

The Relationship Between Childhood Emotional Abuse and Nonsuicidal Self-Injury Among Chinese College Students: The Mediating Role of Depression and the Moderating Effect of Reciprocal Filial Piety

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Purpose: Nonsuicidal self-injury (NSSI) is a serious issue among college students, which might affect the development of their mental health. Based on Nock's integrated model of NSSI and the biosocial development model, the present study constructed a moderated mediation model to explore the psychological mechanism between childhood emotional abuse and NSSI.

Patients and Methods: Self-reporting data on emotional abuse, depression, NSSI, and filial piety were collected from 3720 (57.5% female) college students in China using a two-wave design survey. Structural equation modeling was used to test the effect of mediation and moderation.

Results: Emotional abuse, depression, and NSSI were significantly and positively correlated with each other. RFP was negatively correlated with emotional abuse, depression, and NSSI, whereas AFP demonstrated a positive correlation with depression, and NSSI. A significant positive indirect relation of emotional abuse to NSSI through depression was found ($\beta = 0.06$, $SE = 0.01$, 95% CI = [0.05, 0.08]). Moreover, the mediating effect was moderated by reciprocal filial piety (RFP) but not authoritarian filial piety (AFP). Specifically, a higher level of RFP buffered the relationship between emotional abuse and depression ($\beta = 0.43$, $p < 0.001$) and the relationship between depression and NSSI ($\beta = 0.07$, $p = 0.007$).

Conclusion: This study reveals the mechanism of the relationship between childhood emotional abuse and NSSI in Chinese college students, and emphasizes the role of depression and RFP. What's more, AFP did not exert a significant effect. It also suggests that interventions focusing on depression and cultivation of RFP may reduce the effect of childhood emotional abuse on NSSI.

Keywords: childhood emotional abuse, depression, NSSI, filial piety, college students

Introduction

Nonsuicidal self-injury (NSSI), defined as the deliberate damage of one's body tissue without suicidal intent,¹ is prevalent among college students. Studies have indicated that the prevalence of NSSI among college students is close to 20%.^{2,3} NSSI can lead to significant physical harm, and it may also result in severe psychopathology or an increased risk of suicide.^{4,5} Therefore, it is essential to investigate the mechanisms associated with NSSI among college students to develop more effective interventions and prevention strategies.

Emotional Abuse Affects NSSI

According to Nock's integrated model of NSSI,⁶ childhood maltreatment is a significant distal risk factor for NSSI. Childhood maltreatment encompasses various forms of abuse and neglect,⁷ with emotional abuse being the most influential factor for NSSI.^{8,9} Emotional abuse refers to verbal abuse, rejection, terrorization, abandonment, and psychological unavailability.¹⁰ Yates' developmental psychopathology theory posits that childhood maltreatment disrupts the development of critical early emotional regulation abilities, leading to impaired adaptive functioning.¹¹ As a result, individuals are more likely to adopt maladaptive strategies, such as NSSI, to cope with stressors and negative emotions.¹² Numerous studies have demonstrated a positive correlation between emotional abuse and NSSI in college students.^{13–15} Furthermore, compared to other forms of abuse, emotional abuse makes the largest contribution to NSSI.¹⁶ This underscores the necessity of focusing on the specific mechanisms by which emotional abuse influences NSSI.

The Mediating Role of Depression

The functional model of self-injury posits that self-harm can alleviate or terminate the reinforcement of negative emotions, such as depression.¹⁷ When individuals lack effective emotional regulation strategies, they may resort to inflicting physical pain as a means of alleviating psychological distress, as it can serve as a rapid and effective strategy for regulating depressive emotions.¹² Depression is the key emotional factor influencing self-injury. A meta-analysis of the factors influencing NSSI identified depression as the most significant emotional variable.¹⁸ Several longitudinal studies have also confirmed the positive predictive effect of depression on NSSI.^{19–21}

