

# Effects of Peer-victimization on High School Students' Mental Health: Examining the Moderating Role of Teacher-student Relationship

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**Abstract:** Interpersonal relationship issues are one of the main factors affecting adolescent mental health, with peer-victimization attracting significant attention due to its widespread negative impact. This research investigates the impact of peer-victimization on psychological symptoms among high school students and assesses the moderating influence of teacher-student relationships. 337 high school students completed a questionnaire consisting of the Peer-Victimization Scale, the Teacher-Student Relationship Questionnaire, and the Chinese Adolescent Mental Health Scale. The results revealed that peer-victimization is significantly positively correlated with psychological symptoms in high school students. Furthermore, teacher-student relationships were found to weaken peer-victimization's negative effect on psychological symptoms. When high school students under peer-victimization, a good teacher-student relationship can provide protection.

**Keywords:** Peer-victimization; High School Students; Psychological Symptoms; Teacher-student Relationship

## 1. Introduction

Peer-victimization is a widespread and troubling phenomenon among adolescents, involving experiences of physical, verbal, and relational harm inflicted by peers [1]. It is a quintessential example of a negative inter-group relationship that can significantly impede the physical, emotional, and social development of young individuals. The negative consequences of peer-victimization are extensive, affecting children and adolescents in various ways. Internally, it can lead to issues such as anxiety, depression,

diminished self-esteem, and pervasive feelings of loneliness [2]. Externally, peer-victimization is associated with problems like internet addiction and social withdrawal [3]. In some severe cases, it may even provoke extreme outcomes such as suicidal intention, non-suicidal self-injury, and suicide. Consequently, addressing and mitigating the impact of peer-victimization is essential for promoting the healthy development and well-being of adolescents. Suicidal behavior [4]. Longitudinal studies have revealed that the adverse effects of peer-victimization on adolescents' well-being are both persistent and enduring [5]. Therefore, it is essential to address and reduce the impact of peer-victimization to support the healthy development of adolescents.

Adolescence is a crucial transitional period in development, characterized by profound psychological changes that significantly impact a young person's growth. Issues related to mental health during this stage can result in varying degrees of immediate or long-term consequences. Society, schools, and families all play a vital role in enhancing the mental health of adolescents. According to ecosystem theory, schools are primary settings for adolescent activities and serve as important microsystems that influence psychological and behavioral development [6]. A positive school atmosphere and supportive interpersonal relationships contribute to adolescents' psychological and behavioral growth, fostering better social adaptation and resilience. Besides, an unhealthy school environment can have negative effects on adolescents' well-being, leading to adverse impacts on both their physical and mental health [7].

Based on this, the study proposes Hypothesis 1 (H1): Peer-victimization is significantly positively correlated with psychological symptoms in high school students.

Although peer-victimization is widely considered as a significant risk factor for mental health, the extent of its negative impact can vary widely among individuals [8]. For adolescents, teachers are key figures who influence their development beyond their peers. As such, the teacher-student relationship becomes a crucial factor in shaping their overall well-being. It is important to thoroughly examine how both peer relationships and teacher-student relationships contribute to adolescents' internalizing and externalizing problems. Previous research has consistently shown that a good teacher-student relationship often protect adolescents from severe consequences caused by peer-victimization, helping to shield students from various negative influences [9]. This supportive relationship can enhance the resilience of adolescents, particularly during challenging times, and lead to more favorable mental health outcomes. By providing emotional support and guidance, teachers can be pivotal in buffering the negative effects of peer-victimization and facilitating a more positive developmental trajectory for students [10].

Based on this, the study proposes Hypothesis 2 (H2): The teacher-student relationship weakens the positive correlation between peer-victimization and psychological symptoms.

In conclusion, this research will investigate the impact of peer-victimization on psychological symptoms in high school students, particularly focusing on the moderating role of teacher-student relationships. The study seeks to explore the association between peer-victimization and psychological issues such as anxiety and depression, and to assess whether supportive teacher-student relationships can help mitigate these adverse effects. By analyzing how positive interactions between teachers and students influence the impact of peer-victimization, the study seeks to provide insights into potential interventions that can enhance adolescent mental health and well-being.

