A PSYCHOLOGICAL STUDY OF THE DEAF
AND HARD OF HEARING CHILDREN

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A PSYCHOLOGICAL STUDY OF THE DEAF
AND HARD OF HEARING CHILDREN

THESIS

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INTRODUCTION

Origin of Problem

The opinion of the general public, as well as family attitudes toward a physical abnormality such as deafness, result in the psychological maladjustment of the majority of these deaf and hard of hearing children. These children, who will be our adults of tomorrow, are not freaks of nature but the unfortunate victims of physiological circumstances. Many deaf and hard of hearing conditions are the results of a serious illness or one of the numerous childhood diseases. Also there is popular misconception that the deaf and hard of hearing children are mentally deficient.

Purposes

The purposes involved in this paper are stated as follows:

1. To present data on the intellectual development of the deaf and hard of hearing children.

2. To present case studies of the deaf and hard of hearing children.

3. To present data bearing on the relationship between audio-deficiency and academic achievements of the deaf and the hard of hearing children.

4. To present data on personality traits of a comparable group of hard of hearing and normal children.
Sources of Data

Firsthand information for this paper was obtained from two sources. One of these sources was clinical psychology experience in Massachusetts Eye and Ear Infirmary, Boston, Massachusetts. This is one of the most highly recognized institutions of its type on the East coast. It was the writer's duty to deal specifically with patients of the ear clinic; also time was spent upon the congenitally deaf, the partially deaf, and the hard of hearing.

The other source of information was data collected from audiometric, academic records, and personality traits of students in the Denton public schools, Denton, Texas. Additional research was done in the North Texas State Teachers College library.

Definition of Terms

The deaf are those who lack a sense of hearing at birth or who have lost their hearing before the establishment of speech. The hard of hearing are those who suffer an impairment of their auditory sense after they learned to talk.

Conductive deafness is deafness due to a defect of the sound-conducting apparatus, the auditory meatus, ear drums or ossicles.

Functional deafness is deafness due to defective functioning of the auditory apparatus without organic union.

Congenital deafness is that lack of hearing existing at birth; this type deafness is total deafness and is incurable.
Organic or perceptive deafness is deafness due to defect in the ear or auditory apparatus.

Nerve deafness is the loss of hearing due to disease of the auditory nerve.

Throat deafness is that deafness which is due to the closure of the pharyngeal orifice of the Eustachian tube.

Progressive deafness is that deafness which gradually increases and is due to otosclerosis. Otosclerosis is that deafness due to the inner bone closure of the auditory passage. The degrees of these types of deafness determine the degree of hard of hearing or total deafness.
CHAPTER I

PROBLEMS OF THE DEAF AND HARD OF HEARING CHILDREN

Personality Problems of the Totally Deaf

The totally deaf suffer a handicap which makes their socialization extremely difficult. Since speech and hearing are so intimately bound together in the rise of consciousness and the sense of self, it is apparent that the deaf person's development will be quite different from that of the individual who has normal hearing unless special provision is made very early for some adequate form of communication. The acquisition of speech and of lip-reading by the deaf is a long and trying process. Often so much time and energy are required to master the tools of communication that the child, even with the best of educational facilities, falls behind his normal fellows. And when, as often happens, he reaches school age with little or no adequate training, he has already lost some of the most valuable years of his life—years when social and verbal interaction has brought the normal child into close touch with the world of things and people.

Although they have the advantage of visual experience, deaf children develop a sense of being left out of activities which they see going on about them. The old proverb "What the eye does not see the heart does not grieve for" scarcely applies to them, for they must suffer intensely from observing
activities in which they cannot fully participate. Feelings of inferiority, attempts at satisfaction by fantasy thinking, and even perhaps strong resentment are clear evidence of their efforts to make some sort of adjustment to their world. In brief, the deaf suffer most distinctly from mental and social isolation. Unless they are taught adequate methods of speech and communication, their contacts with others must remain at a rather rudimentary level of manual and facial gesture.¹

The constant stress of teaching the deaf to speak is based on the knowledge that although a child is born deaf he is not born without vocal facilities. Even though speech and hearing are closely connected in respect to communication, the two are physiologically independent of one another.

The deaf have fully developed vocal cords, except in rare instances. They can be taught to use these vocal powers if given the proper training by a person specializing in this particular phase of speech education.

Because the totally deaf always face a limited outlet for their interests and abilities, their vocational problems are not easy to solve. But there is no reason for leaving these persons absolutely dependent upon either their families or the community.

Problems of the Partially Deaf

In the total population the hard of hearing are much in

¹Kimball Young, Personality and Problems of Adjustment, p. 687.
excess of those who are totally deaf. Their social contacts with others are also distinctly limited by their handicap. Failure to hear what others are saying sets up a barrier to normal interaction. There may result habits of inattention and a tendency to retreat into daydreaming or reverie. The failure to participate with others results in a degree of isolation that retards development. Such persons go through life ignorant of many everyday events that enter into the lives of their fellows.

However, there is no reason to believe, as some have thought, that the deaf or hard of hearing develop a "sixth sense"—a special capacity or intuition which enables them to overcome their handicap.

C. M. Haines has pointed out that the deafened person is often tactless and mistakes the meaning of a social situation for varying reasons. These include:

(1) Misrepresentation of the facial and bodily gestures which accompany the speech of others.

(2) Failure to catch the modulation of voice and variations in tone which so frequently convey the meaning even more than do the spoken words (the louder sounds being more harsh, are often wrongly taken to indicate anger in the speaker).

(3) Grasping only fragments of the total situation, which leads to a mistaken idea of what is going on.

(4) Loss of the intimate and emotionally toned character of the human voice which is so important.²

Because their sense of isolation and their inclination to live within themselves, the hard of hearing tend to lack self-confidence and to show many of the other features of the inferiority complex.

The interaction of the partially deaf with others of normal capacities illustrates well the manner in which one's own attitudes and those of others are closely linked together. The normal person may take an attitude of tolerance, impatience, pity, or even superiority toward the deafened. The normal often avoid such persons because they find it difficult to converse. Then, as Haines says, "One cannot shout confidences to the deafened," and there is not that intimacy and mutuality of interaction found in ordinary person-to-person contacts.

The primary group, face-to-face situations in which the fundamental patterns of personality organization are developed, thus become the very social situations in which the hard of hearing and the deaf must suffer most. This begins to be apparent in the partially deaf child and continues throughout his life. Hence, in a way, the deaf and the hard of hearing may make better contacts in a secondary group. This goes to enhance and build up the sense of isolation and inferiority of the hard of hearing and often results in certain resentments and a sense of being abused.

