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A study on the relationship between social exclusion and malevolent creativity of hard-of-hearing students

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Abstract: *This study used the Social Exclusion Scale for Adolescents and the Malevolent Creative Behavior Scale to study the relationship between social exclusion and malevolent creativity by taking 150 hard-of-hearing students from a particular education school in Meizhou. The results showed a significant negative correlation between social rejection and malevolent creativity in hard-of-hearing students, the neglect dimension of social exclusion significantly affects the total score of malevolent creativity, and the neglect dimension has a negative predictive effect on malevolent creativity.*

Keywords: *Malevolent creativity; Hard-of-hearing; Social exclusion*

1. Introduction

More than 20 million hard-of-hearing people in China are eager to be accepted by the public. Still, they have communication difficulties with ordinary people in most cases and often lack a sense of belonging when they get along. However, it is not uncommon for deaf and hard-of-hearing college students to be excluded in life and work, and deaf and hard-of-hearing college students are more likely to experience social exclusion than those without disabilities. Social communication and social contact are essential for deaf people or ordinary people. People are eager to get the acceptance of others, and this social acceptance often cannot be satisfied and even leads to social exclusion. In addition to personal factors, the prejudice of some people in society aggravates the inferiority of deaf individuals, and this inferiority will also affect their normal development, making them more prone to personality, emotion, and other problems.

Malevolent creativity is a kind of creative behavior and thought with the purpose of intentionally causing harm [1]. Malevolent creativity is every day in daily life. Studies have shown that criminal behavior is closely related to malevolent creativity, and robbery, theft, intentional murder, and abuse of others are all behaviors of malevolent creativity [2].

Due to their particularity, hard-of-hearing people often find integrating into the general group challenging and are more likely to suffer social exclusion [3]. In addition, the crime rate of hard-of-hearing people is increasing year by year, and the age of crime is decreasing [4]. Research on the relationship between social exclusion and malevolent creativity of hard-of-hearing people can better reduce the negative impact of malevolent creativity in social life and reduce the crime rate, which has specific theoretical and practical significance.

1.1. Social exclusion

Social exclusion generally refers to the rejection or exclusion of an individual by a social group or others so that the individual's need for belonging cannot be met and the individual's social connection is destroyed. This phenomenon will run through the entire life cycle of individuals [5]. Social exclusion is usually studied using the Cyberball task[6], eye gaze paradigm[7], and online exile paradigm[8]. Although these methods can effectively induce rejection and have high ecological validity, their external validity is low. For this reason, many scholars have developed scales to measure social exclusion, such as the School Social Relationship Exclusion Questionnaire [9] and the Youth Social Exclusion Scale (OES-A).

There are two main theoretical models of social exclusion: the temporal need-threat model and the resignation stage.

Social exclusion has multiple cognitive and physiological effects on individuals. Cognitively, individuals' logical reasoning ability, memory, and reasoning processing ability are reduced [10], time

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perception ability is impaired [11], and inhibition control ability is limited [12]. Physiologically, the immune capacity of individuals is decreased, and the susceptibility to inflammation increases in the long-term rejection environment, which can even induce cardiovascular and cerebrovascular diseases in severe cases [13].

Compared with hearing students, hard-of-hearing students find it more challenging to communicate with hard-of-hearing people due to their physical particularity. They often find it challenging to integrate into the group when communicating with ordinary people, lacking a sense of belonging. Hard-of-hearing students also face more rejection in interpersonal communication [14].

1.2. Malevolent creativity

Creativity is defined as the ability to produce novel and practical ideas or products [15], and creativity is generally regarded as a positive ability conducive to self-actualization. Malevolent creativity is the "dark side" of creativity, which is goal-oriented and capable of harming oneself or others mentally, materially, or physically [16].

There are currently two mainstream theoretical models of malevolent creativity: the 6p model (Process, Person Properties, Person Motivation, Person Feelings, Product and Press) [17] and the stage model. The stage model is divided into generative exploration, four-stage, and seven-stage models [18].