## **2. Research Method**

### **2.1 Participants**

The study's sample comprised second-year high school students from a school in Shaanxi

Province, China. A total of 337 valid questionnaires were obtained, resulting in an effective response rate of 92.3%. The participants included 175 males and 139 females. Of these, 181 were only children, while 133 had siblings; 110 came from single-parent families, and 204 were from two-parent households; 162 students were from urban areas, and 152 were from rural areas.

### **2.2 Measurements**

Peer-victimization was evaluated using the offline Peer Victimization Scale from the Multidimensional Peer Victimization Scale (MOOVP)<sup>[11]</sup>. This scale includes 10 items, which are divided into two dimensions: direct victimization, indirect victimization. Participants were supposed to report the frequency of their experiences with peer-victimization on a 6-point Likert scale, where "Never" = 1 and "Daily" = 6. Higher scores reflect a greater severity of peer-victimization. The Cronbach's  $\alpha$  was 0.781.

The Teacher-Student Relationship was evaluated using the Teacher-Student Relationship Scale (STRS) developed by Chu<sup>[12]</sup>. This scale comprises 18 items that assess three dimensions: relationship status, accessibility, and status difference. Participants rated how well the items reflected their relationship with their teacher on a 5-point Likert scale, where "Strongly Disagree" = 1 and "Strongly Agree" = 5. Higher scores indicate a more positive teacher-student relationship. The Cronbach's  $\alpha$  in the current study was 0.791.

Psychological symptoms were assessed using the Mental Health Inventory of Middle-School Students (MMHI-60), developed by Wang et al.<sup>[13]</sup>. This diagnostic scale consists of 60 items and evaluates 10 types of symptoms. Participants rated the extent to which the items described their symptoms on a 5-point Likert scale, with "Not at All" = 1 and "Severe" = 5. Higher scores reflect more severe psychological symptoms. The Cronbach's  $\alpha$  was 0.933.

## **3. Research Results**

### **3.1 Common Method Bias Test**

To examine potential common method bias,

Harman's single-factor test was employed through an exploratory factor analysis (EFA) of the collected data. The analysis revealed 31 factors with eigenvalues exceeding 1, collectively accounting for 65.93% of the total variance. The factor with the highest eigenvalue explained 17.72% of the variance, which is notably below the conventional threshold of 40% suggested by Tang and Wen and represents less than half of the total explained variance<sup>[14]</sup>. Based on these findings, it can be concluded that there is no significant common method bias present in this study.

### 3.2 Descriptive Analysis

Table 1 displays the mean and standard

**Table 1. Descriptive Analysis Results (N=314)**

| Variables                    | Min | Max | Mean | SD    |
|------------------------------|-----|-----|------|-------|
| Peer Victimization           | 1   | 6   | 3.15 | 0.743 |
| Relationship Status          | 1   | 5   | 3.24 | 0.786 |
| Accessible                   | 1   | 5   | 3.20 | 0.773 |
| Status Difference            | 1   | 5   | 3.28 | 0.843 |
| Teacher-Student Relationship | 1   | 5   | 3.24 | 0.671 |
| Psychological Symptoms       | 1   | 4   | 2.70 | 0.648 |

### 3.3 Correlation Analysis

Pearson product-moment correlation analysis was conducted to explore the associations between peer-victimization, teacher-student relationships, and psychological symptoms among high school students. The findings are presented in Table 2.

Peer-victimization shows a strong positive correlation with psychological symptoms ( $r = 0.664$ ) and a significant negative correlation with teacher-student relationships ( $r = -0.475$ ).

deviation for peer-victimization, teacher-student relationships, and its dimensions, as well as psychological symptoms. The results indicate that peer-victimization is at a slightly above-average level, with indirect victimization scoring higher on average than direct victimization. The teacher-student relationships also fall at a slightly above-average level, with the highest score observed in the dimension of accessibility, followed by relationship status, and finally, status difference. In contrast, psychological symptoms and their dimensions are generally at a low level.

Additionally, teacher-student relationships are significantly negatively correlated with psychological symptoms ( $r = -0.680$ ). All three dimensions of teacher-student relationships—relationship status, accessibility, and status difference—are also significantly negatively correlated with psychological symptoms ( $r = -0.573$ ,  $r = -0.501$ , and  $r = -0.632$ , respectively). These findings partially support Hypothesis 1 of the study.

