Hindawi
Perspectives in Psychiatric Care
Volume 2024, Article ID 6642262, 12 pages
https://doi.org/10.1155/2024/6642262

Research Article

The Relationship between Perceived Social Support and Bullying Behavior in Nursing Education among Nursing Students: The Mediating Role of Positive Psychological Capital

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Received 29 May 2023; Revised 6 July 2023; Accepted 22 February 2024; Published 8 March 2024

Academic Editor: Gianpiero Greco

Purpose. To examine the mediating role of positive psychological capital in the relationship between nursing students' perceived social support and bullying behavior in nursing education. *Design and Methods*. In May 2021, a sample of 1196 nursing students majoring in nursing at a medical college was conveniently selected as the study population. A set of questionnaires, including a General Information Questionnaire, Perceived Social Support Scale (PSSS), Positive Psychological Capital Questionnaire (PPQ), and Bullying Behaviors in Nursing Education Scale (BBNE), were utilized to examine and analyze the relationships among the variables. *Findings*. The scores of nursing students' PSSS, PPQ, and BBNE were 68.19 ± 11.90, 123.97 ± 18.74, and 13.31 ± 9.24, respectively. There was a negative correlation ($r = -0.421$, $P < 0.01$) between perceived social support and bullying behaviors in nursing education among nursing students. Positive psychological capital partially mediated the relationship between perceived social support and bullying behaviors in nursing education, accounting for 19.88% of the total effect. Further analysis revealed that self-efficacy, resilience, optimism, and hope in positive psychological capital each played a partial mediating role in the impact of nursing students' perceived social support on bullying behaviors in nursing education, with the ratio of indirect effect to total effect being 5.38%, 7.74%, 6.09%, and 5.34%, respectively. *Practice Implications*. The impact of perceived social support on bullying behaviors in nursing education is substantial among nursing students, and it can indirectly influence bullying behaviors through positive psychological capital. Nursing educators should pay attention to nursing students with lower levels of social support, and they can decrease the occurrence of bullying behaviors by enhancing social support and fostering higher levels of psychological capital.

1. Introduction

Bullying is characterized by the persistent and recurrent targeting of an individual with aggressive behaviors, including verbal insults, physical aggression, interpersonal harm, and social exclusion [1]. The issue of nurses experiencing bullying has received widespread international attention [2]. Similarly, nursing students also face this situation during their educational journey [3]. Research indicates that nursing students commonly experience bullying, both during their clinical internships and in the school learning process [4, 5]. The reported prevalence of bullying among nursing students varies across countries due to different definitions and assessment methods. In the UK, a survey conducted by Stevenson and colleagues on 313 nursing students revealed that 53% of them reported experiencing bullying during their clinical internships [6]. In the United States, Cooper's study found that 95.6% of fourth-year nursing students reported having experienced some form of bullying [1]. A cross-sectional study by Clark and colleagues on 674 Canadian nursing students showed that 88.7% of them had experienced at least one incident of

bullying [7]. Birks et al. discovered that 50.1% of Australian nursing students reported experiencing bullying in the past 12 months, which is higher than the percentage among British students (35.5%) [8, 9]. According to a recent mixed-method systematic review and meta-analysis, including 14,894 student nurses from 42 studies, the pooled prevalence rates ranged from 12.2% for racism to 58.2% for bullying [10]. In China, a study conducted by Hou Ming and colleagues, using convenience sampling, investigated 315 intern nurses and found that nursing bullying is a widespread issue among nursing students, with nursing majors being more vulnerable to bullying compared to students in other medical disciplines [11]. All of the abovementioned studies highlight the universal presence of bullying behaviors faced by nursing students worldwide. Nursing students across different countries and regions are subjected to varying levels of bullying. However, research and attention towards the issue of bullying in the field of nursing education, both domestically and internationally, are relatively scarce and still in their early stages of development.

However, the impact of bullying on nursing students is significant. Students who have experienced bullying have reported feelings of anxiety and fear [4]. Verbal abuse and bullying can also result in a decrease in self-confidence, a fear of learning, and ultimately, have an effect on the quality of nursing care, and lead to doubts about career choices [12, 13]. Hence, it is crucial to identify different factors associated with nursing student bullying in order to develop comprehensive intervention strategies for reducing bullying. This will serve as a reference for the creation of more effective interventions.

Previous research in this area has primarily focused on individual demographic factors when examining bullying experienced by nursing students; however, there is a need to consider additional factors. We propose examining the influence of nursing students' perceived social support and positive psychological capital on bullying in nursing education. To address these concerns, our study aims to answer the following research questions:

(1) How does nursing students' perceived social support influence bullying in nursing education?

(2) Does nursing students' positive psychological capital mediate the relationship between perceived social support and bullying in nursing education?

2. Literature Review and Hypothesis Formulation

2.1. The Impact of Perceived Social Support on Bullying Behavior. The concept of social support originated from psychiatric research in the 1970s, with the aim of investigating how individuals' social relationships impact their mental and physical well-being. Over the years, domestic and international research on social support has yielded a wealth of results. However, the definition of social support remains subjective and varies among scholars. In essence, social support can be categorized into two types: received social support and perceived social support. Perceived social support refers to an individual's subjective experience and satisfaction evaluation regarding the respect, understanding, and support they receive from others in society [14]. Previous studies have found that perceived social support can promote positive emotions and behaviors, such as subjective well-being [15]. It also acts as a protective factor against negative emotions and behaviors, including loneliness [16], depression [17–19], and bullying [20, 21]. Furthermore, research has shown that social support significantly helps reduce students' experience of bullying [22, 23]. Therefore, based on the main effect model and buffer model of perceived social support, we hypothesize that the perceived social support of nursing students may influence their experiences of bullying in nursing education. Moreover, it is crucial to understand the mediating mechanism through which perceived social support affects bullying in nursing education. As a result, this study aims to examine the mediating pathway through which perceived social support influences bullying in nursing education, addressing existing research gaps, and providing insights to improve the situation of bullying in nursing education.

