The Mediating Role of Psychological Security in Relationship between Depression and Cyberbullying Victimization among Technical School Students in Zhuhai, China

Cui Xiaorui, Heshuyu

University Technology of Malaysia, China

ABSTRACT

This study explores the relationship between cyberbullying victimization and depression among technical school students in Zhuhai, China, and examines whether psychological security plays a mediating role. A total of 381 students participated in the survey through stratified random sampling. Data were collected using validated questionnaires and analyzed with SPSS 26.0. Results showed a significant positive correlation between cyberbullying victimization and depression, but no significant effect of psychological security as a mediator. The findings suggest that cyberbullying directly contributes to depression among technical school students, highlighting the need for targeted mental health support and prevention strategies in vocational education settings.

Keywods: Cyberbullying victimization; Depression; Psychological security; Technical school students; Adolescents; Mental health; Mediation analysis;

INTRODUCTION

Adolescents have become a substantial user group in recent years as a result of the rapid development of the Internet and smart devices, which has facilitated their increased online access. The Internet is utilised by adolescents for the purpose of socialising, information gathering, education, entertainment, and recreational activities. Nevertheless, they are susceptible to a variety of online content and harmful behaviours, such as the posting of inappropriate remarks, as a result of their immature physical and mental development and insufficient capacity to assess online information. The Internet's anonymity and concealment can exacerbate detrimental behaviours among adolescents, including cyberbullying (Williams, 2022).

Cyberbullying victimisation is the term used to describe the intentional infliction of emotional damage or psychological distress on individuals through malicious behaviours or verbal attacks in cyberspace. Cyberbullying is a prevalent phenomenon that manifests in a variety of ways, including the dissemination of malicious rumours, the exchange of insulting comments, the dissemination of threatening messages, the unauthorised sharing of private information or photographs, and the exclusion or isolation of individuals. This behaviour is frequently observed on social media, messaging platforms, emails, and online games. Victims of cyberbullying frequently experience adverse psychological consequences, including anxiety, depression, diminished self-esteem, and social withdrawal (Cretu & Morandau, 2024). Hasan et al. (2023) have demonstrated that cyberbullying is prevalent among adolescents and has substantial adverse consequences.

Technical school students face unique challenges in the context of cyberbullying as a result of their unique psychological characteristics and learning environment. Technical schools are responsible for the development of skilled professionals for the service and manufacturing sectors. They are predominantly supervised by the human resources and social security departments. Technical schools prioritise practical skills over academic courses in contrast to general high schools. These students are more susceptible to becoming victims or perpetrators of cyberbullying as a result of the pressures they encounter in terms of social acceptability and skill development (Wang, 2013). This is due to their increased reliance on the Internet.

In this developmental stage, adolescents are particularly susceptible to external stimuli, as adolescence is a critical period for the development of the mind and emotions (Steinberg, 2005). Cyberbullying can result in substantial mental health issues in adolescence, such as anxiety, melancholy, and social withdrawal. Additionally, Gohal et al. (2023) propose that these concerns may escalate into social exclusion and isolation. Maslow (1970) posits that psychological security is an essential need that is essential for the preservation of emotional stability in adolescents. Protection, sanction, and assistance are the defining characteristics of this requirement. Adolescents who exhibit higher levels of psychological security are more adept at regulating stress when they are subjected to cyberbullying, which reduces their susceptibility to anxiety and depression, as per Yang et al. (2022) and Gohal et al. (2023).

Pan et al. (2018) assert that technical school students are especially vulnerable to mental health problems linked to cyberbullying due to the academic and social pressures they encounter. The lack of adequate social support intensifies this psychological discomfort, thereby affecting their overall development. In this paper, the mediating function of psychological security in the interaction between cyberbullying victimisation and despondency among technical school students aged 16 to 19 in Zhuhai City is reviewed. It is hypothesized that the depressive symptoms that arise from cyberbullying victimisation can be alleviated by enhancing psychological security, thereby protecting adolescents. By understanding the importance of psychological security, it is possible to develop evidence for effective intervention techniques that can alleviate the negative consequences of cyberbullying and improve the mental health of technical school students.

Research Objectives:
1. To Determine Levels: Identify the levels of depression, cyberbullying victimization, and psychological security among technical school students in Zhuhai City.
2. To Explore Relationships: Investigate the significant relationship between cyberbullying victimization and depression.
3. To Analyze Mediating Effects: Examine the mediating role of psychological security between cyberbullying victimization and depression.

