

# Investigating The Effect of Excellent Parenting Program on The Behavioral Problems of Hearing Impaired Children

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## ABSTRACT

**Objective:** This research was aimed at the effect of excellent parenting program on the behavioral problems of hearing impaired children.

**Materials and Methods:** The present research method was quasi-experimental with a pre-test, post-test and follow-up design. The statistical population includes all parents of 4-6-year-old hearing-impaired children in Tehran in 2022, which was selected by simple random method among deaf and hard-of-hearing centers and associations. The number of samples in this study was 30 parents who were randomly assigned to two groups of 15 people, test and control. The experimental group was trained in 13 sessions of 90 minutes, 3 sessions a week; while for the control group, no special action was taken. After the training course, the parents of both groups were subjected to a post-test. The follow-up phase was also implemented after 45 days. The tools used were the child's abilities and behavioral problems questionnaire (Goodman, 1997).

**Findings:** Data analysis was carried out using analysis of variance with repeated measurements and the results showed that excellent parenting program had a significant effect on the behavioral problems of hearing impaired children ( $p < 0.05$ ).

**Conclusion:** Based on the findings, it can be concluded that excellent parenting program leads to reduction of behavioral problems of hearing impaired children.

**Keywords:** Excellent parenting, behavior problems, hearing impaired.

## 1. Introduction

Hearing impairment ranks as the most prevalent sensory disability globally, with approximately 1.5 million individuals in Iran alone facing deafness or hearing challenges (Moghtader, 2018). The presence of hearing

impairment in children introduces a spectrum of difficulties spanning social, emotional, intellectual, and academic realms, complicating their interactions even within the familial unit (Davids et al., 2021). Such conditions often disrupt familial harmony, exacerbate behavioral issues in affected children, and adversely impact the mental health of

both the children and their parents, potentially jeopardizing family stability (Moore et al., 2020). Early childhood behavioral issues have been closely linked to maternal responses, with the challenging behaviors of children with hearing impairments posing significant obstacles to parent-child interactions (Fellinger et al., 2022).

Families of these children frequently grapple with various challenges, including a lack of knowledge on effective interaction strategies, age-specific issues, guilt over unmet needs, delays in social-emotional development, behavioral concerns, short attention spans, societal discrimination, and insufficient social support (Aghaziarati et al., 2021). Furthermore, parents face hurdles related to behavioral and academic setbacks, communication deficits, and delays in language acquisition, significantly affecting their child's social, behavioral, and academic progression (Shukla et al., 2020). Consequently, many of these families doubt their parenting abilities and struggle to access relevant information to support sound decision-making (Davenport et al., 2021).

Parenting profoundly influences a child's physical health, emotional competence, intelligence, verbal skills, behavioral and social abilities, and academic performance, underscoring the importance of effective parenting methods and programs within the family structure to foster healthy child development (Nejati et al., 2016). Parenting programs have been shown to alleviate parental stress and enhance communication, behavioral management, and positive interactions with children (Lo et al., 2017). Inadequate parenting styles also contribute to children's behavioral issues, with permissive parenting, characterized by minimal supervision and indifference, laying the groundwork for behavioral problems (Roubinov et al., 2020). Research by Reynolds and Werfel (2020) highlighted that parents lacking confidence in their parenting skills often face significant challenges managing their child's behavior and maintaining family harmony (Reynolds & Werfel, 2020).

Studies by Whicker, Muñoz, and Nelson (2019), and Schmulian and Lind (2020) suggest that parents who understand and adapt to their child's communication and behavioral needs from an early age can significantly mitigate parenting challenges as the child matures (Schmulian & Lind, 2020; Whicker et al., 2019). Further, Aghaziarati, Ashori, Norouzi, and Hallahan (2022) demonstrated that parenting education for parents of children with hearing impairments enhances familial communication, mental health, and overall well-being. The integration of a child with hearing impairment into a family directly influences

parenting styles and the parental approach to managing these children's behaviors and adaptation levels (Aghaziarati et al., 2022). Collectively, these studies affirm that parenting education for parents of children with hearing impairment can significantly improve familial communication, behavioral management, and parenting techniques. Given the critical importance of this subject from both research and practical perspectives, this study aims to explore the impact of an exemplary parenting program on the behavioral issues of children with hearing impairment.

