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Perception and Intelligent Quotient Between With and Without Hearing Impairment Children

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Abstract

The purpose of the study was to compare perception and intelligent quotient between with and without hearing impairment school children. To achieve the purpose of the study ten children each with hearing impairment were selected from the Florence Swainson Higher Secondary Deaf School, Palayamkottai and without hearing impairment children were selected from Manthramoorthi Govt. Higher Secondary School, Tirunelveli. The subjects were randomly selected. The age of the subjects ranged from 10-14 years. The following variables were selected for the present study such as perception and intelligent quotient and they were tested with standardized tests. The experimental design for this study was static group comparison design. The data collected from the two groups on selected variables such as perception and intelligent quotient were statistically examined for significant differences, the independent 't' test. In all cases 0.05 levels was fixed as significant level to test the hypothesis. There was significant difference on perception between with and without hearing children and there was no significant difference on intelligent quotient between with and without hearing children.

Keywords: Perception, Intelligent Quotient, Hearing Impairment.

Introduction

Classrooms in today's schools are diverse in many ways such as children from various cultures, age group, family structures, socioeconomic backgrounds, and ethnic groups together from unique communities of learners. These heterogeneous student communities also include students with a range of cognitive, affective and motor abilities. Inclusive classrooms embrace all student including those who have diagnosed disabilities (David L. Gallahue, 2003).

A physical disability is any physical condition that interferes with the child's educational performance and includes disabilities resulting from disease congenital factors, and other unspecified causes. About 3% of the school age populations have physical impairments. Children with physical disabilities are characterized by one or more disabling conditions, resulting from faulty functioning of their sensory receptors or their musculature that in some manner limit or restrict their ability to function. Children with a physical impairment may have one or more disabling conditions. These conditions restrict the children's movement and mandate modifications in the physical activities they engage (David, L., Gallahue & Frances D. Cleland Donnelly, 2003). A sensory impairment is a condition in which the sensory receptors are unable to transmit or interpret stimuli in a manner conductive to educational performance. By far the most common sensory impairments are visual limitations and auditory limitations (David L .Gallahue, 2003).

Deaf refers to a hearing loss in which hearing is insufficient for comprehension of auditory information with or without the use of a hearing aid. The individual with disabilities education act defines "deaf" as having a hearing loss so severe that the individual is unable to process language through hearing, with or without the use of an amplification device. The loss must be severe enough to adversely affect the student's educational performance (Joseph P. Winnick, 2005). Hard of hearing is refers to a hearing loss that makes understanding speech through the ear alone difficult, but not impossible. Amplification with a hearing aid or remedial help in communication skill often benefits people who are hard of hearing. The individual with disabilities education act defines hard of hearing as having a hearing loss that might be permanent or fluctuating and adversely affects the student's educational achievement or performance.

Children with a hearing impairment have difficulty process verbal information with or without amplification and this interfere with their educational performance. Hearing impairments are among the most common limiting conditions found in children and adults. Hearing loss may range from partial to complete. Frequently people form mistaken judgments about a child with a hearing impairment that has gone unattended, thinking that the child has mental retardation, is a slow learner or has behavioral problems

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(David L .Gallahue, 2003). Deaf children face many challenges in our society mainly due to their inability to communicate effectively with others. Although there are limitations on what deaf children, there are many activities available to them that will provide knowledge, stimulation and excitement. Perception is a multistage process that takes place in the brain and includes selecting, processing, organizing and integrating information received from the senses (Kathleen M. Haywood, 2009).

Intelligent Quotient is a number meant to measure people cognitive abilities (intelligence) in relation to their age group. An Intelligent Quotient between 90 and 110 is considered average; over 120, superior. The highest Intelligent Quotient was 228, according to Guinness Book of Records, this score belongs to the 'smartest' person in the world Marilyn vos Savant who scored it when she was 10 year old. This would, according to recent research, correspond to about Intelligent Quotient 185 at adult age. That score is, at least, surpassed by the chess player and champion Bobby Fisher which was 187, and Kim Ung-Yong (S. Korea) with a score over 200. The problem is that the term intelligence has never been defined adequately and therefore nobody knows what an Intelligent Quotient test is supposed to measure. In spite of all this, today the future of thousands of children/ employees is determined by the results of this test, simply because it has its good share of accuracy. (Intelligent Quotient is a number, 2012).