Research Questions:

What are the levels of depression, cyberbullying victimization, and psychological security among technical school students in Zhuhai City?

Is there a significant relationship between cyberbullying victimization and depression?

Does psychological security mediate the relationship between cyberbullying victimization and depression?

Research Hypotheses:

Hypothesis on Relationship: There is a significant positive correlation between cyberbullying victimization and depression. The higher the level of cyberbullying victimization, the more severe the depressive symptoms.

Hypothesis on Mediation: Psychological security mediates the relationship between cyberbullying victimization and depression, potentially alleviating the negative impact of cyberbullying on depressive symptoms.

Targeting technical school students in Zhuhai, a group more prone to psychological issues due to their unique educational environment and greater internet use, this study provides detailed content explanation. Cyberbullying is rather common among teenagers; thus it is important to know how it affects mental health, especially depression, and find ways to reduce its consequences.

The study aims to ascertain the baseline degrees of psychological security, cyberbullying victimising, and sadness. Symptoms including sorrow, pessimism, and poor self-esteem help one evaluate depression. While psychological security measures a sense of interpersonal trust and control, cyberbullying victimising involves events such online harassment or the dissemination of false rumours.

Investigating Relationships: Based on current research, the study hypothesizes—as indicated by past studies—that cyberbullying victimising teenagers greatly raises their risk of depression. Students who experience regular online harassment are supposed to have more depressed levels.

Investigating if psychological security serves as a buffer in the link between cyberbullying victimising and depression, this paper aims to Proposed to be a protective mechanism, high psychological security is supposed to lessen the negative emotional impact of cyberbullying.

The results of this study seek to offer pragmatic insights for mental health practitioners, legislators, and educators to create focused treatments, enhance psychological well-being, and lower the negative consequences of cyberbullying among technological school students.

Part 2: Data Collection Research Setting

This study was conducted in technical schools located in Zhuhai City, which focus primarily on developing practical skills, distinguishing them significantly from general high schools. The research subjects were students aged 16–19, a group in a critical stage of psychological and emotional development.Their great frequency of online usage makes them more susceptible to the effects of cyberbullying.

Research Sample

To guarantee the sample's representateness, stratified random sampling was used. Reflecting the variety among the target population, stratification factors included gender, grade level, and major.

Target sample size was 381 students, from different majors, genders, and grades.

Stratified random sampling was applied to guarantee equal representation among many student groups. To improve the completeness and speed of data collecting, online surveys via Questionnaire Star and offline paper questionnaires were combined.

Sampling Criteria

To ensure data accuracy and consistency, the selection criteria were as follows:

Target Population: Students currently enrolled in technical schools in Zhuhai City, aged 16–19.

Eligibility Criteria:

Regular consumers of internet and social media.

eager to signed an informed consent form and freely take part in the study.

Surveys were sent both online and offline to guarantee varied data sources and preserve accuracy and representativeness of the material.

Sample Distribution

Drawn from several grades and different majors, participants reflected the general traits of the technical school student population in Zhuhai City. Participation anonymously guaranteed that students could answer honestly, therefore reducing social desirability bias and increasing data dependability.

Statistical Methods

Part 3: Data Analysis/Findings

SPSS 26.0 was used for descriptive statistical analysis, correlation testing, and mediation effect testing of the data.

Statistical Analysis
Descriptive Statistics for Psychological security, Depression, and Cyberbullying Victimization Measurement Indicators

Variable	Mean	SD	N
Cyberbullying Victimization	9.36	6.976	381
Total Depression Score	40	22.353	381
Psychological Security	64.81	20.118	381

From the table above, it can be seen that the mean (± standard deviation) of cyberbullying victimization is 9.36±6.976, the mean (± standard deviation) of total depression score is 40±22.353, and the mean (± standard deviation) of psychological security is 64.81±20.118.

Validity Analysis

KMO and Bartlett's Test	Approximate Chi-Square	Degrees of Freedom	Significance
0.684	2526.267	630	0

Validity analysis results show that the KMO coefficient is 0.68, indicating that the overall validity of the questionnaire is good, and subsequent analysis operations can be performed.

Reliability Analysis

Cronbach's α Coefficient	Number of Items	Number of Cases
0.939	36	381

We conducted a reliability analysis on the 47 items in the questionnaire, and the Cronbach's alpha coefficient is 0.939, indicating high reliability, and subsequent analysis operations can be performed.