Several studies have found that childhood emotional abuse plays a crucial role in the development and persistence of depression among college students.^{22–24} According to Yates, childhood emotional abuse significantly disrupts a child's ability to regulate emotions, and children may imitate the abuser's poor emotional management strategies, making them more prone to negative emotions (eg depression).¹¹ Studies have confirmed that a major contributing factor to increased depression risk is insufficient emotional regulation capacity.²⁵ A meta-analysis of 184 studies also found that childhood emotional abuse is most strongly associated with the severity of depression in adulthood.²⁶ Thus, based on the above evidence, the mediating role of depression between emotional abuse and NSSI is hypothesized. However, whether other variables exert a protective effect in this relationship remains underexplored. Therefore, further exploration of potential variables that may influence the strength and direction of these relationships is needed to enhance understanding of the framework surrounding NSSI.

Filial Piety as a Potential Moderator

Linehan's biosocial development model pointed out that psychosocial risk factors, including cultural and familial environments, are significant contributors to NSSI.²⁷ Filial piety is considered a core component of Confucian cultural values and, therefore, a central aspect of Chinese culture.²⁸ An old Chinese proverb states, "Bǎi Shàn Xiào Wéi Xiān", meaning that filial piety is regarded as the foremost virtue of kindness. Thus, it is important to focus on the role of filial piety among Chinese students. Filial piety refers to an individual's adherence to a set of norms, values, and practices regarding how children should interact with their parents.²⁹ Yeh's dual filial piety model divides filial piety into reciprocal filial piety (RFP) and authoritarian filial piety (AFP).³⁰ RFP refers to children's positive and voluntary care for their parents, motivated by gratitude and love, whereas AFP emphasizes children's unilateral and unconditional obedience to their parents, based on the hierarchical structure of the family.²⁹

Previous empirical research has suggested that RFP may promote positive psychological development and alleviate negative psychological symptoms.^{31,32} Conversely, AFP has been shown to harm mental health.^{31,32} A meta-analysis summarizing 40 studies on filial piety found that RFP is frequently negatively correlated with psychopathologies such as depression, anxiety, and suicide, whereas AFP is significantly positively correlated with disorders such as eating disorders but negatively correlated with suicide risk.³³ Additionally, a study on Chinese sexual minority men found that RFP buffered the impact of sexual minority stigma on NSSI and suicide risk, whereas AFP had no significant effect.³⁴ These two forms of filial piety may also play distinct roles in the model used in the present study. As RFP emphasizes emotional communication and mutual respect between children and parents, individuals practicing RFP may receive more family support, thereby reducing depressive symptoms stemming from childhood abuse.³⁵ Out of a sense of

responsibility and care for their parents, they may also avoid self-harm as it would be seen as an act of filial disobedience. In contrast, AFP emphasizes unconditional obedience to parental authority,³⁶ which may undermine self-esteem and increase the risk of depression. However, strict adherence to parental authority may also deter individuals from engaging in self-harm. Therefore, RFP is hypothesized to act as a protective moderating factor in the model linking childhood abuse to NSSI. However, due to the limited and mixed findings regarding AFP, specific hypotheses about its moderating effect are not proposed.

The Present Study

In summary, previous research has established preliminary associations between childhood emotional abuse, depression, and NSSI. However, research on protective factors remains limited, and few studies have incorporated psychosocial variables. Investigating protective factors can offer strategies for NSSI intervention and prevention while incorporating psychosocial variables broadens theoretical and empirical perspectives on NSSI. Therefore, drawing upon Nock's integrated model of NSSI and the biosocial development model, this study constructed a moderated mediation model (see Figure 1). It is hypothesized that emotional abuse is associated with NSSI in college students through the mediating effect of depression (Hypothesis 1). Furthermore, based on the dual filial piety model, higher levels of RFP are hypothesized to attenuate the effect of emotional abuse on depression and the effect of depression on NSSI (Hypothesis 2). The moderating effect of AFP is explored without predefined hypotheses (Hypothesis 3).