Although malevolent creativity is being explored as a new research hotspot, it is still challenging to measure malevolent creativity. There are two kinds of measurement for malevolent creativity: laboratory task and scale measurement. Among them, the laboratory task is the Alternate uses task, AUT[19], which requires an individual to say as much as possible about the purpose of a particular object, which involves novelty and practicality in addition to the purpose of the object itself, and regards the answer that reflects harm to oneself or others as the expression of malevolent creativity. In the scale measurement, Hao et al. (2016) developed a self-report scale with 13 items in three dimensions, including the hurtful dimension, the lying dimension, and the prank dimension. After the reliability and validity test, this scale has good reliability and validity and highly correlates with other creativity test indicators [20].

1.3. Relationship between social exclusion and malevolent creativity

Many experiments have proved a causal relationship between social rejection and aggression. Still, there are various explanations for the specific reasons, such as emotional catharsis [21], reestablishment of a sense of control [22], revenge [23], etc. Some scholars believe that individuals' aggressive behavior after social rejection is driven by the desire to restore balance and repair the negative emotions after rejection[24].

A related phenomenon has also been found in the study of malevolent creativity: individuals with higher levels of malevolent creativity are more prone to hostile and aggressive behaviors [25,26]. Does social exclusion, as a form of unfair treatment of individuals, produce higher levels of malevolent creativity? Based on the above studies, it is not difficult to see a specific relationship between malevolent creativity and social exclusion. There is little research on the relationship between malevolent creativity and social exclusion, especially on the relationship between social exclusion and malevolent creativity in a group of hard-of-hearing students. This study hopes to explore the relationship between the two in the group of hard-of-hearing students.

2. Research methods

2.1. Subjects

A questionnaire survey method was adopted in this study, and random sampling was conducted in a particular education school in Meizhou. 150 students were issued from first-year students to seniors, and 150 were recovered (100% recovery rate), among which 142 were valid (94.67% effective rate).

2.2. Research Tools

The Social Exclusion Scale for Adolescents (adapted from OES-A by Zhang Denghao, Huang Lianqiong, and Dong Yan in 2018) has two dimensions: neglect and rejection, and the internal consistency reliability of this questionnaire is 0.76-0.87[27].

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Malevolent Creativity Behavior Scale (a behavior evaluation scale revised by MCBS, Hao Ning et al. based on the Runco Concept Generating Behavior Scale) has three dimensions: hurtful, lying, and prank, and the internal consistency reliability of this scale is 0.83[20].

2.3. Data processing method

SPSS 23.0 was used for statistical analysis. Pearson product difference correlation analysis and multiple stepwise regression analysis were used to process the data.

3. Research results

*3.1. Anal*ysis of social exclusion and malevolent creativity in hard-of-hearing students

3.1.1. Analysis of social exclusion status of hard-of-hearing students

In this section, descriptive statistics are used to analyze the mean and standard deviation of social exclusion and its dimensions, and a single-sample T-test is used to test the total score of social exclusion (compared with the median). The results indicated that the total score of social exclusion of hard-of-hearing students was at the medium level. Still, the total score of social exclusion and each dimension's internal differences were insignificant. (see Table 1)

Table 1: Social exclusion scores of hard-of-hearing students

Variate	M	SD	Score interval	Median	t	P
Social exclusion score	29.04	3.320	17-37	29.00	0.152	0.880
Neglect	15.42	4.032	6-24	16.00	-1.707	0.090
Reject	13.62	3.341	5-20	14.00	-1.357	0.177

** p<0.05 ,** p<0.01*

3.1.2. Analysis of malevolent creativity status of hard-of-hearing students

This section uses descriptive statistics to analyze malevolent creativity's mean, standard deviation, and dimensions. A single sample T-test was used to examine the total score of malevolent creativity (compared with the median). The results showed that the malevolent creativity level of hard-of-hearing students was at a medium-high level, and there were significant internal differences in the malevolent creativity score and prank dimension but no significant differences in the hurtful dimension and lying dimension. (see Table 2)