## 2. Methods and Materials

### 2.1. Study Design and Participants

The present study was applied research with a quasi-experimental design including pre-test, post-test, and follow-up stages with a control group. The studied research community consisted of parents of children with hearing impairment (hearing impairment) aged 4 to 6 in Tehran in 2022, who were selected by a simple random method from deaf and hard of hearing centers and associations. In order to select subjects, the researcher referred to the Association of Parents of Hearing Impaired Children and the Association of the Deaf and announced the call, and invited the parents with the conditions to participate in the meetings. Among the people who registered in the call, 30 parents who met the criteria for entering and exiting the study were selected. The inclusion criteria are: willingness to participate in the research; having a child with hearing impairment (hearing impairment) 4 to 6 years old; Having a diploma or higher education; 30 to 40 years old; Congenital sensorineural hearing loss in children; hearing loss of 40 to 70 decibels of children; Use of hearing aids from at least two years of age. The exclusion criteria are: divorce or separation from spouse and children; Absence of more than two sessions in the educational program; taking medical or psychiatric drugs; contracting corona disease; simultaneous participation in other educational courses; Having any neurological or sensory disorder except hearing loss in children. Then the parents were randomly divided into two groups of 15 people, experimental and control.

The training course was implemented as follows: first, each test and control group completed the questionnaires as a pre-test. Then, the experimental group of 15 people, in the form of 3 groups of 5 people, underwent excellent parenting training in 13 sessions of 90 minutes, three sessions per week. While for the control group, no special action was taken, and the training sessions were placed on the waiting

list. After the training sessions, the post-test was administered. A follow-up session was conducted for parents after 45 days.

## 2.2. Measures

### 2.2.1. Behavioral Problems

This tool is a behavioral screening questionnaire for children aged 3 to 16, based on ICD-10 diagnostic criteria, prepared by English psychiatrist Robert Goodman in 1997. Several versions meet the needs of researchers, doctors, and education professionals, including one for parents, one for teachers, and a self-report version. In this study, a version for parents was used. This version has 25 items and includes five subscales of emotional symptoms, conduct problems, attention deficit hyperactivity disorder, communication problems with peers, and prosocial behaviors. Questions are scored on a three-point Likert scale, including not true (0), somewhat true (1), and definitely true (2). The score range of this questionnaire is between 0 and 74. Goodman (2001), in the internal evaluation of this questionnaire, reported Cronbach's alpha of 0.73 for different scales, which similar studies have reported in the same range. Ghanizadeh, Izadpanah, and Abdollahi (2007) conducted a study to determine this questionnaire's validity and reliability. Its internal consistency coefficient is reported as 0.73 using Cronbach's alpha method. Vafai and Roshan (2006) reported Cronbach's alpha of 0.84 for child behavior problems and the internal validity of the entire scale was 0.43 (Ashori & Karimnezhad, 2019; Goodman, 1997; Moghtader, 2018; Nejati et al., 2016).

## 2.3. Interventions

### 2.3.1. Excellent Parenting Program

The program used in this research is the excellent parenting program of Aghaziarti et al. (2022). The summary of its sessions is as follows (Aghaziarati et al., 2022):

#### Session 1: Introduction and Foundations

Goal: Establish communication between participants and the facilitator, introduce the Excellent Parenting Program, and provide an overview of hearing loss.

Content: This session will introduce the structure and objectives of the course, prepare mothers for the Excellent Parenting sessions, and expand their knowledge on the development of hearing impairment across different ages, highlighting educational, developmental, and social challenges.

Homework: Participants are to articulate their personal goals for joining the program, gather information on their child's hearing aid and current hearing status, and document any educational and rehabilitative measures previously undertaken.

#### Session 2: Shared Parenting Experiences

Goal: Exchange parenting experiences and address common challenges, mistakes, and pitfalls in parenting a hearing-impaired child.

Content: Discussion will focus on the irreplaceable partnership in parenting, understanding common pitfalls, altering mothers' attitudes towards raising a hearing-impaired child, and identifying types of parenting challenges.

Homework: Write about the child's everyday challenges and devise five strategies to mitigate parenting challenges within the family.

#### Session 3: Emotional Awareness and Parental Role Modeling

Goal: Foster emotional awareness and exemplary role modeling by parents in managing emotions.

Content: Emphasizes self-awareness, cultural values, postponing activities when necessary, and the commitment of parents to understanding and managing emotions calmly.

Homework: Document five instances reflecting the child's behaviors and emotions alongside parental reactions, and record these observations.

#### Session 4: Validating Child's Emotions

Goal: Acknowledge the child's emotions and dedicate special time to nurturing a positive relationship.