Methods

Participants

After gaining approval from the local education authorities, we conducted two surveys with a 6-month interval at a college in China's central province. 6287 students completed the first survey at Time 1 and 3720 students (59.2%) completed the second survey at Time 2. Despite a relatively high attrition rate, we selected participants who attended both two waves, ensuring that it did not impact our final results and conclusions. The loss to follow-up of participants was mainly attributed to graduation, and there was no significant difference between the loss-to-follow-up participants and the full participants in baseline emotional abuse ($t[6285] = -1.93, p = .053$), depression ($t[6285] = -1.89, p = .058$), and filial piety ($t[6285] = -0.743, p = .457$). Of the 3720 participants, 1580 (42.5%) were male, and 2140 (57.5%) were female. Participants had a mean age of 18.89 years ($SD = 1.24$) with a range of 18–22 years at Time 1.

Procedures

Professional psychology-trained teaching staff at each college were contacted before the survey, and those who expressed interest in the study assisted with data collection. Based on their teaching schedules, they selected classes from each major in the school for the survey, conducted during the spare time of these classes. Preceding each survey, students received an oral briefing highlighting their voluntary participation. Any student not wishing to participate could freely

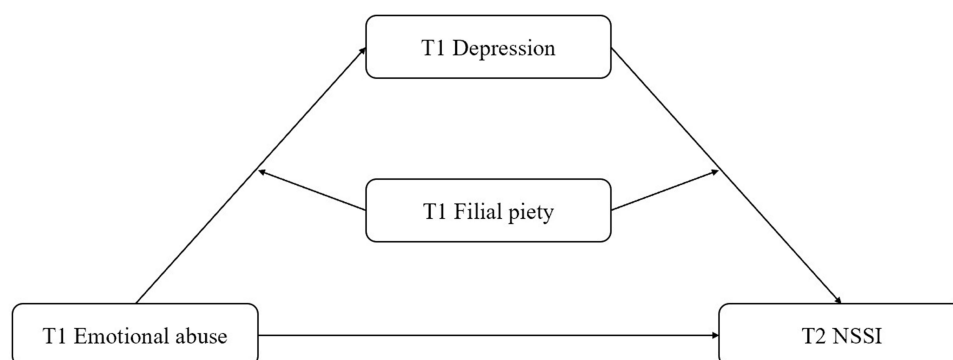


Figure 1 Moderated Mediation model among emotional abuse, depression, filial piety, and NSSI.

Abbreviations: NSSI, Nonsuicidal self-injury; T1, Time 1; T2, Time 2.

leave the classroom. All remaining students were then invited to complete an online questionnaire anonymously. Under the guidance of professionally trained psychology graduate students, participants were prompted to answer questions in an online survey using the application software on their mobile phones, which lasted no longer than 30 minutes. In this study, we acquired informed consent from each participant. This study was approved by the ethics committee of the Faculty of Psychology, Beijing Normal University (protocol number: No.12220085) and complied with the Declaration of Helsinki. At Time 1, data on emotional abuse, depression, filial piety, and demographic variables were collected from the participants. At Time 2, data regarding NSSI was collected from the participants. Additionally, participants were informed that school psychologists or teachers could provide psychological or counseling services if needed.

Measures

Emotional Abuse

The emotional abuse subscale of the Childhood Trauma Questionnaire-Short Form, developed by Bernstein et al,³⁷ was utilized to measure the frequency of childhood emotional abuse experiences among participants before the age of 16. The Chinese version of this questionnaire has been demonstrated to be a reliable and valid measurement.³⁸ The scale contains 5 items (eg, “I felt like my parents wished they had never given birth to me”) which are rated on a 5-point Likert scale ranging from 1 (never) to 5 (very often). Higher total scores indicate more frequent exposure to emotional abuse. Cronbach’s α for the emotional abuse was 0.698.