Haines notes that there are three courses open to the one who realizes his handicap:

\[\text{\textsuperscript{3}}\text{Ibid., p. 152.}\]
(1) He may ignore it, pretend to understand, and move among men as if nothing were the matter; that is not fair to others, who have a right to know whether they are understood, and it is not fair to the person himself, for it causes him to be misjudged. Besides, no one except the person himself is deceived very long.

(2) He may accept his defect and withdraw within himself, avoid people, become a misanthrope, yield to depression, isolation, and other accompaniments of the disorder. That course renders one unfit to function in society in any useful way.

(3) He may accept the condition, face the difficulties, endeavor to overcome them, and live as nearly as possible like a normal member of society.\footnote{\textit{Tbid.}, p. 155.}

It is not easy for the deafened person to decide how far he should go in attempting to live as if he were not handicapped. It is not always a simple matter to know how such things as making purchases, for instance, may not become an imposition on others which may in turn react on oneself. Then to decide to go to lectures, or to attend church, or to try to enter into conversations—these are vexing questions. As Haines writes, "If he does, he may be considered a nuisance; if he does not, he may be thought unfriendly."\footnote{\textit{Tbid.}, p. 155.} So, too, if the deafened person tries to imitate the overt actions of others, he may end up in embarrassing situations. As a consequence, he often avoids following such clues. Finally, though he may enter some vocations, many lines of work are closed to him, particularly those dependent on close verbal contact with others. The effects of deafness on the mind and life of the person so affected are often of more serious and disastrous consequences than the affliction itself.
Parents, when asked what they want most for their deaf or hard of hearing child, will instantaneously respond, "Make him normal"—and then the implications of the word reduce them to confusion; for normal the deaf child is not to be, in the sense of having the blocked passage to his mind opened. However strong parents' desires may be in that direction, they do not go on seeking treatments, devices and cures after competent medical verdict has been rendered. One common sense observation nullifies all extraordinary claims in such directions: would not trumpet and drum and a broad highway lead straight to the door of the person who could give usable hearing to even a small percentage of the thousands of those now in schools for the deaf? Science has not accomplished much for severe deafness, but for the hard of hearing much has been done. The lack of hearing will always carry with it a certain amount of awkwardness in handling this business of living, just as surely as will lameness or defective vision or any other of a multitude of possible defects.

But must it be said that the spirit within can never be fully roused because one approach is forever barred? Must it be said that the spirit can manifest itself in more or less warped and peculiar ways because a sense is missing? Man is a spiritual being but has the earthly task of functioning through a physical machine. The master of the machine is potentially normal, however defective the machine, unless
the physical impairment extends beyond the hearing apparatus, into the structure of the brain.

A physically handicapped child will most certainly be mentally and socially retarded if he is not given special attention and training in his younger years. It is the duty and responsibility of the family, the schools and general public to aid in this training. The greatest contribution that each of these groups can make is to realize that these children are not freaks of nature, social misfits, or mentally inferior.
CHAPTER II

PSYCHOLOGIST'S REPORT ON 151 DEAF OR HARD OF HEARING CHILDREN

The broad purpose of the psychologist's examinations is to assist in the planning of an educational program for the deaf and hard of hearing children studied under the Clinic for the Deaf program, but the primary concern is with the basic mental ability of these children. The psychologist seeks to determine if language development has been retarded because intellectual development is retarded. Fundamentally it is a question of differential diagnosis between the feeble-minded and the normal.

When the mental level has been adjudged, observations must be made in regard to the type of adaptation anticipated in school. Not only is basic intelligence studied, but also school achievement when the child is of school age. If the child has not sufficient residual hearing for a hearing aid, the only provision is a school for the deaf. If there is sufficient hearing for the use of an aid, there arises the question of school placement. Is there sufficient language development for public school? How soon can a public school environment be considered? What are the child's scholastic needs? Where does his language development require special tutoring? This is where the psychologist can contribute to the understanding
of child as a total personality. Hearing disabilities are not only a medical problem but a social and emotional problem. The most satisfactory school program for any child contributes most greatly to the rehabilitation of that child. The psychologist observes the child closely to contribute to adequate educational planning.

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**Typical Case Histories of Children Studied**

The function of the psychological examinations on this program was for educational disposition. The pre-school age child was examined to determine whether he had the basic ability to make use of improved hearing through means of a hearing aid; that is, would his language development proceed more like that of a hearing child when he became a hearing child through means of an aid? Fundamentally then, it was a differential diagnosis between the feeble-minded and the normal. A more discerning examination was necessary when the child was of school age. If he was profoundly deaf, the only educational provision was a school for the deaf. If, however, he was partially deaf, the question arose whether his verbal development had progressed sufficiently for adequate adjustment in public school or whether he must go to a school for the deaf. After a few years in a school for the deaf, transfer to a public school would be considered if the child was wearing or could wear a hearing aid. Not only was it important to know basic intellectual development, but also preparedness in language development and in fundamental school subjects. For the child whose
deafness was slight enough that he go to public school or whose hearing difficulty developed after he started to school, an analysis of his school achievement was made. Recommendations on the basis of any one of these various examinations are (1) type of school placement, (2) expected adaptation to a hearing aid, (3) remedial school work, (4) speech correction, and (5) vocabulary building (which is usually part of 3 and 4).

Cases often have obscure etiology for deafness, such as congenital deafness, progressive developmental deafness, otosclerosis, and tubal closure. Deafness may also result from meningitis and in many cases the illness goes unrecognized as it runs its course. A few cases of traumatic hearing loss have been studied.

The following case histories are representative of the age range and mental ability of 151 children studied during a one-year period. The age range was all the way from one to nineteen years. The greatest number of these were between two and nine. Some of the test results were rejected because of the uncertainty or unfairness to the child. These occurred only in the age group from one to ten years. There were twenty-eight of these. Of these, seven, ages six to ten, had another test score that was considered more representative. In addition, one child was tested only for school achievement. A scale of these results can be seen in Figure 1.
M = 146
M = 94.5

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<td>50-69</td>
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<td>70-79</td>
<td>16</td>
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<td>80-89</td>
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<td>90-99</td>
<td>42</td>
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<td>100-109</td>
<td>30</td>
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<tr>
<td>110-119</td>
<td>16</td>
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<td>120-129</td>
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Fig. 1.—Distribution of I. Q.'s

*Twenty-six children were given 2 tests.

