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## EMOTIONAL AND BEHAVIORAL PROBLEMS IN CHILDREN WITH HEARING IMPAIRMENT

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**Nadia Hameed**

Clinical Psychologist,  
Department of Psychiatry & Behavior Sciences Hayatabad Medical Complex,  
Sindh, Pakistan.  
Email: [nadiahameed.icp@gmail.com](mailto:nadiahameed.icp@gmail.com)

**Erum Irshad**

Professor and Chairperson,  
Department of Psychology, University of Peshawar,  
KPK, Pakistan.  
Email: [erumirshad@hotmail.com](mailto:erumirshad@hotmail.com)

**Rabia Mushtaq**

Assistant Professor,  
Institute of Clinical Psychology, University of Karachi,  
Sindh, Pakistan.  
Email: [rabiamushtaq.icp@hotmail.com](mailto:rabiamushtaq.icp@hotmail.com)

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### ABSTRACT

*The aim of the present study was to compare the emotional and behavioral problems in children and adolescents with and without hearing impairments in Peshawar. It was hypothesized that i) children having hearing impairment would show high emotional and behavior problems than children having normal hearing; ii) children having hearing impairment would be comparatively more hyperactive than children having normal hearing; iii) Children with hearing impairment would score high on peer problem than children with normal hearing. The sample consisted of 150 students of age's 4-16 years were recruited from special school in Hayatabad and mainstream school in Peshawar by using purposive sampling technique. Demographic Form and Strengths and Difficulties Questionnaire were used in the study. Result of the study indicated that children with hearing impairment shows high emotional and behavior problem than children with normal hearing ( $t= 8.225, p< .01$ ) and they are more hyperactive and display comparatively more peer problem than their normal counterparts ( $t=6.166, p< .01$ ). Findings indicate that children having impairment in hearing are more susceptible to emotional and behavior issues and seems more sensitive and hyperactive because of having different ways of emotional expression as compare to normal population due to the impairment in specific sensory modality.*

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**KEYWORDS**

*Emotional & behavior problems, hearing impairment, Peshawar*

**INTRODUCTION**

Hearing impairment (HI) is considered as one of the serious abnormality in sensory modalities. Dash (2000) defined impairment in hearing as a deficiency, or damage to the hearing mechanism which leads to loss of hearing or disability, with severity ranges varies from mild to moderate and moderate to profound. The severity depends upon the level of impairment occur due to damage in hearing mechanism, and also effects on person's social, occupational and interpersonal level. Hearing impairment (HI) could be diagnosed as complete deafness or hard of hearing, that depend on the nature and the degree of impairment in hearing. The World Health Organization (WHO) defines hearing impairment as the lack of ability to hear at 20 dB threshold level, and loss of > 35 dB in the healthier ear as disabling hearing loss (WHO, 2021). Hearing impairment is considered as one of the main debilities around the globe and found more prevalent in developing countries. Findings of one of the studies conducted in one region of Pakistan revealed 7.9% prevalence rate of hearing impairment in school children (Elahi *et al.*, 1998). Mumtaz and Habibullah (2017) found that late identification of the deficits in hearing in children is a common practice in least developed countries, including Pakistan as the absence of neonatal hearing screening is one of the major causes. Findings also revealed that a significant number of the cases of mild hearing loss i.e., 26%, may be missed even if neonatal screening facility is the present (Walker *et al.*, 2017). Mumtaz, Babur and Saqulain (2019) have found that neonatal hearing screening in Pakistan is hindered by financial limitations and insufficient research and reliable epidemiological data.

Hearing impairment is divided into two categories i.e., deaf and hard of hearing in which complete loss of hearing is called deafness and the other one have some degree of hearing. The deaf category could not get benefit even from the finest auditory training and face difficulty in understanding language however, people with hard of hearing can get benefit through amplification. Hearing impairment can be started from birth called congenital deafness, while other type of deafness known as adventitiously deafness that is a condition in which child born with adequate hearing ability and acquire speech but later in life, loose hearing ability (National Centre on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention, 2022) due to various reasons i.e., infections, diseases or any kind of damage to hearing mechanism. It is very difficult to identify the effects of hearing loss as it has a wide range of effects from generalized learning difficulty to a difficulty in any specific area. Hearing impairment is known as an imperceptible debility, and delayed and/or missed diagnosis or absence of treatment for this problem may lead to the delays in the acquisition and development of speech, language, and communication (Mumtaz,

Babur & Saqulain, 2019). Reddy, Ramar and Kusuma (2005) also reported that along with language development hearing impairment also effect social, emotional and educational development of children which further leads to (WHO, 2021) unemployment or lower order of employment. Hearing impairment also found as a reason of loneliness, isolation, as well as social stigmatization. World Health Organization calculated annual global burden of the untreated debility on economic aspect as around 980 billion USD (WHO, 2021).

