinions and preferences expressed by students should be considered, evaluated, and respected by parents and educators.
In general, speech was the form of communication preferred by the majority of subjects in each of the two samples. Over sixty-six percent of Group I, deaf oral students, and forty percent of Group II, deaf total students, made this choice. The conclusion drawn is that many profoundly deaf students wish to participate to the best of their ability in the wider society and desire to improve their verbal skills. Thus, all students should be given the opportunity of individual speech development and/or correction so that intelligibility may be improved. In the most extreme cases, where students have little lip-reading skill, this speech work might be confined to some basic statements and expressions.

The Effect of Hearing Status on Self-esteem in Non-deaf and Deaf Students

This study indicated that while the general assessment of self-esteem is higher in non-deaf students than in deaf students, there is no difference in these two groups in their evaluations of attitudes gained from home and school. Where the difference did occur was in deaf students' less positive evaluations of themselves. They also made less positive evaluations of their relationships with peers in social situations. This may be interpreted as a fairly accurate judgement by deaf students, as it may be assumed that when they attend either a hearing class or a special deaf class in a hearing school, they evaluate themselves, at least in regard to self and peers, in relation to the hearing majority. Hearing loss appears to be the variable responsible, as sex, age, IQ, race, and home environment were controlled for. Hearing acuity governs language acquisition, and language in turn facilitates communication. The lower level of self-esteem in deaf students offers confirmation of Mead's contention that language, upon which all communication is based.
is essential for the development of the self-concept.  

The finding that deaf subjects were less positive in their self attitudes than non-deaf subjects, was supported by students' self reports. These indicated that while peer relationships in the school setting were similar for both samples, non-deaf subjects had communication and interaction with non-school friends which was superior to that of deaf subjects with their non-school friends. Thus, it may be concluded that when compared with his non-deaf peer, the deaf student's lower language level is consistent with and responsible for his lower level of self-esteem.

No difference was expected or found in the attitudes gained from home by non-deaf students and deaf students of hearing parents. The samples were matched for equivalence in family relationships and home environment. The literature indicates that the positive attitude, found in the deaf sample of this study, is not the usual pattern of attitude experience of deaf children of hearing parents. These children usually gain inferior feelings about themselves because they are often rejected, misunderstood, lack the necessary communication skills, and cause feelings of guilt, frustration, and anger in their hearing parents. While the deaf subjects in this study may not be representative of the wider population of deaf children of hearing parents, it was essential to this research that there be equivalence between samples so that any differences


in self-esteem would be the result of hearing status or mode of communication, rather than a reflection of parental attitudes and home environment.

There was no significant difference between non-deaf subjects and deaf subjects in self-attitudes gained in school. The self-report of subjects in both samples, also substantiated this fact. It is concluded that this result is a consequence of interaction with teachers, who understand their students because they are specifically trained for their respective situations.

In analyzing the five dependent variables of the study, sex was found to have no significant effect on the self-esteem level of non-deaf and deaf subjects. This data supports previous findings by Lipsitt, Piers, and Harris, and Coopersmith concerning non-deaf students. No study involving deaf students could be directly compared with the present research. However, in the self image scores presented in Meadow's research, it can be observed that no significant difference, by sex, appeared between the two deaf samples who had hearing parents but attended different school facilities.

Non-deaf and deaf students' age level was found to have a significant effect on only the Home Scale variable. Young adults, aged 16 to

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19 years, had a higher level of esteem than did preadolescents, aged 12 to 15 years. This finding is consistent with the body of research which indicates that "self-esteem increases with age."\(^9\)

**Implications**

While the focus of this study was narrow and concerned with the development of self-esteem in a very specific group of non-deaf and deaf subjects, four major implications can be made. The first pertains to the child, who from birth is developing and redefining, in a cognitive way, the attitudes he holds towards himself. Because an individual's self-esteem consists of beliefs and attitudes, it is also affective in nature, and is subsequently exposed to change and modification, through experiences and with maturity.

