

Association between self-esteem and depression in hearing-impaired adolescents

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Abstract:

The purpose of this research was to investigate the relationship between self-esteem and depression in hearing-impaired adolescents at Deaf Reach School, Karachi Campus. In light of earlier literature, it was hypothesized that there would be a high prevalence of low self-esteem and depression in hard-of-hearing adolescents and a negative relationship between low self-esteem and depression in deaf adolescents. For this research, 60 students of the adolescent age group range (M= 30, F= 30) were chosen through convenient sampling at Deaf Reach School, Karachi Campus. Proper ethical considerations were maintained, and permission was taken from concerned individuals for data collection. Adolescent Self Esteem Questionnaire and Siddiqui Shah Depression Scale were used for this research. Findings indicated a high prevalence of low self-esteem (55%) and a consecutively high incidence of depression (49%) in hearing-impaired adolescents. Moreover, the research proved that a moderate negative relationship exists between low self-esteem and depression among hearing-impaired adolescents ($r = -0.575$, $p = 0.05$). The study has implications for educational institutions, psychologists, and counsellors for managing self-esteem and depression in hearing-impaired students.

Keywords: *self-esteem, depression, hearing impairment, adolescents, relationship*

Introduction:

Hearing impairment, deafness, or hearing loss is the total or partial inability to listen to sounds (Felman, 2018). The World Health Organization defines hearing loss as the inability to listen to as well as an individual with normal hearing, which requires hearing thresholds of at least 20 dB in both ears. Hearing loss can range from mild to profound and impact one or both ears. Various factors contribute to hearing loss, including congenital or early-onset childhood hearing loss, chronic middle ear infections, age-related hearing loss, noise-induced hearing loss, and the use of ototoxic drugs that damage the inner ear. Worldwide, the number of people living with hearing loss exceeds 1.5 billion. In 2050, this figure might increase to more than 2.5 billion (Kushalnagar, 2019).

Hearing loss can have significant and far-reaching effects, such as impairing communication abilities and causing delays in language development. This can result in social isolation, feelings of loneliness, and frustration, especially among

individuals with hearing loss (Liverman, 2016). There are not adequate accommodations for hearing loss in many places, which affects the mental well-being of an individual in many ways (Bhargava, 2018).

People who develop hearing loss at an early age are at a higher risk of facing social isolation, low self-esteem, and depression. This condition can also lead to social exclusion and raise the likelihood of developing impairments in cognition and functionality. In addition, individuals who have hearing impairment may become more reliant on others and face an elevated risk of neglect, discrimination, or violence. As a result, hearing loss that occurs with age is frequently connected with emotions of sadness, diminished self-esteem, feelings of guilt, a lack of enthusiasm for daily routines, and disruptions to appetite or sleep, all of which can impact concentration (Jiang et al. 2020).

Consequently, it is not surprising that many researchers have discovered a heightened occurrence of mental health disorders, such as depression, low self-esteem, and anxiety, in individuals with hearing impairment (Eaton, 2020). The teenage years are crucial for individuals with hearing loss, requiring ongoing adaptation to changing physical, social, and emotional demands. This can result in an increased susceptibility to various mental health issues. Among these, depression is the most prevalent, affecting between 10% - 85% of individuals worldwide, with between 22% - 60% of affected individuals being adolescents (Patel, 2016).

The presence of depression during adolescence can lead to numerous adverse outcomes, such as inadequate school adjustment, low academic performance, and an increased risk of dropping out of school. It can also result in diminished self-esteem, social incompetence, reduced self-confidence, feelings of loneliness, interpersonal difficulties, and decreased well-being in later life (Dat, 2019).

Your subjective perception of your worth or significance is your self-esteem. It expresses your degree of confidence in your skills and qualities, much like self-respect. However, the continuous decline of self-esteem can lead to different mental health problems, including depression (Susman, 2022).