### LITRATURE REVIEW

Along with detrimental consequences of hearing impairment, entrenched cultural beliefs also play a significant role in the refusal of getting clinical treatment or rehabilitation of the children with hearing impairment by their parents or caregivers (Zhao *et al.*, 2015). Hearing impairment is counted as one of the four major debilities recognized by WHO (Mumtaz & Butt, 2013) that need to be identified and intervened in early age for age appropriate acquisition and development of speech and language in children having hearing problems. Studies found that deferments in identification of hearing problems can lead to the delays in social, emotional and cognitive, educational and occupational areas along with delays in speech and language, as Torppa and Huotilainen (2019) have found the strong association between speech and language music related activities in children with hearing impairment.

Studies also found enduring effects of hearing impairment on adjustment in social situations and mental well-being of the individual, in terms of communication, education, personality and occupation (Hauser, 2006; Woll, 2008). Multiple associated conditions with hearing impairment also lead to the initiation and progression of other mental health conditions in this population (Roberts, 1999). There are various reasons which can directly or indirectly leads to emotional and behavioral problems in hearing impaired children which include family environment, interaction and communication within family, social, cultural and educational setups.

Impairment in hearing is considered not only as communicative problem, but also as a problem related with community because it restrict individuals' participation in augmentation and growth of community. According to Adams (1987), auditory deficit leads to compromised communication which influence various aspects of life i.e., social, psychological, emotional, and behavioral, etc. that lead to social and mental problems. Study conducted by Afza and Mumtaz (2015) also revealed about pragmatically inappropriate responses from the children having moderate to profound hearing impairment, due to their lack of ability to comprehend auditory cues from their environment. Study further indicated extreme literalness in that population (Afza & Mumtaz, 2015).

Myklebust (1996) found that individuals with hearing impairment think and behave in a different way to make sense of the world when comparing with individuals having normal hearing due to which they are called as impulsive, and socially immature, as they are not fully capable of taking care of their own needs, have deficits in self-direction, and are more in need of others assistance. Panda (1997) further added that they also have feelings of inferiority, and helplessness, have poor self-concept, are passive, emotionally incapable, have poor language and communication skills, temper tantrums and hyperactivity. Monzani, Galeazzi, Genovese, Marrara and Martin (2008) reported that hearing impaired individuals are psychologically more distraught and comparatively more vulnerable to various psychological problems including depression, anxiety, interpersonal issues, and aggressive tendencies than children without hearing problem. Furthermore, sensory impairment along with other disability may dampen individuals from illuminating themselves to social situations, which produce loneliness, irritability, depression, and inferiority feelings. Keilmann, Limberger, and Mann (2007) children in special schools have less favorable perception of self as compare to normal school children. They are less confident and less assertive due to which they have difficulty friendship and seems more nervous and dejected. This study will generate some seriously desired, population-based data to find out the indication of the prevalence of emotional and behavioral problems caused by hearing deficits in children with hearing impairment in Pakistan. It is anticipated that the findings of this study will stress the significance of hearing health in Pakistan and to instigate other professionals to start working on similar projects as there is insufficient indigenous data available which stress upon the need to work more with current population.

### **RESEARCH OBJECTIVES**

1. To evaluate whether children having impairment in hearing have more emotional and behavior problems than children with normal hearing.
2. To evaluate whether children having impairment in hearing are more hyperactive than children with normal hearing.
3. To evaluate whether children with hearing impairment score high on the aspect of peer problem than children having normal hearing.

### **RESEARCH HYPOTHESES**

1. Children having hearing impairment would show high emotional and behavior problems than children having normal hearing.
2. Children having hearing impairment would be comparatively more hyperactive than children having normal hearing.
3. Children with hearing impairment would score high on peer problem than children with normal hearing.

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## RESEARCH METHODOLOGY

### Sample

The sample of this study was consisted of 150 students including both genders, among which 75 participants were recruited from normal educational system while other 75 were from special education system of government and private institutions of Peshawar. The age range of the participants was between 4 years till 16 years ( $\bar{X} = 12.12$ ;  $SD = 4.995$ ). The sample was drawn from all socioeconomic status including lower, middle and upper class by using Purposive sampling technique.