Case Number I

Name: Judith B.
Age: 3 years, 7 months.
Father: Charles A. B.
Age: 54.  Deceased?  Living? x
Occupation: Railroad brakeman.
Attitude toward child: Mr. B. realized his daughter's handicap but did not feel that she was abnormal in any
way. He was more than willing to co-operate in any and every way. Other than taking the usual safety precautions for his child, he had tried to treat her as a normal child in her play and discipline.

Mother: Elizabeth B.

Age: 30. Deceased? Living? x

Occupation: Housewife.

Attitude toward child: Mrs. B. shared her husband's attitudes in the treatment and handling of the child. She felt that in some way she might be the one to be blamed for the child's deafness, but this feeling was not affecting her training of the child. She felt that Judith should be disciplined just as any other.

Siblings: None.

Family history of deafness:

Father: Perfect health and hearing; 1 sister totally deaf.

Mother: Perfect health and hearing; had German measles during pregnancy; no history of deafness in the family.

Previous educational training: Judith had had no special training, but she could read lips remarkably well. Parents were unable to fully explain this, but they had formed words and syllables quite clearly for her when they would show her pictures or objects, and in talking with her. Judith had a very nice voice for such a young child, and her words were completely free of "baby talk." Her speech was limited, but when a word was well enunciated she would
form, and make, the same sound. Her command of single words far exceeded complete sentences.

Child’s reaction to psychologist: Judith was a friendly child. She was not upset when her mother stayed in the outer office; she waved good-bye and held her hand out to the psychologist. She was most co-operative and did not refuse to attempt any part of the test. The toys used for this particular test pleased her. She worked steadily and would not give up until the task at hand was done to her satisfaction. With the exception of the picture-card-story section of the test, she completed each section with only one try. The only time she became the least upset was when the "game" was over and she could not play any longer.

Test: Merrill-Palmer Pre-School Test.

M. A. 4 years, 1 month.

Psychologist’s recommendations: Judith was an exceptional case, mentally as well as her adjustment to her deafness. She heard nothing at all; her deafness was believed to have been a result of her mother’s having had the measles during pregnancy. It was the recommendation of the psychologist that for the time being her parents continue with her as they had been, and just wait until she was old enough to have a more reliable audiometric test to determine whether or not she was totally deaf. If she shows as little as a fifteen decibles of hearing, then she can successfully be fitted for an aid and placed in a public school.
Case Number II

Name: Rita S.
Age: 9 years, 7 months.
Father: Thomas N. S.
   Occupation: Tooler.
   Attitude toward child: Mr. S. left his family when Rita was 3 years old. He has not been seen nor heard from since. He contributed nothing to the support of the family before he left them.

Mother: Lou Ellen S.
   Age: 39. Deceased? x Living?
   Occupation: Factory worker.
   Attitude toward child: Since her husband deserted the family Mrs. S. has lived with a maiden aunt who has had complete responsibility of the child. Mrs. S. has very little concern for the child other than seeing to it that she is decently fed and clothed. She refers all questions concerning the child to her sister. The aunt, Miss N., is a very domineering person who will not accept the fact that Rita is mentally retarded; rather she blames the teachers that Rita has had for her lack of progress in school. She doesn't insist that Rita wear her hearing aid because Rita does not like to wear it.
Siblings: None.

Family history of deafness:

Father: None that is known.

Mother: None.

Previous educational training: Rita had been in public schools, private schools, and had had special tutors on occasion. The aunt financed this series of training, more or less trying to verify her firm belief that the teachers were at fault, not the child's mentality. She had had three years of schooling, but she was only capable of doing second grade work at the time she was tested.

Child's reaction to psychologist: Rita had had several intelligence and performance tests previously, but she still insisted that her aunt come in with her and then she threw a temper tantrum when told that her aunt could not help her take the test. Only by means of bribery did the aunt succeed in getting her to co-operate. She would attempt very little of the test and give up after the first try.

Test: Cornell-Coxe Ability Scale.

M. A. 7 years, 6 months.

Psychologist's recommendations: Rita was not only mentally retarded but a behavior problem as well. Her aunt did not believe in discipline of any sort and refused to have her corrected. Rita had a hearing loss, but only some thirty decibels, which is not too alarming in comparison to the
general run of these children. Disciplinary measures and 
enrollment in public school was advised. This particular 
school has a most adequate special class for hard of hear-
ing children. A complete report was sent to the school with 
the request that they send a monthly report to the clinic 
concerning Rita's progress. Also, it was recommended that 
Rita be enrolled in a speech correction class. The aunt 
was still talking "baby talk" to the child and Rita's 
speech was years retarded. After quite a long talk with 
Miss N, she agreed to change her tactics, but this agree-
ment was rather weak.

Case Number III

Name: Phillip I.
Age: 10 years, 1 month.
Father: Matthew I.
Age: 51. Deceased? Living? x
Occupation: Musician.
Attitude toward child: Mr. I. had not realized that Phillip 
had a hearing deficiency until the school recommended that 
he be taken to the Clinic for examination and testing.
Upon learning that his son was hard of hearing Mr. I. re-
gretted having been unnecessarily gruff with him at times.
He was of the opinion that Phillip was becoming a behav-
ior problem by ignoring people and not doing what he was 
told to do.
Mother: Martha I.

Age: 29.    Deceased?    Living? x

Occupation: Housewife.

Attitude toward child: Mrs. I. was a quiet, withdrawing type person who just agreed with her husband. It was quite obvious that Mr. I. was spokesman for the family and made all of the decisions, important or unimportant. She did say she thought Phillip was a smart boy and should be doing better in school.

Siblings: 2 sisters—ages 7 and 4 years. Good health and hearing.

Family history of deafness:

Father: Good health and hearing. No family deafness.

Mother: Good health and hearing. Mother hard of hearing all her life.

Previous educational training: Phillip had been attending public school since he was six. He had not had any special speech training or tutoring. He had average grades, but his teachers felt that he should have been doing even better work. His teachers reported that he was something of a behavior problem in that he did not work as steadily as he should and annoyed the other students while they were trying to study.

Child's reaction to psychologist: Phillip was friendly, a charming boy. He had a ready smile and was not reticent about answering questions and entering into the
conversation. When asked about his class work he said he seemed to finish his work before the other students and he was tired of just sitting there. He seemed to enjoy the test and worked rapidly and concentrated well.

Test: Cornell-Coxe Performance Ability Scale.