Everyone experiences sadness at times, but depression is more than that. However, hearing-impaired individuals experience it more often because of the lack of communication and trust. Depression is a condition characterized by intense feelings of sadness or despair that persist for more than a few days. It can significantly impede daily activities and result in physical symptoms, such as changes in appetite and weight, disrupted sleep patterns, and a lack of energy. Individuals affected by depression may also experience difficulty concentrating, thinking of committing suicide or passing away regularly, as well as emotions of being worthless or profound guilt (APA).

Thus, it is not strange that a variety of researchers have discovered a rise in the frequency of mental health issues, such as depression, low self-esteem, and anxiety, among those who are deaf. The research was conducted in Lahore to identify the psychological problems faced by adolescent boys with hearing impairment. Research has shown that teenage boys with hearing loss often struggle with emotional issues, anxiety, social immaturity, aggression, and a limited understanding of their own and others' emotions. These difficulties can be attributed to their inability to communicate effectively and societal attitudes towards individuals with hearing loss. The study also suggests that parents with a dominant parenting style may contribute to confusion and poor decision-making in these boys. This style of parenting involves making all decisions related to the child's education, entertainment, and social interactions without sharing relevant information or considering the child's opinions and desires. As a result, these adolescent boys are often dissatisfied with their current educational and employment opportunities (Umar & Muhammad, 2007).

Another research was conducted in Lahore to investigate the psychological problems faced by adolescent girls with hearing impairment. It was found that the over-protective behaviour of the parents may lead to anxiety, lack of confidence, low self-esteem and social immaturity in deaf girls, which later on provokes depression (Saeed and Aslam, 1996).

Furthermore, a researcher examined the impact of hearing loss on a child's personality and discovered that many of the deaf participants felt resentful towards their situation. However, there was no indication of an inferiority complex. Instead, the majority of them exhibited a lack of trust in others. The conclusion was drawn that hearing loss, in and of itself, does not lead to poor social adjustment or other psychological issues. Instead, such issues are a result of the communication gap that places deaf children at greater risk for problems such as aggression, low self-concept and reduced self-esteem compared to their peers in the general population (Waheed, 2007).

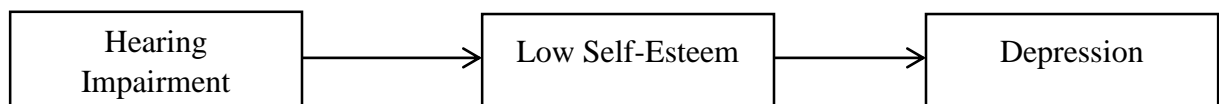
Rationale of Study:

The purpose of this current research was to investigate the association between self-esteem and depression in hearing-impaired adolescents at Deaf Reach School Karachi Campus. The findings of this research will provide insight into the correlation which affects an individual's self-esteem. If self-esteem is low, it will lead to depression. The research is conducted on male and female students to see their level of depression and its correlation with self-esteem. This research will provide information to society regarding the deaf community's mental health problems. This research can benefit people who want to study the same variables in the future. This research will also be helpful for government and non-government institutes and organizations as it reveals the current status of low self-esteem and depression, which is leading to dysfunction in daily life. It's precious research for educational institutes to consider hiring mental health professionals for students to process their mental health in a better way. They can also develop programs and strategies for how to cope with this alarming condition. This research aims to identify the levels of depression and self-esteem among hearing-impaired adolescents as compared to hearing adolescents.

Hypotheses of the study:

- 1) Hearing-impaired adolescents will have low self-esteem as compared to hearing adolescents.
- 2) Hearing-impaired adolescents will have higher levels of depression as compared to hearing adolescents.
- 3) There will be a negative relationship between self-esteem and depression in hearing-impaired adolescents, such that lower self-esteem will be associated with higher levels of depression.

Conceptual Framework of the study



Method:

Research Design

The current study used a cross-sectional research design to determine the connection between depression and self-esteem in hearing-impaired adolescents.

Sampling Technique

In this study, a convenience sampling technique was used in order to find out the relationship between self-esteem and depression in hearing-impaired adolescents. The data was collected from the Deaf Reach School, Karachi Campus.