Correlation Statistics for Psychological security, Depression, and Cyberbullying Victimization Measurement Indicators

	Cyberbullying Victimization	Total Depression Score	Psychological security
Cyberbullying Victimization	1	0.564**	0.139
Total Depression Score	0.564**	1	-0.06
Psychological security	0.139	-0.06	1

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

By calculating the Pearson product-moment correlation coefficients among the three indicators of the subjects, a significant positive correlation was found between cyberbullying victimization and total depression score (r=0.564, p<0.01), while there was no significant correlation between cyberbullying victimization and psychological security, and between psychological security and total depression score (p>0.05).

Mediation Effect Statistics for Psychological security, Depression, and Cyberbullying Victimization Indicators

To explore the mechanism of the impact of cyberbullying victimization on depression, Psychological security was further introduced into the structural equation model in the study. The mediation effect test was conducted using Model 4 in the process procedure of SPSS, and the relationship among the three is as follows:

Note: *** indicates p<0.001.

As shown in the figure, the impact of cyberbullying victimization on psychological security is not significant, the impact of cyberbullying victimization on depression is significant, and the impact of psychological security on depression is not significant. Therefore, the mediation effect of psychological security is not significant, i.e., there is no mediation effect.
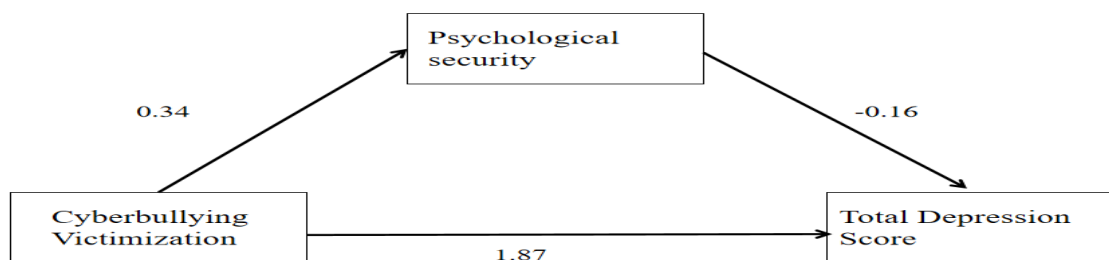
Effect Size Statistics

Effect Type	Path	Effect	SE	Upper Limit	Lower Limit	Effect Proportion
Indirect Effect	X → M → Y	-0.0631	0.158	0.2803	-0.2803	

Direct Effect	X → Y	1.8699	0.3945	2.6012	1.0123	100%
Total Effect	X → Y	1.8067	0.3945	2.6012	1.0123	100%

Note: X is cyberbullying victimization; M is psychological security; Y is depression.

The mediation effect results show that the direct path effect accounts for 100% of the total effect, and the confidence interval of the indirect effect passes through 0, therefore psychological security cannot be considered as a mediating variable for the impact of cyberbullying victimization on depression.

DISCUSSION & CONCLUSION

The findings of this study offer a thorough analysis of the connections amoungst cyberbullying victimization, mental protection, and anxiety amongst technical school pupils in Zhuhai. Below is an interpretation of the results in the context of the study objectives and existing literature.

1. Descriptive Analysis

The detailed stats revealed:

Cyberbullying Victimization: Mean = 9.36, SD = 6.976
Depression: Mean = 40, SD = 22.353
Emotional Safety: Mean = 64.81, SD = 20.118
These searchings for highlight modest levels of cyberbullying victimization and and depression among participants, along with reasonably high mental security. This straightens with previous research indicating that technical school students encounter one-of-a-kind scholastic and social pressures that intensify their vulnerability to mental health problems (Frying pan et al., 2018).

2. Relationship Analysis

The Pearson connection analysis disclosed:

A considerable positive connection between cyberbullying victimization and depression ($r = 0.564$, $p < 0.01$).
No considerable connection between cyberbullying victimization and mental security ($r = 0.139$, $p > 0.05$), or between psychological safety and clinical depression ($r = -0.06$, $p > 0.05$).

