

Intelligence Level of Hearing Impaired Children and their Education ---- A Review

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Abstract: The present study was undertaken to investigate the attitudes of Teachers and parents towards the hearing impaired children and to find out the relationship between hearing impairment and intelligence. The child with a disability is challenged by the tasks required during social interaction. As a result, it is the deficits in their social behavior and deficits in maintaining social exchange with their peers that highlight their differences. Often these deficits may exclude them from day to day interaction with their peers. Successful and effective inclusion of children with a disability in mainstream settings may be dependent upon the teachers' understanding of what these difficulties are and knowing how to assist children with disabilities during social interaction. We recommend environmental changes to improve illumination and contrast to improve the quality of life of such children with double disability. For their education needs teachers' special attention and creative, modern teaching strategies.

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I. Introduction

Hearing impairment or Deafness refers to conditions in which individuals are fully or partially unable to detect or perceive at least some frequencies of sound which can typically be heard by members of their species. Use of the term impaired implies that deafness presents an inherent disadvantage to an animal, a view that is rejected within the Deaf culture movement, where the terms Deaf and hard of hearing are preferred. Here are some statistics on hearing impairment.

- Profound hearing disability in India is about one million
 - 1.2 million people are with severe hearing disability
 - 0.9 million people are with moderate hearing disability and 7.1 million people with very mild hearing disability
 - 9 out of every 10 children who are born deaf are born to parents who can hear
- Given the large number of people across all ages suffer from hearing disabilities, it is important to analyze this further and explore solutions.

Area of Study

There are several mis-perceptions about the intelligence levels of children with hearing challenges and hence they are treated unfairly. In this article, we've attempted to understand various types of hearing impairment, their impact and some recommendations to improve the lives of people with various degrees of hearing disabilities. The objective is to spread awareness about it and make the society a better place to live.

Identification of Hearing Impairments

Although it is the duty of the teachers, parents and members of the family to take care of the task of early identification of the hearing loss or impairments of their children, yet by one research or the other it may be possible that number of cases may go unnoticed till their entry in the schools or the problems faced during their curricular or co-curricular performance.

- ✓ Does the child try to watch lips of teacher or other speakers very closely?
- ✓ Does the child respond to noises or sounds as opposed to words and sentences?
- ✓ Does the child experience difficulties following oral presentations and directions?
- ✓ Does the child yell or scream to express pleasure?
- ✓ Does the child often have tantrums for attention getting?
- ✓ Does the child constantly turn up radio/ television too loud?
- ✓ Does the child use limited vocabulary?
- ✓ Does the child show delayed language development?

- ✓ Does the child withdraw from his age mates or other people?

Hypothesis of the study

- There will be no relationship between intelligence and hearing impairment.
- There will be no relationship between parental attitudes (Home environment) among the hearing impaired children.
- There will be need to special consideration for hearing impaired child.

Objectives of the study

- To identify the cause and interpret remedial measures for the discrepancy occurs due to the problem in socialization skill.
- To identify the cause and interpret remedial measures for the discrepancy occurs due to the problem in communication skill.
- To identify the relationship between intelligence and hearing impairment.
- To identify how parental support involvement, over protectiveness and pessimistic/optimistic (Parental attitude) outlook help to overcome the problems faced by hearing impairment children.
- To survey the educational consideration of hearing impaired children.

II. Methodology

Sample

In the present investigation, 40 students participated along with their mother and teacher. The age range of the students ranged from 13-17 yrs and there were 29 boys and 11 girls. Among them 14 students had hearing impairment since birth and only 3 of them at the very early childhood period (3 month to 2yrs) followed by organic disorder. Their educational level ranged from class VII-X. They were from Bengali Middle class family.

Tools

1. Information schedule.
2. Raven’s colored Progressive Matrices Test with Answer sheet.
3. Home Environment Inventory by Dr. Mishra with Answer sheet.
4. Paper, pen, pencil, eraser and so on.
5. Interview schedule for teacher and parents.

Procedure

So as a first step we introduce ourselves and then tried to know about themselves with their family details. After that we gave them Raven’s colored Progressive Matrices Test with Answer sheet and asked to fill it with the above mentioned instructions. After finishing that I again gave them Home Environment Inventory with Answer sheet and asked them to tick the right choice. At last we meet with some teachers and parents, to know some information regarding their education and what teaching strategies they use for them.

