

Comparing loneliness, depression and stress in students with hearing-impaired and normal students studying in secondary schools of Tabriz

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Abstract

The present study was conducted to compare the feelings of loneliness, depression and stress in students with hearing-impaired and normal students at secondary schools of Tabriz city. This research was a causal-comparative study. The study population included all male and female students with hearing-impaired and normal students in the academic year of 2013-2014 at the secondary schools of Tabriz city. The study sample (n = 30) was selected by convenience sampling method. To measure variables of study, Loneliness Scale of Usher et al (1984), Children Depression Scale of Najarian (1994) and Perceived Stress Scale of Cohen et al (1983) were used, and multi-covariance analysis of variance (MANOVA) was used to analyze of hypotheses. The results showed that there is a significant difference between feelings of loneliness, depression and stress between hearing-impaired students and normal students studying at secondary schools of Tabriz.

Keywords: loneliness, depression, stress and hearing-impaired students and normal students.

Introduction

According to available statistics, deafness ranked second following mental retardation in the country in terms of disabilities. About 40 percent of marriages are parental consanguineous in Iran. This leads to large number of genetic diseases including different kinds of hearing loss in our country (Firouz Bakht, Eftekhar Ardebil, and Rahimi, 2007). Hearing loss is issue that many children and young people are involved in it. This issue has been studied more than other issues. It is probably due to fact that power of speech is closely related with hearing. Therefore, for many children who have lost their hearing ability from start of life, the fundamental problem is not merely the absence of the sense of hearing, but the impossibility in development and achieving to an appropriate communicative system. Hearing loss is a full or partial loss of hearing so that such people without hearing aids cannot human speech. Hearing loss is a defect in which a person has more than seventy hearing disabilities. The effect of hearing impairment is so that many of individual's abilities required for adaption with environment re affected leading to disability in development of person's personality (Saeedi, 2007). The World Health Organization announced that about 120 million people around the world are infected with some form of hearing loss affecting their communication with others (Vameghi and Ebadi, 2011). According to study conducted in Iran, about a tenth of a percent of children aged 14 -2 years had some degree of hearing loss (Zali, 1990). According to the same study conducted in Iran in 2000, this rate has not been changed (Noorbala, 2000). The most important problems of deaf people are language and verbal communication problems because the preliminary communication is speaking and verbal communication is the first stage of communication. In deaf children, understanding the meanings takes place through looking. Therefore, deaf child should have the chance to see that hearing children have the chance to hear. Communicative problems leave many behavioral psychological effects such as depression, stress, anxiety, feelings of rejection and loneliness and on hearing. Deaf people have shared behavioral features related to hearing impairment and they have relatively different features with other group of people, since hearing is one of the vital sensory capabilities that can affect some human capabilities in adapting to environment. Feelings of loneliness can be considered as a tangible weakness and failure in interpersonal relationships, defined as the difference between the existing and desired level of social relations. As this difference is greater, felling of loneliness is higher (Heiman, 2008). In a study conducted by Aid and Roizamb (2009), they showed that hearing impaired children have greater social and practical problems and they have less mental health in comparison with normal group. It was also showed that these children have higher rate of depression, anxiety and inability to communicate with others (feeling loneliness) compared to normal children. In addition, Steiberg et al (2007) showed that deaf people experience more loneliness feeling compared to their normal people.

Loneliness is associated with many psychological characteristics such as low self-esteem, external documents of successes, embarrassment, shame, introspection, aggression, depression, stress and anxiety (Rothenberg et al., 2010). Anxiety and depression are among the most disabling psychological disorders affecting greatly the performance of people (Turnball Jackson, 2004). Hearing problems and academic failure, labeling, receiving secondary services cause children to feel that are different from their peers and it increases their loneliness. It also has interference with social relation and leads to social dysfunction and poor self-esteem. Problems to create communicating with peers and difficulty to cope with the new situations are special risk factors for depression, anxiety, social isolation and

feeling of loneliness (Gorman, 2001). Depression, stress and anxiety are the most common psychological problems among deaf and hearing-impaired children, since these children are more prone to these psychological problems due to increased physical and behavioral problems, delays in access to services, and factors associated with academic failure and various abuse (Dufeu and Ferguson, 2003).

Depression is a syndrome dominated by depressed mood displayed by verbal or non-verbal expression of emotions of sadness, anxiety or arousal (Dadsetan, 2003). Mental stress occurs when a person is faced with events that he thinks they will affect their health of body or soul (Atkinson et al., 2007). Razavi (2012) showed that students with hearing impairment had more stress compared with normal students. It was also revealed that coping strategies in younger students is emotional, while they were problem-oriented in older students. Generally, several studies indicate high rates of depression, anxiety and stress in hearing-impaired and deaf children (Aid and Ruizamb, 2006; Rothenberg et al., 2010 Nonuk et al., 2012). Nonuk et al. (2012) investigated prevalence of emotional and behavioral problems in 72 deaf students aged 6 to 18 years and compared them with control group. The results show that deaf students had significantly more internalizing problems than the control group and the highest differences related to symptoms of depression, anxiety and physical complaints. Therefore, according to above-mentioned issues, this study aims to find an answer for the question if there is a difference between feeling of loneliness, depression, and stress among hearing-impaired and normal students.