2.2. The Relationship between Perceived Social Support, Positive Psychological Capital, and Bullying Behavior. Positive psychological capital refers to the positive states and abundant psychological resources that individuals exhibit throughout their growth process. It encompasses four dimensions: optimism, resilience, hope, and self-efficacy [24]. Positive psychological capital plays a crucial role in enhancing subjective well-being, alleviating negative emotions, coping with workplace bullying, and adapting to the environment [25–29]. The impact of psychological capital can be observed through direct effects, indirect effects, moderating effects, and mediating effects. Previous empirical research has indicated that perceived social support positively predicts psychological capital [30, 31]. According to the resource conservation theory, social support serves as a latent resource [32]. By perceiving social support, nursing students can transform external social resources into their own psychological resources, thereby enhancing their levels of psychological capital. Furthermore, research has shown that social support instills a sense of care and acceptance in individuals, reducing psychological stress and fostering a sense of hope for the future, ultimately enhancing psychological well-being [33]. A well-established social support system can also aid individuals in maintaining their health or recovering from harm, thereby increasing their levels of hope [34]. Based on these, we hypothesize that the perceived social support of nursing students can predict their levels of psychological capital.

Currently, there is not much research on the relationship between psychological capital and bullying behavior. The existing research shows that psychological capital is positively related to bullying behavior [35]. In addition, researchers have also studied the relationship between the four factors of psychological capital (self-efficacy, resilience, hope, and optimism) and bullying. A meta-analysis showed that school bullying among adolescents was negatively

related to self-efficacy [36]. Another study showed that psychological resilience is a protective factor for school bullying [37]. The above empirical studies all show that there is a close relationship between psychological capital and bullying behavior.

Based on the aforementioned findings, this study proposes a hypothesis stating that the positive psychological capital of nursing students acts as a mediator in the relationship between perceived social support and bullying in nursing education.

2.3. Research Hypothesis and Model. To summarize, this study puts forth the following hypotheses.

Hypothesis 1. There is a negative association between perceived social support and bullying behavior in nursing education among nursing students.

Hypothesis 2. Positive psychological capital serves as a mediator in the association between perceived social support and bullying behavior in nursing education among nursing students.

Based on the aforementioned hypotheses, a conceptual model depicting the relationship between perceived social support, positive psychological capital, and bullying behavior in nursing education among nursing students is illustrated in Figure 1.

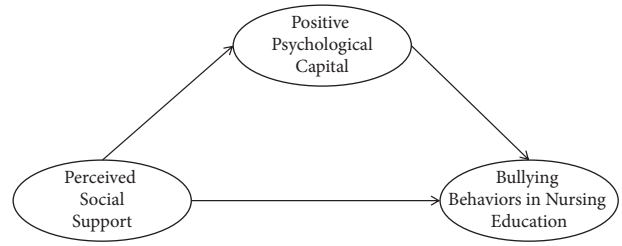

Figure 1: Model of mediating effects of Perceived Social Support, Positive Psychological Capital, and Bullying Behaviors in Nursing Education.

3. Objects and Methods

3.1. Study Subject. A convenience sampling method was utilized, and the entire group of nursing students from a higher medical school was selected for the study in May 2021. The inclusion criteria were as follows: (1) full-time enrolled nursing students who have been studying or engaged in clinical practice for a period of 8 months or longer, (2) individuals with normal cognitive abilities and no issues in communication, and (3) participants who provided informed consent and were willing to cooperate. Exclusion criteria encompassed nursing students who were suspended or withdrawn from school for various reasons.

3.2. Survey Tools

3.2.1. General Information Questionnaire. The questionnaire includes primarily the subjects' gender, grade level, place of birth, whether they are an only child, whether they hold any student leadership positions, family financial situation, academic performance, and interpersonal relationships.

3.2.2. Perceived Social Support Scale (PSSS). The Chinese version of the PSSS, initially developed by Blumenthal et al. [38] and later modified by Jiang [39], is chosen for this study due to its excellent reliability and validity in measuring self-perceived multidimensional social support. This scale consists of 12 items, encompassing three dimensions: friend support, family support, and other support. A Likert 7-level scoring method is used, with a total score range of 12 to 84 points. Higher total scores indicate a greater perception of overall social support. In our study, the scale exhibits Cronbach's α coefficient of 0.963, indicating high internal consistency.

3.2.3. Positive Psychological Capital Questionnaire (PPQ). The PPQ, developed by Zhang et al., is employed in this study. It comprises four dimensions: resilience, self-efficacy, hope, and optimism and contains 26 items [40]. The questionnaire employs a 7-point Likert scale, with a total score range of 26 to 182. Higher scores indicate a higher level of psychological capital. In our study, the scale demonstrates Cronbach's α coefficient of 0.950, indicating high internal consistency.

3.2.4. Bullying Behaviors in Nursing Education Scale (BBNE). The BBNE, initially developed by Cerit et al. [41], along with its Chinese version adapted by Wang et al. [42], is utilized in this study. It consists of 18 items classified into four dimensions: isolation in educational settings behavior, academic aggression behavior, personality aggression behavior, and direct negative behavior. The items in this scale follow a Likert 5-level scoring method, where scores range from "never–always" corresponding to "0–4," respectively. The total possible score ranges from 0 to 72. A score of ≥1 among nursing students indicates being subjected to bullying. The higher the score, the more severe the level of bullying experienced. This scale demonstrates excellent reliability and validity and is considered appropriate for assessing bullying behavior among nursing students in the nursing education setting [42]. In this particular study, the scale exhibits Cronbach's α coefficient of 0.937, indicative of high internal consistency.

3.3. Study Method. For this study, the Questionnaire Star platform was utilized to develop and administer the survey online. Two trained and qualified researchers, who underwent standardized training, acted as the primary investigators and conducted collective measurements on a per-class basis. The researchers provided an introduction to the study's purpose, significance, and precautions to the participants, ensuring them that their information would remain strictly confidential. With informed consent obtained, the participants used their mobile phones to scan the online

QR code and independently completed the relevant questionnaires based on their individual circumstances, following standardized guidance. A total of 1,206 questionnaires were distributed, and 1,196 valid questionnaires were collected, resulting in an effective response rate of 99.17%.

3.4. Methods of Statistics. The statistical software SPSS (version 24.0) was employed for quantitative analysis. Quantitative data were presented as ($\bar{x} \pm s$). The comparison between two groups was conducted using an independent samples *t*-test, while a one-way analysis of variance was utilized for comparing multiple groups. Enumeration data were presented as frequency (n) and percentage composition (%). The correlation between variables was examined through Pearson correlation and Spearman correlation analysis. To conduct mediation analysis, the Bootstrap method recommended by Preacher and Hayes was employed [43]. The PROCESS plug-in was used, with demographic variables serving as control variables. A sample size of Model 4 and 5,000, along with a 95% confidence interval, was selected. The significance level for testing mediating effects was set at $P < 0.05$.