Data Analysis

The assessment report of 40 students of Raven’s colored Progressive Matrices for intelligence test are given bellow –

Quantitative Data

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
score	27	22	29	19	30	31	21	32	14	26	24	27	31	33	18	30	26	25	23	24

Table -1.1

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
score	29	22	19	22	30	31	21	32	14	26	24	27	31	33	18	30	26	25	23	24

Table -1.2

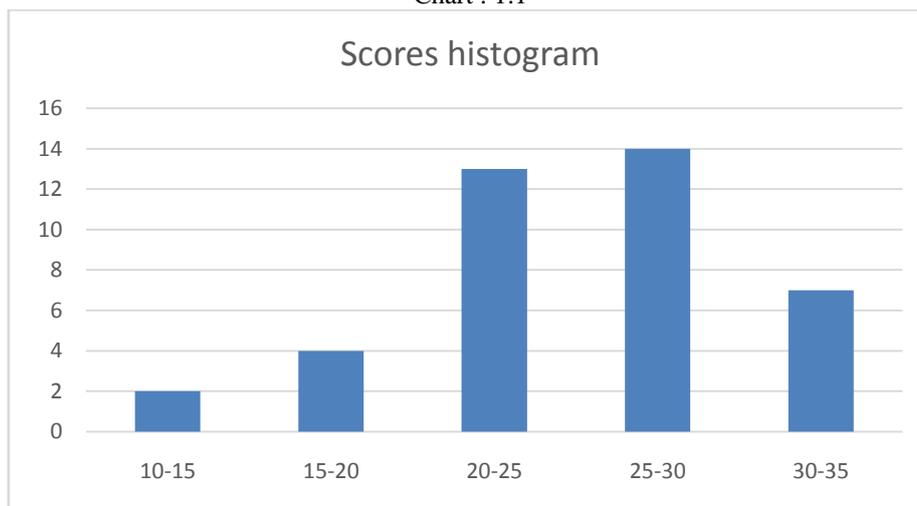
Some Statistics

No. of observation	40
Min	14
Max	33
Average Score	25.45
Standard Deviation	4.99
Median Score	26
Mode	22

Score ranges	Frequency
10 – 15	2
15 – 20	4
20 – 25	13
25 – 30	14
30 – 35	7
Total no. students	40

The following is a histogram plot for the scores.

Chart : 1.1



Interpretation

The average score of the 40 students is 25.45 which is very close to the median which is 26. This implies that there are no extremities in the data (i.e. the average is not skewed by one or to extreme scores). The standard deviation of 4.99 is moderate and further confirms that the score are not hugely dispersed. The present Raven’s colored Progressive Matrices is an instrument designed to measure the intelligence level of hearing impaired children. They may be physically challenged but that does not affect their share of intelligence.

The assessment report of 17 students of Home Environment Inventory to know parental attitude (Home environment) among the hearing impaired children are given below: -

Quantitative data

Dimension	1B	2G	3B	4G	5B	6B	7G	8G	9B	10B	11B	12B	13B	14B	15G	16G	17G
A. CONTROL	15 P75	11 P25	5 P6	18 P94	12 P38	13 P44	13 P44	19 P100	13 P44	13 P44	17 P88	3 P0	11 P25	7 P13	10 P19	14 P69	15 P75
B. PROTECTIVENESS	12 P13	13 P25	16 P44	12 P13	17 P69	16 P44	11 P6	17 P69	18 P88	10 P0	20 P100	16 P44	16 P44	14 P31	15 P38	18 P88	17 P69
C. PUNISHMENT	12 P50	12 P50	9 P6	11 P44	9 P6	12 P50	16 P81	16 P81	13 P69	9 P6	16 P81	8 P0	9 P6	10 P31	14 P75	18 P100	10 P31
D. CONFORMITY	16 P25	14 P6	18 P69	16 P25	18 P69	18 P69	15 P13	15 P13	19 P94	7 P0	18 P69	16 P25	19 P94	17 P50	16 P25	17 P50	17 P50
E. SOCIAL ISOLATION	7 P38	6 P25	8 P50	9 P69	5 P13	11 P94	10 P81	10 P81	5 P13	15 P100	8 P50	2 P0	6 P25	7 P38	4 P6	9 P69	8 P50
F. REWARD	16 P31	16 P31	19 P69	18 P50	18 P50	15 P19	15 P19	19 P69	16 P31	13 P0	19 P69	13 P0	19 P69	13 P0	20 P100	19 P69	18 P50
G. DEPRIVATION	8 P38	8 P38	3 P6	7 P31	8 P38	13 P100	10 P75	0 P0	6 P19	10 P75	9 P63	9 P63	8 P38	6 P19	11 P94	10 P75	4 P13
H. NURTURENESS	12 P25	9 P0	11 P13	11 P13	16 P69	14 P44	13 P38	12 P25	14 P44	10 P6	17 P89	18 P94	18 P94	14 P44	15 P63	16 P69	16 P69
I. REJECTION	12 P88	10 P69	6 P19	11 P75	9 P56	11 P75	15 P100	6 P19	6 P19	9 P56	8 P38	8 P38	8 P38	1 P0	2 P6	13 P94	2 P6
J. PERMISSIVENESS	12 P44	10 P19	8 P0	12 P44	12 P44	13 P75	15 P88	14 P81	8 P0	11 P31	8 P0	10 P19	16 P94	11 P31	12 P44	19 P100	12 P44