Thus, in all decisions made by parents, psychologists, audiologists, and educators, the young child, the individual with his strengths and limitations, has to be the prime consideration. This means that decisions must be based on knowledge which is gained through observation and diagnostic testing and there must be understanding and acceptance of the possibilities and limitations that a handicap such as deafness brings. Through the acceptance and understanding of others the child can learn to accept his own limitation for performance, and set realistic goals, which he can achieve, and through which he can enhance his self-esteem.

The second implication concerns parents, who are the prime source of the child's self-attitudes. From this study one can infer that both non-deaf and deaf students gain positive feelings about themselves from their homes. However, young adults, aged 16 to 19 years, gain a higher level of self-esteem than preadolescents, and the source of this esteem is home and parents. This is quite significant because this is the developmental period during which the identity crisis should be resolved, a career choice is made, and heterosexual relationships are begun. Young deaf adults indicate that they look to the home, rather than to the peer group, as many non-deaf young adults do, for their self evaluations at this time. Deaf students show that they need and want the guidance of parents during this decision making period, and that their peers do not hold the place of significance in their lives that peers of non-deaf students do.

The third implication of this study concerns the school. The quality of the school experience of deaf students—particularly, older deaf students, is significant in the fostering of high self-esteem. The self attitudes derived from school are much more positive in deaf students than in non-deaf students, and thus this agency can greatly facilitate the reversal or raising of self-esteem. What this implies is that with these positive self-attitudes the deaf student's capacity for personal growth and learning is increased. The literature suggests that effective use of motivational techniques, instructional television, flexibility in communication, and interaction with hearing peers are possible means of building and/or reversing self-esteem in the deaf child.

The final implication of this research concerns the deaf student's mode of communication. Self-esteem, irrespective of its source,
is derived through communication. In general this study indicates that with deaf students in the upper range of the profoundly deaf category, 91 dB to 100 dB, mode of communication—oral or total, has no effect on the level of self-esteem. However, with deaf students in the lower range of the category, 101 dB to 110 dB, more positive evaluation of self, particularly in the school situation, are made by those students who use total communication. What this implies is that students who have very little or no residual hearing may need the advantages of the combined oral/manual method to gain and give information about themselves.

Through, total communication, which for this group may be the superior communication mode, they may be able to make finer discriminations about the self and enhance their well being as healthy productive members of society.

Recommendations

1. Maintenance and expansion of the dual system of education of the deaf which has had a long history in the United States. This offers students, parents, and teachers communication options in education as no single method or eclectic method suits the preferences, skills, and needs of all.

2. A reevaluation of current curricula and teacher preparation programs so that the psychological and affective domain of the deaf student might be provided for. As Craig suggests this could provide the deaf child with the language that is necessary for communicating information about the self. It could focus greater educational attention on the problem of social self—the self in social interaction, in addition to present education which is more directly academic. It could afford the
deaf student opportunities for making self-evaluations, rather than evaluating self continually by punishments and rewards given by authority figures. At each age level, it could also provide the deaf child with the knowledge and information necessary for understanding his hearing handicap.

3. Guidance programs should be provided for the parents of deaf adolescents. Such programs could offer counseling and help to parents and assist them in accepting and understanding the deaf adolescent. They could help parents reach realistic goals about their child's future and provide them with information about the crisis of identity and the developmental stage of intimacy, in the deaf child from the hearing home.

4. A rigorous persistent effort to teach speech should be undertaken. Speech is an important aspect of both the oral and total methods of communication. It is also the most common form of communication used by the deaf across all occupations. The NCDP report concludes that "because deaf people constitute a small minority within the general population, they must accommodate to the larger group rather than vice-versa."

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5. The introduction of manual communication in all deaf high school programs. Regardless of philosophy, deaf students should have a knowledge of the natural language of the deaf so that they can communicate with all their handicapped peers. In oral programs, manual communication could be offered as an optional second language. Non-deaf students could be encouraged to take manual communication as an elective subject.

6. Follow-up self-esteem studies involving deaf children of hearing parents are essential. These studies should not only replicate this research, but should look at self-esteem in deaf children with severe, moderate, and mild hearing losses.
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Reports/Proceedings—Published


Unpublished Materials


APPENDIX A

MODIFIED SELF-ESTEEM INVENTORY (MSEI)

Name__________________________________ Age__________ Birthday__________________________

School__________________________________ Date____________ Teacher__________________________

Read each sentence. If it tells how you feel most of the time, put an "X" in the box "Yes, like me"

If it tells how you do not feel most of the time, put an "X" in the box "No, not like me"

This is not a test. There are no right or wrong answers.