**Table 2. Correlation Analysis Results (N=314)**

| Variables                      | 1        | 2        | 3        | 4        | 5        | 6 |
|--------------------------------|----------|----------|----------|----------|----------|---|
| 1 Peer Victimization           | 1        |          |          |          |          |   |
| 2 Relationship Status          | -0.420** | 1        |          |          |          |   |
| 3 Accessibility                | -0.294** | 0.523**  | 1        |          |          |   |
| 4 Status Difference            | -0.474** | 0.601**  | 0.539**  | 1        |          |   |
| 5 Teacher-Student Relationship | -0.475** | 0.842**  | 0.813**  | 0.859**  | 1        |   |
| 6 Psychological Symptoms       | 0.664**  | -0.573** | -0.501** | -0.632** | -0.680** | 1 |

Note: \*\* $p < 0.01$ .

### 3.4 Regression Analysis

The moderation model was assessed using the PROCESS plugin in SPSS, with the single-parent family status controlled. The analysis revealed that the overall teacher-student relationship significantly moderated the effect. Additionally, specific aspects of the teacher-student relationship also

played moderating roles. The status of the teacher-student relationship, the accessibility of the teacher-student relationship, and the status difference between teacher and student all significantly moderated the relationship. The findings are presented in Table 3.

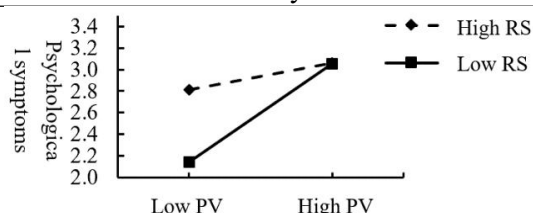
A simple slope analysis was conducted to further clarify the nature of the interaction effects. The results indicate (see Figures 1-3)

that teacher-student relationships significantly buffer the relationship between peer-victimization and psychological symptoms. At low level of peer-victimization, high-quality teacher-student relationships are associated with better psychological outcomes

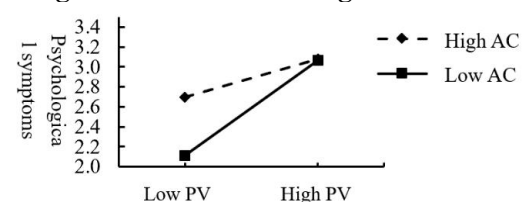
in high school students compared to those with poor teacher-student relationships. However, when peer-victimization is high, there is no significant difference in psychological symptoms between students with high and low-quality teacher-student relationships.

**Table 3. Moderation Effects Analysis Results**

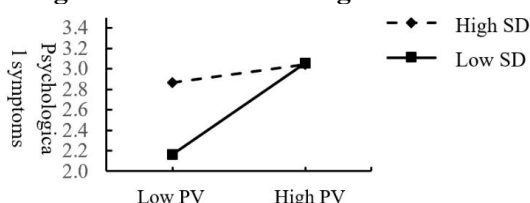
| Variables  | Model 1 |       | Model 2 |       | Model 3 |       | Model 4 |       |
|--|---------|-------|---------|-------|---------|-------|---------|-------|
|  | $\beta$ | $t$   | $\beta$ | $t$   | $\beta$ | $t$   | $\beta$ | $t$   |
| Constant   | 3.00    | 38.45 | 3.048   | 37.24 | 3.00    | 36.24 | 2.98    | 37.51 |
| PV   | 0.04    | 11.16 | 0.039   | 11.48 | 0.05    | 13.76 | 0.04    | 10.66 |
| TSR  | -0.02   | -5.95 |         |       |         |       |         |       |
| PV*TSR   | 0.002   | 5.50  |         |       |         |       |         |       |
| RS   |         |       | -0.04   | -6.58 |         |       |         |       |
| PV*RS  |         |       | 0.005   | 7.12  |         |       |         |       |
| AC   |         |       |         |       | -0.032  | -5.79 |         |       |
| PV*AC  |         |       |         |       | -0.004  | 6.52  |         |       |
| SD   |         |       |         |       |         |       | -0.034  | -6.38 |
| PV*SD  |         |       |         |       |         |       | -0.005  | 7.62  |
| FS   | -0.15   | -3.17 | -0.17   | -3.59 | -0.16   | -3.33 | -0.12   | -2.66 |
| $R^2$  | 0.033   |       | 0.061   |       | 0.053   |       | 0.066   |       |
| $F$  | 30.252  |       | 50.624  |       | 42.516  |       | 58.095  |       |
| Note : PV=peer-victimization, TSR=teacher-student relationship, RS=relationship status, AC=Accessibility, SD=status difference, FS=family situation (single-parent or not) |         |       |         |       |         |       |         |       |