B= Boys

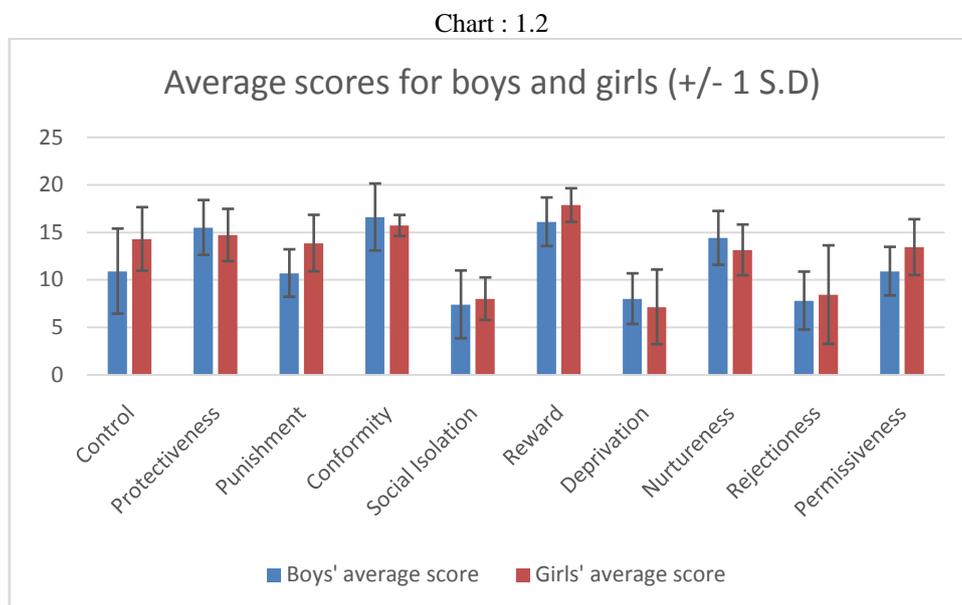
G= Girl

P= Percentile

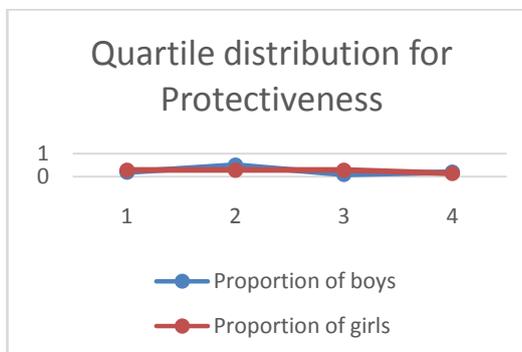
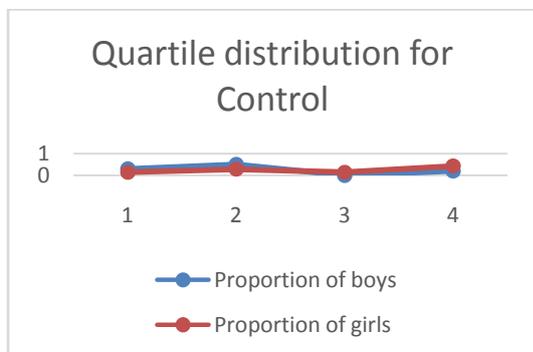
The following is a summary of the boys' and girls' scores across all the dimensions.

