



# Mechanisms of the Impact of Perceived Social Support on Life Satisfaction among Hearing Impaired College Students — the Mediating Role of Self-esteem

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**Abstract:** This study focuses on the effects of perceived social support on life satisfaction of hearing impaired college students and examines the mediating role of self-esteem in the relationship. The study was conducted with 278 hearing impaired college students as subjects, and their levels of perceived social support, life satisfaction, and self-esteem were investigated using a questionnaire. The results showed that (1) perceived social support, self-esteem and life satisfaction were positively correlated; (2) perceived social support could affect life satisfaction by influencing self-esteem. The results of this study not only expand the theoretical research on the influencing factors of life satisfaction among hearing impaired college students, but also provide a practical basis for enhancing the life satisfaction of this group.

**Keywords:** life satisfaction, perceived social support, self-esteem, hearing impaired college students

## 1. Background of the study

In recent years, hearing-impaired college students, as an important part of the hearing disability group, have become increasingly concerned about the current state of their mental health and the influencing mechanisms behind it. Compared with hearing-impaired college students, hearing-impaired college students are more likely to become a high-risk group for psychological problems due to their hearing and communication disabilities[1]. The hearing-impaired college students are more likely to become a high-risk group for psychological problems. After entering the university campus, hearing-impaired college students are under pressure from multiple areas, such as academics and life, and these challenges and pressures may weaken the group's evaluation of life satisfaction, which in turn may hinder their psychological health. Life satisfaction refers to the overall subjective feeling and evaluation formed by individuals after comprehensively considering all aspects of life according to their own values, expectations and other criteria[2]. Life satisfaction can effectively buffer external stress. Life satisfaction can effectively buffer the negative impact of external stress on individual mental health[3]. Life satisfaction can effectively buffer the negative impact of external stress on an individual's mental health.

Perceived social support refers to the emotional experience of being respected, supported and understood by the surrounding environment, which is based on past experiences and cognitive frameworks[4]. It reflects the individual's subjective perception and evaluation of social support. Numerous studies have confirmed that perceived social support plays an important role in the maintenance of individual mental health[5]. When students perceive more social support, this positive emotional experience will motivate students to participate more actively in learning, socializing and other activities, thus enhancing the adaptability and life satisfaction of college life. Due to their physical disabilities, hearing-impaired college students tend to have a higher need for social support. When hearing impaired college students can feel the acceptance and substantial support from their families, friends, schools and the society, this positive experience will enhance their self-efficacy and affect their life satisfaction, which in turn affects their life satisfaction.

Self-esteem is an individual's affective evaluation of his or her self-worth and self-efficacy, which influences the way he or she deals with problems. Social support such as approval, recognition, and respect given by others constitutes a central element in shaping an individual's self-esteem. Due to their own physiological conditions, hearing-impaired college students face limitations in communicating with the outside world, which affects their objectivity in the process of self-evaluation and makes the process of constructing self-esteem more complicated. When individuals perceived social support level is higher, they also perceived higher degree of support from the outside world, and this positive feeling will prompt them to believe more strongly in their own value, which will effectively improve the level of self-esteem of individuals. This positive feeling will encourage them to believe more strongly in their own value, thus effectively improving their self-esteem. There is also a strong relationship between self-esteem and life satisfaction, and high self-esteem can increase life satisfaction when the level of healthy functioning decreases. High self-esteem can increase life satisfaction when the level of healthy functioning

declines.

In summary, the present study aims to construct a mediation model for analyzing the complex associations and potential mechanisms between perceived social support, self-esteem, and life satisfaction among college students with hearing impairment. The specific objectives of the study are twofold: (1) to investigate the correlation between perceived social support and life satisfaction among college students with hearing impairment; and (2) to verify whether self-esteem, as a potential mediator variable, plays a mediating role between the two.

## 2. Research methodology

### 2.1 Objects of study

This study adopts the principle of voluntary participation and selects two colleges and universities that enroll hearing-impaired college students. 300 questionnaires were distributed and 291 questionnaires were recovered, with a recovery rate of 97%. 278 valid questionnaires were obtained by eliminating some of the questionnaires that had omitted answers and invalid information.