M. A. 10 years, 11 months.

Psychologist's recommendations: Phillip had a definite hearing loss but not serious enough to require a hearing aid at this time. It is quite probable that as he gets older his hearing loss will become more acute. He was diagnosed as a potential otosclerosis patient. The psychologist recommended that Phillip be moved nearer the front of the room and given additional work to keep him busy. The teacher was contacted and given this report. She thought this was a good idea and felt that it would probably solve the behavior problem. Phillip was very interested in art and had said he hoped to be allowed to do the school posters for the Red Cross campaign. This information was imparted to the teacher, and she readily agreed to arrange it so that Phillip would be placed on the committee.

Case Number IV

Name: Donald L.
Age: 10 years, 1 month.
Father: Franklin L.
Occupation: Truck driver.

Attitude toward child: Mr. L. worked at night and slept during the day, so he had very little time to spend with Donald. He felt that Donald was rather dull and blamed that on his hearing loss. Actually, he was ashamed of Donald and ignored him most of the time.

Mother: Rose L.

Age: 33.  Deceased?  Living? x

Occupation: Housewife.

Attitude toward child: Mrs. L. was a very sensible woman but obviously under an emotional strain. She did not refer to Donald as "dull"; rather she felt that he just was not "book minded." She had tried to be father and mother to the boy after she realized Mr. L. was ashamed of the boy. She wanted Donald to finish high school, and then she wanted him to be able to attend a trade school and study auto mechanics, since this was Donald's choice. She had worked for a few months but felt that Donald needed a mother more than she needed a few luxuries. She was quite anxious to have Donald fitted for a hearing aid if he needed it.

Siblings: None.

Family history of deafness:

Father: Good health and hearing. One brother deaf at 15.

Mother: Good health and hearing. No known deafness in family.
Previous educational training: Donald had been attending public schools since he was seven. He had done very poor work and had been held back to repeat the third grade. He was sent to the Clinic by the school. Until that time his hearing loss had not been detected. He had had no special speech training, but he had a noticeable speech impediment.

Child's reaction to psychologist: Donald was rather shy, but he answered any questions that were asked. He said that his father did not like him but that his mother was a "good pal." He did not like school because the other boys and girls teased him about not hearing very well, and about being "dumb." He was co-operative but gave up easily. His failure to do three of the tests practically left him in tears, and he asked that his father not be told.

Test: Cornell-Coxe Performance Ability Scale.

M. A. 9 years, 5 months.

Psychologist's recommendations: A hearing aid was recommended as soon as possible. Also special speech classes were advised. The school was contacted and advised that Donald be placed in the special class for dull-normal children for at least one semester, until he had become accustomed to his aid. After that it might be possible to return him to his own group. Mr. L. was called in for consultation, and after a lengthy discussion he decided that he had been unfair in his attitude toward the boy and agreed to spend
more time with him and to encourage him in every way possible. Both parents were then seen together and a suggested program of study and play was outlined for them. This would have to be adjusted to the family life since the father was away at night.

Case Number V

Name: Rosiland C.
Age: 6 years, 8 months.
Father: Thomas C.
Age: 28. Deceased? x Living?
Attitude toward child: Mr. C. died of pneumonia when Rosiland was five. Until his death he had given her as much of his time and attention as possible. He had been very anxious for her to grow up as normal as possible despite her hearing loss.

Mother: Ellen C.
Attitude toward child: Mrs. C. was an admirable young woman. After her husband's death she had moved to her parents' home, but she realized that Rosiland and her younger brother were rapidly becoming behavior problems because they had too many "bosses." She moved into a large house and opened a day nursery. She had to make a living for her children, but she felt they needed a mother too. She was doing quite well with the nursery
and felt that she was doing the very best for both children. She had shared her husband's belief that Rosiland's hearing loss must not prohibit her from becoming a normal adult. 

Siblings: 1 brother--age 3 years, 4 months.

Family history of deafness:

Father: An aunt who was hard of hearing all of her life.

Mother: Good health and hearing. No family history of deafness.

Previous educational training: Mrs. C. had been trained as an elementary teacher and had worked with Rosiland all of her life. She had worked consistently with Rosiland's speech since she first began to talk. Rosiland had been fitted with a hearing aid when she was three and adjusted to it rapidly. The reports from the public schools had been quite good. Rosiland was a "bright" child. The school had advised that Rosiland be advanced an extra grade, but Mrs. C. did not think this was best for her. Rosiland was actually ready for the second grade when she started to school.

Child's reaction to the psychologist: Rosiland was a friendly child. She liked to come to the hospital because she liked the nurses. Rosiland was most co-operative and worked rapidly while taking the test. She stopped only once and that was to tell the psychologist about her little brother. She was very interested in the testing machines and wanted to have her ears tested again. She offered to let the
little boy waiting in the outer office wear her hearing aid because he did not have one, and she thought he might need one.

Psychologist's recommendations: Rosiland certainly was not suffering from mental or social retardation. She was fortunate in that her mother had realized her needs and had exerted every effort to fulfill those needs. Actually, there was little left to be suggested, other than hearing check-ups every six months. Rosiland was a potential otosclerosis patient.

Test: Cornell-Coxe Performance Ability Scale

M. A. 8 years.

Of the 122 children not thus far excluded, 26 had 2 test results that were well representative. Thus 148 I. Q. results have a mean of 94.5. Forty-five of these are verbal test scores with a mean of 94.5. The remaining 103 are from performance tests and have a mean of 95.3 (Figure 2).

Fifty-four of the 151 who have been studied were under 6 years. A few were in kindergarten and a few had attended nursery school, but the majority had not any school experience.

The psychological examination of 24 school-age children is considered incomplete because an evaluation of school achievement was not made. In 15 cases no attempt was made either because only an evaluation of the mental level was necessary for diagnostic purposes. In some cases distance
Fig. 2. — Scale of performance and verbal tests.
prevented a return and time was limited at the initial visit. Nine broke their return appointments. In eight other cases school achievement tests had been started, but five of these patients failed to return because the recommendations on the basis of the incomplete tests and the hearing studies were carried out by parents and schools. In two cases results of the intelligence tests the previous year were considered acceptable. Because of the time limitations it was more important to obtain an impression of school achievement and language development.

Fifty-three school-age children had complete psychological examinations. The school achievement level of ten was up to or exceeded grade and chronological school placement. None of these wore a hearing aid at the time of the test, but six acquired one later. The remaining forty-two were retarded in school achievement.

Thirty of these were in public school, nine in schools for the deaf, one in special class, and two in special remedial classes in private schools. Of those in public school thirteen were retarded one year in achievement; nine were retarded two years; eight were retarded three years. According to the same standard of the average chronological age-grade placement, the retardation of those nine in the schools for the deaf was as follows: one, one year retarded; two, two years retarded; one, three years retarded; two, four years retarded; two, five years retarded; one more than five years retarded. However, at least a two-year retardation
in school achievement can be expected from students in schools for the deaf. The time is almost entirely devoted to building up speech-language development. The two children in remedial classes were retarded one year. One of these children had spent two years in a school for the deaf.

