

SUMMARY AND CONCLUSIONS

S U M M A R Y A N D C O N C L U S I O N S

Hearing is an important sensory mechanism through which an individual acquires knowledge about his environment. Loss of hearing not only results in an impoverished information about the environment, but also restricts his interaction with it by interfering with acquisition of normal speech. Failure of the congenitally or prelingually deaf child to acquire speech in the normal way and his inability to hear the speech of others are his most obvious handicaps.

Hearing handicapped children are the most neglected of all the other handicapped children. The situation in India is not better. Dearth of information regarding their education/training methods, rehabilitation to suit the Indian conditions, and the limited facilities available make the problem still more complex. Information about their abilities and limitations can help us to integrate them successfully into the mainstream of the society.

Studies of hearing handicapped groups have typically begun with attempts to determine how the intelligence of the group compares with comparable normal hearing children. Studies in this field have utilized various types of non-verbal and performance scales of intelligence. In general, the deaf have been found to be retarded in intellectual functions on some non-verbal group tests (Oleron, 1950, Levine and Isaac, 1955, Goetzinger, et. al., 1967). Other studies report no

such differences between hearing handicapped and normal hearing children on different set of nonverbal tests (Strong and Kirk, 1938; Myklebust, 1960). Later studies have emphasized the different aspects of intellectual functions and not the general intelligence (Elliot, 1967; Coetzinger, et. al., 1969; Willis, et. al., 1972; Hirshoren, et. al., 1977; Sisco, et. al., 1978). Studies exploring the perceptual and conceptual processes of congenitally deaf children found them to be deficient in conceptualization processes (Myklebust, 1953, 1960; Farrant, 1964; Tomlinson, et. al., 1978).

Personality and emotional adjustment of hearing handicapped children has been another area of psychological research. Pintner (1942) found children with greater hearing loss to be less emotionally stable. Differences in personal and social adjustment favouring normals were observed when hearing losses were of moderate degree (Coetzinger, et. al., 1964; Fisher, 1966; 1975). Recent studies have dealt with behavioural problems among hearing handicapped children (Williams, 1970; Meadow and Schlesinger, 1971, Chess, et. al., 1971). The studies report a quantitative difference in the behaviour problems between hearing handicapped children and normal hearing children and not a qualitative difference. Other studies report a qualitative difference (Reivich and Rothrock, 1972; Hirshoren and Schnittjer, 1979).

Studies concerning the parental attitudes of deaf children

have revealed differences in the attitudes of the parents of deaf children and parents of normal hearing children. The general findings have described parents of deaf children as more intrusive, more directing, less permissive, less flexible and less demanding (Bell, 1964; Collins, 1969; Schlesinger and Meadow, 1972; Stinson, 1974). A few studies report above average degree of neuroticism among parents of deaf children and that they use a narrower range of disciplining techniques (Schlesinger and Meadow, 1972; Galkowski, 1978).

Present trend of psychological research with hearing handicapped children has shifted from diagnostic aspects to rehabilitation and modern techniques of educating them.

Studies in India are meagre in number. A few studies report lower intellectual functioning of deaf children (Das, 1954; Vagrecha, et. al., 1972; Ahrol, et. al., 1973). Delayed development of conceptual processes have been reported by other studies (Iyengar, D and Jain, U.C., 1979; Verma and Saxena, 1983). Improvement in the level of achievement as a result of rehabilitative programme have also been reported (D. Prasad, et. al., 1982; Verma and Saxena, 1983). Kriti (1968) reported deaf children to have more intense behaviour problems of longer duration than normal hearing children.

Keeping the above factors in mind the present investigation was planned.

Problem: The problem of the present investigation was to study the psychological aspects of hearing handicapped children.

Psychological aspects included cognitive functions and social emotional factors. The cognitive functions investigated in the study were perceptual-motor functions and intelligence. Social emotional factors included social maturity, body image, behavioural and emotional problems and parental attitudes.