3.5. Quality Control

(1) Procedural control: The investigators are researchers within our team. All the questionnaires utilized in the study have undergone rigorous validation to ensure their reliability and validity. Prior to the survey, participants are provided with a standardized set of instructions to guide them in completing the questionnaires. Once completed, the questionnaires are promptly collected and meticulously reviewed to ensure that all sections have been completely filled out. The data then undergo a meticulous process of double-checking, logical verification, and data processing to guarantee accuracy.

(2) Common method bias test: The Harman single-factor test was employed to examine potential common method bias. Exploratory factor analysis was conducted on all items pertaining to nursing education bullying, perceived social support, and psychological capital in this study. The findings revealed a total of 16 factors with eigenvalues exceeding 1, and the first factor accounted for 35.90% of the variance. This aligns with the international standard of less than 50% [44, 45]. These results suggest that the data in this study are not significantly affected by common method bias.

4. Results

4.1. General Information. Among the 1,196 nursing students surveyed, 178 (14.9%) were male and 1,018 (85.1%) were female. In terms of academic year, 329 (27.5%) were freshmen, 352 (29.2%) were sophomores, 224 (18.7%) were juniors, and 291 (24.3%) were seniors. Among the students, 910 (76.1%) were pursuing undergraduate degrees, while 286 (23.9%) were enrolled in junior colleges. Furthermore, 778 (65.7%) were internal students, while 418 (34.9%) were interns.

Among the surveyed students, 269 (22.5%) had served as student cadres, while 927 students (77.5%) had not. Regarding family background, 387 students (32.4%) reported being the only child in their families, while 809 (67.6%) were not. Moreover, 855 students (71.5%) hailed from rural areas, and 341 (28.5%) came from urban areas.

In terms of family economic status, 262 (21.9%) students belonged to poor families, 914 (76.4%) were considered average, and 20 (1.7%) came from well-off families.

Regarding academic performance, 33 (2.8%) students had poor grades, 193 (16.1%) had relatively poor grades, 658 (55.0%) had average grades, 248 (20.7%) had relatively good grades, and 64 (5.4%) had excellent grades.

Last, 39 (3.3%) students reported having poor interpersonal relationships, 856 (71.6%) described their relationships as average, and 301 (25.2%) reported having good interpersonal relationships.

4.2. Nursing Students' Scores on PSSS, PPQ, and BBNE. The PSSS scores of nursing students had a total score of 68.19 ± 11.90. This included scores for family support 22.32 ± 4.66, friend support 22.93 ± 4.17, and other support 22.94 ± 3.96. A total of 25 students (2.09%) were classified as low social supporters, 258 students (21.57%) were categorized as medium social supporters, and 913 students (76.34%) were considered high social supporters.

The PPQ score was 123.97 ± 18.74, encompassing measures of self-efficacy (34.76 ± 6.86), resilience (27.99 ± 5.49), hope (28.87 ± 5.01), and optimism (31.35 ± 5.78).

The BBNE score was 13.31 ± 9.24 and included subcategories such as educational environment isolation (2.60 ± 2.30), academic aggression behavior (4.05 ± 2.58), personality aggression behavior (4.51 ± 3.52), and direct negative behavior (2.15 ± 2.31). It was found that 1,119 students (accounting for 93.56%) had experienced bullying behaviors in their nursing education.

4.3. Comparison of Different Characteristics of Nursing Students' PSSS, PPQ, and BBNE. The score differences in nursing students' perceived social support, including gender, family location, economic situation, academic performance, and interpersonal relationships, were found to be statistically significant ($P < 0.05$). Similarly, the score differences in nursing students' positive psychological capital, including student cadres status, family location, economic situation, academic performance, and interpersonal relationships, were also found to be statistically significant ($P < 0.05$).

Furthermore, the score differences in bullying behaviors in nursing education, taking into account factors such as gender, grade level, home location, economic situation, academic performance, and interpersonal relationships, were determined to be statistically significant ($P < 0.05$).

In addition, family economic situation, interpersonal relationships, and academic record rate were found to be positively correlated with perceived social support and psychological capital ($P < 0.05$), while they were negatively correlated with bullying behaviors in nursing education ($P < 0.05$). This can be observed in Tables 1 and 2.

4.4. An Analysis of the Correlation among PSSS, PPQ, and BBNE. The results of the correlation analysis reveal a significant correlation among nursing students' PSSS (Perceived Social Support Scale), PPQ (Positive Psychological Capital), and BBNE (Bullying Behaviors in Nursing Education). Specifically, there is a positive correlation between PSSS and PPQ ($r = 0.616$, $P < 0.01$), indicating that higher levels of perceived social support are associated with higher levels of positive psychological capital. On the other hand, PSSS shows a negative correlation with BBNE ($r = -0.421$, $P < 0.01$), suggesting that higher levels of perceived social support are associated with lower levels of bullying behaviors in nursing education. In addition, there is also a negative correlation between PPQ and BBNE ($r = -0.343$, $P < 0.01$), indicating that higher levels of positive psychological capital are associated with lower levels of bullying behaviors in nursing education.

4.5. Analysis of the Mediating Role of PPQ between Nursing Students' PSSS and BBNE. Considering that the results of the correlation analysis meet the criteria for a mediating effect test, this study aims to examine the validity of the mediating effect by using perceived social support as the independent variable, bullying behaviors in nursing education as the dependent variable, and positive psychological capital as the mediating variable. Following the methodology proposed by Wen et al. for testing mediating effects [46], the findings are presented in Table 3.

In the first and second steps, perceived social support significantly predicts bullying behaviors in nursing education and positive psychological capital, respectively. In the third step, when including the effect of positive psychological capital on bullying behaviors in nursing education, the predictive impact of perceived social support on bullying behaviors in nursing education diminishes (standardized regression coefficient of −0.421 prior to introducing the mediating variable compared to −0.337 after), although bullying behaviors in nursing education can still be significantly predicted. All three tests yield significant results ($P < 0.001$), suggesting that positive psychological capital partially mediates the relationship between perceived social support and bullying behaviors in nursing education.

The significance of the mediating effect is examined using the bias-corrected percentile bootstrapping method, and the coefficient of the mediating effect ($0.616 \times (-0.136) = -0.083$) is used to calculate the 95% confidence interval. The results show that the 95% confidence interval for the mediating effect of perceived social support through positive psychological capital on bullying behaviors in nursing education is (−0.1239, −0.0434), indicating a substantial mediating effect. The ratio of the mediating effect to the total effect is calculated as 0.083/0.421 = 19.88%, as depicted in Figure 2.