1. I daydream a lot of the time. (sit and pretend) _______________________________________ YES like Me NO not like Me

2. I know what to do most of the time. _________________________________________________

3. Many times I wish I were another person. ___________________________________________

4. I am easy to like. _________________________________________________________________

5. I have a lot of fun with my mother and father. _______________________________________

6. I never worry about anything. ______________________________________________________

7. I find it hard to talk in front of the kids in class. (school) _____________________________

8. I wish I were younger. (little again) ___________________________________________________
9. I wish I could change many things about me. ----------------------------
10. It is easy for me to decide what to do. -------------------------------
    (think)
11. People have fun with me. ---------------------------------------------
12. It is easy for me to feel unhappy at home. ----------------------------
13. I am very good all the time. ----------------------------------------
14. I am proud of my school work. --------------------------------------
15. Someone has to tell me what to do all the time. ----------------------
16. It takes me a long time to feel good about new people, places, or
    things. -------------------------------------------------------------
17. Many times I am sorry for the things I do. ---------------------------
18. Kids my own age like me. ---------------------------------------------
19. My mother and father try to understand how I feel most of the time----
20. I am never unhappy. ------------------------------------------------
21. I do the best work I can. --------------------------------------------
22. I give in easy. -----------------------------------------------------
    (play games other kids want)
    (go places other kids want to go)
23. I can look after myself almost all the time.  

24. I am happy most of the time.  

25. I like to play with children younger than me best. (littler)  

26. My mother and father want me to do more than I can.  

27. I like everyone I know.  

28. I like the teacher to ask me questions in school.  

29. I understand myself.  

30. It is very hard to be me.  

31. Things are mixed up for me.  
   (at home)  
   (at school)  
   (everywhere)  

32. Kids do what I say most of the time.  

33. No one has much time for me at home.  

34. I never get yelled at.  

35. I would like to do better work in school.  

36. I decide what to do and I do it. (think)  

|   | **I like being a boy/girl.** |   | **I do not think I am much good.** |   | **I like to be by myself.** |   | **Many times I would like to run away from home.** |   | **I am never afraid of new people.** |   | **I am never feel bad with new people.** |   | **Many times I feel unhappy in school.** |   | **Many times I am not proud of myself.** |   | **I am not as pretty as most people.** |   | **If I want to say something, I say it.** |   | **Many times kids tease and fight me.** |   | **My mother and father understand me.** |   | **I tell the truth all the time.** |   | **My teacher makes me feel I am not very good.** |   | **I do not care what happens to me.** |
|---|-------------------------------|---|----------------------------------|---|-----------------------------|---|-----------------------------------------------|---|-----------------------------|---|---------------------------------------|---|-----------------------------|---|----------------------------------|---|----------------------------------|---|---------------------------------|---|-----------------------------------|---|----------------------------------|---|---------------------------------|
| 37 | Yes                           | No                          | 38 | No                            | No                          | 39 | Yes                           | No                          | 40 | No                            | Yes                          | 41 | Yes                           | No                          | 42 | Yes                           | No                          | 43 | No                            | Yes                          | 44 | Yes                           | No                          | 45 | Yes                           | No                          | 46 | Yes                           | No                          | 47 | Yes                           | No                          | 48 | Yes                           | No                          | 49 | No                            | Yes                          | 50 | Yes                           | No                          |

(Interpretation of responses: Yes = Like Me, No = Not Like Me)
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<td>51. I am no good.</td>
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<td>52. I get unhappy easy, when I am yelled at.</td>
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<tr>
<td>53. Most people like other kids more than me.</td>
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<td>54. I feel my mother and father want me to do better, most of the time.</td>
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<tr>
<td>55. I know what to say to people all of the time.</td>
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<tr>
<td>56. I feel unhappy in school because I cannot do the work.</td>
<td></td>
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<tr>
<td>57. Things do not worry me most of the time.</td>
<td></td>
<td></td>
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<tr>
<td>58. I don't do the things I promise all the time.</td>
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</table>
Dear Parents:

I am completing my studies for a doctoral degree in education at Loyola University. Since I have been a teacher of profoundly deaf students for a number of years I am interested in looking at how deaf children, (with hearing parents) who use either total or oral communication, view themselves.