Methodology

A) Methodology: The research method is ex post facto (causal-comparative) according to the hypotheses and objectives of study. In this study, loneliness, depression, and stress were used as the dependent variable and hearing-impaired and ordinary children were used as the independent variable.

B) The population: The study population included all male and female normal students and students suffering from hearing loss who were studying in exceptional and ordinary secondary schools of Tabriz.

C) sample size and sampling method: due to the low population and the low number of hearing-impaired male and female students in exceptional public schools and as many hearing impaired students are studying in mixed way in ordinary schools, whole statistical population of hearing impaired children (n=30) were chosen as sample of study. Therefore, the package sampling was used as method of sampling in the current study. Furthermore, after matching in terms of gender and education level, 30 normal subjects were selected to compare with hearing-impaired group using simple random sampling. It should be noted that the minimum sample is 15 people for causal-comparative method (Delavar, 2007), that 30 subjects in each group were selected to increase external validity of study.

Data collection methods and measurement tools

In order to collect data related to this study, researcher referred firstly to exceptional schools. After explaining the objective of the study, he distributed questionnaires among children.

After collecting data, results were analyzed using SPSS software. In order to measure the studied variables, the following tools were used:

Feeling of Loneliness Scale: Loneliness Scale was developed by Usher et al (1984) to assess the feelings of loneliness during late childhood and adolescence. The scale has 24 items and answers are scored based on a 3-point index from 1 to 3. It should be noted that eight items of the scale are diversionary and entertaining. In Iran, the validity and reliability of this scale have been determined by Hossein Chari and Kheiri (2002) on 369 male and female students in Shiraz. The researchers have calculated the validity of the scale using the construct validity and factorial analysis method that the value of KMO was equal to 0.80. In addition, they reported its reliability through Cronbach's alpha desirable and appropriate that Cronbach's alpha coefficient in this scale was calculated 0.81. The short-form questionnaire of depression scale in Ahvaz children: this scale was developed by Najarian (1994) in order to reduce the number of long-form items of children's depression scale, I was normalized on 531 secondary students of Ahvaz. Using the factor analysis, of short-form questionnaire, short-form questionnaire of depression scale in Ahvaz children was obtained with 25 items. It was found that these items are based on two factors. The minimum factorial load was considered 0.46 for items in the factors analysis. The scale has 25 items that 16 items are placed on first factor and 9 items on second factor. Consistency reliability coefficient through Cronbach's alpha coefficient was 0.92 for whole questionnaire, 0.90 for first factor, and 0.90 for second factor. Cronbach's alpha coefficient of this scale was obtained 0.93 in female sample and 0.90 in male sample. Test-retest reliability of the scale after three weeks was obtained 0.70 for first factor, 0.67 for second factor, and 0.73 for whole scale. This coefficient was obtained 0.60 in male sample and 0.66 in female students. Correlation coefficient of Ahvaz Children Depression Scale and its subscales with short-form of Beck Depression scale was obtained 0.51, 0.47, and 0.52, respectively ($P < 0.01$). The correlation coefficient of this scale with Beck questionnaire in male sample is 0.52 and 0.57 in female sample. For closely investigation, Najarian et al examined the relationship between scores of subjects on this scale and long form using regression analysis. The results showed that the scores of subjects in the long-form subscales predict their scores well in the short-form scale.

Stress Questionnaire: In this study, Perceived Stress Scale developed by Cohen et al in 1983 was used. This scale has 14 items and each item is answered based on a five-point Likert scale (none, low, medium, high and very high). These options are scored 0, 1, 2, 3 and 4, respectively. Perceived Stress Scale measures two subscales.

- A) Negative perceived stress subscale including items 1, 2, 3, 4, 11, 12 and 14
- B) Positive perceived stress subscale, including items 4, 5, 6, 7, 9, 10 and 13.

In a study on Japanese students, Mimora and Griffith obtained Cronbach's alpha coefficient revised and original Japanese scale 0.88 and 0.81, respectively, that these coefficients are very close to original version coefficient. In the original scale, two factors explained the first factor and second factor by 27.30 and 25.90%, respectively, while Japanese Revised scale of two factors explained 49.90% of variance. The first factor explained 28.50% of variance and second factor explained 21.40% of variance. In a study conducted by Mimora et al (2004), Cronbach's alpha coefficient of the first factor was 0.73 and it was 0.85 for second factor.