**Figure 1. The Moderating Effect of RS**



**Figure 2. The Moderating Effect of AC**



**Figure 3. The Moderating Effect of SD**

#### 4. Discussion

The study identified a strong positive predictive relationship between peer-victimization and psychological symptoms among high school students. Specifically, higher levels of

peer-victimization were associated with an increased likelihood of developing various mental health issues, which supports Hypothesis 1 and aligns with earlier research findings<sup>[15]</sup>. Adolescence is a crucial stage for physical, psychological, and social development. Experiencing peer-victimization can significantly disrupt this developmental process. Those who face peer-victimization often develop negative views towards peer relationships, leading to distrust and social avoidance. Prolonged isolation and withdrawal can contribute to feelings of loneliness and depression.

The results indicated that teacher-student relationships moderate the connection between peer-victimization and psychological symptoms in high school students. Specifically, students who face lower levels of peer-victimization and enjoy positive teacher-student relationships exhibit better psychological well-being compared to those with poorer teacher-student relationships. A strong teacher-student relationship mitigates the adverse effects of peer-victimization on psychological symptoms. However, as peer-victimization levels rise, the differences in psychological symptoms between students with supportive and less supportive

teacher-student relationships become less noticeable.

The results suggest that while teacher-student relationships provide a protective effect when high school students experience peer-victimization, this effect is limited. When adolescents face low to moderate levels of peer-victimization, teacher intervention can help shield students from negative outcomes. However, when students experience severe peer-victimization, the protective role of teachers is limited.

Building and maintaining strong teacher-student relationships is crucial for mitigating the negative effects of peer-victimization. Schools should promote professional development programs focused on enhancing teachers' interpersonal skills and emotional support techniques. Encouraging teachers to engage in regular, supportive interactions with students can help create a more positive school environment. Furthermore, involving teachers in creating inclusive and supportive classroom climates can foster resilience among students and provide a buffer against the adverse effects of peer-victimization. By prioritizing positive relationships and providing ongoing support, schools can improve students' overall mental health and well-being.

Schools should establish early screening and intervention programs to identify and address peer-victimization at an early stage. By closely monitoring students' social interactions and psychological well-being, educators can detect signs of peer-victimization early and provide timely support. Implementing anti-bullying initiatives and creating safe reporting channels can help prevent the escalation of peer-victimization. Additionally, training teachers to recognize and manage peer-victimization and its impacts on mental health can enhance their ability to support affected students effectively.

While teachers play a crucial role in providing support and protection for adolescents facing peer-victimization, parents also have a significant role to play in safeguarding their children's mental health. Parents should actively engage in their children's lives, maintain open lines of communication, and be vigilant about signs of peer-victimization. Encouraging parents to foster a supportive home environment and to collaborate with

schools can enhance the protective network around adolescents. Parenting programs that focus on building effective communication skills and strategies for supporting children through social challenges can further strengthen this protective role.

Adolescents facing interpersonal challenges should be encouraged not to remain silent but to proactively seek help when needed. It is crucial for students to reach out to trusted adults, such as teachers, counselors, or family members, to address and resolve issues related to peer-victimization. By speaking up and seeking assistance, students can receive the support and resources necessary to manage their difficulties effectively. Additionally, when witnessing peer-victimization affecting others, students should be encouraged to take a stand and support their peers. Standing up against bullying and showing solidarity can help foster a more compassionate and responsive school environment, reducing the occurrence of peer-victimization and promoting a culture of mutual respect and support.

## **5. Conclusion**

This research concentrated on second-year high school students from a school in Shaanxi Province, China, aiming to examine the connections between peer-victimization and psychological symptoms among high school students and to assess the moderating influence of teacher-student relationships. Based on a survey involving 314 participants, the findings revealed that peer-victimization has a strong positive association with psychological symptoms in high school students and a negative correlation with teacher-student relationships. Furthermore, the psychological symptoms among students were found to be inversely related to the quality of teacher-student relationships. The study also highlighted that positive teacher-student relationships serve as a protective factor against the adverse effects of peer-victimization.

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