



Bullying victimization and depression among left-behind adolescents in China: Mediating role of self-esteem

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We explored the mediating role of self-esteem in the relationship between bullying victimization and depression among left-behind adolescents in China. The Delaware Bullying Victimization Scale, the Center for Epidemiologic Studies Depression Scale, and the Self-Esteem Scale were used in a survey conducted with 1,204 students at four middle schools in Shandong Province, China, including 619 left-behind adolescents and 585 non-left-behind adolescents. A significant difference was observed between these two groups: Left-behind adolescents scored significantly higher than did non-left-behind adolescents on bullying victimization and depression, and significantly lower on self-esteem. There were significant correlations between bullying victimization, self-esteem, and depression among the left-behind adolescents. Self-esteem played a partial mediating role between bullying victimization and depression among the left-behind adolescents. The results of this study could be used as a reference for staff of schools and family members in efforts to reduce depression of left-behind adolescents.

Keywords

bullying victimization; self-esteem; depression; left-behind adolescents; Chinese adolescents; rural–urban migration

Article Highlights

- A significant difference was observed in bullying victimization and depression between left-behind and non-left-behind adolescents.
- Self-esteem played a partial mediating role between bullying victimization and depression among left-behind adolescents.
- Future studies could use experimental or tracking research to confirm the cause–effect relationships between bullying victimization, self-esteem, and depression among left-behind adolescents.

Since the reform and opening-up of China in 1978, the acceleration of social transformation and urbanization have prompted numerous surplus rural laborers to flock to cities for employment (L. Wang & Mesman, 2015). Restricted by the urban–rural household registration system and family economic conditions, most of these migrants move to the city without their children, making left-behind children a unique vulnerable group in rural China. In 2015, the number of rural left-behind children in China was

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nearly 40.15 million, of which 26.19% were left-behind adolescents (Y. Wang et al., 2019). *Left-behind adolescents* are defined as boys and girls aged between 12 and 18 years who have remained in rural regions following a parental move and have not lived with one or both parents for a long time (Y. X. Wang, 2016). Long-term parental absence makes it difficult for adolescents to obtain adequate regulation, support, and care from their parents, which can lead to various psychological and behavioral problems (Zhao et al., 2015). One review study reported that left-behind adolescents are easily bullied by peers and develop negative emotions, such as loneliness, depression, and anxiety (Cheng & Sun, 2015).

Left-behind adolescents represent a unique group in China and their mental health should merit greater concern in Chinese society. *Depression*, a mental health issue that is common among adolescents worldwide, primarily manifests as low mood, physical discomfort, and sleep disorders (Costello et al., 2006). Depression not only affects the formation and development of a healthy personality but is also closely associated with suicidal and aggressive behaviors (Bertha & Balázs, 2013). Family and school environments have a strong impact on adolescents' depression. One cross-sectional study showed that warm, positive, and supportive coparenting behaviors predicted lower levels of depression among adolescents, and adolescents in families in which fathers or mothers were absent were more likely than were those with parents present to exhibit psychological problems (C. F. Chen et al., 2021). Xu et al. (2014) used questionnaires and self-reported data to investigate the relationships of school climate, self-control, and depression among 431 high school students, and found that school climate had a direct effect on depression; furthermore, they found that adolescents were at lower risk of depression if they received positive interpersonal support from teachers and peers.

In recent years, bullying victimization among school-aged adolescents has been reported frequently, attracting the attention of families, staff in schools, and society (Y. X. Wang, 2016). *Bullying victimization* is defined as prolonged and repeated negative aggression by one or more people, including physical, verbal, or psychological aggression (Olweus, 1978). Espelage and Holt (2001) examined the association between peer relationships and bullying behavior among 422 middle-school students, and found that 5.0% to 16.5% of adolescents had experienced severe or continued peer bullying; rural left-behind adolescents, who comprised 42.0% of this group, were disproportionately affected. Scholars collected questionnaire data from 1,091 school-aged left-behind children and found that 43.31% of them had undergone serious bullying victimization, which could have both short- and long-term influences on their mental health, including depression, anxiety, and being susceptible to suicide (H. Zhang et al., 2019). Moreover, adolescents are prone to experiencing interpersonal conflicts during the socialization process, and if bullying victimization is not quickly identified and stopped, it could seriously endanger their well-being (Olweus, 2013). As left-behind adolescents receive less parental care than do those who are not left behind, their peer relationships are particularly important; when left-behind adolescents experience bullying victimization, they are more likely than their peers are to form a negative perception of their situation, thus inducing depressive emotions (Cheng & Sun, 2015). Therefore, it is worth exploring the relationship between bullying victimization and depression among left-behind adolescents.

