The Relationship Between Bullying an Experiences and Social Anxiety of College Students: Self-esteem as a Mediating Variable

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Abstract:

Violence in schools is a global problem and is common to be seen in our daily lives. People involved in bullying are often psychologically and physically affected to varying degrees. In college students, bullying is often overlooked because bullying on campus always occurs by the way of cyberbullying or verbal, resulting in a small amount of empirical research. In this research, we will investigate the frequency of college students' involvement in bullying, whether it affects social anxiety levels, and do statistics by testing the mediating role of self-esteem levels between social anxiety level and bullying frequency. Through the questionnaire method in quantitative research, the results of this study manifested that the frequency of bullying on campus is positively related to college students' social anxiety level. With self-esteem level playing a partial mediating role, the results of this study illustrated that gender is also correlated with the frequency of involvement in school violence, social anxiety level, and self-esteem level.

Keywords: Self-esteem; Social anxiety; Campus bullying/ Violence.

1. Introduction

It is common to encounter violence in schools. From a global perspective, bullying in schools has always been a concern. UNESCO established the first 'International Day against Violence in Schools, including Cyberbullying' on November 5, 2020. However, UNESCO reported that campus violence and bullying affect approximately 246 million children and adolescents annually, still showing a severe status [1].

Nowadays, the social anxiety caused by college students involved in campus bullying is something that is often overlooked. Only a few relevant empirical studies can be found. This research will use the questionnaire method in quantitative research to conduct an empirical study on the Hong Kong university student population involved in campus violence. In this research, the questionnaire survey method will be used, focusing on whether the frequency of college students' involvement in campus violence is posi-

tively related to social anxiety and whether self-esteem plays a mediating role in it. The purpose of this research is to raise awareness of the impact of campus violence on social anxiety among college students. By examining the consequences of such violence, this study aims to help educational institutions and society better understand the issue. Ultimately, the research seeks to inform more effective responses to violence on college campuses.

2. Literature Review

Bullying is an intentional, systemic abuse of power, an imbalance and unfair of power between the victim and the bully that results in the bully inflicting physical or emotional harm on the victim, and generally, bullying is not caused by the victim, but by the bully [2]. Generally speaking, the types of bullying can be categorized by form into verbal bullying, physical bullying, cyberbullying and interpersonal bullying [3].

Gong pointed out that whether it is the victims or the bully, adolescents who experience school violence show higher levels of anxiety than adolescents who did not experience bullying in school and more types of school violence, such as verbal, cyber, physical, and interpersonal that are involved, the higher the level of anxiety, which means there is a positive correlation [4]. However, according to the search, no empirical studies were found on whether college students' exposure to campus violence triggers higher anxiety. Nowadays, there are a handful of studies on bullying and violence, respectively. categorizing the research results by school age group, there are not many relevant studies on college students' experiences of bullying and violence. Take the Web of Science database as an example. When setting the keywords related to violence/bully in secondary school, 359 related types of research manifested. Meanwhile, when searching the keywords related to violence/bully in primary school, 290 related articles were shown. This shows that the research on the bullying experiences of college students is lacking.

Liu referred that anxiety levels in college campus life are negatively correlated with self-esteem [5]. There was a relatively balanced relationship of influence between low self-esteem and anxiety [6], which means they have mutu-al influences.

Self-esteem is a symptom of self-worth, ranging from high to low; people with low self-esteem tend to underestimate their own self-worth, and those with high self-esteem have a strong tendency to accept themselves better and strongly believe in their intrinsic value. Meanwhile, there is also a relationship between bullying and self-esteem, with children who have been involved in school violence displaying lower self-esteem in comparison with their peers, whether they are bullies or bullied [7].

3. Research Method

This study will employ a stratified sampling method, selecting 54 students from each undergraduate level, from freshman to senior year, and 54 students from the taught graduate student population. In total, 270 college students from Hong Kong will participate in this survey. The population of this study will be balanced between males and females so as to ensure that this study will not be affected by demographic variables. The measurement will be conducted on the group of college students, and the questionnaire will include measures of self-esteem and anxiety levels as well as the frequency of being involved in campus violence. Rosenberg Self-Esteem Scale (RSE) [8,9] and Anxiety Inventory–23 scales will be used to test social anxiety levels [10,11].