Hypothesis:

Ia. Hearing impaired children as a group will make significantly more errors on tests of perceptual motor functions than normal hearing children.

Ia. 1. Within hearing impaired group profound hearing loss children will make more errors than severe and moderate hearing loss children.

Ia. 2. Hearing impaired children attending regular school will make more errors than those attending special school.

Ia. 3. Younger children will make more errors than older children.

Ib. Hearing impaired children as a group will score significantly lower IQs than normal hearing children.

Ib. 1. Within hearing impaired group, profound hearing loss children will score lower IQ than severe and moderate hearing loss groups.

Ib. 2. Hearing impaired children attending regular school will score lower IQs than those attending special school.

Ib. 3. Older children will score higher IQs than younger children.

IIs. Hearing impaired children as a group will show lower level of social maturity compared to normal hearing children.

IIs. 1. Within hearing impaired group, profound hearing impaired children will show lower level of social maturity than severe and moderate hearing loss children.

IIs. 2. Hearing impaired children attending regular school will show lower level of social maturity than those attending special school.

IIs. 3. Level of social maturity will increase with increase in age.

IIB. Hearing impaired children as a group will show significantly more body image disturbance than normal hearing children.

IIB. 1. Within hearing impaired group profound hearing loss children will show more body image disturbance than severe and moderate hearing loss children.

I Ib. 2. Hearing impaired children attending regular school will show more body image disturbance than those attending special school.

I Ib. 3. Older children will show more body image disturbance than younger children.

I Ic. Hearing impaired children as a group will show more behaviour problems as compared to normal hearing children.

I Ic. 1. Within hearing impaired group profound hearing impaired children will show more behaviour problems than severe and moderate hearing impaired children.

I Ic. 2. Hearing impaired children attending regular school will show more behaviour problems than those attending special school.

I Ic. 3. Older children will show less behaviour problems than younger children.

I Id. Child rearing attitudes of mothers of hearing impaired children will differ from that of mothers of normal hearing children.

I Id. 1. Within hearing impaired group child rearing attitudes of mothers will differ with the difference in the degree of hearing impairment in their children.

IId. 2. Mothers of hearing impaired children attending regular school will show differences in attitudes compared to the mothers of hearing impaired children attending special school.

IId. 3. The child rearing attitudes of mothers of hearing impaired children will vary with the age of their child.

Sample: The sample consisted of three major groups of children: I. Hearing impaired children attending special schools for the deaf, and this group consisted of totally 180 children. II. Hearing impaired children attending regular schools, consisting of 137 children, and III. Normal hearing children consisting of 90 children. The sample was drawn from different institutions and schools at Bangalore and Mysore. The groups were further divided into three according to their age: 1. 5½ to 7½ years; 2. 7½ to 9½ years and 3. 9½ to 11½ years. The first two major groups were also subdivided into 3 groups according to the degree of hearing loss. The groups were as follows: I. Hearing impaired children attending special school - 1a. Severe, 5½ to 7½ years (N=30); 1b. Severe 7½ to 9½ years (N=30) and 1c. Severe 9½ to 11½ years (N=30). 2a. Profound, 5½ to 7½ years (N=30); 2b. Profound, 7½ to 9½ years (N=30); 2c. Profound, 9½ to 11½ years (N=30), II. Hearing impaired children attending regular schools - 1a. Severe,

5½ to 7½ years (N=22); 1b. Severe, 7½ to 9½ years (N=16); 1c. Severe 9½ to 11½ years (N=17). 2a. Profound, 5½ to 7½ years (N=11); Profound, 7½ to 9½ years (N=8); 2b. Profound, 9½ to 11½ years (N=11); 3a. Moderate, 5½ to 7½ years (N=16); 3b. Moderate, 7½ to 9½ years (N=16); 3c. Moderate, 9½ to 11½ years (N=16); III. Normal hearing children 5½ to 7½ years (N=30); b. 7½ to 9½ years (N=30); c. 9½ to 11½ years (N=30).