Further research has revealed that a strong link exists between bullying victimization and self-esteem level (H. Zhang et al., 2019). According to the stress susceptibility model, protective factors could help individuals adopt effective strategies to cope with negative events and regulate negative emotions (Ebner & Singewald, 2017). *Self-esteem*, a protective factor for individual mental good health, is a stable emotion that has a social adaptation function and affects individual cognition and behavior (Rosenberg, 1965). Being bullied hinders the development of self-esteem and reduces extant self-esteem levels in left-behind adolescents—the more frequent the bullying victimization, the lower the self-esteem (H. Zhang et al., 2019). According to depression susceptibility theory, self-esteem is closely related to depression, and low self-esteem is a risk factor for depression (Beck, 1967). In a meta-analysis, Sowislo and Orth (2013) found that being a victim of bullying makes individuals pay more attention to negative information and ignore positive information, lowering self-esteem, which, in turn, tends to trigger depression. Thus, we speculated that self-esteem may

be a mediating variable in the relationship between bullying victimization and depression.

Previous studies have analyzed the bullying phenomenon in rural China, but bullying victimization among left-behind adolescents in contemporary rural China remains unexplored. For example, from the perspective of the educational subjects of family, village, and school, Yang (2019) discussed the influence of peer group culture, school management, and family environment on rural school bullying and the remedial strategies that staff at the school put in place to counter the bullying. In addition, the mechanism through which bullying victimization influences depression in left-behind adolescents remains inadequately understood. Bullying victimization and depression could affect the mental health and well-being of left-behind adolescents; thus, they represent an important public issue as the adolescents may need treatment through the public health system, which costs the government money. We explored the role of self-esteem in the association between bullying victimization and depression among left-behind adolescents in order to provide some useful suggestions for prevention of and interventions to treat left-behind adolescents' depression. Our hypotheses were as follows:

Hypothesis 1: In terms of frequency, there will be differences in bullying victimization, self-esteem, and depression between left-behind adolescents and non-left-behind adolescents.

Hypothesis 2: Bullying victimization, self-esteem, and depression of left-behind adolescents will be significantly correlated.

Hypothesis 3: Self-esteem will play a mediating role in the relationship between bullying victimization and depression of left-behind adolescents.

Method

Participants

Participants were students selected from four secondary and high schools in Shandong Province, China. We distributed 1,260 survey forms and collected 1,204 valid responses (effective return rate = 95.56%). Participants' average age was 15.33 years ($SD = 1.83$, range = 12 to 19). Of the respondents, 558 were secondary school students (i.e., junior high school; 46.35%) and 646 were high school students (53.65%); 617 were boys (51.25%) and 587 were girls (48.75%); and 619 were left-behind adolescents (51.41%) and 585 were non-left-behind adolescents (48.59%).

Procedure

This study received approval from Ludong University and participants provided informed consent. Random sampling was used to select respondents living in rural China. Participants were told that the purpose of the study was to examine their psychological health and they were asked to complete all survey items carefully, individually, without discussion, and anonymously within a 15-to-20-minute timeframe. Participants were given candies as a token of appreciation for taking part in the research.

Measures

We used the Chinese version of the following scales, as previously modified by scholars. We made no further modifications to the scales. These measures have previously been demonstrated to be valid and reliable for use with Chinese adolescents.

Bullying Victimization

To measure bullying victimization, we used the Chinese version of the 17-item Delaware Bullying Victimization Scale (Xie et al., 2018). A sample item is "I was deliberately pushed by others." Responses are rated on a 6-point Likert scale ranging from 1 (*never*) to 6 (*every day*). Cronbach's alpha was .85 in this study.

Depression

To measure depression, we used the Chinese version of the 20-item Center for Epidemiologic Studies Depression Scale (Hong et al., 1999). A sample item is “I feel sad.” Responses are rated on a 4-point Likert scale ranging from 0 (*never*) to 3 (*always*). Cronbach’s alpha was .90 in this study.

Self-Esteem

To measure self-esteem, we used the Chinese version of the 10-item Self-Esteem Scale (Hong et al, 1999). A sample item is “I think I have many advantages.” Responses are rated on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Cronbach’s alpha was .82 in this study.