Only five of these forty-two who were scholastically retarded wore a hearing aid at the time of the test. Only one of these children was in a school for the deaf. Fourteen obtained hearing aids later, eleven of them public school pupils.

Ten children of the 151 seen by the psychologist were not included in the above figures. They were studied for special problems. One child was suspected of being malingerer, and the psychologist was asked for opinions and recommendations. Another was discovered to have normal hearing after the study was underway. The remaining eight had hearing losses. Four were not carried on in the Clinic because the psychological examination revealed that poor language development and/or school retardation was due to limited intellectual development as well as poor hearing. They were classified as feeble-minded or borderline. Three were hard of hearing due principally to otitis media and were subjected to a psychological examination for diagnostic purposes. Study was discontinued on another when hearing returned to normal after a series of treatments.

Recommendations of the Psychologist
It is now time to consider the recommendations made on the psychological examinations of all 151 children. Many of these recommendations are supportive to the recommendations growing out of the hearing studies, but there are also many others which were based entirely on the results of the observations made during and from the psychological studies.

Fifty-one children were recommended for hearing aids. Ability to adapt was considered adequate and final disposition was dependent on the result of the hearing studies and the co-operation of the parents. Thirty-two of this group finally obtained aids. There were eleven for whom lip-reading was considered a special asset and four are now receiving such instruction. Sixteen out of twenty-two recommended are now attending a school for the deaf. Twenty-one were recommended for speech correction. In addition to these, nine others of pre-school age received speech instruction, prior to school enrollment. All three children recommended for transfer from schools for the deaf are now attending public school. Special classes were suggested for three and a school for the feeble-minded for six, but the action taken is not known.

Seven out of nineteen recommended are receiving remedial instruction in school subjects. Four out of nine have repeated the grades. Seven were believed to have severe emotional problems. The parents of fifteen of these children, mostly pre-school age, were recognized as in need of some special guidance in child-training, and one has received some constructive
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Number</th>
<th>Number Carried Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing aids</td>
<td>51</td>
<td>32</td>
</tr>
<tr>
<td>Lip reading</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>School for deaf</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>Speech correction</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Transfer to public school</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Special class</td>
<td>3</td>
<td>?</td>
</tr>
<tr>
<td>School for feeble-minded</td>
<td>6</td>
<td>?</td>
</tr>
<tr>
<td>Remedial school work</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>Repeat grade</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Emotional problems</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Parental guidance</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Special vocational training</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Eye examination</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Retests</td>
<td>30</td>
<td>?</td>
</tr>
<tr>
<td>No recommendations</td>
<td>9</td>
<td>...</td>
</tr>
<tr>
<td>No action on recommendation (not included above)</td>
<td>45</td>
<td>...</td>
</tr>
</tbody>
</table>
help from an outside guidance clinic. For all eleven recommended for special training, other than mentioned above, such as vocational, some readjustments were made in school or vocational guidance was given by an outside agency.

In nine cases no special recommendations were made. In thirty cases retesting and more complete testing were recommended. In forty-five cases no action was taken on any of the recommendations, and this group includes some of those who were asked to return for completion of the psychological testing. Many recommendations were not carried out because the parents were uncooperative and suddenly changed their plans for caring for their deafened child. In other cases the schools did not have the facilities to meet the needs of individual problems (Table 1).

It is of particular interest to follow the language development of the child who has been recommended for an aid and to determine, if possible, if the level of their mental ability changes with the acquisition of language.

Only in the case of the profoundly deafened child can an educational plan be made entirely on the basis of the hearing study. The psychologist assists in the selecting process of those who were mentally as well as physically adequate for the instigation of a rehabilitative program. Beyond this fundamental consideration, educational needs were determined beyond what were readily perceived in the hearing studies. Many students have moved through the
grades without recognition of their deficiencies. Many would continue to remain in the improper grade or in schools for the deaf if there were no means of detecting their development and possible readjustment to their environments. The psychologist examines the mental functioning and adaptability of the child. The psychologist contributes to the perception of the whole individual and the planning of the most practical and helpful program of rehabilitation.
CHAPTER III

STATISTICAL DATA ON THE INTELLECTUAL DEVELOPMENT
OF 259 DEAF AND HARD OF HEARING CHILDREN

Intelligence Tests Used in Boston Clinic

There were 259 children given psychological examinations, but there were 265 results considered suitable and reliable for a statistical evaluation. In several cases two or more tests of intelligence were given with satisfactory results obtained. Some results were omitted because many factors in the test situation were not satisfactory (Figure 3).

A variety of intelligence tests were used. The Merrill-Palmer Scale of Mental Tests was used with the pre-school age group, and in most cases the verbal tests were omitted. The 1917 form of the Stanford-Binet and Forms L and M of the 1937 Revision were all used interchangeably, and principally with ages six to young adulthood. The Cornell-Gore was used alone or with the Binet in the intermediate group. The Wechsler-Bellevue Intelligence Tests, whole or part of the scale, were used with the group over twelve years of age.

Almost all results in all divisions indicate mean I. Q.'s between 93 and 104. Differences are slight. The mean I. Q. for the total group of 255 cases was 97.6, 127 males with a mean of 96.8 and 138 females with a mean I. Q. of 98.3 (Figure 4).
Fig. 3.—All I. Q. results from all types of intelligence tests.
Fig. 4.—I. Q. results showing sex differences.
Test results were divided between verbal and performance tests. The Binet was considered a verbal test despite an admixture with a small group of non-verbal tests. The Merrill-Palmer was classified as a performance test since in most cases the verbal portions were omitted. All results available on the Wechsler-Bellevue were used only in terms of separate scales. The full scale results were not considered in these statistics. Whether a verbal or a performance test was the method of determining the intelligence quotient, the results were essentially the same. The mean I. Q. on 129 verbal tests was 93.2. The mean I. Q. on 136 performance tests was 97.0. Furthermore, the Stanford-Binet and the verbal scale of the Wechsler-Bellevue gave equivalent scorings among deafened children. The respective mean I. Q.'s were 96.9 in 87 cases and 97.8 in 42 cases. Among the mean I. Q.'s on the performance tests there was greater variation, although still within the limits of the normal group. The performance scale of the Wechsler-Bellevue gave the highest mean I. Q., 100.7 in 37 cases. The Merrill-Palmer mean I. Q.\(^1\) with one group of 70 was 96.4 and the Cornell-Coxe mean I. Q., 93.8 in 29 cases (Figures 5 and 6).