Methodology

The purpose of the study was to compare perception and intelligent quotient between with and without hearing impairment school children. To achieve the purpose of the study ten children with hearing impairment were selected from the Florence Swainson Higher Secondary Deaf School, Palayamkottai and without hearing impairment children selected from Manthramoorthi Govt. Higher Secondary School, Tirunelveli. The subjects were randomly selected. The age of the subjects ranged from 10-14 years. The following variables were selected for the present study such as perception and intelligent quotient and they were tested with standardized tests. The experimental design for this study was static group comparison design. The data collected from the two groups on selected variables such as perception and intelligent quotient were statistically examined for significant differences, the independent 't' test. In all cases 0.05 levels was fixed as significant level to test the hypothesis.

Analysis of Data

The independent 't' test on the obtained for perception between with and without hearing impairment children have been analyzed and presented in the table I.

Results

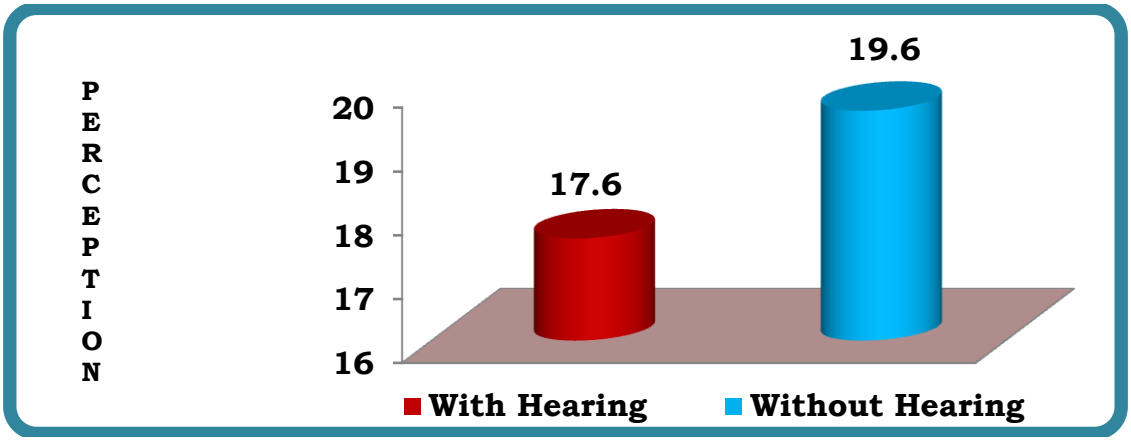
Table I. Summary of mean values and independent 't' test for with and without hearing impairment children on perception

Children	Number	Mean	Standard Deviation	't' ratio
With hearing	10	17.6	2.27	2.61*
Without hearing	10	19.6	0.84	

*Significant at .05 level of confidence
(Table value required for significance at 0.05 level for't' test with df 18 is 2.10).

From the table I it was showed that the mean values of with and without hearing impairment children are 17.6 and 19.6 respectively. The obtained 't` value is 2.61 which is grater than the required table of 2.10 with df 18 at 0.05 level of significance. It was concluded that there was significance difference between with and without hearing impairment children on perception. The mean values of perception between with and without hearing impairment children are graphically represented in the figure I.

Figure I. The mean values of with and without hearing impairment children on perception



The independent 't' test on the obtained for Intelligent Quotient between with and without hearing impairment children have been analyzed and presented in the table II.