Depression

The Center for Epidemiological-Studies Depression Scale (CES-D-20) was used to assess the degree of depression among participants.³⁹ The Chinese version of the CES-D-20 had previously been refined by Chen et al and demonstrated good reliability and construct validity in Chinese populations.⁴⁰ The scale contains 20 items (eg, “I feel sad”) which are rated on a 4-point Likert scale from 0 (never) to 3 (always). Higher total scores indicate higher levels of depression. Cronbach’s α for the depression was 0.890.

Filial Piety

The Filial Piety Scale was used to assess the participants’ filial piety,³⁰ which has been shown to be reliable and valid in previous studies with Chinese samples.⁴¹ The scale contains 10 items which are divided into two dimensions: reciprocal filial piety (RFP, 5 items; eg, “When parents are unhappy, children should talk to their parents and understand and comfort them”) and authoritarian filial piety (AFP, 5 items; eg, “No matter what parents do, children should do it immediately”). The items are rated on a 5-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree). Cronbach’s α was 0.970 for RFP and 0.871 for AFP.

NSSI

The first part of the Inventory of Statements About Self-injury (ISAS) was used to assess NSSI within the past six years.⁴² The ISAS has demonstrated good reliability and construct validity when used among Chinese populations.⁴³ The scale contains 12 items that evaluate the frequency of 12 common NSSI behaviors. The items are rated on a 6-point Likert scale ranging from 0 (never) to 5 (five times or more). Higher total scores indicate a higher frequency of NSSI. Cronbach’s α for NSSI was 0.936.

Data Analyses

In this study, the data obtained were analyzed using SPSS 26.0. The online survey software automatically excluded responses from participants who provided incomplete or invalid answers, ensuring the quality of the data. As a result, there were no missing values in the final sample. Inclusion criteria for participants were completing the questionnaire attentively and providing valid responses without missing data. First, descriptive statistics and correlational analysis of the obtained data were conducted to examine the relationship between variables. Then, we used SPSS process macro (Model 4) to test the mediating role of depression between emotional abuse and NSSI and used process macro (Model 58) to test the moderating role of filial piety. In addition, as Hayes and Preacher suggested,⁴⁴ we used a 5000-sample bias-corrected bootstrap analysis program to test for effects.

Table 1 The Means, Standard Deviations, and Intercorrelations Among All Study Variables

Variables	M	SD	1	2	3	8	9	10	11	12
1. Sex ^a	—	—	1							
2. Age	18.890	1.244	−0.007	1						
3. Family monthly income ^b	3.440	1.280	−0.091***	−0.161***	1					
8. T1 Emotional abuse	6.588	2.355	−0.002	−0.088***	−0.039*	1				
9. T1 Depression	14.759	8.911	−0.099***	−0.106***	−0.054***	0.379***	1			
10. T1 RFP	22.021	4.650	0.169***	−0.054***	0.029	−0.143***	−0.195***	1		
11. T1 AFP	12.181	4.850	−0.192***	−0.018	0.012	0.009	0.132***	0.116***	1	
12. T2 NSSI	0.810	3.914	−0.082***	−0.024	0.010	0.061***	0.174***	−0.108***	0.035*	1

Notes: ^aMale = 1, female = 2. ^bLess than 1000 RMB = 1, 1000–3000 RMB = 2, 3000–6000 RMB = 3, 6000–10,000 RMB = 4, 10,000–15,000 RMB = 5, 15,000–20,000 RMB = 6, More than 20,000 RMB = 7. * $p < 0.05$, and *** $p < 0.001$.

Abbreviations: RFP, Reciprocal filial piety; AFP, Authoritarian filial piety; NSSI, Nonsuicidal self-injury; T1, Time 1; T2, Time 2.