To further investigate the factors that impact the mediating effects of positive psychological capital, we develop four mediating models, each using one of the four dimensions of positive psychological capital (hope, resilience, optimism, and self-efficacy) as a mediating variable. The independent variable is perceived social support, and the dependent variable is bullying behaviors in nursing education. To test the effects of resilience, hope, optimism, and self-efficacy on perceived social support and bullying behaviors in nursing education, we utilize Model 4 in the process procedure. The results are outlined below.

According to the data presented in Table 4, the dimensions of positive psychological capital in nursing students, namely, self-efficacy, resilience, hope, and optimism, partially mediate the connection between perceived social support and bullying behaviors in nursing education. These mediations demonstrate significant effect sizes of 5.38%, 7.74%, 6.09%, and 5.34%, respectively.

5. Discussion

5.1. Current Status and Factors Influencing Nursing Students' Perceived Social Support, Positive Psychological Capital, and Bullying Behaviors in Nursing Education

5.1.1. Current Status and Factors Influencing Nursing Students' Perceived Social Support. The findings of this study demonstrate that nursing students' perceived social support has a mean score of 68.19 ± 11.90, and 76.34% of participants reported high levels of social support, suggesting an overall higher level of perceived social support among nursing students. The possible reasons for this could be attributed to the strong connections that undergraduate nursing students establish with friends, teachers, parents, and others through various means. These connections enable them to receive multifaceted support and assistance from the community when facing challenges.

Furthermore, female nursing students demonstrated significantly higher scores in perceived social support than their male counterparts. This may be due to females' heightened emotional sensitivity and delicate nature, making them more attuned to perceiving care and support from others. In addition, nursing students from urban areas and those with better family economic conditions reported higher levels of perceived social support. This may be attributed to the availability of richer and more diverse social resources and networks in urban areas. Social groups, service organizations, and cultural activities in urban settings provide ample opportunities for accessing social support resources. Moreover, individuals from financially stable families can often afford better family, educational, and healthcare resources, thus ensuring their physical and mental well-being and enhancing their ability to comprehend social support [47].

Table 1: Comparison of PSSS, PPQ, and BBNE among nursing students with different demographic characteristics ($\bar{x} \pm s$).

Item	n	PSSS	PPQ	BBNE
Gender				
Male	178	64.62 ± 13.85	124.07 ± 20.93	17.01 ± 11.60
Female	1018	68.81 ± 11.42	123.95 ± 18.34	12.66 ± 8.61
t		−4.368	0.075	5.865
P		0.000	0.941	0.000
Grade				
One	329	69.13 ± 10.63	124.95 ± 17.03	12.58 ± 8.92
Two	352	67.39 ± 11.98	123.08 ± 18.79	14.71 ± 8.47
Three	224	68.11 ± 14.20	125.24 ± 21.00	11.88 ± 10.09
Four	291	68.16 ± 11.19	122.97 ± 18.64	13.54 ± 9.62
F		1.221	1.179	5.266
P		0.301	0.317	0.001
Educational level				
Undergraduate	910	68.28 ± 11.59	124.16 ± 18.32	13.56 ± 9.09
Specialist	286	67.92 ± 12.86	123.37 ± 20.03	12.50 ± 9.70
t		0.447	0.624	1.688
P		0.655	0.532	0.092
Intern or not				
No	778	68.21 ± 11.70	124.28 ± 18.36	13.48 ± 8.88
Yes	418	68.15 ± 12.27	123.40 ± 19.43	12.99 ± 9.90
t		0.085	0.776	0.876
P		0.932	0.438	0.381
Students cadre or not				
Yes	269	69.16 ± 11.92	128.35 ± 17.71	13.49 ± 9.06
No	927	67.91 ± 11.88	122.70 ± 18.84	13.25 ± 9.30
t		1.524	4.383	0.369
P		0.128	0.000	0.712
Only-child generation				
Yes	387	68.33 ± 12.23	123.58 ± 20.18	12.90 ± 9.74
No	809	68.12 ± 11.74	124.16 ± 18.02	13.50 ± 8.99
t		0.287	−0.500	−1.057
P		0.774	0.617	0.291
Living area				
Rural	855	67.43 ± 12.21	122.96 ± 18.93	13.77 ± 9.44
Urban	341	70.09 ± 10.86	126.50 ± 18.03	12.14 ± 8.63
t		−3.510	−2.953	2.758
P		0.000	0.003	0.006
Family economic status				
Poor	262	64.33 ± 13.35	120.27 ± 21.24	15.03 ± 10.18
General	914	69.20 ± 11.22	125.03 ± 17.78	12.93 ± 8.88
Good	20	72.75 ± 11.04	123.85 ± 21.26	8.10 ± 9.22
F		19.075	6.642	8.604
P		0.000	0.000	0.000
Academic record rate				
Worst	33	56.61 ± 16.33	111.64 ± 28.97	18.67 ± 16.06
Worse	193	65.40 ± 13.24	121.37 ± 17.94	15.11 ± 9.54
General	658	68.62 ± 11.06	124.11 ± 18.06	12.46 ± 8.43
Better	248	70.30 ± 10.94	126.14 ± 18.56	13.35 ± 8.77
Best	64	69.94 ± 12.39	128.33 ± 19.01	13.61 ± 11.73
F		13.521	6.323	6.097
P		0.000	0.000	0.000
Interpersonal relationship				
Poor	39	56.10 ± 17.40	106.92 ± 25.04	23.51 ± 14.68
General	856	67.45 ± 11.35	121.79 ± 17.59	13.54 ± 8.61
Good	301	71.87 ± 11.14	132.38 ± 17.74	11.31 ± 9.17
F		38.463	57.114	32.706
P		0.000	0.000	0.000

Table 2: Correlation analysis of demographic characteristics with PSSS, PPQ, and BBNE (r).

Item	PSSS	PPQ	BBNE
Family economic status	0.176**	0.098**	−0.109**
Interpersonal relationship	0.228**	0.293**	−0.186**
Academic record rate	0.174**	0.130**	−0.071*

Notes: $^{*}P < 0.05$; $^{**}P < 0.01$.

Table 3: The ordinal test of the mediating role of PPQ between PSSS and BBNE.