### Measures

#### Demographic Information Form

Demographic form consisted of basic information regarding age, gender, birth order, education, family structure and socioeconomic status of the subjects.

#### Strength and Difficulty Questionnaire (SDQ)

The Strength and Difficulty Questionnaire is a brief tool to measure behavioral and emotional problems. It is intended to use with children of 4-16 years of age. This screening tool contained twenty-five items with a rating scale in which 0 = not true, 1 = somewhat true, and 2 = certainly true). This scales has five sub-scales named as emotional problems (EP), conduct problems (CP), hyperactivity-inattention problems (HA), peer problems (PP) and Prosocial behavior (PB) and each sub-scale has five items. A sum 'difficulties score' is calculated by taking total score of the first four subscales. High scores on first four sub-scales indicate problems, while on fifth sub-scale, low score indicates problems in Pro-social domain. The sub-scales scores ranged from 0 to 10, and the total difficulty score ranged from 0 to 40.

### Procedure

The researcher first obtained the list of special schools and normal schools and selected institutions on the basis of randomization procedure. After selecting and getting permissions from authorities of the selected schools, researcher approached class teachers of targeted sample in the class rooms. An initial explanation concerning the research purpose and instructions on how to answer the instruments were presented to the research participants. After completion of the demographic information form, the Strength and Difficulty Questionnaire (SDQ) was administered to the sample. They were also given assurance about confidentiality and anonymity of individual data. Assurance regarding non-maleficence was also provided to them and informed consent forms were also got signed by each participant before administration of research questionnaire. After the completion of research questionnaire, participants were thanked for their voluntary participation, while the teachers and schools administrations were thanked for their cooperation.

## RESULTS

Descriptive statistics was applied for the demographic variables of the sample, while Independent t-test was applied to interpret the data in statistical terminology.

**Table 1: Descriptive Statistics for Entire Sample of the Study**

Demographics	Range		<i>M</i>	<i>SD</i>
	Min	Max		
Gender	1	2	1.33	.473
Age	4	16	12.12	4.995
Disability	1	1	1.00	.000
Groups	1	2	1.50	.502

**Table 2: Comparison scores of children with and without hearing impaired on the subscales of strength and difficulty scale (SDQ)**

Measure	Experimental group (n= 75)		Control group (n = 75)		<i>t</i>	<i>p</i>	95 % CI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			Lower	Upper
Total	24.19	6.513	11.52	11.64	8.225	.000	9.617	15.717
EP	4.73	1.671	1.97	2.060	9.012	.037	2.155	3.365
CP	4.77	1.997	1.97	2.060	8.452	.450	2.145	3.455
HA	4.80	1.755	2.56	2.611	6.166	.000	1.521	2.959
PP	4.87	1.727	2.56	2.611	6.381	.000	1.591	3.022

Results indicate that there is a mean significant difference on the sub-scales of Hyperactivity (HA) and peer problem (PP) in children with and without hearing impairment.

## DISCUSSION

Hearing impairment is an indiscernible infirmity that mostly remains hidden, does not reach to the early intervention and leads to perceptible disablement in speech and language development and progress (Mumtaz, Noveen & Tariq, 2014; Saki, Abshirini, Bayat, Nikakhlagh, Fahimi, Heidari et al., 2018). Theunissen (2014) have found the association between hearing impairment and depression, aggression, oppositional defiant disorder, conduct disorder, anxiety, somatic complains and delinquency. Studies also shows the link between hearing impairment and increased rate of hyperactivity in children with hearing impairment (Hindley & Kroll, 1998). Findings of a meta-analysis conducted by Stevenson, Kreppner, Pimperton, Worsfold and Kennedy (2015) also confirmed that children and adolescents having hearing deficits show elevated emotional and behavioral difficulties that has been supported by the

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findings of current study.