Participants of Study

The sample consisted of 60 hearing-impaired students (30 males, 30 females) who were taken from the Deaf Reach School, Karachi Campus, through convenient sampling. The age range, which was chosen, based on Erik Erikson's psychosocial stages, was 12 to 19 (Erikson, 1994).

Instruments

The following scales were used in this study.

- 1) Adolescent Self-Esteem Questionnaire (Rosenberg, 1965)
- 2) Siddiqui Shah Depression Scale (Siddiqui & Shah, 1997)

Adolescent Self Esteem Questionnaire (Rosenberg, 1965): To measure the variable of self-esteem, "Adolescent Self Esteem Questionnaire" was used. Morris Rosenberg (1965) developed it's a 13-item measure of global self-esteem. The Adolescent Self-Esteem Questionnaire includes negative and positive worded items. These items are based on a 5-point Likert scale. Item scores were summed, with positively worded items reverse coded, to determine an individual's self-esteem score. A higher score imitates higher levels of self-esteem. The internal consistency coefficient of this questionnaire is 0.91. Moreover, the reliability is 0.86.

Siddiqui Shah Depression Scale (Siddiqui & Shah, 1997): To measure the variable of depression, the "Siddiqui Shah Depression Scale" was used. Developed by Salma Siddiqui and Syed Ashiq Ali Shah, it's a 36-item measure based on a 4-point Likert scale. The internal consistency coefficient of this questionnaire is 0.92. Moreover, the reliability is 0.84.

Statistical Analysis:

SPSS was used to analyze the data collected. Correlation analysis was done to see how each variable related to the others. On the other hand, the impact of the independent variable on the dependent variable was evaluated using multiple regression analysis. Nonetheless, an independent sample t-test was used to investigate comparing demographic variables between two groups to test the hypotheses.

Ethical Considerations:

According to the American Psychological Association (APA) code of conduct, the study participants were treated with utmost care and respect, and no harm was inflicted on them. The researchers prioritized the protection of their dignity throughout the study. The participants provided full informed consent before participating in the study, and their privacy was safeguarded.

Confidentiality was not breached and the anonymity of individuals participating in the research was assured. Moreover, participants were debriefed about the study and its purpose.

Results:

Table1

Descriptive Statistics of Main Demographics Variables (N= 60)

Demographics Variables	<i>f</i>	%
Gender		
Males	30	50%
Females	30	50%
Siblings with hearing impairment	-	-
Yes	44	73.4%
No	16	26.7%
Parents with hearing impairment	-	-
Yes	12	20%
No	48	80%

This table shows the demographics of the participants. 30 participants were male adolescents, and 30 were female adolescents. The table also shows the frequency and percentage of the participants based on their siblings and parents with hearing impairment. The majority of the participants have siblings with hearing impairment (73.4%), however, the majority of them have parents who are not hearing-impaired (80%).

Table 2

Prevalence percentage of low self-esteem and depression in hearing-impaired adolescents (N=60)

Variables	%
1. Self-Esteem	55%
2. Depression	49%

This table shows the prevalence percentage of two variables, low self-esteem and depression, which are used in this research. According to the table, there's a high prevalence of low self-esteem (55%) in hearing-impaired adolescents. Also, the prevalence of depression is high (49%). While making a comparison of it, low self-esteem leads to depression.

Table 3

Pearson's product-moment correlation for self-esteem and depression in hearing-impaired adolescents (N=60)

Variables	1	Depression
1. Self-Esteem	-	-.575**

**Correlation is significant at the 0.01 level (2-tailed).

This table shows the product-moment correlation between low self-esteem and depression in hearing-impaired individuals identified in the research. It shows that low self-esteem has a moderate negative correlation with depression ($r = -.575$) which is significant at 0.01 level.