	Independent variable (X)	Dependent variable (Y)	β	SE	t	P
Step 1	PSSS	BBNE	−0.421	0.020	−16.022	0.000
Step 2	PSSS	PPQ	0.616	0.036	27.049	0.000
Step 3	PSSS	BBNE	−0.337	0.026	−10.175	0.000
	PPQ		−0.136	0.016	−4.096	0.000

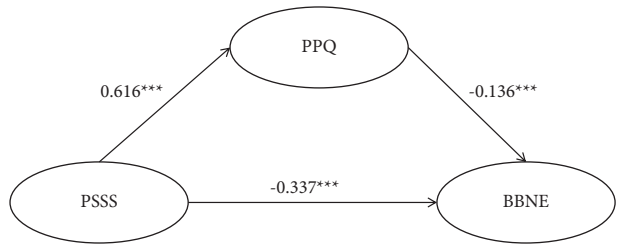

Figure 2: Model of mediating effects of PSSS, PPQ, and BBNE (Note: $^{***}P < 0.001$).

Table 4: The mediating effect test of each dimension of PPQ between PSSS and BBNE.

Model	Total effect	Direct effect	Indirect effect	95% CI		Ratio of indirect to total effect (%)
PSSS ⟶ Self-efficacy ⟶ BBNE	−0.327	−0.309	−0.018	−0.048	−0.012	5.38
PSSS ⟶ resilience ⟶ BBNE	−0.327	−0.302	−0.025	−0.038	−0.015	7.74
PSSS ⟶ hope ⟶ BBNE	−0.327	−0.281	−0.046	−0.073	−0.020	6.09
PSSS ⟶ optimism ⟶ BBNE	−0.327	−0.285	−0.042	−0.077	−0.009	5.34

Nursing students who perform well academically tend to have a higher level of perceived social support. This could be attributed to their relatively strong intellectual and cognitive abilities, as well as their excellent learning and independent thinking skills. As a result, they are more likely to gain support and recognition from society, thereby accessing a greater amount of social support.

In addition, nursing students with better interpersonal relationships tend to score higher in perceived social support. This can be attributed to their ability to cooperate effectively with others, enabling them to access more resources, information, and external assistance. This enhanced interpersonal skill set makes it easier for them to succeed in their academic and clinical pursuits, ultimately leading to increased social support.

5.1.2. Current Status and Factors Influencing Nursing Students' Positive Psychological Capital. The findings of this study reveal that nursing students have a positive psychological capital score of 123.97 ± 18.74, indicating that they possess a favorable state of psychological capital. The strong psychological capital status of nursing students could be attributed to the nature of the nursing profession. Throughout their studies, nursing students frequently encounter highly emotional individuals, such as patients and their families. Even during clinical internships and practice, they have exposure to such populations. Through these experiences, nursing students continually develop and accumulate positive emotional attitudes, psychological resilience, self-efficacy, and hope as part of their psychological capital.

Furthermore, student cadres exhibit higher scores in positive psychological capital than regular students. This could be attributed to the increased responsibilities and tasks that student cadres assume in their positions, which enhance their self-efficacy and subjective initiative. In addition, student cadres typically possess more diverse social networks within the school, enabling them to access more resources and support. This, in turn, enhances their psychological resilience and emotional attitudes. Moreover, student cadres often encounter numerous challenges and difficulties while

serving in their roles. By overcoming these hurdles, they accumulate valuable experiences and achievements, further strengthening their emotional attitudes and personal values. These factors contribute to an enhanced accumulation of psychological capital [48].

Nursing students from rural areas or with limited financial means tend to have lower levels of positive psychological capital. This could be attributed to the challenges they face in relatively unfavorable social and economic environments. Prior to entering university, these students may have had limited access to resources in education, sports and leisure, cultural entertainment, and social support. This lack of resources could potentially limit their self-efficacy and subjective initiative, thereby resulting in lower scores in psychological capital.

There exists a positive correlation between academic performance and positive psychological capital among nursing students. This is likely because positive psychological capital serves as a crucial psychological resource, and students with higher levels of positive psychological capital tend to invest more effort into their studies [49]. The knowledge and skills acquired through nursing studies can enhance their self-efficacy and subjective initiative. Furthermore, good academic performance is often associated with higher self-requirements and goal awareness, both of which are closely linked to the development of psychological capital. In the process of learning, nursing students may also gain positive psychological resources and social support, such as positive teacher-student relationships and friendships with peers, which can help elevate their levels of psychological capital.

It is worth noting that individuals with better interpersonal relationships demonstrate higher scores in positive psychological capital, aligning with the findings of previous research [50]. This may be attributed to the fact that individuals with high scores in positive psychological capital possess favorable psychological traits and are skilled in building and maintaining positive relationships with others. These qualities contribute to stronger interpersonal bonds.

5.1.3. Current Status and Factors Influencing Nursing Students' Bullying Behaviors in Nursing Education. The study findings reveal that the prevalence of bullying among nursing students is 93.56%, which aligns with the research conducted by Cooper et al. and Clark et al. and is consistent with the survey results of Hallett et al. [1, 7, 51]. This suggests that the issue of bullying in nursing education is pervasive over world. One possible reason for this could be the nature of the nursing profession, which is closely linked to people's lives and health. As a result, teachers often have high expectations and rigorous demands when instructing students, leading to more severe disciplinary actions for student mistakes and errors [52]. Throughout the world, the nursing profession is primarily female-dominated. In some cases, women may face gender biases and stereotypes in the learning or work environment. These biases and stereotypes may lead to female nursing students being seen as "weak" or "easy targets" for bullying.

Male nursing students exhibited significantly higher levels of nursing education bullying behavior compared to their female counterparts, aligning with the findings of Wang [52] and Wang [42]. This trend may be attributed to the unique nature of the nursing profession and prevailing social stereotypes. Male nursing students tend to possess a lower level of professional thinking and occupational identity, leading to diminished motivation to learn and a lack of initiative, both in academic institutions and clinical settings. Consequently, they are more prone to experiencing bullying, as they often face reduced participation and a marginalized status [53]. In addition, nursing students originating from rural areas encounter a considerably higher incidence of bullying than their urban counterparts. This discrepancy can be attributed to the relatively less developed economic and social conditions in rural regions, which can result in slower adjustment to university life and increased vulnerability to bullying behavior. Conversely, nursing students from families with better economic circumstances, harmonious interpersonal relationships, and stronger academic performance experience less bullying. These findings suggest the importance for nursing education professionals to prioritize the well-being of students hailing from economically challenged backgrounds, with strained interpersonal relationships, and poorer academic records in order to minimize instances of nursing education bullying behavior.