4. Results

There is total 244 valid questionnaires were returned, and of the valid questionnaires, a total of 121 questionnaires were returned by male students and 123 questionnaires were returned by female students. The ratio of male to female is balanced. Among the valid questionnaires, 52 were from freshmen, 51 from sophomores, 52 from juniors, 51 from seniors, and 38 from taught graduate students. The sample distribution is relatively balanced across the grade level variable.

Firstly, the authors conducted a correlation analysis about the frequency of involvement in campus violence, self-esteem level, social anxiety level, and gender as follows.

Table 1. Correlations

		Frequency of Involved in Campus Bully	Self-esteem level	Anxiety Level	Gender
Frequency of Involved in Campus Bully	Pearson Correlation	1			
Self-esteem level	Pearson Correlation	.690**	1		
Social Anxiety Level	Pearson Correlation	.690**	.963**	1	
Gender	Pearson Correlation	.375**	.490**	.502**	1

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

As showed in table 1, the frequency of involvement in campus violence is moderately correlated with the Pearson correlation coefficient of 0.69 for the self-esteem level and 0.69 for the anxiety level. The Pearson's correlation coefficient for self-esteem and social anxiety levels is 0.963, which manifested a significant correlation. However, the research also manifested that there was a correlation between gender and the frequency of campus violence, self-esteem and social anxiety levels.

Table 2. Linear Regression

Model Summary[b]			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.690a	.476	.474	1.241
a. Predictors: (Constant), self-esteem level				
b. Dependent Variable: Frequency of Involved in Campus Bully				

In the Table 2, the R square is 0.476, meaning that the frequency of campus violence explains 47.6% of the social anxiety level.

Table 3. Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
B		Std. Error	Beta			
1	(Constant)	47.113	2.279		20.671	.000
	Frequency of Involved in Campus Bully	8.960	.604	.690	14.832	.000
a. Dependent Variable: Anxiety Level						

In Table 3, it is illustrated that the frequency of involvement in campus violence can significantly and positively affect the level of social anxiety. The higher the frequency of involvement in campus violence, the higher the level of social anxiety.

To explore the underlying mechanism of how the frequency of involvement in campus violence affects social anxiety, this study introduces self-esteem as a mediating variable. Self-esteem was incorporated into the structural equation modeling to better understand its role in the relationship between campus violence and social anxiety.. Module 4 of the process plug-in in SPSS was used to conduct the test of the mediating effect. The mediating effect of the level of self-esteem between the frequency of involvement in bullying and the level of social anxiety was verified and analyzed according to the method of Bootstrap provided by Hayes [12].

The path coefficients of self-esteem level between the variables of frequency of involvement in campus violence and social anxiety level are manifested in Figure 1.
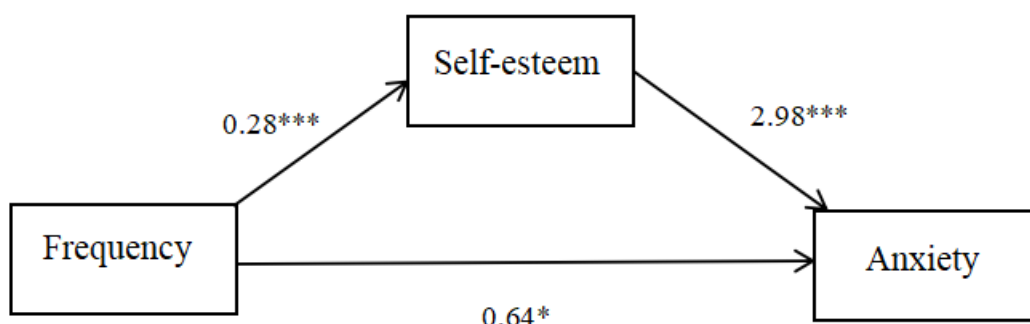
***p<0.001, **p<0.01, *p<0.05