### 2.2 Research tools

#### 2.2.1 Perceived social support scale.

The Perceived social support scale (PSSS) developed by Zimet et al. (1988) was used to quantify the degree of subjective perception of social support among college students with hearing impairment. The scale had good internal consistency reliability with a Cronbach's alpha coefficient of 0.94. Validated factor analyses of the scale showed the following results:  $\chi^2/df=2.00$ , CFI =0.99, TLI =0.98, GFI =0.94, and RMSEA =0.06, which indicated that the model was well fitted.

#### 2.2.2 Self-Esteem Scale.

The self-esteem scale (The self-esteem scale,SES) developed by Rosenberg (1965) was used. The scale consists of 10 questions and utilizes a 4-point Likert rating system. A higher total score on the scale indicates a higher level of self-esteem in an individual. The internal consistency reliability of the scale was good, with a Cronbach's alpha coefficient of 0.89. Validated factor analysis of the scale showed the following results:  $\chi^2/df=2.52$ , CFI =0.95, TLI =0.94, GFI =0.94, and RMSEA =0.07, which indicated that the model was well fitted.

#### 2.2.3 Life satisfaction scale.

The Life Satisfaction Scale developed by Diene (1985) and others was used. The scale consisted of five questions and utilized a 7-point Likert rating system. The internal consistency reliability of the scale was good with a Cronbach's alpha coefficient of 0.84. Validated factor analysis of the scale showed the following results:  $\chi^2/df=2.42$ , CFI =0.99, TLI =0.97, GFI =0.98, and RMSEA =0.07, which indicated a good model fit.

### 2.3 Statistical methods.

In this study, SPSS 25.0 and Amos 24.0 were used to process and analyze the data. First, descriptive statistics and Pearson correlation analysis tests were performed for each variable in the study. Second, structural equation modeling was constructed and model validation analysis was performed using Amos 24.0. Finally, the PROCESS plug-in prepared by Hayes was used to test the mediating effect.

## 3. Findings

### 3.1 Common method bias test

In this study, questionnaire data were collected using a self-report method, which may raise the risk of common method bias. To mitigate this potential bias, this study used the Harman one-way test to analyze the data for common method bias. The results of the analysis showed the presence of five factors with eigenroots exceeding 1. The percentage of variance explained by the first of these factors was 38.97%, a value below the conventional critical threshold of 40%. Based on these results, it can be reasonably inferred that there is no significant common method bias in the data collection and processing of this study.

### 3.2 Descriptive statistics and correlation analysis of the variables

Descriptive statistical analysis of perceived social support, self-esteem and life satisfaction of hearing impaired college students showed that the mean score of perceived social support of hearing impaired college students was (3.86±1.46), the mean score of self-esteem was (2.42±0.62) and the mean score of life satisfaction was (3.92±1.4). Pearson correlation analysis of the three was conducted and the results showed that: perceived social support was significantly positively correlated

with self-esteem ( $r=0.42, p<0.01$ ); perceived social support was significantly positively correlated with life satisfaction ( $r=0.59, p<0.01$ ); and self-esteem was significantly positively correlated with life satisfaction ( $r=0.57, p<0.01$ ). This result indicates that all three fulfill the prerequisites for the mediation effect test.