5.2. The Relationship among Perceived Social Support, Bullying Behaviors in Nursing Education, and Positive Psychological Capital of Nursing Students

5.2.1. The Correlation of Perceived Social Support, Bullying Behaviors in Nursing Education, and Positive Psychological Capital of Nursing Students. This study reveals a strong correlation between perceived social support, bullying behaviors in nursing education, and positive psychological capital.

First, there is a significant positive correlation between nursing students' perceived social support and their levels of positive psychological capital. This finding highlights that higher levels of perceived social support are associated with greater positive psychological capital. Perceived social support refers to an individual's subjective evaluation and expectation of receiving support from their social network. Nursing students who perceive higher levels of social support from their families, friends, and schools are more likely to feel supported and encouraged in navigating the complexities of school and hospital environments. This support, provided in the form of emotional, cognitive, and practical assistance, contributes to the development of an optimistic psychological state and positive expectations for the future. Consequently, these students are more motivated to utilize their self-efficacy and take initiative, ultimately accumulating greater psychological resources. Hence, enhancing nursing students' perceived social support can significantly boost their psychological capital.

Second, perceived social support among nursing students exhibits an inverse relationship with bullying in nursing education, meaning that the more nursing students perceive social support, the less likely they are to experience bullying. Previous studies have demonstrated the significant role of social support in reducing the incidence of student bullying [22, 23]. Nursing students can tap into their social support network to acquire coping resources when faced with behavioral and verbal bullying. In the face of injustice, friends, classmates, family, and teachers offer support and encouragement, alleviating negative emotions and stress responses. Furthermore, social support provides information and knowledge resources, equipping nursing students with a better understanding of and ability to deal with bullying behaviors. This, in turn, boosts their confidence and courage to confront and prevent bullying. In addition, fostering a sense of camaraderie and mutual assistance among classmates through social support can prevent internal bullying dynamics. Therefore, by enhancing nursing students' awareness of and access to social support, bullying behavior can be mitigated or diminished to some extent.

Third, there is a significant and negative correlation between the positive psychological capital of nursing students and the occurrence of bullying in nursing education. This means that nursing students with higher levels of positive psychological capital are less likely to experience bullying. This can be explained by several factors: First, nursing students with stronger positive psychological capital are able to utilize positive psychological factors to alleviate negative emotions in their academic, personal, and internship activities. They show increased resilience in facing pressure and challenges, adapting more effectively, and experiencing personal growth, resulting in fewer incidents of bullying. Second, self-efficacy, which is a component of positive psychological capital, directly affects the thoughts, emotions, and behaviors of individuals. Nursing students with high levels of self-efficacy are more confident and courageous in confronting and addressing bullying behaviors. They are better equipped to protect their rights and dignity. Moreover, nursing students with elevated levels of positive psychological capital possess greater psychological resilience and better coping mechanisms to navigate setbacks and self-regulate. They employ strategies such as positive thinking, action planning, and emotional regulation to minimize the impact of negative emotions. Consequently, they approach bullying incidents in a more rational manner, reducing their vulnerability to its effects.

5.2.2. Positive Psychological Capital of Nursing Students Plays a Partial Mediating Role between Perceived Social Support and Bullying Behaviors in Nursing Education. The results of the mediation effect test indicate that perceived social support directly predicts bullying behaviors in nursing education in a negative manner ($\beta = -0.421$, $P < 0.001$), and positive psychological capital partly mediates the relationship between perceived social support and bullying behaviors in nursing education ($\beta = -0.083$, $P < 0.001$). This suggests that perceived social support not only directly influences bullying behaviors in nursing education but also indirectly affects them through the partial mediation of positive psychological capital, with a mediation effect of 19.88%. The reasons for this are as follows.

First, according to the theory of the buffering effect of perceived social support, individuals can receive psychological resources and assistance from various sources such as family, society, and friends, which can mitigate the negative consequences that may arise from negative stimuli [54]. In the context of bullying in nursing education, perceived social support acts as a protective factor. When individuals perceive higher levels of social support, the extent of bullying they experience decreases.

Second, based on previous theoretical foundations, the mediating model proposed in this study provides a deeper understanding of the role of perceived social support in bullying within nursing education. The results reveal that positive psychological capital partially mediates the connection between perceived social support and bullying in nursing education, indicating that a portion of the influence of perceived social support on bullying is exerted through psychological capital. This mediation effect significantly explains the impact of perceived social support on bullying in nursing education. According to resource conservation theory, social support is a potential resource, and greater perceived social support results in increased positive feedback from the external environment. Through the perception of social support, external social resources are transformed into internal psychological resources, thereby enhancing one's level of psychological capital. This enhancement of psychological capital plays a crucial role in motivating nursing students to confront campus bullies and proactively seek social support, while simultaneously reducing their psychological anxiety when facing bullying incidents. In nursing education, emphasis should not only be on imparting professional knowledge and skills but also on cultivating and developing the psychological capital of the students. Strengthening positive education, enhancing psychological capital, and fostering a proper attitude towards bullying are all essential in improving nursing students' ability to cope with bullying in both their academic and clinical experiences.

5.3. Limitations and Prospects. While this study has a relatively large sample size, it is important to note the use of convenience sampling method and the limitation of having research subjects solely from one medical college, which suggests certain constraints in terms of representativeness. Furthermore, the presence of partial mediating effects in the results indicates that positive psychological capital is not the sole factor mediating the influence of perceived social support on nursing education bullying; there are other factors at play. Therefore, in order to enhance the generalizability of the conclusions and provide guidance for the development of targeted measures and strategies to reduce nursing students' experiences of bullying, it is essential to conduct multicenter large-sample surveys in the future,

incorporating other influencing factors, to further explore the relationship between nursing students' perceived social support, positive psychological capital, and nursing education bullying.

6. Conclusions and Implications for Nursing Practice

The perceived social support among nursing students is negatively correlated with nursing education bullying, as it directly affects the occurrence of bullying and also indirectly impacts it through positive psychological capital. Recognizing the potential for modification in both perceived social support and positive psychological capital, it is essential to prioritize students with lower social support and weaker positive psychological capital in nursing education. By effectively utilizing the capability for change in these two aspects, social support for nursing students can be enhanced, their psychological capital can be strengthened, and instances of nursing education bullying can be reduced, thus promoting their overall mental and physical well-being.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

All authors declare that they have no conflicts of interest regarding the present study.

Acknowledgments

The authors acknowledge the funding from the 2021 Scientific Research Planning Project of Sichuan Psychological Association (No: SCSXLXH2021061).

References

[1] B. Cooper and J. Curzio, "Peer bullying in a pre-registration student nursing population," *Nurse Education Today*, vol. 32, no. 8, pp. 939–944, 2012.