\(^1\)In order to have comparative data for the study, the mental ages obtained on the Merrill-Palmer were used to determine I. Q.'s. Although the scoring of the Merrill-Palmer was usually expressed in standard deviations and not in intelligence quotients, it has been demonstrated that the I. Q. is as reliable as the standard deviation. R. DeForest, "Study of Prognostic Value of the Merrill-Palmer Scale of Mental Tests and the Minnesota Preschool Scale," *Pedagogical Seminar*, LIX (September, 1941), 219-223.
Fig. 5.—Comparison of verbal and performance tests.
<table>
<thead>
<tr>
<th>Stanford-Binet (1917 Revision Form L Form M)</th>
<th>Wechsler-Bellevue Verbal Scale</th>
<th>Merrill-Palmer</th>
<th>Cornell-Coxe</th>
<th>Wechsler-Bellevue Performance Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 87</td>
<td>N = 42</td>
<td>N = 70</td>
<td>N = 29</td>
<td>N = 57</td>
</tr>
<tr>
<td>M = 98.9</td>
<td>M = 97.8</td>
<td>M = 95.4</td>
<td>M = 93.3</td>
<td>M = 100.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>40-49</th>
<th>50-59</th>
<th>60-69</th>
<th>70-79</th>
<th>80-89</th>
<th>90-99</th>
<th>100-109</th>
<th>110-119</th>
<th>120-129</th>
<th>130-139</th>
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<td>2</td>
<td>3</td>
<td>10</td>
<td>4</td>
<td>14</td>
<td>2</td>
<td>17</td>
<td>7</td>
<td>1</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Fig. 6.**—Individual scales of tests
It was considered that these differences between performance tests might be a function of the chronological age groups to whom these tests were given. Consequently results were reshuffled for three age groups with whom the tests were used. The Merrill-Palmer was used with children two years to five years, eleven months. The Cornell-Coxe was used with the group six years to eleven years, eleven months, and the Wechsler-Bellevue Performance Scale, twelve years and over. Results indicate that variations were possibly due to chronological age and perhaps due to the test itself. Mean I. Q.'s were as follows: 98.1 for 64 in the youngest group; 93.3 for 33 in the intermediate group; 93.3 for 92 in the oldest group. Therefore, it was concluded that the Merrill-Palmer and the Wechsler-Bellevue were more similar in construction. The Cornell-Coxe was equivalent but less exactly the same in the function examined. It was also possible that these differences between the mean I. Q.'s of tests used and the various age groups were caused by the small number of results available for tabulation. Only an increased number of cases will indicate the truer source of these differences; that is, whether the test itself differs or whether more cases will resolve the differences.

The cases were further broken down into the type of hearing loss. Groups I and III are those with conductive deafness. Between the small number of cases there was a striking
difference. Group I had a mean I. Q. of 104.3 from 50 cases. Group III had a mean I. Q. of 93.1 from 22 cases (Table 2).

Group IV with seventy test results had a mean I. Q. of 95.5. Group IV was a perceptive deafness group. Group V included all pre-school age children who were too young to submit to an audiometric examination. It was assumed that this group had perceptive deafness since the deafness was either congenital or followed meningitis. The mean I. Q. of 77 cases was 97.8.

Forty-six cases had to be omitted because they were not definitely classified. When Groups I and III were classified as one and compared to a grouping of IV and V, the mean I. Q.'s were respectively 100.9 and 96.8.

With about half the cases the Stanford-Binet, 1937 Revision, was used and with the rest the Wechsler-Bellevue Verbal Scale. The mean I. Q. of the eighteen cases tested with the Binet was 107.3. The mean I. Q. of the 23 tested with the Wechsler-Bellevue was 101.3. When all verbal test results were sorted according to chronological age, the mean I. Q.'s were more like the general picture heretofore given. From six years to eleven years, eleven months, the mean I. Q. was 97.4 and for twelve years and over it was 99.3. There were too few in the group under six years to ascertain a reliable mean I. Q.

The higher mean I. Q. with the Binet was possibly a function of the smallness of the group. The 1937 revision was used principally with a group of eighty-seven of all types of
### TABLE 2
GROUP CLASSIFICATION SYSTEM

#### I. Conductive deafness--otosclerosis

<table>
<thead>
<tr>
<th>School age</th>
<th>Slight</th>
<th>Partial</th>
</tr>
</thead>
</table>

#### III. Conductive deafness--middle ear and/or tubal pathology

<table>
<thead>
<tr>
<th>Bilateral</th>
<th>School age--slight and partial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congenital abnormalities of external or middle ear</td>
<td>School age--partial</td>
</tr>
</tbody>
</table>

#### IV. Perceptive deafness

<table>
<thead>
<tr>
<th>Profound</th>
<th>School age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partial</td>
<td>School age</td>
</tr>
<tr>
<td></td>
<td>Above 20 db. at some point--congenital</td>
</tr>
<tr>
<td></td>
<td>Above 20 db. at some point--acquired</td>
</tr>
<tr>
<td></td>
<td>Below 20 db. at every point--congenital</td>
</tr>
<tr>
<td></td>
<td>Below 20 db. at every point--acquired</td>
</tr>
<tr>
<td>Slight</td>
<td>School age</td>
</tr>
<tr>
<td>Due to meningitis</td>
<td>School age--partial and profound</td>
</tr>
</tbody>
</table>

#### V. Pre-school--assumed perceptive deafness

<table>
<thead>
<tr>
<th>Profound</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slight</td>
<td>Word deafness</td>
</tr>
<tr>
<td></td>
<td>Motor speech delay</td>
</tr>
<tr>
<td></td>
<td>General mental retardation</td>
</tr>
</tbody>
</table>
hearing losses, and in this group scatter was more regular
than in the group of 18 cases of Group I. In this larger
group the mean I. Q. was 98.9. The mean I. Q. of forty-two
cases tested by the Wechsler-Bellevue Verbal Scale was 97.8.

Groups were also classified as to degree of loss—the
slight, the partial, and the profound. The slight losses
were designated as those above thirty decibels on the audi-
ogram and fifteen to twenty feet distance for normal conver-
sation. The partial deafness group were those who retain a
serviceable amount of hearing, adequate for a hearing aid,
and one to fourteen feet distance for normal conversation.
The profoundly deaf had little or no residual hearing (below
eighty decibles), insufficient for adequate amplification by
means of a hearing aid. Those results from the group with
slight losses had a mean I. Q. of 100.0 in 44 cases. The
partially deaf, 134 cases, had a mean I. Q. of 97.6. The
profoundly deaf, thirty-six cases, had a mean I. Q. of 96.7.