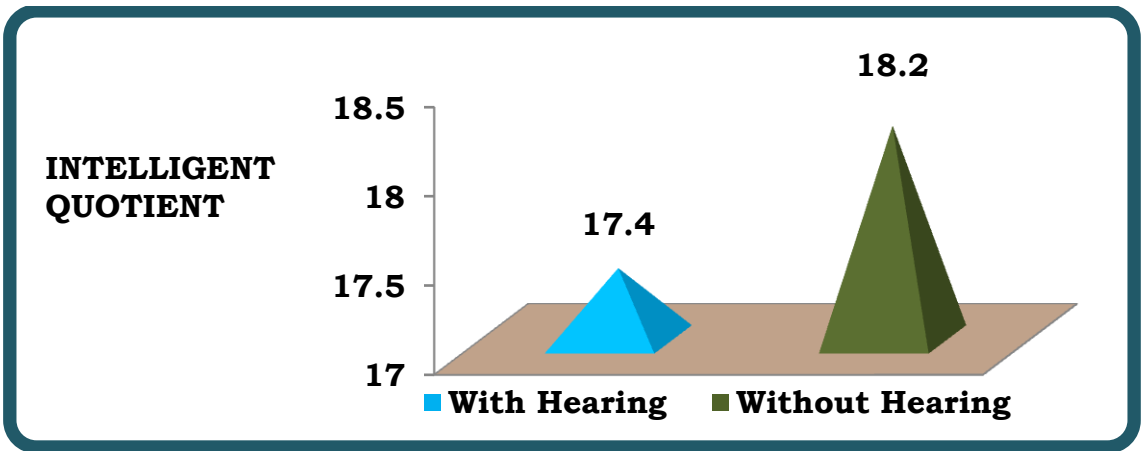
Table II. Summary of mean values and independent t' test for with and without hearing impairment children on intelligent quotient

Children	Number	Mean	Standard Deviation	't' ratio
With hearing	10	17.4	2.50	0.76
Without hearing	10	18.2	2.20	

(Table value required for significance at 0.05 level for 't' test with df 18 is 2.10).

From the table II it was showed that the mean values of with and without hearing impairment children are 17.4 and 18.2 respectively. The obtained 't` value is 0.76 which is lesser than the required table of 2.10 with df 18 at 0.05 level of significance. It was concluded that there was no significance difference between with and without hearing impairment children on Intelligent Quotient. The mean values of Intelligent Quotient between with and without hearing impairment children are graphically represented in the figure II.

Figure II. The mean values of with and without hearing impairment children on intelligent quotient



Discussion on Findings

Form the results of the study indicate that there was no significant difference between with and without hearing impairment children on Intelligent Quotient and there was significant difference on Perception between with and without hearing impairment children. The present findings of the study also confirmed the following findings of the study. Ostroga Parker J, & Wilsoncroft WE. (1979) compared on nine tests involving color perception and color-verbal materials

including (a) Color-Form Sorting, (b) Color-Form Pointing, (c) Color-Word Meaning, (d) Color-Pair Preferences (N=3), and (e) Color-Word Interference (N=3). Color perception differences between the deaf and the hearing groups were not substantiated: deaf and hearing groups differed only on tests involving verbal materials. The Deaf differed more from the Art students than from the Hearing. Schum N, Franz VH, Jovanovic B, &Schwarzer G. (2012) investigated whether 6- and 7-year-olds and 9- and 10-year-olds, as well as adults, process object dimensions independent of or in interaction with one another in a perception and action task by adapting Ganel and Goodale's method for testing adults Watson BU, Sullivan PM, Moeller MP, & Jensen JK. (1982) examined Intelligence measure included the Performance Scale of the Wechsler Intelligence Scale for Children-Revised and the Hiskey-Nebraska Test of Learning Aptitude Language measures were the Test of Language Development and the Reynell Developmental Language Scales. Average correlations of .45 were obtained between nonverbal IQ and the language measures.

The average multiple correlation between the individual subtests from the intelligence scales and language scores was .68. Subtests which require visual memory consistently entered the multiple regression equations as the best predictors of language performance. Language performance was attenuated in this sample and did not correlate with chronological age. The finding of significant correlations between nonverbal Intelligent Quotient and English language, in spite of the attenuated language performance, suggests that nonverbal intelligence and visual memory skills, in particular, may be important in understanding the success of some hearing-impaired children in acquiring English and the failure of others.

Conclusions

There was significant difference on perception between with and without hearing children.

There was no significant difference on intelligent quotient between with and without hearing children.

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