Result findings of current study are consistent with hypothesis and found that children with hearing impairment show high emotional and behavior problem as compared to hearing children ( $t= 8.225, p< .01$ ). A number of previous researches are also in the favor of these findings which include a research study by Samreen (2003) which revealed that women with hearing impairment show multiple behavior problems, including sensitivity, embarrassment shyness, withdrawal and manifestation of resentment against other people. On the other hand, some of them become introverted and envious towards others. Another study conducted by Jaffal (1994) also supported the result by concluding that people having hearing impairment show externally directed behavior (e.g. Agitation and aggression). Furthermore a research study conducted by Abdullah (1993) concluded that children having hearing impairment show aggression, emotional instability and social immaturity. Second and third hypotheses are also supported by statistical analysis i.e.,  $t=6.166, p< .01$  and  $t=6.381, p< .01$  respectively. It is supported by previous researches for example a study conducted by Dharitri and Murthy (1990), hearing impaired individuals are more restless, distractible, hypersensitive (Dharitri & Murthy, 1990). Dharitri and Murthy (1990) further found them more aggressive and irritable, who show more temper outbursts. They also have low persistence and self-esteem, and they have high level of anxiety as compare to those without hearing impairment. Hindley (2000) found that mental health issues in general, prevails 15 to 40% in children having impairment in hearing. Hindley and colleagues (1994) also found that probability of having mental health issues is 1.5 to 2 times greater in children with hearing impaired as compare to children with normal hearing. Research findings are further revealed high level of behavior problem i.e., 30-38% (Barker, Quittner, Fink, Eisenberg, Tobey, Niparko et al., 2009; Mitchell & Quittner, 1996; Van Eldik, Treffers, Veerman & Verhulst, 2004) in children having hearing impairment as compare to their normal hearing counterparts i.e., 3-18% (Hinshaw & Lee, 2003).

Stevenson, Kreppner, Pimperton, Worsfold, and Kennedy (2015) found differences in the scores of peer problems in children with and without hearing difficulties. Findings also suggests the differences in he scores on the measures of emotional and behavioral difficulties (Stevenson, Kreppner, Pimperton, Worsfold, & Kennedy, 2015). Reiffe and Terwogt (2002) found that in children with hearing impairment, emotional competence i.e., understanding, regulation and management of own and others' emotions is affected due to their incapability of understanding the contributing factors behind emotion. They tend to have less social maturity that manifested in the form of impulsivity and they tend to their low frustration tolerance and egocentricity (Peterson & Seigel, 2000). Study conducted by Henggeler, Watson and Whelan (1990) also supported the idea that their friendships are more aggressive in nature and they have

less emotional bonding with their peers. Bat-Chava (1993) suggested that the emotional and behavioral issues in children with impairment in hearing occurs due to having less acceptance and neglect from the society which further leads to their low confidence level (Deselle, 1994; Monfredi, 1993; Yachnik, 1986) and high need for support for their social relationships specifically with their peers (Stevenson, Kreppner, Pimperton, Worsfold, & Kennedy, 2015).

It has also found that hearing impairment significantly influence children's participation in social situations and activities and also play as one of the factors of financial burdens on their parents (Mumtaz *et al*, 2023). Finding revealed that among children having hearing impairment, 47.5% encountered with moderate level of challenges in participating in social activities whereas 26% faced severe level of challenges. Findings (Mumtaz *et al*, 2023) further found that children having hearing impairment contributed in producing moderate level of financial stress on 39% of parents and mild strain on 26.8% parents.

Other factors found by several researchers is the visual attention that is used for focusing and sustaining attention, play a pivotal role in the initiation and progression of behavioral issues. Due to the loss of acoustic input, children are unable to scrutinize their atmosphere auditorally, and may rely on visual inputs of the world, which in turn put more stress on visual attention, and diminishes their ability to endure attention (Ruff & Rothbart, 1996; Quittner, Barker, Snell, Cruz, McDonald, & Grimley, 2007).

## RECOMMENDATIONS

The objective of current research was to assess emotional and behavior issues in children with impairment in hearing ability. Disability in any form is associated with a number of emotional and behavior problem for children itself and also leads to distress and challenging life for the surrounding people especially family. This study was to investigate the emotional and behavior issues by comparing it with children having normal hearing, in order to find out the differences in their emotional expression and maladaptive behavior patterns. The result of this study was also in the support that emotional and behavior problems seem comparatively more in hearing impaired children than the normal population. Furthermore hearing impaired children have peer problems and other behavior problems accompanied by hyperactivity and impulsivity which results in social isolation and criticism from social environment. So this study helps in dealing with such children and how to make them active participants of the society by providing awareness on educational level as well as by educating parents about these problems which effects child normal development in a negative way. This will help special institution in developing organized and friendly environment where disable children could get benefits from their abilities and potentialities.



For future researcher, it is highly recommended that they should also consider the management and intervention in their studies in order to know about their effectiveness in such problem. They provide some therapeutic interventions to special education institutions in order to deal with emotional and behavior problem in the population with hearing impairment.

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