To enable me to carry out this research, I am going to give two written questionnaires concerning the child's view of himself and what communication method he uses. These questionnaires have been adapted to suit the deaf student's written language comprehension level, and will involve only a short period of time to complete.

The individual students will not be identified in any way when the research is completed. The results of the study should, however, help hearing parents and teachers assist more effectively the development of self concept in the deaf child, in relation to the method of communication used.

I hope that you will permit your child to participate. Please complete the enclosed form and return it to the school. You will note that there are five questions on the consent form, which will assist in screening your child into the correct communication group. I have also asked for your phone number in case it may be necessary, at a later date, to gain additional information about the origin of deafness and preschool guidance.

I would expect to make the results of my investigation known to those of you who are interested. This, my sincere gratitude, and an opportunity to contribute to an attempt at increased understanding of the deaf, may be some small exchange for the time I am asking you and your child to spend in this task.

Yours sincerely

Marie H. Kelliher
I give my consent for my son/daughter to participate in the study "The Effect of the Deaf Child's Method of Communication on his Self-Esteem," and for necessary data to be obtained from the school records.

Signature. (parent/guardian)

Telephone Number

1. Was your child born deaf or deafened?
   ___ born deaf
   ___ deafened at age ____

2. How do you communicate with your child?
   ___ speech
   ___ speech and fingerspelling
   ___ speech, fingerspelling and signs
   ___ fingerspelling and signs
   ___ signs
   ___ other (explain) ..........................................................................................

3. How long have you used this method of communication?
   ___ years

4. How does your child communicate with you?
   ___ speech
   ___ speech and fingerspelling
   ___ speech, fingerspelling and signs
   ___ fingerspelling and signs
   ___ signs
   ___ other (explain) ..........................................................................................

5. Are both parents of the deaf child who will be completing the questionnaires hearing people?
   ___ yes
   ___ no

Would you like a copy of the results of this research? Yes/No
APPENDIX C

TEACHER COMMUNICATION QUESTIONNAIRE (TCQ)

Student's Name ___________________________  School ___________________________

Directions:
- Check (√) the answer that best suits the student you have been asked to describe.
- If you wish to write in an answer or explanation, do so beside "X".

1. Would you describe the subject's method of communication as:
   ___ oral
   ___ total
   ___ X ___________________________

2. How long has the subject used this method of communication?
   ___ always
   ___ .......... years
   ___ do not know
   ___ X ___________________________

3. What proficiency does the subject have in using the form of communication checked in 1, (i.e. when compared with deaf peers of the same age)?
   ___ above average
   ___ average
   ___ below average
   ___ X ___________________________

4. How well does the subject communicate in writing (i.e. when compared with deaf peers of the same age)?
   ___ above average
   ___ average
   ___ below average
   ___ X ___________________________

5. How does the subject's mother communicate with him?
   ___ speech
   ___ speech and fingerspelling
   ___ speech, fingerspelling, and signs
   ___ fingerspelling and signs
   ___ signs
   ___ X ___________________________
6. How does the subject's father communicate with him?

- [ ] speech
- [ ] speech and fingerspelling
- [ ] speech, fingerspelling, and signs
- [ ] fingerspelling and signs
- [x] signs
- [ ] 

7. How do you communicate with the subject?

- [ ] speech
- [ ] speech and fingerspelling
- [ ] speech, fingerspelling, and signs
- [ ] fingerspelling and signs
- [ ] signs
- [x] 

8. How do other teachers communicate with the subject?

- [ ] speech
- [ ] speech and fingerspelling
- [ ] speech, fingerspelling, and signs
- [ ] fingerspelling and signs
- [ ] signs
- [x] 

-2-
APPENDIX D
APPENDIX D

SUBJECT COMMUNICATION QUESTIONNAIRE (SCQ)

To the student:

These questions are to find out HOW you communicate with your family, friends, and teachers. Deaf and hearing students from other schools are also answering these same questions. This is not a test.