Figure 1. Mediate Model

As manifested in Table 4, the upper and lower bounds of the bootstrap 95% confidence interval for the mediating effect of frequency of involvement in campus bullying on both social anxiety and self-esteem levels do not contain

zero. This indicates that the frequency of involvement in campus bullying not only has a direct effect on social anxiety but also indirectly influences anxiety through the mediating variable of self-esteem.The direct effect (0.64) and mediating effect (8.32) accounted for 7.14% and 92.86% of the total effect (8.96) respectively.

Table 4. Total effect, direct effect and mediating effects

	Effect	se	LLCI	ULCI	TES
Total effect	8.96	0.60	7.77	10.15	
Direct effect	0.64	0.31	0.03	1.25	7.14%
Indirect effect	8.32	0.50	7.32	9.31	92.86%

5. Discussion

5.1 Findings

The findings of the above research showed that a large number of college students are involved in campus violence, indicating that there is also a high level of campus violence within the university. First, the research found that the four variables of gender, frequency of involvement in campus violence, social anxiety level and self-esteem level are correlated with each other. Secondly, the research also found that the frequency of being involved in campus bullying not only has a direct effect on the social anxiety level but also has a mediating effect on the self-esteem level.

5.2 Limitations

This research has some limitations. First, the samples were limited to students of the eight public universities in Hong Kong and did not involve students from other regions. Different regions may have differences in factors such as family education preferences, social concern about violence on campus, and the level of university intervention, so the regional limitation may cause bias in the results of the study. Secondly, this experiment adopts the questionnaire survey method, and the respondents' questionnaire filling is highly subjective. For example, questions related to social anxiety and self-esteem may differ in respondents' self-perception, causing bias in the experimental results. Finally, this investigation only considered the effect of the frequency of involvement in campus violence on the level of social anxiety and did not consider the degree of quantification, which may also cause a certain degree of limitation.

5.3 Implication

For research implications, firstly, we have worked out that gender correlates with campus bullying, social anxiety levels, and self-esteem levels, and on subsequent research, we can further investigate why there is a gap between men and women. What are the reasons for this gap? Is it possible to narrow the demographic gap between men and women regarding violence on college campuses? Secondly, the study is an empirical study on bullying on college campuses. The study results indicate that bullying on college campuses is as serious a problem as it is on primary and secondary campus campuses. Therefore, further empirical research on bullying in college settings is essential to address this issue. In terms of practical application on campus, this study provides a solid empirical foundation for the importance of developing effective measures to reduce the occurrence of bullying in campus. It also highlights the potential role of moderating variables and post-interventions in alleviating the social anxiety experienced by college students who have been involved in campus bullying. Brook & Willoughby's research illustrated that social anxiety produces a significant negative correlation with the academic achievement of college students. Meanwhile, social relationships can have a significant impact on the academic achievement of college students [13]. As a result, this study confirms that reducing bullying on campus and thus reducing social anxiety levels allows college students to reach higher levels of academic achievement.

6. Conclusion

This research found that bullying is still prevalent on college campuses. At the same time, the research also found that the higher the frequency of involvement in bullying, the higher the level of social anxiety, which is directly proportional to each other, and that the level of self-esteem assumes a 92.86% mediating role in it. Therefore, empirical research should focus on college students' involvement in bullying on campus, whether they are bystanders, bullies, or bullied, and provide pre-intervention as well as post-intervention of bullying on campus. This research to some extent fills the research gap of previous empirical studies on college students' involvement in

on-campus bullying, facilitates the study of the intrinsic mechanism of college students' involvement in bullying frequency affecting social anxiety, and lays a certain foundation for the future research on the gender differences in on-campus bullying-related variables between males and females. However, there are regional limitations in this study, as well as the limitation that it is difficult to eliminate the error of filling out the questionnaire by participators. In the future, the scope of the experiment can be expanded, as well as the development of more detailed instructions for the questionnaire.

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