Table 2:Malevolent creativity score of hard-of-hearing students

Variate	M	SD	Score interval	Median	t	P
Malevolent creativity score	23.08	8.467	13-49	21.00	2.934	0.004**
Hurt	11.01	3.909	6-24	10.50	1.555	0.122
Lying	7.08	3.070	4-16	7.00	0.328	0.743
Prank	4.99	2.275	3-12	4.00	5.163	0.000**

** p<0.05 ,** p<0.01*

3.2. Correlation analysis of social exclusion and malevolent creativity of hard-of-hearing students

The total score of malevolent creativity is correlated with the total score of social exclusion, neglect dimension, and rejection dimension, and the total score of social exclusion and neglect dimension is negatively correlated with the correlation coefficient of -0.174 and -0.338. The rejection dimension has a positive correlation, and the correlation coefficient is 0.234. There is a correlation between the hurtful, neglect, and rejection dimensions, among which there is a negative correlation with the neglect dimension; the correlation coefficient is -0.276. The rejection dimension has a positive correlation, and the correlation coefficient is 0.203. The lying dimension is correlated with the neglect and rejection dimensions, and there is a negative correlation with the neglect dimension; the correlation coefficient is -0.300. The rejection dimension has a positive correlation, and the coefficient is 0.200. The prank dimension correlates with the total social exclusion, neglect, and rejection score. There is a negative correlation between the total score of social exclusion and the neglect dimension, and the correlation coefficient is -0.203 and -0.374. There is a positive correlation with the rejection dimension, and the correlation coefficient is 0.250. (see Table 3)

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Table 3:Coefficient of social exclusion and malevolent creativity in hard-of-hearing students

Variate	Malevolent creativity score	Hurt	Lying	Prank
Social exclusion score	-0.174*	-0.131	-0.162	-0.203*
Neglect	-0.338**	-0.276**	-0.300**	-0.374**
Reject	0.234**	0.203*	0.200*	0.250**

** p<0.05 ,** p<0.01*

3.3. Regression analysis of social exclusion on malevolent creativity among hard-of-hearing students

Hard-of-hearing students' rejection and neglect dimensions were taken as independent variables. The total score of malevolent creativity was taken as the dependent variable for stepwise regression analysis (the specific regression method is the stepwise method [28]). After automatic recognition by the model, the remaining neglect item is included in the model, and the R2 value is 0.114, which means that neglect can explain the change of 11.4% of the total score of malevolent creativity. Moreover, the model passed the F test (F=18.004, P =0.000<0.05), indicating that the model was effective. And the model formula is Total score of malevolent creativity =34.016-0.709*neglect dimension. In addition, according to the multicollinearity test of the model, all the VIF values in the model are less than 5, which means there is no collinearity problem. Moreover, the D-W value is near the number 2, indicating no autocorrelation in the model and no good correlation between the sample data and the model. (see Table 4)

Table 4:Regression analysis of social exclusion on malevolent creativity

	Unstandardized Coefficients		Standardization coefficient	t	P	VIF
	B	Standard error	Beta			
Constant	34.016	2.662	-	12.777	0.000**	-
Neglect	-0.709	0.167	-0.338	-4.243	0.000**	1.000
R2			0.114			
△R2			0.108			
F			F (1,140)=18.004,p=0.000			
D-W			1.936			

** p<0.05 ,** p<0.01*

The final concrete analysis shows that the regression coefficient value of neglect is -0.709(t=-4.243, P =0.000<0.01), meaning that the neglect dimension will significantly negatively impact the total score of malevolent creativity. (see Figure 1)