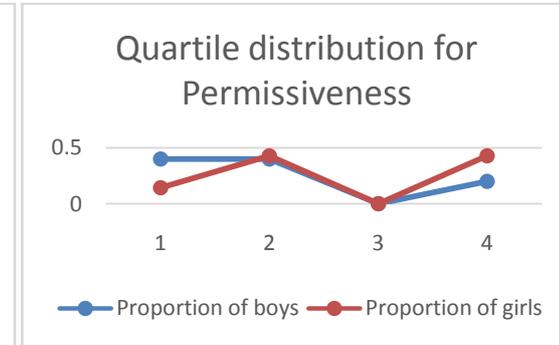
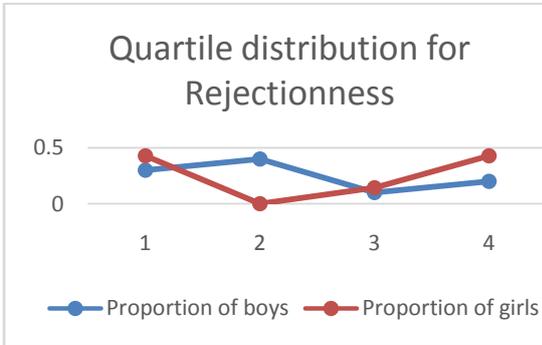
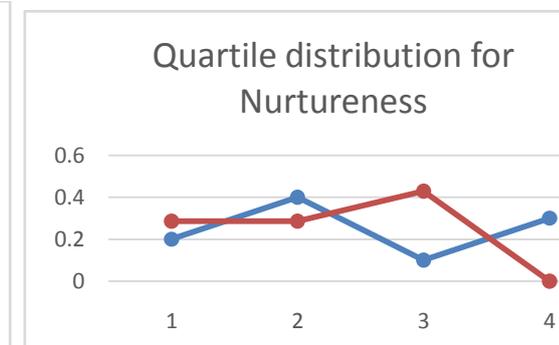
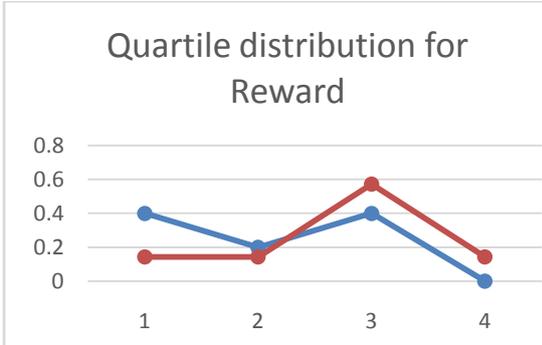
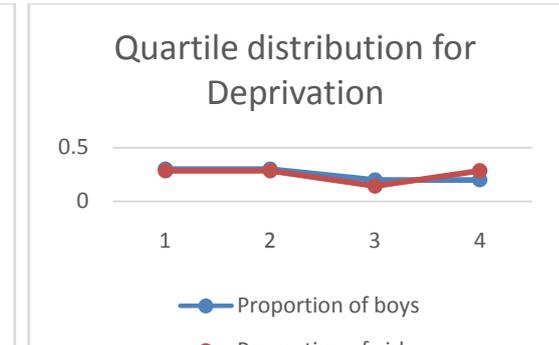
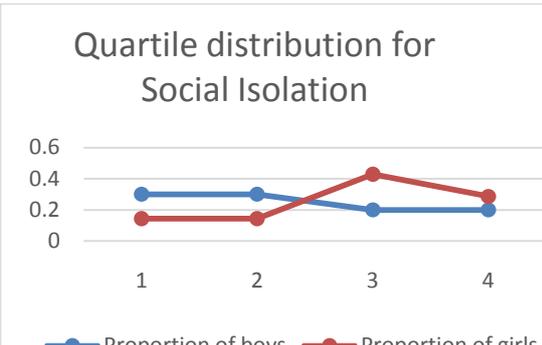
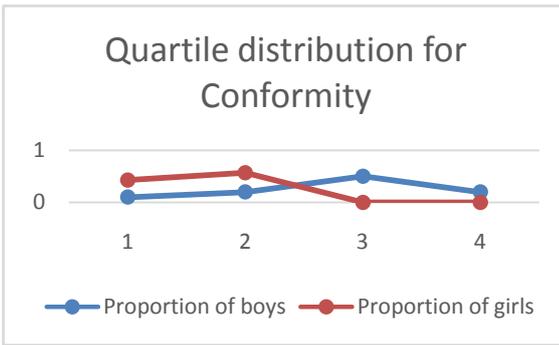
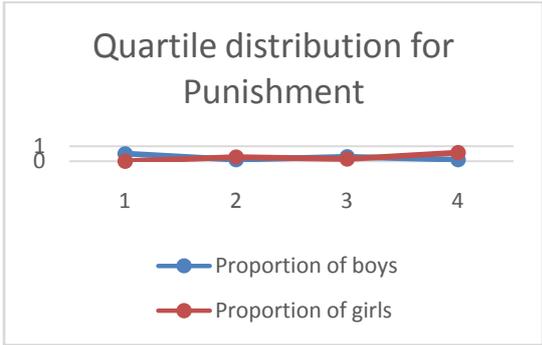
Dimension	Boys' average score	Girls' average score	Boy's Std. dev.	Girl's Std. dev.
Control	10.9	14.29	4.48	3.35
Protectiveness	15.5	14.71	2.89	2.75
Punishment	10.7	13.86	2.5	2.97
Conformity	16.6	15.71	3.53	1.11
Social Isolation	7.4	8	3.57	2.24
Reward	16.1	17.86	2.56	1.77
Deprivation	8	7.14	2.67	3.93
Nurtureness	14.4	13.14	2.84	2.67
Rejectionness	7.8	8.43	3.05	5.19
Permissiveness	10.9	13.43	2.56	2.94