NAME

SCHOOL

DIRECTIONS

- Read each question and the answers after it carefully.
- Check (✓) the answer that is best for you.
- Check (✓) only ONE answer for each question.
- Tell me if you do not understand something you read. I will help you.

1. How do you talk to your mother?
   ___ speech
   ___ speech and fingerspelling
   ___ speech, fingerspelling, and signs
   ___ fingerspelling and signs
   ___ signs

2. Do you talk to your mother:
   ___ often
   ___ sometimes
   ___ not much
   ___ never

3. How do you talk to your father?
   ___ speech
   ___ speech and fingerspelling
   ___ speech, fingerspelling, and signs
   ___ fingerspelling and signs
   ___ signs
4. Do you talk to your father:

   ____ often
   ____ sometimes
   ____ not much
   ____ never

5. Do you have brothers and/or sisters?

   ____ yes
   ____ no

6. How do you talk to your brothers and/or sisters?

   ____ speech
   ____ speech and fingerspelling
   ____ speech, fingerspelling, and signs
   ____ fingerspelling and signs
   ____ signs
   ____ I have no brothers or sisters

7. Do you talk to your brothers and/or sisters:

   ____ often
   ____ sometimes
   ____ not much
   ____ never

8. How do you talk to your relatives (grandparents, uncles, aunts, cousins etc.)?

   ____ speech
   ____ speech and fingerspelling
   ____ speech, fingerspelling, and signs
   ____ fingerspelling and signs
   ____ signs

9. Do you have friends at school?

   ____ yes
   ____ no

10. Are your friends at school:

    ____ boys
    ____ girls
    ____ boys and girls
    ____ I have no friends at school

11. Are your friends at school:

    ____ hearing
    ____ deaf
12. How do you talk to your friends at school?

- speech
- speech and fingerspelling
- speech, fingerspelling, and signs
- fingerspelling and signs
- signs

13. Do you have other friends who do not go to school with you?

- yes
- no

14. Are these friends who do not go to school with you:

- boys
- girls
- boys and girls
- I have no friends who do not go to school with me

15. Are your friends who do not go to school with you:

- hearing
- deaf
- hearing and deaf
- I have no friends who do not go to school with me

16. How do you talk to your friends who do not go to school with you?

- speech
- speech, and fingerspelling
- speech, fingerspelling, and signs
- fingerspelling and signs
- signs

17. How do you talk to your class/homeroom teacher?

- speech
- speech and fingerspelling
- speech, fingerspelling, and signs
- fingerspelling and signs
- signs

18. Do you talk to your class/homeroom teacher:

- often
- sometimes
- not much
- never
19. Do you talk to other teachers in your school?
   ___ yes
   ___ no

20. How do you talk to these other teachers in your school?
   ___ speech
   ___ speech and fingerspelling
   ___ speech, fingerspelling, and signs
   ___ fingerspelling and signs
   ___ signs

21. How do you like to talk to people (speech, fingerspelling, signs, etc.) best?

   Write your answer: __________________________________________
   __________________________________________
   __________________________________________
APPENDIX E
APPENDIX E

To the teacher:

The purpose of this research is to find the effect of the deaf child's method of communication on his self-esteem. The student, whose number appears at the top of this sheet, may be used as one of a matched pair for statistical analysis in this study.

I am hoping that you will help me by completing the four page rating scale, and returning it to me in the enclosed envelope. I would appreciate you returning this to me before ________________.

The rating scale directions are as follows:* Students can be given a rating from 1 to 10 on each scale item. Please CIRCLE the number which indicates your choice. If you cannot make a decision on a particular item, circle the question mark (?).

Please note: A score of "10" can be either "positive" or "negative." The first two items on the scale can illustrate this.

a. has strong sense of moral values—

b. very selfish — refuses to share toys, books, other personal belongings.

A score of "10" for item "a" indicates the student is "very honest." A score of "10" for item "b" indicates the student "very selfish." The meaning of the rating is determined by the descriptions at the right and left of the rating scale.