[2] L. Lewis-Pierre, D. Anglade, D. Saber, K. A. Gattamorta, and D. Piehl, "Evaluating horizontal violence and bullying in the nursing workforce of an oncology academic medical center," *Journal of Nursing Management*, vol. 27, no. 5, pp. 1005–1010, 2019.

[3] N. M. Bowllan, "Nursing students' experience of bullying: prevalence, impact, and interventions," *Nurse Educator*, vol. 40, no. 4, pp. 194–198, 2015.

[4] H. Courtney-Pratt, J. Pich, T. Levett-Jones, and A. Moxey, "I was yelled at, intimidated and treated unfairly: nursing students' experiences of being bullied in clinical and academic settings," *Journal of Clinical Nursing*, vol. 27, no. 5-6, pp. e903–e912, 2018.

[5] L. Rawlins, "Faculty and student incivility in undergraduate nursing education: an integrative review," *Journal of Nursing Education*, vol. 56, no. 12, pp. 709–716, 2017.

[6] P. A. Sauer and T. P. McCoy, "Nurse bullying: impact on nurses' health," *Western Journal of Nursing Research*, vol. 39, no. 12, pp. 1533–1546, 2017.

[7] C. M. Clarke, D. J. Kane, D. L. Rajacich, and K. D. Lafreniere, "Bullying in undergraduate clinical nursing education," *Journal of Nursing Education*, vol. 51, no. 5, pp. 269–276, 2012.

[8] M. Birks, T. Bagley, T. Park, C. Burkot, and J. Mills, "The impact of clinical placement model on learning in nursing: a descriptive exploratory study," *Australian Journal of Advanced Nursing*, vol. 34, no. 3, pp. 16–23, 2017.

[9] M. Birks, R. P. Cant, L. M. Budden, M. Russell-Westhead, Y. Sinem Üzar Özçetin, and S. Tee, "Uncovering degrees of workplace bullying: a comparison of baccalaureate nursing students' experiences during clinical placement in australia and the UK," *Nurse Education in Practice*, vol. 25, pp. 14–21, 2017.

[10] N. Hallett, A. Gayton, R. Dickenson, M. Franckel, and G. L. Dickens, "Student nurses' experiences of workplace violence: a mixed methods systematic review and meta-analysis," *Nurse Education Today*, vol. 128, Article ID 105845, 2023.

[11] M. Hou, Y. X. Liu, L. Yu, and P. Li, "Workplace bullying and its influencing factors among nursing interns," *Journal of Nursing Science*, vol. 35, no. 2, pp. 81–84, 2020.

[12] E. M. Abdelaziz and H. M. Abu-Snieneh, "The impact of bullying on the mental health and academic achievement of nursing students," *Perspectives in Psychiatric Care*, vol. 58, no. 2, pp. 623–634, 2022.

[13] S. A. Amoo, A. Menlah, I. Garti, and E. O. Appiah, "Bullying in the clinical setting: lived experiences of nursing students in the Central Region of Ghana," *PLoS One*, vol. 16, no. 9, 2021.

[14] M. Barrera, "Distinctions between social support concepts, measures, and models," *American Journal of Community Psychology*, vol. 14, no. 4, pp. 413–445, 1986.

[15] Z. Ilyas, S. Shahed, and S. Hussain, "An impact of perceived social support on old age well-being mediated by spirituality, self-esteem and ego integrity," *Journal of Religion and Health*, vol. 59, no. 6, pp. 2715–2732, 2020.

[16] Y. Ren and B. Ji, "Correlation between perceived social support and loneliness among Chinese adolescents: mediating effects of psychological capital," *Psychiatria Danubina*, vol. 31, no. 4, pp. 421–428, 2019.

[17] M. H. Chan and A. T. C. Lee, "Perceived social support and depression among occupational therapists in Hong Kong during COVID-19 pandemic," *East Asian Archives of Psychiatry*, vol. 32, no. 1, pp. 17–21, 2022.

[18] H. Tambağ, Z. Turan, S. Tolun, and R. Can, "Perceived social support and depression levels of women in the postpartum period in Hatay, Turkey," *Nigerian Journal of Clinical Practice*, vol. 21, no. 11, pp. 1525–1530, 2018.

[19] X. Zhang, X. Liu, Y. Mi, W. Wang, and H. Xu, "Resilience and depressive symptoms mediated pathways from social support to suicidal ideation among undergraduates during the COVID-19 campus lockdown in China," *Psychology Research and Behavior Management*, vol. 15, pp. 2291–2301, 2022.

[20] J. L. Yourell and J. L. Doty, "Associations between weight-based bullying, developmental internal assets, and perceived social support among youth," *Journal of School Health*, vol. 92, no. 1, pp. 42–51, 2022.

[21] L. Fang, C. L. Fang, and S. H. Fang, "Student nurses' bullying, social support and their health status during clinical practicum programmes," *International Journal of Nursing Practice*, vol. 26, no. 6, Article ID e12869, 2020.

[22] H. Y. Ho, Y. L. Chen, and C. F. Yen, "Moderating effects of friendship and family support on the association between bullying victimization and perpetration in adolescents,"

Journal of Interpersonal Violence, vol. 37, no. 7-8, pp. NP4640–NP4659, 2022.

[23] K. Šmigelskas, T. Vaičiūnas, J. Lukoševičiūtė et al., "Sufficient social support as a possible preventive factor against fighting and bullying in school children," *International Journal of Environmental Research and Public Health*, vol. 15, no. 5, p. 5870, 2018.

[24] F. Luthans, B. J. Avolio, J. B. Avey, and S. M. Norman, "Positive psychological capital: measurement and relationship with performance and satisfaction," *Personnel Psychology*, vol. 60, no. 3, pp. 541–572, 2007.

[25] W. Hu, Y. Cheng, and R. Du, "Effects of overt and relational bullying on adolescents' subjective well-being: the mediating mechanisms of social capital and psychological capital," *International Journal of Environmental Research and Public Health*, vol. 19, no. 19, Article ID 11956, 2022.

[26] S. R. Bae, H. J. Hong, J. J. Chang, and S. H. Shin, "The association between Korean clinical nurses' workplace bullying, positive psychological capital, and social support on burnout," *International Journal of Environmental Research and Public Health*, vol. 18, no. 21, Article ID 11583, 2021.