Table 4

Independent sample T-test showing self-esteem and depression in hearing-impaired males and females (N=60)

	Females		Males		t(df)	p	95% CI	
	M	SD	M	SD			LL	UL
Self-esteem	2.86	2.06	2.86	2.067	1.39 (58)	.17	-1.25	6.99
Depression	-46	3.57	-46	3.57	-.13 (58)	.89	-7.62	6.691

Note. CI=Confidence Interval, LL=Lower limit, UL=Upper limit, SD=Statistical Difference

This table compares the self-esteem and depression of male and female adolescents. However, no significant difference has been found in the self-esteem and depression of male and female students. Results indicated that both boys and girls are suffering from low self-esteem, which is leading to depression.

Table 5

Independent sample T-test showing self-esteem and depression in hearing-impaired adolescents with hearing-impaired and non-hearing-impaired parents (N=60)

	Hearing		Non-hearing		t(df)	P	95% CI	
	M	SD	M	SD			LL	UL
Self-esteem	-.08	2.61	-.08	2.52	-.03 (58)	.97	-5.32	5.15
Depression	-.20	4.47	-.20	3.50	-.04 (58)	.96	-9.15	8.74

Note. CI=Confidence Interval, LL=Lower limit, UL=Upper limit, SD=Statistical Difference

This table compares the self-esteem and depression of adolescents with hearing and non-hearing parents. However, no significant difference has been found. Results indicated that children of both hearing and non-hearing parents are suffering from low self-esteem, which is leading to depression.

Table 6

Frequency and percentage of low self-esteem in hearing-impaired adolescents (N=60)

	N	%
1. Low Self-esteem	34	55.7%
2. High Self-esteem	26	42.6%

This table shows the frequency and percentage of low self-esteem and high self-esteem. According to the table, 26 students are having high self-esteem (42.6%), however, the majority of them are suffering from low self-esteem (55.7%).

Table 7

Frequency and percentage of depression in hearing-impaired adolescents (N=60)

Depression	N	%
1. Mild	14	23.0%
2. Moderate	16	26.2%
3. Severe	30	49.2%

This table shows the frequency and percentage of mild, moderate, and severe depression in hearing-impaired adolescents. According to the table, 14 students are suffering from mild depression (23%), whereas 16 of them are suffering from moderate depression (26.2%). However, the majority of the students are suffering from severe depression (49.2%).

Discussion:

The link between the hypotheses and results was generated through analysis. The purpose of the present research was to investigate the relationship between self-esteem and depression in hearing-impaired adolescents. Around the world, mental health issues are rising. Several young people are suffering from self-esteem issues, which are directly linked with depression (Shah et al., 2020).

The incidence of depression is on the rise, and the failure to address it is leading to an alarming number of suicide cases. Adolescents with hearing impairments are particularly susceptible to lower self-esteem, as they may feel different from their hearing peers regarding communication abilities, physical appearance, and social maturity (Warner-Czyz et al., 2015). There is a strong correlation between self-esteem, depression, and anxiety, and these factors can significantly impact a student's quality of life, increasing the risk of suicidal ideation (Tan Nguyen et al., 2019). Hence, the current study provided indigenous data on these variables.

Table 1 indicates the demographic features and properties of the sampling frame; our sample size included N=30 male adolescents and N=30 female adolescents. Most of the population's siblings have a hearing impairment (N=44), whereas 16

participants have hearing siblings. Besides, most of the students' parents are hearing (N=48), however, 12 students belong to the family where parents are hearing impaired.

Our first hypothesis assumed the self-esteem of hearing-impaired adolescents will be highly affected and they will have a collectively lower incidence of self-esteem among their population in Deaf Reach School, Karachi. Table 2 indicates a relatively higher incidence of low self-esteem at 55% in 60 participants. This value suggests self-esteem is an adjunct feature of hearing-impaired individuals and has a more significant impact.