There were forty-one children, of all ages and all degrees
of hearing, who were given both a verbal and a performance in-
telligence test. The results of the two types of tests were
compared. The mean I. Q. of the verbal tests is 90.4 and of
the performance tests 101.8. The correlation is -.001.

Summary

(1) A select group of 259 hard of hearing and deaf chil-
dren were studied from the point of view of their intellectual
development as measured by four widely used intelligence tests.
(2) Two-hundred and sixty-five I. Q. results were analyzed and were found to range between ninety-three and 104 with the mean I. Q. at 97.6.

(3) No great sex difference was present.

(4) No great difference was apparent in comparison of all verbal and performance tests. Among the three separate performance tests the mean I. Q.'s ranged from 95.8 to 100.7.

(5) Analysis of the results on the performance tests in terms of chronological age revealed that the mean I. Q.'s of the Merrill-Palmer and the Wechsler-Bellevue were 98.1 and 98.3 and that of the Cornell-Coxe, 95.3.

(6) The groups with perceptive deafness had a mean I. Q. of 95.5 and 97.8. The group with conductive deafness had a mean I. Q. of 104.3 and 95.1.

(7) Further analysis of the conductive deafness groups to compare the Stanford-Binet, 1937 Revision, and the Wechsler-Bellevue Verbal Scale revealed that the mean of the former was 107.3 and of the latter 101.3, all but four from the upper age group twelve years and over. When all age groups and types of losses were considered together, differences were resolved—98.9 and 97.3.

(8) There were slight differences between groups with different degrees of losses. All tests together indicated a slight decrease in the mean I. Q. with a greater degree of hearing loss.
(9) Results from forty-one children to whom both a verbal and a performance test were administered showed a lack of relationship between the tests used and the children tested. The correlation was -.001.

Conclusions

The use with deaf and hard of hearing children of tests standardized on hearing children did not indicate any great differences from the established norm. In this group the range of I. Q. scores was more narrow with a mean about ninety-eight. All the tests used seemed to be equivalent. However, the Cornell-Coxe Performance Scale was not as good a measure as the Stanford-Binet, Wechsler-Bellevue, or Merrill-Palmer scales. The mean of the available results was consistently lower. Although the means of the Stanford-Binet and the Wechsler-Bellevue Verbal Scale were higher in some groups, an increased number of cases more representative of the entire group reduced the means to a level more similar to that of the total group. Perhaps an increased number of cases tested with the Cornell-Coxe might in the same way cluster around the mean of the total group instead of at the lower end of the distribution.

The use of the 1937 Stanford-Binet on the age group of 12 years and over who had conductive deafness resulted in a distribution around an I. Q. of 107. The mean of this test on all ages of the group was equivalent to the total group.
The result was similar with the Verbal Scale of the Wechsler-Bellevue. A more complete set of results would be necessary in order to determine whether these 2 tests have a higher mean I. Q. in the age group over 12 years who had a conductive deafness or whether the differences from the total group, groups with conductive deafness, verbal tests groups, and the group over 12 years are resolved with more cases.

Perhaps only performance tests should be used where there is a great degree of language development. Performance scales seemed to favor the measurement of basic abilities. In a small group of forty-one there seemed to be a lack of relationship between abilities tested by the verbal and performance scales.

The desired attainment of measurement of basic abilities was a description of the general level of mental development and the spheres of unusual progress. Certainly from an individual standpoint a general indication was all that was desired. Further study of the tests and of the results received therefrom in this group was an academic matter for greater understanding of the tests with a handicapped group.
CHAPTER IV

THE PERSONALITY TRAITS OF HARD OF HEARING
CHILDREN IN DENTON PUBLIC SCHOOLS

Purpose

The hearing studies done in the Denton public schools and in Denton County were comparatively recent and in an experimental stage. There were too few hard of hearing children for a statistical study. The academic status of those who were found to be hard of hearing was consistent with the averages of their physically normal classmates.

The purpose of this part of the study is to ascertain how certain selected teachers rated their students on qualities and characteristics not measured on objective tests. It is a common belief that inattentiveness, introversion, and a general indifference are accompaniments of defective hearing. The teachers who complain of these faults in a child may really find that poor hearing is the underlying cause of all these difficulties.

Procedure

All of the children in the Denton public schools and Denton County schools were given hearing tests under the direction of a trained supervisor. The 4A type audiometer was used. This machine has earphone attachments for the
testing of four to eight children at a time. The children were told to write the set of numbers they heard. This was repeated four or five times at different levels of intensity.

The hearing losses are considered important when the child shows a "6" rating on the audiogram. This is comparable to a twenty decible loss or a fifteen per cent hearing loss.\(^1\)

In cases of inattention or inaccuracy of tabulation the children were given individual tests.

Each case that showed a definite loss was referred for medical examination and diagnosis.

Ten teachers from three of the Denton public schools and the Denton County Health Supervisor were interviewed as to the personality traits and classroom behavior of twenty hard of hearing children as compared with twenty physically normal children. A thorough study of the personality of each hard of hearing child was not made, but the teachers' opinions were elicited in a search for the answers to eight major traits and attitudes. These questions are listed below.

1. Are the hard of hearing children more attentive or inattentive than the normal children?

2. Are the hard of hearing children more prompt in obedience?

3. Is a hard of hearing child ever chosen as a leader of his group?

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\(^1\) Handbook of the Maico Audiometers, 1947, p. 10.
(4) What are the hard of hearing children's attitudes toward their social treatment?

(5) Are the hard of hearing children more polite or impolite than the normal children?

(6) Do the hard of hearing children make a special effort to be noticed?

(7) Are the hard of hearing children more shy?

(8) Do the hard of hearing children seem to prefer solitude?

The interviews with the teachers were informal. Each question was simply a lead question, and the teachers elaborated in detail on instances and incidents related to the questions. (These are discussed in the case studies.) The writer took notes during each interview; final tabulations and conclusions were made after all the data had been obtained.

When it was convenient for the teacher and the classes, the writer visited the classroom and either met or observed the behavior of the hard of hearing children, as well as the other children.

The age range of the hard of hearing children found in the Denton public schools and Denton County was from six years through sixteen years of age. Therefore, the twenty normal children had a comparable age range. The teachers selected the normal children on the basis of age, academic achievement and socio-economic background.
Case Studies

Case A.—This little girl is seven years of age and in the second grade. She is totally deaf in the left ear and has a noticeable loss in the right ear. The child did not know she had this deafness until the hearing tests were given. The teacher moved her to the front of the room so that she might hear what was being said.