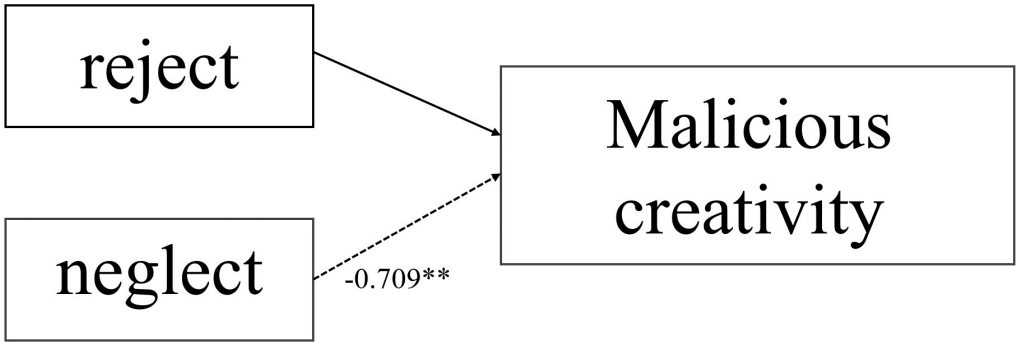

Figure 1: Regression path of neglect dimension on the total score of malevolent creativity.

The conclusion shows that the neglect dimension significantly negatively affects the total score of malevolent creativity.

4. Discussion

There was a significant negative correlation between social exclusion and malevolent creativity. Among them, the total scores of social rejection and malevolent creativity, neglect and wounding, neglect and lying, and neglect and mischief were significantly negatively correlated, and rejection and wounding, rejection and lying, and rejection and misconduct were significantly positively correlated. Some researchers believe that the social exclusion scale for students should be viewed separately from each

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dimension [29], and the results of this study also support this view. The neglect dimension shows a significant negative correlation with malevolent creativity, while the rejection dimension shows a significant positive correlation. For hard of hearing students, they are in a period of rapid physical and mental development. During this period, hard-of-hearing students are sensitive in their hearts and more likely to pay attention to others' evaluations. In terms of neglect, hard-of-hearing students with higher scores and a stronger sense of neglect tend to suffer more social neglect, either intentionally or unintentionally. After being neglected, they often actively seek other ways to alleviate the feeling of neglect and rejection, such as alliances, rather than adopting maliciously creative behaviors. Regarding rejection, hard-of-hearing students with a high sense of rejection often suffer direct rejection in social interactions, putting them under the influence of negative emotions. In this case, their aggressive behavior will be significantly improved [30], which is accompanied by the improvement of scores in the dimensions of wounding, lying, and pranking; that is, the dimension of rejection has a significant positive correlation with wounding, lying, and pranking.

In the regression analysis of social exclusion on malevolent creativity, the neglect dimension can explain 11.4% of the change in the total score of malevolent creativity, indicating that the neglect dimension will have a significant negative impact on the total score of malevolent creativity and the neglect dimension can negatively predict malevolent creativity. However, this does not mean we should increase the sense of neglect among hard-of-hearing students. According to this study, the mechanism of malevolent creativity in hard-of-hearing students is similar to that of creativity. Wang Jing et al. have studied the impact of social exclusion on creativity, and the results show that the neglect dimension will have a significant adverse effect on creativity [31]. This is consistent with the results of this study, which further proves that the mechanism of malevolent creativity is similar to that of creativity in a group of hard-of-hearing students, and social rejection can have a significant adverse effect on it.

5. Conclusion

A significant negative correlation exists between social exclusion and malevolent creativity in hard-of-hearing students. In other words, hard-of-hearing college students who experienced more socially severe rejection had a higher level of malevolent creativity. The neglect dimension in social exclusion significantly negatively impacts the total score of malevolent creativity, and the neglect dimension can negatively predict malevolent creativity. This means that hard-of-hearing college students who suffer from neglect are more maliciously creative.

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