The degree of impairment was determined by trained audiologists. All hearing impaired children had bilateral sensory neural hearing loss and were congenitally or pre-lingually deaf. All had a minimum of one year of educational experience in school (after the detection of hearing impairment). They were screened for other handicaps, i.e., mental retardation, neurological deficit, and orthopaedic handicap. Children attending residential schools were not included in the study sample. The comparison group of normal hearing children was drawn using the 'neighbourhood control technique' (Freeman, 1975) from regular schools, matched with hearing impaired groups for age, sex and area of residence.

The mean chronological ages of children in the three age groups was 6 years 6 months; 8 years 7 months, 10 years 8 months. Boys and girls were equally represented in the sample. All the groups had higher representation of upper middle class and lower middle class.

Tools and Techniques: Following tests were used to assess the various aspects studied.

1. Perceptual motor functions: Bender Visual Motor Gestalt test.

2. Intelligence: Seguin form board and Malin's Intelligence scale for Indian children.

3. Social Maturity: Malin's Indian adaptation of Vineland Social Maturity Scale.

4. Body Image: Draw-A-Person test.

5. Behaviour and Emotional problems: Behaviour problem check list and Bender visual motor Gestalt test.

6. Parental attitudes: Indian adaptation of Schafer and Bell's Parental Attitude Research Instrument by Uma Saxena.

A general information schedule was used to elicit information from parents regarding the socio-demographic aspects; etiological factors, family background, consanguinity, developmental, educational and medical history of the subjects of the study.

Procedure: The tests were administered to children individually in a session of 1½ hours duration at their respective schools and institutions and in some cases at their residence. Most of the children needed a break of about 15 to 20 minutes in between the sessions. Mothers were interviewed individually in single sessions of 2 to 2½ hours

either at the school and institution attended by their child or at their residence. General cooperation of the subjects was good except that there were difficulties in getting the cooperation of the parents.

Statistical Analysis: The data obtained was subjected to statistical analysis. Wherever suitable, parametric statistical techniques were used, i.e., Analysis of Variance and 't' test. Wherever the data did not yield to parametric statistics, Nonparametric statistical techniques, i.e., Chi-square test was used.

Results and discussion: No sex differences were noticed on any of the measures in various groups. Hearing impaired children were found to show delayed maturation of perceptual motor functions. They made significantly more errors on Bender Gestalt test than normal hearing children. There was a significant reduction in errors as age advanced. Profound hearing impaired children were found to benefit more from special educational programmes. The results supported hypothesis Ia.

No significant difference emerged between hearing impaired and normal hearing children as far as the 'general' factor of intelligence was concerned. Hearing impaired children were significantly inferior to normal hearing children when complex

and higher cognitive abilities were assessed. They were significantly below normal hearing children in their IQ scores. They were found to be deficient in basic perceptual and conceptual abilities, visual perceptual synthesis and integration, planning and organizing and also in their ability to associate symbols. This was shown in their performance on various subtests of KISIC. When the task did not require memory and symbolic processes, then hearing impaired children performed equally well as normal hearing children as on Block design subtest. Severe and profound degree of hearing losses were found to have a negative effect on the IQ scores. Moderate degree of hearing loss did not show any influence on these scores. Severe hearing impaired children attending special school and profound hearing impaired children attending regular school were lowest in their performance. No significant age differences in these functions were indicated. This in general confirmed our hypothesis I₁.2 but not I₁.3.

Hearing impaired children were equal to normal hearing children in their level of social maturity. Our hypothesis I₁.4 is left unsupported.