Results

Common Method Bias

A Harman’s one-way analysis of variance showed that the eigenvalue of thirteen factors was greater than 1 and that the first common factor explained 13.39% of the variance, which is less than the threshold level of 40% (Podsakoff et al., 2003). This indicates that the data in this study were relatively unaffected by common method bias.

Difference Analysis

Left-Behind and Non-Left-Behind Differences

An independent samples *t* test was used to explore the differences between left-behind and non-left-behind adolescents. The results are shown in Table 1. There were significant differences between left-behind adolescents and non-left-behind adolescents, supporting Hypothesis 1. Specifically, left-behind adolescents scored significantly higher than did non-left-behind adolescents for bullying victimization and depression, and self-esteem was significantly lower in left-behind adolescents than in non-left-behind adolescents.

Table 1. *Differences Analysis Between Left-Behind and Non-Left-Behind Adolescents*

	Left behind	Not left behind	<i>t</i>	<i>p</i>	<i>df</i>	<i>d</i>
Bullying victimization	28.83 ± 7.38	27.56 ± 5.02	3.47	.001**	1202	0.20
Self-esteem	19.89 ± 3.59	21.25 ± 2.83	-7.29	.000***	1202	0.42
Depression	24.52 ± 5.47	23.80 ± 2.74	2.85	.004**	1202	0.16

Note. *N* = 1204.

** *p* < .01. *** *p* < .001.

Correlation Analysis

The primary focus of this study following difference analysis was on the left-behind adolescents. Thus, major variables of left-behind adolescents are further discussed in this section. Descriptive statistics for bullying victimization, self-esteem, and depression, and Pearson correlation analysis results are shown in Table 2. Bullying victimization, self-esteem, and depression were significantly correlated with one another, supporting Hypothesis 2. Specifically, bullying victimization was positively correlated with depression and negatively correlated with self-esteem, and self-esteem was negatively correlated with depression.

Table 2. Correlation Analysis of Study Variables Among Left-Behind Adolescents

	<i>M</i>	<i>SD</i>	1	2	3
1. Bullying victimization	28.83	7.38	1		
2. Self-esteem	19.89	3.59	-.43**	1	
3. Depression	24.52	5.47	.27**	-.19**	1

Note. *N* = 619.

** *p* < .01.

Mediating Effect

Efron and Tibshirani (1993) proposed that there should be more than 1,000 iterations used in bootstrapping analysis to obtain accurate and reliable results when testing hypotheses. Therefore, Model 4 in SPSS PROCESS 3.5 (Hayes, 2018) and 5,000 iterations were used to estimate the mediating effect of self-esteem with 95% confidence intervals (CIs). The whole regression equation was significant (see Table 3). The results suggest that the mediating effect was significant. Self-esteem had a significant mediating effect on the relationship between bullying victimization and left-behind adolescent depression (see Table 3 and Figure 1), supporting Hypothesis 3.

Table 3. Mediation Regression Analysis

Result variable	Predictor variable	<i>R</i> ²	<i>F</i>	β	<i>t</i>
Self-esteem		.18	137.79***		
	Bullying victimization			-.21	-11.74***
Depression		.08	26.52***		
	Self-esteem			-.13	-2.06*
	Bullying victimization			.17	5.44***

Note. *N* = 619.

* *p* < .05. *** *p* < .001.

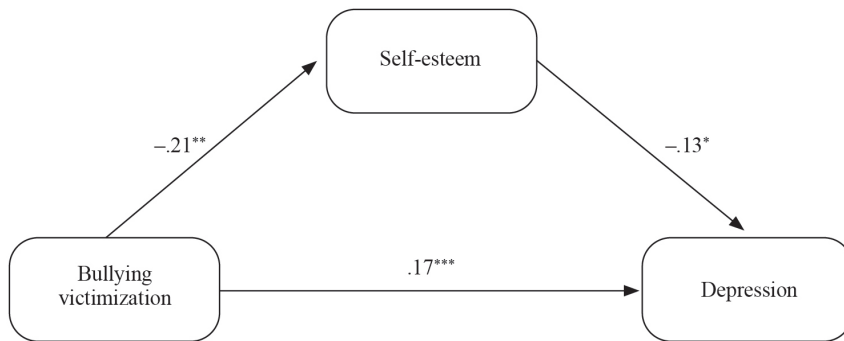


Figure 1. *The Effect of Bullying Victimization and Depression via Self-Esteem*

The direct effect of bullying victimization on depression was significant. The indirect effect of bullying victimization on depression through self-esteem was significant. Indirect and direct effects of the total effect (effect ratio) are shown in Table 4.