I hope that the document which results from this research will be of use to those who are working with the deaf, as well as adding to knowledge of human behavior in general. I would expect to make the results of my investigation known to those of you who are interested. This, my sincere gratitude, and an opportunity to contribute to an attempt at increased understanding of the deaf may be some small exchange for the time I am asking you to spend in this task. I hope you will find it worthwhile!

* Meadow's Rating Scale, with some modifications.
1. Personal Style and Characteristics:

a. has strong sense of moral values—always honest and trustworthy.  
   RATING SCALE*  
   Lacks understanding of moral values—may cheat or lie when convenient.

b. generous—will almost always share what he has with others.  
   RATING SCALE*  
   very selfish—refuses to share toys, books, other personal belongings.

c. almost always happy and cheerful: a "sunny disposition."  
   RATING SCALE*  
   sad, morose, unhappy

d. insensitive to the feelings of others. Lacks empathy.  
   RATING SCALE*  
   has extreme, almost "uncanny" ability to sense what others are thinking or feeling.

e. responds to situations in a highly inappropriate manner: always laughs, cries, smiles, frowns, etc., at the wrong times.  
   RATING SCALE*  
   always responds to a situation with appropriate emotion: laughs, cries, smiles, frowns, etc., at times when occasion demands.

f. calm and placid. Almost never has temper outbursts.  
   RATING SCALE*  
   has frequent and uncontrolled outbursts of anger, temper tantrums.

g. somewhat ruthless in hurting others, kicks, hits, teases. Enjoys making others suffer.  
   RATING SCALE*  
   almost always kind and considerate of others: both adults and peers. Acts to make others feel better.

*Meadow's Rating Scale, with some modifications.
h. Has self-confidence; stands up for ideas and rights without fear. 10 9 8 7 6 5 4 3 2 1 ?

i. either doesn't know or doesn't care about manners and habits: often crude or rude. Socially unacceptable behavior. 10 9 8 7 6 5 4 3 2 1 ?

j. feels inferior; no feeling of being a worthwhile person. 10 9 8 7 6 5 4 3 2 1 ?

k. exhibits appropriate sex-role characteristics: if a boy, is very masculine; if a girl, very feminine. 10 9 8 7 6 5 4 3 2 1 ?

l. natural physical looks or appearance quite unattractive or unappealing. 10 9 8 7 6 5 4 3 2 1 ?

2. Social Relationships:

a. makes no effort to be with other people. Withdrawn, shy, solitary. 10 9 8 7 6 5 4 3 2 1 ?

b. is popular with classmates, sought as a friend. 10 9 8 7 6 5 4 3 2 1 ?

c. unpopular with adults. 10 9 8 7 6 5 4 3 2 1 ?

fearful of others, gives in immediately when challenged, hesitates to assert self.

has good grasp of socially accepted behavior: good manners, personal habits.

has a strong feeling of personal worth and importance.

shows some sex-role confusion, i.e., if a boy, may have many "feminine" traits or interests; if a girl, many "masculine" traits or interests.

has unusually attractive physical appearance: is very pretty or handsome.

is gregarious, friendly, outgoing, likes to be with other people; sociable.

unpopular with classmates. Ignored or rejected.

is popular with adults.
d. looks forward to new experiences; enjoys meeting new people.

10 9 8 7 6 5 4 3 2 1 ?

fearful of meeting new people; afraid of new experiences.

e. is a good sport; can be a good loser.

10 9 8 7 6 5 4 3 2 1 ?
a bad sport; poor loser.

f. disobedient; doesn't get along with people in authority. Deliberately breaks rules.

10 9 8 7 6 5 4 3 2 1 ?
almost always obeys the rules; follows instructions or demands of teachers and authority figures.

3. Intelligence and Work Performance:

a. quite dull. Has little intellectual ability.

10 9 8 7 6 5 4 3 2 1 ?
appears to have extremely high intellectual ability.

b. performs far below apparent ability.

10 9 8 7 6 5 4 3 2 1 ?
makes highly efficient use of natural intelligence.

c. works very hard on any task assigned. Strives hard to do a good job.

10 9 8 7 6 5 4 3 2 1 ?
refuses to put forth any effort. Lazy. Takes no pride in a job well done.

d. very irresponsible. Can't be counted on to take any responsibility.