L) Data analysis method: to analyze the data gathered in the first section, descriptive statistics such as mean, standard deviation, etc., was used, while multiple covariance analysis (MANOVA) was used in the second section to analyze the hypotheses.

Findings

Table 1: Levine test results to show feeling of loneliness in normal and hearing-impaired students

F	Degree of freedom 1	Degree of freedom 2	Significance level
3/418	1	58	0/069

As Table 1 shows, the significant level of test error of variance equality ($p > 0.05$) shows that the variances are equal.

Table 2. Variance analysis test results stating the difference of feeling of loneliness in hearing-impaired and normal students

Source of changes	Sum of squares	Degree of freedom	Mean of squares	F	Significance level	Eta square
Model	262549/350	1	262549/350	1548/863	0/000	0/965
Group	8857/350	1	8857/350	53/467	0/000	0/480
Error	9608/300	58	165/660			
Total	281015/000	60				

According to the results of Table (2) and considering the $F=46/53$ and as significant level of error test is lower than 0.01 for confidence level of 0.99, it can be said that this hypothesis is confirmed. Therefore, there is a difference between hearing-impaired and normal students in terms of feeling of loneliness so that feeling of loneliness in hearing-impaired students is higher in normal students compared to hearing-impaired students.

Table 3: The results of Levine test to express depression difference in normal and hearing-impaired students

F	Degree of freedom 1	Degree of freedom 2	Significance level
2/183	2	58	0/085

As Table (3) shows, significance level of test error of variances equality ($p > 0.05$) shows that variances are equal.

Table 4: The results of variance analysis test to express depression difference in normal and hearing-impaired students

Source of changes	Sum of squares	Degree of freedom	Mean of squares	F	Significance level	Eta square
Model	24200/417	1	24200/417	479/615	0/000	0/892
Group	3360/017	1	3360/017	66/590	0/000	0/534
Error	2926/560	58	50/456			
Total	0	60				

According to the results of Table (4) and considering the $F=66.59$ and as significant level of error test is lower than 0.01 for confidence level of 0.99, it can be said that this hypothesis is confirmed. Therefore, there is a difference between hearing-impaired and normal students in terms of depression so that depression in hearing-impaired students than that in normal students.

Table 5: The results of Levine test to express stress difference in normal and hearing-impaired students

F	Degree of freedom 1	Degree of freedom 2	Significance level
3/154	1	58	0/071

As Table (5) shows, significance level of test error of variances equality ($p>0.05$) shows that variances are equal.

Table 6: The results of variance analysis test to express stress difference in normal and hearing-impaired students

Source of changes	Sum of squares	Degree of freedom	Mean of squares	F	Significance level	Eta square
Model	48906/158	1	48906/158	1067/100	0/000	0/949
Group	5821/350	1	5821/350	128/112	0/000	0/688
Error	2635/500	58	45/440			
Total	75363/000	60				

According to the results of Table (6) and considering the $F=128.11$ and as significant level of error test is lower than 0.01 for confidence level of 0.99, it can be said that this hypothesis is confirmed. Therefore, there is a difference between hearing-impaired and normal students in terms of stress so that stress in hearing-impaired students than that in normal students.

Discussion and conclusion

The results of data analysis showed that there is difference between hearing-impaired students and normal students in terms of feeling of loneliness. Therefore, it can be said that the first hypothesis is confirmed and there is significant difference between hearing-impaired students and normal students in terms of feeling of loneliness. The level of loneliness in

hearing-impaired students is more than that in normal students. In addition, there is difference between hearing-impaired students and normal students in terms of depression. Therefore, it can be said that the second hypothesis is confirmed and there is significant difference between hearing-impaired students and normal students in terms of depression. The level of depression in hearing-impaired students is more than that in normal students. Finally, there is difference between hearing-impaired students and normal students in terms of perceived stress. Therefore, it can be said that the third hypothesis is confirmed and there is significant difference between hearing-impaired students and normal students in terms of perceived stress. The level of perceived stress in hearing-impaired students is more than that in normal students. The result of this hypothesis is in line with results of studies conducted by Rothenberg et al (2010), Margaret et al (2011), Amini (2011) and Vissel et al (2012). In general, the research conducted on loneliness, depression and stress among normal and hearing impaired people show high levels of depression, anxiety and loneliness among these people.

In addition, their mental health is reported as low. They also reported higher social and practical problems compared to normal people, and they had higher rate of depression, anxiety and morbidity in creating relationships with others (loneliness). Based on obtained results, the following recommendations are provided:

-To get the generalizable results with higher validity, it is recommended that structured clinical interviews and behavior observation along with questionnaire to be used.

-Similar to this study, further studies to be conducted in other geographical areas and different cultures so that results to be compared with each other.

-To increase external validity, future research to be conducted with higher sample size so that results can be generalized.

-It is recommended that other researchers to examine unconfirmed variables of this study considering limitations of this study.

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