Previous literature also points in the same direction as our generated results. A study was conducted by Mohammad Ahmed Hammad (2020) to examine mental health problems like the association between traditional and cyberbullying and adolescent students' self-esteem in southern Saudi Arabia among grade 10 to 12 hearing-impaired students. 81 students were assessed with the help of three questionnaires. However, a correlation was found between self-esteem and two types of bullying. When traditional and cyberbullying were on the rise, self-esteem automatically decreased. Hence, it proves our hypothesis that self-esteem is an essential factor that leads to other mental health issues.

The second hypothesis aimed to investigate the higher prevalence of depression in hearing-impaired adolescents. Our result in Table 2 indicates that there is a high incidence of depression observable in hearing-impaired adolescents (49%). The third hypothesis states that there will be a negative relationship between self-esteem and depression in hearing-impaired adolescents. Table 3 indicates Pearson's product-moment correlation for self-esteem and depression in hearing-impaired adolescents as having a moderate negative correlation, $r = -.575$, which shows that self-esteem and depression are linked and produce a more significant impact on the mental health of hearing-impaired adolescents.

Self-esteem, which comprises negative evaluation by self and others, can lead to conforming to the norms and subjugating to the will of others. Research indicates that people who lack self-belief often conform to their environment (B.C, 2012). The adolescent period is usually marked by emotional turmoil and hormonal changes due to which impressionistic interactions frequently leave a mark on the young generation (Will et al., 2018).

Our study further additionally analyzed the demographic information to check the impact of environmental variables on the self-esteem and depression of hearing-impaired students. Result Table 4 indicates that our t-test values were nonsignificant at 0.05 levels for both variables. Independent sample T-test for self-esteem and depression in females and males showed similar differences. Table 5 shows that our t-test values were nonsignificant at 0.05 levels for both variables. Independent sample T-test for self-esteem and depression in students with hearing parents and non-hearing parents showed no significant differences.

Table 6 explains that 26 students have high self-esteem (42.6%), however, the majority of them are suffering from low self-esteem (55.7%). This is an alarming situation. Low self-esteem is the first step leading to other mental health problems. Table 7 explains the frequency of mild, moderate, and severe depression in hearing-impaired adolescents. 14 students are suffering from mild depression (23%), whereas 16 of them are suffering from moderate depression (26.2%). However, the majority of the students are suffering from severe depression (49.2%). This issue needs to be addressed.

A study was conducted by Olufemi Timothy Adigun (2017) in Nigeria to investigate the trends of depression in hearing-impaired adolescents. A systematic review was conducted using five search facets across several databases. ("depression", "depressive symptoms", "hearing loss", "deaf" and "hard of hearing"). The recognized articles' key texts, references, and five electronic databases were examined for articles that have in their title "depression" and "hearing loss". The results indicated that there is a high risk of depression and suicidal thoughts between Deaf and hard-of-hearing people.

The findings of this research are that hearing-impaired adolescents who have low self-esteem are prone to high depression. There can be several reasons, including lack of understanding, bullying by hearing people, academic stress and pressure, emotional breakdowns, and much more.

Conclusion:

The present study strongly emphasizes inculcating mental health seminars and workshops to benefit the students. As per the results, hearing-impaired individuals who suffer from depression have low self-esteem, which many factors can cause.

This research provides important insight for the school to introduce mental health professionals in schools so that they establish fresh strategies and directives to address the problem at its root to prevent mental health issues and enhance the well-being of students with hearing impairment. Moreover, it will provide a better understanding of what extent psychological help is needed for these children. Unfortunately, deaf students are a part of stigmatized groups, and every day, they suffer from different emotional disturbances which are overlooked by others. Also, teachers cannot understand and handle situations efficiently because of a lack of professional training. So, this research will shed light on why a psychologist or a mental health professional is needed in schools to train teachers and students in improving their mental well-being, which is directly linked with the other areas of their lives.

Limitations:

This study's generalizability is limited due to the focus on a single social class and a restricted age range (12-19 years). The participants' homogenous backgrounds may only partially represent the diversity of family experiences and social influences. Additionally, the findings may not apply to younger children or adults, as their experiences and social contexts will likely differ.

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