



Research paper

Effect of Behavioral Intervention and Support Program on Internalized and Externalized Problems in Student with Hearing Loss

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Abstract

This study aimed to investigate the effect of behavioral intervention and support on externalized and internalized problems in students with hearing loss. This study was carried out using a semi-experimental method and a pre-test, post-test design with a control group. The statistical population included students with hearing loss of Isfahan city, 30 of them were selected using the convenience method and randomly replaced in experimental and control groups, 15 people each. Intervention was implemented for the experimental group during 10 sessions of 40 minutes. In this study, the Achenbach & Rescorla Adolescent Self-Assessment Questionnaire and multivariate covariance analysis was used. Findings showed that behavioral intervention and support had a positive and significant effect on reducing externalized and internalized problems in participants. Therefore, we can say that this intervention leads to the improvement of behavioral problems of students.

Keywords: Behavioral intervention and support, externalized problems, hearing loss, internalized problems

Introduction

Hearing loss has various psychological effects and is known to have lifelong consequences (Emmett, et al., 2023). In addition to causing defects in language acquisition, hearing loss will have harmful effects on social development, well-being, quality of life, and weakness in emotional skills. In this category of children will often have higher mental health, communication and behavioral problems (de Gracia, et al., 2021). Behavioral problems are defined as various extreme, chronic and deviant behaviors. Behavioral disorders include internalized behavioral disorders and externalized behavioral disorders. One of the interventions used today to reduce behavioral problems is the behavioral intervention and support program (Halahan, et al., 2023). In line with the effectiveness of the intervention and behavioral support program, it can be said that the research results of Walker, et al. (2023) showed that behavioral intervention and support improves academic progress and behavioral problems of students. The research findings of Nelen, et al. (2021) indicated that intervention and behavioral support could reduce behavioral problems and increase students' well-being. Considering the existence of behavioral problems in students with hearing loss, it seems useful and effective to use psychological interventions such as intervention and behavioral support program. This program can reduce behavioral problems and improve mental health. Sometimes

deaf children are labeled because of stereotyped attitudes and more behavioral problems are reported in them. Therefore, the hypothesis of the current research was that the intervention and behavioral support program has an effect on externalized and internalized problems in students with hearing loss.

Method

The method of conducting this research was experimental with a pre-test and post-test design. The statistical population of the research included all students with hearing loss from 9 to 12 years old in Isfahan who studied in schools for the deaf during the academic year of 2021-2022. Among them, 30 people were selected through convenience sampling and randomly replaced in the experimental and control groups of 15 people. The criteria for entering the research included willingness to participate in the research based on parental consent, age range of 9 to 12 years, sensorineural and congenital hearing loss with 40 to 80 dB hearing loss based on the students' academic records, and non-participation in other psychological interventions. The present research was carried out after obtaining the code of ethics IR.UI.REC.1402.005 and also the necessary permits from the General Department of Education of Isfahan province and districts 4, 5, 6, as well as the necessary coordination with the principals of Shafaq, Shahid Mohammadi and Alinaghian schools for the deaf. Both groups completed the Adolescent Self-Assessment Questionnaire (ASAQ). The intervention and behavioral support program were implemented in 10 sessions of 40 minutes, 3 sessions per week for the experimental group. At the end, both groups completed the ASAQ as a post-test. To analyze the results, multivariate covariance analysis was used in SPSS statistical software version 24.

Tools

Adolescent Self-Assessment Questionnaire (ASAQ): This questionnaire has 113 items and has two subscales of internalized and externalized behavioral problems. It is graded on a three-point Likert scale. Cronbach's alpha coefficients for its subscales are reported as 0.89. The validity of this questionnaire was 0.82 and its subscales were 0.56 to 0.86 (Achenbach, et al., 2003). Kakabraei, et al. (2006), reported Cronbach's alpha coefficient of this questionnaire was 0.94 and 0.93 in total. They reported the validity of this questionnaire as 0.55 and for its subscales as 0.48 to 0.46 respectively.

Results

The results of the Shapiro-Wilks test showed that the data distribution is normal ($P < 0.05$). Levine's test showed homogeneity of variances ($P > 0.05$). For this reason, Univariate Analysis of Covariance (ANCOVA) test was used, the results of which are reported in Table 1. According to Table 1, it can be said that the intervention had a significant effect on the behavioral problems of students with hearing loss ($P < 0.01$).

Table 1. Results of ANCOVA of the behavioral problems

Source	SS	df	MS	F	Sig.	Eta ²	Test power
Pre-test	1024.03	1	1024.03	189.07	0.01	0.87	1.00
Group	4523.21	1	4523.21	835.15	0.01	0.96	1.00
Error	146.23	27	5.41				
Total	297908.00	30					

Multivariate Analysis of Covariance (MANCOVA) was used to investigate the effectiveness of the intervention on the components of externalized and internalized problems in participants. The assumptions of normality of data and homogeneity of variance in groups were confirmed. The results of the Mbox test indicated the homogeneity of the variance-covariance matrices (P<0.05). The value of the Wilks' lambda test was significance. Therefore, the results of MANCOVA are reported in Table 2. According to Table 2, it can be said that the intervention had a significant effect on the externalized and internalized problems of the participants (P<0.01).

Table 2. Results of MANCOVA of the internalized and externalized problems

Subscales	Source	SS	df	MS	F	Sig.	Eta ²	Test power
Internalized problems	Pre-test	182.46	1	182.46	170.90	0.01	0.86	1.00
	Group	306.24	1	306.24	286.84	0.01	0.91	1.00
	Error	27.75	26	1.06				
	Total	16482.00	30					
Externalized problems	Pre-test	369.63	1	369.63	220.10	0.01	0.89	1.00
	Group	175.25	1	175.25	104.35	0.01	0.80	1.00
	Error	43.66	26	1.67				
	Total	10194.00	30					

Discussion and Conclusion

The results indicated a significant effect of the intervention and behavioral support program on internalized and externalized behavioral problems in students with hearing loss. To explain the results, it can be said that behavioral disorders harm the child's relationship with the others. Hearing loss has an adverse effect on social development and emotional skills. On the other hand, the intervention and behavioral support program by recognizing emotions, increases emotional and psychological awareness in children with hearing loss. In general, one of the important topics in the intervention and behavioral support program is the training of problem-solving skills. This skill is considered as one of the basic and important skills for life. Therefore, this intervention improved internalized and externalized problems in participants. Limitations included the use of a convenience sampling method and a relatively small sample size. It is suggested to use random sampling and increase the sample size, also follow-up phase in the future research. It is recommended that this intervention to be used for improving behavioral problems of students with hearing loss.

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Conflicts of interest

Authors found no conflict of interests.



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