Content: Encourages excitement and play, reevaluating punitive measures, and fostering effective communication with the child through dedicated daily interactions.

Homework: Practice skills for broader social application and list ten behavioral traits (positive and negative) of family members, focusing on the implementation of positive ones.

#### Session 5: Creating a Healing Home Environment

Goal: Emphasize communication, cooperation, and the breaking of negative habits to create a healing environment at home.

Content: Discusses enhancing dialogue with the child, explaining life's rules, and approaching challenges with a positive outlook.

Homework: Identify and practice five ideal listening scenarios and foster a healing relationship with the child.

#### Session 6: Fostering Cooperation and Responsibility

Goal: Plan for cooperative and responsible behavior within the home environment.

Content: Highlights the importance of kindness in requesting cooperation, focusing on positive behaviors, and instilling responsibility.

Homework: List five examples of the child's responsible behavior and its outcomes.

Session 7: Maintenance and Self-care

Goal: Discuss maintenance of personal belongings and self-care practices to prevent frustration and anger.

Content: Supports the child through the win-win model, discusses sibling relationships, and encourages parental self-care.

Homework: Document two instances of the win-win model in interactions and identify five support strategies.

Session 8: Flexibility, Empathy, and Compensation

Goal: Enhance flexibility, empathy, and the ability to compensate, with a focus on rule-setting.

Content: Emphasizes resilience, humor, empathy, and cooperative limit-setting with the child, viewing the child as a gift.

Homework: Record strategies for improving flexibility and empathy, and practice setting restrictions and rules.

Session 9: Understanding and Expressing Emotions

Goal: Facilitate the understanding and expression of diverse emotions.

Content: Utilizes storytelling to understand the child's emotions, discusses the cycle of punishment, and guides the child in expressing worries and fears.

Homework: Write examples of guiding the child to express their emotions.

Session 10: Everyday Opportunities and the Excitement Bank

Goal: Utilize daily opportunities for social growth and model behavior and relationship management.

Content: Discusses seizing daily opportunities for social interaction, supporting and empathizing with the child, and managing relationship dynamics.

Homework: Develop and practice methods for regulating emotions and acknowledging the child's feelings.

Session 11: Parenting with Commitment and Emotional Support

Goal: Emphasize control, commitment, and emotional support in parenting.

Content: Discusses transitioning to excellent parenting, compassion in the face of challenges, and the significance of parental roles and duties.

Homework: Identify five caregiving roles as safe emotional resources for the child.

Session 12: Discipline and Loving Guidance

Goal: Implement discipline and guidance within a framework of unconditional love and cultural values.

Content: Stresses the necessity of unconditional love, fostering independence, and maintaining a healthy and balanced family dynamic.

Homework: Practice and document instances of unconditional love towards the child and note the child's responses.

Session 13: Conclusion and Future Directions

Goal: Summarize the program and outline strategies for ongoing and future engagement.

Content: Reviews course rules, shares experiences, addresses queries, and provides feedback on assignments.

Homework: Commit to weekly reporting for four weeks as part of the follow-up phase.

#### 2.4. Data analysis

The data were analyzed using the analysis of variance test with repeated measurements in SPSS 26 software.

### 3. Findings and Results

The study compares demographic characteristics of parents in experimental and control groups with children who have hearing impairments. Parents in the experimental group have an average age of 66.33 years, while those in the control group average 93.32 years. Children with hearing impairments in the experimental group are, on average, 93.4 months old, compared to 80.4 months in the control group. Boys represent a slightly higher percentage in both groups (54% in the experimental group and 60% in the control group). The educational levels of parents show a higher percentage of master's degrees in the control group (54%) compared to the experimental group (40%). Economic status revealed that a larger proportion of the experimental group fell into the medium category (74%), whereas the control group had a higher percentage in the low economic status (40%) and none in the high category, indicating a distinct socioeconomic distribution between the groups.

The mean and standard deviation of behavioral problems in experimental and control groups in the pre-test, post-test, and follow-up are reported in [Table 1](#).

**Table 1**

*Mean and Standard Deviation of Behavioral Problems at Pre-test, Post-test, and Follow-up Stages*

Variable	Group	Pre-test M (SD)	Post-test M (SD)	Follow-up M (SD)
Behavioral Problems	Experimental Group	19.00 (1.60)	23.00 (2.00)	21.20 (2.59)
	Control Group	19.53 (2.32)	18.33 (1.49)	18.40 (1.45)

Before presenting the results of the analysis of variance with repeated measurements, the assumptions of parametric tests were measured. In this regard, the results of the Shapiro-Wilk test indicate that the assumption of normality of data distribution in the variable of behavioral problems in the experimental and control groups in the pre-test, post-test, and follow-up phases is established ( $P < 0.05$ ,  $F = 0.78$ ).