The above summary data has been depicted as graphs for visual interpretation



The following is a quartile distribution of the boys' and girls' scores for all the dimensions. The first quartile represents no. of boys and no. of girls who are in the bottom 25% of the sample whereas the fourth quartile represents no. of boys and no. of girls who are in the top 25% of the sample.





III. Interpretation

The present Home Environment Inventory (HEI) is an instrument designed to measure the psychosocial climate of home as perceived by children. It provides a measure of the quality and quantity of the cognitive, emotional and social support that has been available to the child within the home. Home Environment Inventory has 100 items belonging to ten dimension of home environment.

Original Home Environment Inventory has 100 items at present 50 of them randomly were chosen. Each dimension has at least 5 items. The obtained data suggest the perception of Hearing Impairment Children regarding their family atmosphere, parental attitude and parental behavior towards them. We have attempted to identify any differences between the girls' and boys' performances across dimensions using the scores. Due to relatively smaller sample size, statistical significance could not be established for the differences observed, however, we highlighted the differences based on the patterns observed to draw directional inferences. Average (mean) was computed for girls and boys separately for each dimension. Higher mean with +/- 1 standard deviation was analyzed between the girls and boys to determine significance of the differences. The differences were further verified with the quartile distribution of each dimension to understand relative presence in the first and fourth quartiles. E.g. higher proportion of boys in the first quartile and lower proportion in the fourth quartile than girls would indicate likelihood of better performance of the girls for the respective dimension. It has been observed that the girls tend to perform better along Control, Punishment, Permissiveness while boys score somewhat higher in Conformity and Nurturance.

IV. Conclusion

They may be physically challenged but that does not affect their share of intelligence and teachers' & parents attitude should be changed. Mainstreaming or inclusion supported with resource room facilities, support services and provision of a special teacher may in fact work as a good option for the educational placement of many disabled children including hearing impaired in our country. However, on practical side, the experiences of many of the hearing impaired getting education in the inclusive set-up may not be satisfying. It mainly arises from the pathetic state of communication problems and maladjustment faced on account of the environmental facilities, instructional methods, co-curricular experiences, etc. which are friendlier to their normal peers than them.

Further studies/ Limitations

- ✓ Further research investigations in the following lines can be carried out to comprehend the relationships in a better way, which have been studied at the present investigation.
- ✓ Extending the sample with the students reading in other special schools would enable the research worker to study the relationship of the stated phenomena in a broad spectrum.
- ✓ If the hearing impaired students placed at regular schools under the implementation of Inclusive Education were covered, it would enable the research worker to generalize the findings for a large number of people in similar situation.
- ✓ Cross cultural differences, regional differences and child rearing practices can be studied in relation to the present problem since these differences may influence the parental care and protection.
- ✓ If parents were interviewed separately the child's perception about them can be cross-checked and properly explained.
- ✓ The present research attempt could not study such relationship for its limited scope and time. Future research attempt can throw light in these significant areas.
- ✓ Due to the lack of a proper verbal test as their level of intelligence cannot be located.

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