She is one of the most popular children in her class, and the only one of the twenty hard of hearing children to be chosen as a leader. She is not only the most intelligent child in the class but also the most friendly.

Case B.—This boy is in the fourth grade and has a noticeable loss in each ear. He is quiet and retiring, but friendly enough. He is one of the children that is rather inattentive and not prompt to obey. His academic status is slightly below normal.

Case C.—For six years this fifteen year old girl has had draining ears. She comes from a poor family and has been unable to have medical treatment. When her condition was discovered by the supervisor, charitable organizations were contacted for financial and medical assistance. The girl said she had been hard of hearing for a long time. The doctors recommended lip-reading and special training classes. She has attended rural schools for nine years; at fifteen years of age she is just entering the eighth grade.
When told that arrangements had been made for her to go elsewhere for special training, she refused to go. She also refuses to attend high school when the time comes. She is very sensitive about her hearing loss and refuses to be put in a situation where she will have to meet new people.

**Case D.**--This twelve year old boy is the younger brother of the girl in the preceding case. He is in the fourth grade and has a serious speech impediment. He has been hard of hearing all of his life and has had no medical treatment. He also refuses to go to another school for special training. He does not like school and would quit immediately if possible.

**Case E.**--This eight year old boy is in the second grade. When his hearing loss was discovered his parents took him to an otologist. The doctor removed his tonsils, and his hearing is gradually improving.

When he started to school he was rather effeminate, unpopular with the other children, and he would not play with the other boys. Special attention and interest were taken in this child by his teacher. He is now playing with the boys and has become well accepted and popular. He has learned to share his toys and no longer tries to be noticed by misbehaving and annoying other children.

**Results**

The answers to the questions are shown in Table 3. The hard of hearing group and the normal group are listed
### Table 3

**Personality Traits of Twenty Hard of Hearing and Twenty Normal Children**

<table>
<thead>
<tr>
<th>Personality Trait</th>
<th>Hard of Hearing</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Inattentive</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Attentive</td>
<td>14</td>
<td>70</td>
</tr>
<tr>
<td>Prompt to obey</td>
<td>13</td>
<td>65</td>
</tr>
<tr>
<td>Attitudes toward social treatment</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Courteous to others</td>
<td>18</td>
<td>90</td>
</tr>
<tr>
<td>Attracts attention</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Very shy</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>Prefers solitude</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Leader of group</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
according to the percentages in each respective group of twenty.

From the results of the interviews with the teachers, no evidence was found which indicated inattention on the part of the hard of hearing children. There were forty children judged as either attentive or inattentive. Nine of these children were normal, and six were hard of hearing for the inattentive rating. The idea that the hard of hearing have been considered inattentive has grown out of the supposition that the children did not hear the teacher speak, and, therefore, they were considered inattentive. On the other hand, it is quite possible that the child may increase his attentiveness during the recitation.

The question of promptness in obedience was similar to that of attention. Any child that does not grasp the teacher's commands quickly cannot respond. However, the results showed little difference. There were seven hard of hearing children that were not prompt to obey and two normal children judged the same.

It has been suggested that children will not choose a child with defective hearing as their leader. Several reasons can be suggested for this. In one respect, that of hearing, the rest of the group is superior. A hard of hearing child is often easily embarrassed because of his defect. This embarrassment will make him shy. A hard of hearing child will often withdraw from the group because
he is fearful of not being able to understand them or to follow their trend of play. In a group of forty children there were not more than ten leaders; one of these children was from the hard of hearing group.

Auditory deficiencies had no relationship to the children's attitudes in regard to the treatment they receive. The number of children in each group who always felt they were slighted was the same. Approximately the same number in each group suspected unfairness on the part of others, and nearly an equal number never complained.

On the whole, hard of hearing children were more courteous to others than were the normal children. Of the group of forty, eighteen hard of hearing children were considered courteous and twelve normal children were considered so.

A child who must continually make an effort to hear what is going on about him may follow the path of least resistance and turn to a more individualistic mode of living. Rather than explain their handicap the hard of hearing children will often withdraw from the group to avoid attracting undesirable attention. The question of "attracting attention" was intended to indicate those children who were constantly trying to gain attention. Of the group of forty, four hard of hearing children and nine normal children made special efforts to be noticed.

Eleven hard of hearing children were very shy and only four normal children were considered so. Shyness is closely
related to the feeling of being embarrassed and not fully understanding all the happenings in one’s environment.

Even though it is often considered a degree of shyness, seven hard of hearing children preferred solitude and only two normal children wanted to be left alone by others.

Summary

The teachers rated the hard of hearing children nearly as attentive and nearly as inattentive as the normal children who differed only with the respect of hearing. The hard of hearing children were nearly as prompt to obey as were the normal children. The normal children were chosen as group leaders whereas the hard of hearing children were not. The hard of hearing children accepted their lot in school situations as did the normal children. There was a definite degree of difference in courtesy to others, with the hard of hearing children being more courteous. Shyness and solitariness were more frequently attributed to the hard of hearing. There was no distinguishable difference in the matters of conduct and discipline.
CHAPTER V

CONCLUSIONS

The physically handicapped child, specifically the deaf or hard of hearing child, will most certainly be socially and mentally retarded if he is not given special attention and understanding. This attention and understanding is by far more important and more effective in the younger years.

The psychologist has a very important role in the examination and testing of the deaf and hard of hearing children. The psychologist determines the mental functioning and adaptability of the child. The psychologist contributes to the perception of the whole individual and the planning of the most practical and helpful program of rehabilitation.

A group of 259 deaf and hard of hearing children were studied from the point of view of their intellectual development as measured by four widely used intelligence tests. The tests used were (1) the Stanford-Binet, 1917 Revision, Forms L and M; (2) the Wechsler-Bellevue Verbal and Performance Scales; (3) the Merrill-Palmer Pre-School Test; and (4) the Cornell-Coxe Ability Scale.

The use with deaf and hard of hearing children of tests standardized on hearing children did not indicate any great difference from the established norm.
The twenty hard of hearing children compared with the twenty normal children for determination of personality traits showed no distinguishable difference in the matters of classroom conduct and discipline. However, the hard of hearing were much more shy and were seldom chosen as leaders.
BIBLIOGRAPHY

Books


Reports


DeForest, R., "Study of Prognostic Value of the Merrill-Palmer Scale of Mental Tests and the Minnesota Preschool Scale," Pedagogical Seminar, LIX (September, 1941), 219-223.