### 3.3 Analysis of mediating effects of self-esteem

In this study, before analyzing the mediating effect of self-esteem, a structural equation model with self-esteem as the mediating variable was first constructed, and Amos 24.0 was used to test the model. The results showed that  $\chi^2/df=1.254$ , CFI =0.98, TLI =0.98, GFI =0.91, and RMSEA =0.03, indicating that the model fit well. In order to further explore the interaction mechanism of perceived social support, self-esteem and life satisfaction, this study used the PROCESS plug-in and chose the Bootstrapping method to validate the mediating effect of self-esteem with 5000 replicated samples in the framework of model 4 with a 95% confidence interval. When the 95% confidence interval does not include 0, it indicates that the mediating effect is significant. The results showed that perceived social support positively predicted predicted life satisfaction ( $\beta=0.56, t=12.01, p<0.001$ ). Subsequently, when self-esteem was included in the model as a mediating variable, the predictive effect of perceived social support on life satisfaction remained significant ( $\beta=0.40, t=8.69, p<0.001$ ), while revealing that the positive predictive effect of perceived social support on self-esteem was significant ( $\beta=0.18, t=7.70, p<0.001$ ) as well as the positive predictive effect was also significant ( $\beta=0.89, t=8.15, p<0.001$ ).

In addition, neither the direct effect of perceived social support on life satisfaction nor the indirect effect transmitted through self-esteem had the upper and lower bounds of Bootstrap 95% confidence intervals containing 0. Among them, the direct effect was 0.40 and the indirect effect was 0.16, which accounted for 71.42% and 28.58% of the total effect, respectively. The above data indicate that the mediating effect of self-esteem is established.

## 4. Discussion

First, this study found that perceived social support was a significant positive predictor of life satisfaction in a group of college students with hearing loss, a finding that supports previous studies. The sources of social support for hearing impaired college students are characterized by unevenness. Due to the backwardness of the public's concept of disability and the lack of awareness of the hearing-impaired group, hearing-impaired college students are easy to be isolated in social groups, coupled with the fact that some hearing-impaired individuals, influenced by the sense of inferiority and loneliness, are unwilling to socialize with hearing-impaired people, which, to a certain extent, weakens their social support. In addition, some hearing-impaired individuals are reluctant to socialize with hearing-impaired people due to their low self-esteem and sense of loneliness, which to a certain extent weakens the level of social support for hearing-impaired students. In view of this, families and schools, as important support points for hearing-impaired college students in their growth path, need to work together to build a more efficient social support system to make up for the lack of other sources of social support. Society as a whole should strive to eliminate prejudices and misunderstandings about the hearing impaired and create a more open and supportive environment for hearing impaired college students to grow up in.

Secondly, in exploring the specific mechanisms by which perceived social support affects life satisfaction in the special group of hearing-impaired college students, this study introduced the variable of self-esteem. The results indicate that the level of self-esteem of hearing-impaired college students is not only an important indicator of their psychological well-being, but also one of the key variables predicting their life satisfaction. The construction and maintenance of self-esteem of hearing impaired college students is particularly important due to the communication challenges and possible social isolation caused by hearing impairment. In addition, research has shown that the perceived social support level of hearing impaired college students can predict their life satisfaction through the mediating role of self-esteem, which is consistent with the results of previous studies. This is consistent with the results of previous studies. Specifically, hearing impaired college students with high self-esteem tend to have a more positive mindset and a higher sense of self-efficacy, which makes it easier for them to perceive external support from the community and thus experience higher life satisfaction.

The present study not only theoretically deepens the understanding of the mechanism of how perceived social support affects life satisfaction among hearing-impaired college students, but also reveals the key role that self-esteem, as a mediating variable, plays between perceived social support and life satisfaction. This finding opens a new path for improving the mental health of hearing impaired college students.

In response to the results of this study, colleges and universities that enroll hearing-impaired college students can focus on improving students' self-esteem on the basis of providing good social support to enhance their life satisfaction, which in turn promotes their healthy psychological development. Looking ahead, the study should further explore the relationship between perceived social support, self-esteem and life satisfaction among different disadvantaged groups and their mechanisms of action, so as to provide a scientific basis for improving the psychological health and life satisfaction of

disadvantaged individuals, and ultimately promote the harmony and progress of society as a whole.

## 5. Conclusion

This study reveals the relationship between perceived social support, self-esteem and life satisfaction of hearing impaired college students, with the following specific conclusions: (1) there is a positive correlation between perceived social support, self-esteem and life satisfaction; (2) perceived social support can affect their life satisfaction by influencing their self-esteem level.

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