[27] X. Y. Bi and J. Jin, "Psychological capital, college adaptation, and internet addiction: an analysis based on moderated mediation model," *Frontiers in Psychiatry*, vol. 12, Article ID 712964, 2021.

[28] X. Liu, L. Peng, Z. Wang, P. Zeng, Y. Mi, and H. Xu, "Effects of interpersonal sensitivity on depressive symptoms in postgraduate students during the COVID-19 pandemic: psychological capital and sleep quality as mediators," *Frontiers in Psychiatry*, vol. 14, Article ID 1100355, 2023.

[29] H. Xu, L. Peng, Z. Wang, P. Zeng, and X. Liu, "Interpersonal sensitivity on college freshmen's depression: a moderated moderation model of psychological capital and family support," *Frontiers in Psychiatry*, vol. 13, Article ID 921045, 2022.

[30] A. Zhao, "The impact of career expectation on employment anxiety of art students in higher vocational colleges during the COVID-19: a chain mediating role of social support and psychological capital," *Frontiers in Psychology*, vol. 14, Article ID 1141472, 2023.

[31] Y. Qu, Z. Liu, Y. Wang, L. Chang, and H. Fan, "Relationships among square dance, group cohesion, perceived social support, and psychological capital in 2721 middle-aged and older adults in China," *Health Care*, vol. 11, no. 14, p. 2025, 2023.

[32] J. R. Halbesleben, J. P. Neveu, S. C. Paustian-Underdahl, and M. Westman, "Getting to the "COR" understanding the role of resources in conservation of resources theory," *Journal of Management*, vol. 40, no. 5, pp. 1334–1364, 2014.

[33] J. Dreyer and I. Schwartz-Attias, "Nursing care for adolescents and young adults with cancer: literature review," *Acta Haematologica*, vol. 132, no. 3-4, pp. 363–374, 2014.

[34] S. Y. Rueger, C. K. Malecki, Y. Pyun, C. Aycock, and S. Coyle, "A meta-analytic review of the association between perceived social support and depression in childhood and adolescence," *Psychological Bulletin*, vol. 142, no. 10, pp. 1017–1067, 2016.

[35] R. S. Eweida, N. I. Hamad, R. A. E. H. Abdo, and Z. I. Rashwan, "Cyberbullying among adolescents in Egypt: a call for correlates with sense of emotional security and psychological capital profile," *Journal of Pediatric Nursing*, vol. 61, pp. e99–e105, 2021.

[36] Y. Liu, X. Yu, F. An, and Y. Wang, "School bullying and self-efficacy in adolescence: a meta-analysis," *Journal of Adolescence*, vol. 95, no. 8, pp. 1541–1552, 2023.

[37] L. Fei, M. Liao, L. Ke et al., "School bullying among chinese third to fifth grade primary school students in a cross-sectional study: the protective effect of psychological resilience," *PLoS One*, vol. 17, no. 12, 2022.

[38] J. A. Blumenthal, M. M. Burg, J. Barefoot, R. B. Williams, T. Haney, and G. Zimet, "Social support, type a behavior, and coronary artery disease," *Psychosomatic Medicine*, vol. 49, no. 4, pp. 331–340, 1987.

[39] Q. Jiang, "Perceived social support scale," *Chinese Journal of Behavioral Medicine and Brain Science*, vol. 10, no. 10, pp. 41–43, 2001.

[40] K. Zhang, S. Zhang, and Y. Dong, "Positive psychological capital: measurement and relationship with mental health," *Studies of Psychology and Behavior*, vol. 8, no. 1, pp. 58–64, 2010.

[41] K. Cerit, S. Türkmen Keskin, and D. Ekici, "Development of instrument of bullying behaviors in nursing education based on structured equation modeling," *Asian Nursing Research*, vol. 12, no. 4, pp. 245–250, 2018.

[42] F. Wang, M. Wang, B. Liu et al., "Relibility and validity of the chinese version of the bullying behaviors in nursing education scale," *Journal of Nursing Science*, vol. 36, no. 2, pp. 58–61, 2021.

[43] K. J. Preacher and A. F. Hayes, "Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models," *Behavior Research Methods*, vol. 40, no. 3, pp. 879–891, 2008.

[44] J. F. Hair, R. E. Anderson, R. L. Tatham, and W. C. Black, *Multivariate Data Analysis*, Prentice Hall, Hoboken, NY, USA, 5th edition, 1998.

[45] P. M. Podsakoff and D. W. Organ, "Self-reports in organizational research: problems and prospects," *Journal of Management*, vol. 12, no. 4, pp. 531–544, 1986.

[46] Z. Wen, L. Zhang, J. Hou, and H. Liu, "Testing and application of the mediating effects," *Acta Psychology Sinica*, vol. 36, no. 5, pp. 614–620, 2004.

[47] F. Shokri, "Perceived social support and academic stress: the roles of gender and cultural differences," *Journal of Iranian Psychologists*, vol. 34, no. 9, pp. 143–156, 2013.

[48] F. Luthans, "Positive organizational behavior: developing and managing psychological strengths," *Academy of Management Perspectives*, vol. 16, no. 1, pp. 57–72, 2002.

[49] J. Xie, B. Zhang, Z. Yao, B. Peng, H. Chen, and J. Gao, "The relationship between social mobility belief and learning engagement in adolescents: the role of achievement goal orientation and psychological capital," *Frontiers in Psychology*, vol. 13, Article ID 792108, 2022.

[50] H. Xu and L. Yin, "Investigation on the status quo of mental capital of college students and strategies for improvement," *Journal of Jishou University (Natural Sciences Edition)*, vol. 39, no. S1, pp. 138–143, 2018.

[51] N. Hallett, C. Wagstaff, and T. Barlow, "Nursing students' experiences of violence and aggression: a mixed-methods study," *Nurse Education Today*, vol. 105, Article ID 105024, 2021.

[52] Y. Wang, K. Jia, Y. Liang, C. Zhang, and H. Luo, "The status and influencing factors of bullying behaviors among nursing

students," *Journal of Nurses Training*, vol. 35, no. 4, pp. 300–304, 2020.

[53] A. Younas, A. Sundus, H. Zeb, and J. Sommer, "A mixed methods review of male nursing students' challenges during nursing education and strategies to tackle these challenges," *Journal of Professional Nursing*, vol. 35, no. 4, pp. 260–276, 2019.

[54] H. Zhang and H. Liu, "Relative deprivation and suicide intent: A multiple mediating model for perceived social support and core self-evaluations," *Heilongjiang Researches on Higher Education*, vol. 37, no. 4, pp. 94–98, 2019.