This recommends that pupils who experience more cyberbullying are likely to exhibit greater degrees of depression, constant with Hasan et al. (2023), that recognized cyberbullying as a significant forecaster of depressive symptoms. Nonetheless, the absence of substantial partnerships including emotional protection might show that safety elements, such as social support or self-confidence, play a much more popular function in minimizing these results (Yang et al., 2022).

3. Arbitration Analysis

The arbitration analysis using SPSS Process (Design 4) indicated:

The direct effect of cyberbullying victimization on clinical depression was considerable.
The indirect effect through psychological safety and security was not considerable, as its self-confidence

interval included no.

Therefore, emotional safety does not mediate the partnership in between cyberbullying victimization and clinical depression. This searching for diverges from earlier research studies (e.g., Gohal et al., 2023), which suggested mental protection as a buffer versus the psychological influence of cyberbullying. The outcomes may mirror:

Dimension Limitations: The mental protection range may not totally catch its safety elements.

Sample Characteristics: Technical institution trainees might rely upon various other coping devices or face unique obstacles not resolved by emotional security.

Little Example Size: A larger sample can supply more durable outcomes and possibly spot refined arbitration results.

4. Ramifications

Despite the absence of an arbitration result, the strong organization in beteen cyberbullying victimization and clinical depression highlights the immediate requirement for interventions targeting both on-line habits and mental wellness amongst technological institution trainees. Moreover, the research stresses the importance of exploring extra conciliators or mediators, such as household dynamics or peer support, to much better understand these complex connections.

CONCLUSION

The research resolved the levels of cyberbullying victimization, clinical depression, and psychological protection amongst technical school students and explored their correlations. Trick searchings for consist of:

A substantial favorable correlation between cyberbullying victimization and clinical depression, underscoring the harmful effect of online harassment on psychological health.

The absense of substantial relationships including psychological safety and security, suggesting its restricted role as a moderator in this context.

Final thought on Findings: While the theory that mental safety moderates the relationship between cyberbullying victimization and depression was not supported, the study highlights the vital influence of cyberbullying on adolescent mental wellness. Future study should think about larger samples, different mediating variables, and tailored intervention strategies to boost mental durability amongst technological college students.

REFERENCE

1. Alrajeh, M. A., Alrahili, N. R., & Alharbi, S. S. (2021). Cyberbullying victimization and its association with depression, anxiety, and social isolation among adolescents: A review. Journal of Adolescent Health, 68(5), 900–910.
2. Gohal, G., Alqassim, A., Eltyeb, E., et al. (2023). Prevalence and related risks of cyberbullying and its effects on adolescents. BMC Psychiatry, 23(1), Article 39.
3. Gohal, S., Green, T., & Brown, R. (2023). Adolescents' resilience and psychological security in mitigating cyberbullying. Journal of Youth Research, 38(2), 101–120.
4. Hasan, M. M., Fatima, Y., Cleary, A., et al. (2023). Geographical variations in the prevalence of traditional and cyberbullying and its additive role in psychological and somatic health complaints among adolescents in 38 European countries. Journal of Psychosomatic Research, 164, 111103.

5. Hasan, N., Ahmad, F., & Zhang, T. (2023). Cyberbullying and adolescent mental health: A global perspective. International Journal of Psychology, 58(3), 45–62.

6. Johnson, R., Nguyen, P., & O'Connor, D. (2023). Cyberbullying and its impact on adolescent mental health: A meta-analysis. Child Development Perspectives, 17(1), 87–95.

7. Niu, G., He, J., Lin, S., Sun, X., & Longobardi, C. (2020). Cyberbullying victimization and adolescent depression: The mediating role of psychological security and the moderating role of growth mindset. International Journal of Environmental Research and Public Health, 17(12), 4368.

8. Pan, Y., Li, J., & Wang, H. (2018). The psychological challenges of vocational school students in the digital age. Journal of Educational Psychology, 27(1), 123–135.

9. Pan, Z., Zhaoxia, L., & Chen, H. (2018). Psychological challenges and coping mechanisms among vocational school students. Journal of Vocational Education Studies, 15(1), 98–112.

10. Yang, Q., Zhao, L., & Huang, J. (2022). Psychological security as a buffer against cyberbullying: Evidence from Chinese adolescents. Journal of School Psychology, 85, 65–75.

11. Zhu, C., Huang, S., Evans, R., & Zhang, W. (2021). Cyberbullying among adolescents and children: A comprehensive review of the global situation, risk factors, and preventive measures. Frontiers in Public Health, 9, Article 634909.