Furthermore, the assumption of homogeneity of variances was also measured by Levene's test, the results of which are not significant. Therefore, the assumption of homogeneity of variances has been met ( $P < 0.05$ ). Also, the results of Mauchly's test indicate that the assumption of sphericity of the data in the behavioral problems variable has been met ( $P < 0.05$ ).

**Table 2**

*Results of the Analysis of Variance of Repeated Measures in the Studied Groups*

Test	SS	df	MS	F	Significance	Eta Square ( $\eta^2$ )	Power
Time Effect	13.611	1	13.611	4.097	.049	.089	.507
Group Effect	123.081	2	61.41	8.314	.001	.284	.950
Group*Time	44.356	2	22.178	6.676	.003	.241	.894

As the results of Table 2 show, the main effect of the within-group factor (time) on behavioral problems ( $F(1,42) = 4.097$ ,  $P < 0.05$ ,  $\eta^2 = 0.089$ ) was statistically significant. Also, the main effect of intergroup factor (intervention) on behavioral problems ( $F(2,42) = 8.314$ ,  $P < 0.05$ ,  $\eta^2 = 0.284$ )

was statistically significant. In addition, the interactive effect of intragroup and intergroup factors on behavioral problems ( $F(1,42) = 6.676$ ,  $P < 0.05$ ,  $\eta^2 = 0.241$ ) was statistically significant. Bonferroni's post hoc test is used to investigate the effective stage.

**Table 3**

*Results of the Bonferroni Test for Pairwise Comparisons of Mean Scores of Behavioral Problems in the Experimental Group*

Variable	Comparison of Means	Difference	Standard Error	Sig
Behavioral Problems	Pre-test/Post-test	-0.400	0.625	.000
	Pre-test/Follow-up	-2.200	0.666	.006
	Post-test/Follow-up	-1.800	0.526	.004

The results of Table 3 showed that the comparisons made based on the variable of behavioral problems, the difference between the average scores of the experimental group participants in the post-test and follow-up phase, decreased compared to the pre-test.

**4. Discussion and Conclusion**

The objective of this study was to investigate the impact of an exemplary parenting program on the behavioral challenges faced by children with hearing impairments. The research findings indicated a significant positive effect of the parenting program on mitigating these behavioral issues, with sustained benefits observed during the follow-up phase.

These outcomes are consistent with previous studies (Hasanvand et al., 2019; Lo et al., 2017; Moghtader, 2018; Reynolds & Werfel, 2020; Schmulian & Lind, 2020), which have highlighted the psychosocial challenges, including anxiety, aggression, depression, and social incompatibility, often associated with hearing impairment as reported by Wang et al. (2019). Behavioral issues in children not only create significant distress for families but also hinder the affected children's personal and social development, with common contributing factors identified as familial discord, inadequate parenting knowledge, inappropriate behavioral responses, and environmental influences such as

socioeconomic status and educational background (Wang et al., 2019).

Given the detrimental impact of behavioral issues on effective communication and the noted gap in parental knowledge on managing such problems, the evidence suggests that tailored parenting programs can significantly aid parents in addressing and managing their children's behavioral challenges more effectively.

## 5. Limitations & Suggestions

It's crucial to acknowledge the limitations of this study, which focused solely on parents of 4-6-year-old children with sensorineural hearing loss, utilizing hearing aids, in Tehran. Thus, caution should be exercised in generalizing these findings across different demographics.

In light of these results, it is recommended that medical, educational, and rehabilitation centers for children with hearing impairments incorporate this parenting program into their services. Moreover, the development of training workshops for counselors and psychologists specializing in exceptional education is advised, ensuring they are equipped to integrate these practices into their support for families of children with hearing impairments. This approach not only promises to enhance parental competencies but also contributes to the broader goal of ameliorating the behavioral challenges faced by these children, thereby improving their overall quality of life.

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## Declaration of Interest

The authors of this article declared no conflict of interest.

## Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. The current research is taken from the doctoral dissertation with ethics code number IR.UI.REC.1400.060 from the University of Isfahan, and the ethical principles of the research, including secrecy, confidentiality and privacy of individuals, were observed, and participating in the research did not cause any possible harm to the participants.

## Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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## Authors' Contributions

All authors equally contributed in this article.

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