With regard to Body image, hearing impaired children were found to have inadequate feelings about self, but projected a general feeling of happiness significantly more than

normal hearing children. They were also found to strive more than normal hearing children. An additional feature found in the drawings of hearing impaired children was the detailing of certain parts of face and body, i.e., eyes, hair, lips and fingers, which reflected an increased awareness of the usefulness of these parts. This confirmed our hypothesis Iib. No significant differences emerged with respect to degree of hearing impairment and type of school. Hearing impaired children were found to become more conscious of their differences as age advanced. Analysis of the number and types of behaviour problems revealed no significant difference between the hearing impaired children and normal hearing children. The obtained differences were only in the magnitude of the problems. The manifestation of the problems reduced and disappeared at an earlier age among normal hearing children, whereas they persisted at later ages also among hearing impaired children. These children were found to be significantly more restless, self conscious, shy, distractible, irritable, demanding, aggressive and suggestible. They threw more temper tantrums and lacked perseverance. Degree of hearing impairment and type of school attended by them did not affect the occurrence of problem behaviour. As age advanced these behaviour problems tended to reduce. This in general supported our hypothesis Iic.

Hypothesis IId gets support from the responses of mothers to PARI which revealed mothers of hearing impaired children

to be significantly more overprotective than mothers of normal hearing children. They experienced less marital conflict, were more permissive, intrusive, less strict, and encouraged developmental activities. Degree of hearing impairment and type of school attended by children did not make any difference in their attitudes. These findings lent support to our hypothesis IId.

The findings could be explained in the cognitive developmental model, of Bruner, and Behavioristic principles. The poor performance of hearing impaired children on some tests might be due to the deficit or delay in the development of symbolic representation stage. On tests where an iconic representation system was sufficient hearing impaired children fared well. Similarly the behaviour problems and the maternal attitudes need not be a direct result of hearing impairment but an interaction of the impairment and other factors like problems in communication, and the interaction of the people in the environment.

The results of the investigation has limited generalizability since the number of children studied was small. It should be restricted to the type of sample of the present study.

The study throws light on the improvement and modification needed in the present educational systems. The methods

of education used for hearing impaired children should be geared more towards developing the skills in which they lag behind in addition to improving the already developed skills. Both, profound and severe hearing impaired children need to be integrated into the regular school programmes but with supplemental support and help.

LIMITATIONS OF THE STUDY

First and foremost drawback of the study is the size of the sample which is small especially when the number of hearing impaired children attending regular school is considered. This was mainly due to the non-availability of the subjects. This limits the generalizability of the study.

Secondly, the problem was with communication. Though all attempts were made to use the gestures and signs used by the hearing impaired children in communicating with them and instructing them, the success of it can still be doubted.

Earlier Experience with the test materials used was not uniform. Some hearing impaired children had been administered one or all the three tests of cognitive functions at the institutes when they were first diagnosed as having hearing loss. But all the hearing impaired children did not undergo such an assessment. None of the normal hearing children of control group had such an exposure to tests.

Assessment of behaviour problems was solely based on the mother's reports and not on direct observation. This report might have been biased.

Problems were faced with regard to the administration of FARI to the mothers, especially those from lower socio-economic status. This was to such an extent that some of the mothers failed to respond to all the items of FARI and hence were excluded from being considered for analysis. Fathers attitudes could not be assessed because of their nonavailability. Since, it is an important factor influencing both mother's and child's behaviour and their interaction, much of information is lost.

SUGGESTIONS FOR FURTHER STUDIES

The study needs to be carried out on a larger sample of hearing handicapped children. Only then the results can be generalized.

Psychological study involves many complex aspects and factors. These factors, e.g., perceptual conceptual abilities, hearing processes, memory, behaviour and emotional aspects, need deeper probing and hence, should be taken up separately and studied in detail.

In addition, attitudes of fathers regarding child rearing practices needs detailed investigation.

Variation in the socio-economic status also influences the cognitive growth and this requires further investigation.

Application of the findings to educating this special group needs further probing.

Psychological instruments should be developed for various areas of assessment suitable for the hearing impaired population.