10 9 8 7 6 5 4 3 2 1 ?
shows extremely responsible attitude. Can be depended upon.

e. compared to peers, is quite mature—acts more grown up than they do.

10 9 8 7 6 5 4 3 2 1 ?
compared to others in class or peer group, is very immature for his age—acts much younger than peers.

4. Family Relationships and Home Environment:

a. family situation is stable: parents, relatives, roomers, don't move in and out of home.

b. father appears to be unloving, rejecting; never shows overt affection.

c. mother appears to be warm loving, accepting; displays affection often.

d. family neglects to provide necessary supplies, clothing, money, etc., for school needs.

e. family encourages independence; expects child to help himself.

* f. parents have good understanding of limitations and possibilities for deaf child.

demands attention and help constantly. Dependent on others. Makes unnecessary requests for assistance.

family extremely unstable; parents or relatives or roomers frequently move in and out of home.

father warm, loving, accepting; displays affection often.

mother seems unloving, rejecting; never shows overt affection.

family always promptly provides supplies, money, etc., for school needs.

parents "over-protect" child; unwilling to encourage independence.

parental expectations for child are unrealistic in terms of deafness: too much achievement is expected.
* For hearing subjects substitute:

f. parents have a good understanding of limitations and possibilities for this child.

  10 9 8 7 6 5 4 3 2 1 ?

  parental expectations for child are unrealistic: too much achievement is expected.

g. general atmosphere of home is disagreeable, quarrelsome, unpleasant

  10 9 8 7 6 5 4 3 2 1 ?

  general home atmosphere is warm, loving, calm.

h. child dreads weekend and vacations; prefers school to home; does not enjoy his family.

  10 9 8 7 6 5 4 3 2 1 ?

  child enjoys his family; looks forward to weekends and vacations.

5. Rater's Judgement:

a. How well do you feel that you know this student?

b. How well do you feel you know the student's family?

6. Remarks:
APPENDIX F
### APPENDIX F

**SUBJECTS' DATA ON THE MATCHING VARIABLES**

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<th>Pair &amp; Control</th>
<th>Group</th>
<th>Sex</th>
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APPENDIX G

Instrument Administration Instructions

- Testing may be done individually or in groups.

- Each student pack contains a brief letter and two instruments. The instruments may be given together or separately. The Self-Esteem Instrument should be given first.

Before testing stress that:

* there are no right or wrong answers—everyone will answer the questions differently;

* the need to think and give honest answers;

* the confidentiality of the students' answers—only the researcher will see the answers. You can help preserve this confidentiality by remaining at the front or back of the room, with a copy of the instruments. Tell students they will seal their own envelope when they finish; and

* the need to understand the questions—if a student does not understand a question he should turn his paper over and come out and ask you to interpret question number ___. It is most important that the student understand the language concepts. However, do not give more interpretation than is necessary as the student may respond to you rather than the question itself. Please note any student who has great difficulty with the instruments or whose answers you feel may be invalid.

Testing

1. Students open their envelope and take out and read the letter.

2. Students take out the Modified Coopersmith Self-Esteem Inventory.
   - Fill in the data information
   - Read the directions together. Make sure the students understand how to answer the questions.

Choose questions 1 and 6 to illustrate on the board.

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<th>No not like Me</th>
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1. I daydream a lot of the time. ----

2. I never worry about anything. ---
Point out that some questions give alternative language for words underlined—e.g. Question 1. *daydream.*

3. Students take out the *communication questionnaire.*
   - Fill in their name and school
   - Read directions with the student

4. Students place completed instruments in envelope and seal.
## APPENDIX H

### GROUP 1 SCORES ON THE MSEI

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The dissertation submitted by Marie H. Kelliher has been read and approved by the following Committee:

Dr. Anne McCready Juhasz  
Professor, Educational Foundations, Loyola  

Dr. Jack Kavanagh  
Assistant Professor, Educational Foundations, Loyola  

Dr. Gerald Gutek  
Professor, Educational Foundations, Loyola  

The final copies have been examined by the director of the dissertation, and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Education.

January 6, 1976  
Director's Signature