Table 4. *Mediating Effect of Self-Esteem Between Bullying Victimization and Depression Among Left-Behind Adolescents*

	Effect value	SE	95% CI	Effect ratio
Indirect effect	.03	0.01	[0.01, 0.05]	15%
Direct effect	.17	0.03	[0.11, 0.23]	85%
Total effect	.20	0.03	[0.14, 0.26]	

Note. $N = 619$. CI = confidence interval.

Discussion

We observed a significant difference between left-behind and non-left-behind adolescents in regard to bullying victimization, depression, and self-esteem. Compared to rural adolescents who were living with their parents, left-behind adolescents scored higher for both bullying victimization and depression, and lower for self-esteem, which is consistent with the results of a previous study (Y. X. Wang, 2016). One potential explanation for this outcome is that left-behind adolescents lack enough support from and protection by their parents, so that it is difficult for them to obtain help from anybody sufficiently concerned when they are bullied. Moreover, bullying victimization could cause harm or negative effects, such as low self-esteem, depression, and self-injury (Olweus, 2013). Another possible explanation is that victims do not have positive peer relationships to play an important role in the mental health of left-behind adolescents and that after experiencing stressful events, such as bullying victimization, adolescents are more likely to have depressive emotions. Therefore, after prolonged parental absence and bullying victimization, left-behind adolescents tend to report a self-identity crisis, loneliness, and loss of confidence, which could lead to low self-esteem and depression (Ouyang & Fan, 2018).

Our research found significant correlations between bullying victimization, self-esteem, and depression among left-behind adolescents. First, bullying victimization and depression were positively correlated. Bullying victimization negatively influenced the equal, respectful, and helpful interpersonal relationships of

left-behind adolescents and caused alienation within their peer relationships, increasing the possibility of depression (Weng et al., 2017). Second, bullying victimization was significantly and negatively correlated with self-esteem. Self-esteem level can influence the degree to which an individual is accepted by others, and being rejected or attacked could lower an individual's self-esteem (Y. Zhang et al., 2019). Bullying victimization could make left-behind adolescents feel unrecognized or unaccepted by peers, reducing their self-esteem (Yan et al., 2019). Third, self-esteem and depression were negatively correlated. In a longitudinal study, Bajaj et al. (2016) demonstrated that low self-esteem might predict depression and that adolescents with low (vs. high) self-esteem might exhibit more depressive symptoms.

In our research, self-esteem played a mediating role in the relationship between bullying victimization and depression. Bullying victimization could directly predict depression in left-behind adolescents, because they are not always able to solve interpersonal conflicts effectively without parental support and help; thus, they are more likely than non-left-behind adolescents are to suffer negative emotions and depression (Cheng & Sun, 2015). We also found that bullying victimization was positively associated with depression through decreased self-esteem. Adolescents who are bullied tend to have negative self-evaluations, leading to lower self-esteem (Espelage & Holt, 2001). Individuals with low self-esteem often experience a sense of lower self-worth (i.e., positive emotional experience) and are more susceptible to stress events, resulting in more depressive symptoms (Ebner & Singewald, 2017). Thus, experiencing bullying victimization might lower the self-esteem of left-behind adolescents and increase the likelihood of them developing depression. These results suggest that school staff and family members should be aware that left-behind adolescents are at higher risk of mental health problems compared to other adolescents. There is an urgent need for schoolteachers and families to develop better preventative measures and more effective management strategies. At schools, teachers should strive to create peer support and a positive campus atmosphere to reduce and, ideally, eliminate bullying. In addition, being separated from their parents may increase vulnerability and risk of depression in adolescents. Parents who are separated from their children should increase emotional contact and care for their children through various means (e.g., phone or video calls).

There are certain limitations in this study. First, since the self-report method was used to collect data in this study, and there may be social desirability bias resulting from the measures, future studies could combine interviews with observations to obtain data. Second, we used a cross-sectional research design, which may not be comprehensive in causal inference. In cross-sectional studies data are collected concurrently but this hinders the analysis of causal relationships among the variables. Future experimental or tracking research would be valuable to provide evidence confirming the cause–effect relationships between bullying victimization, self-esteem, and depression among left-behind adolescents.

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