Results

Descriptive Statistics and Correlational Analysis

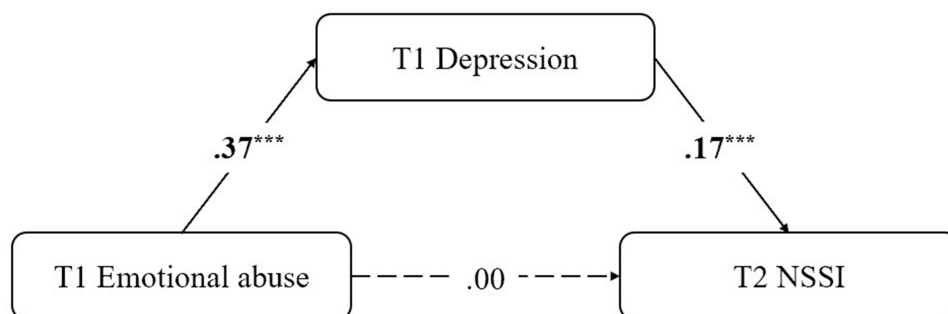
The means, standard deviation, and intercorrelation among variables are presented in Table 1. The results showed that emotional abuse, depression, and NSSI were significantly and positively correlated with each other. RFP was negatively correlated with emotional abuse, depression, and NSSI, whereas AFP demonstrated a positive correlation with these variables. Meanwhile, gender, age, and family monthly income at Time 1 also correlated with some study variables to a different extent, indicating the need to use them as covariates in the following research.

Testing for Mediation Analyses

With sex, age, and family monthly income as covariates, we examined the mediating role of depression between emotional abuse and NSSI. The results (see Figure 2) showed that emotional abuse was positively associated with depression, and depression was also positively associated with NSSI. The test results of the Bias-Corrected Bootstrap program showed that the mediating effect of depression was significant ($\beta = 0.06$, $SE = 0.01$, 95% CI = [0.05, 0.08]). Depression acted as a complete mediator between childhood emotional abuse and NSSI.

Testing for Moderated Mediation

Next, we examined the moderated mediating model. RFP and AFP were tested separately. The results are shown in Table 2. The emotional abuse $\times$ RFP interaction was significant in relation to depression, and the depression $\times$ RFP interaction was significant in relation to NSSI (see Figure 3). Meanwhile, no interaction involving AFP was significant (see Table 3).

**Figure 2** Standardized path coefficients for the mediation model of emotional abuse, depression, and NSSI.

Note: *** $p < 0.001$.

Abbreviations: NSSI, Nonsuicidal self-injury; T1, Time 1; T2, Time 2.

Table 2 The Moderated Mediation Model Test (RFP as a Moderator)

Dependent variable	Independent variable	β	SE	95% CI for β	R ²	F
Mediating variable: T1 depression	Sex	−0.08***	0.02	[−.11, −0.05]	0.18	139.41***
	Age	−0.09***	0.02	[−.12, −0.06]		
	Family monthly income	−0.06***	0.02	[−.08, −0.02]		
	T1 Emotional abuse	0.37***	0.02	[0.34, 0.40]		
	T1 RFP	−0.14***	0.02	[−.17, −0.11]		
	T1 Emotional abuse × T1 RFP	0.06***	0.01	[0.03, 0.08]		
Outcome variable: T2 NSSI	Sex	−0.05**	0.02	[−.09, −0.02]	0.05	25.34***
	Age	−0.01	0.02	[−.04, 0.02]		
	Family monthly income	0.01	0.02	[−.02, 0.05]		
	T1 Emotional abuse	−0.01	0.02	[−.05, 0.02]		
	T1 Depression	0.16***	0.02	[0.12, 0.19]		
	T1 RFP	−0.07***	0.02	[−.10, −0.03]		
	T1 Depression × T1 RFP	−0.09***	0.02	[−.12, −0.05]		

Notes: Bold indicates that the confidence interval does not include zero. ** $p < 0.01$, *** $p < 0.001$.

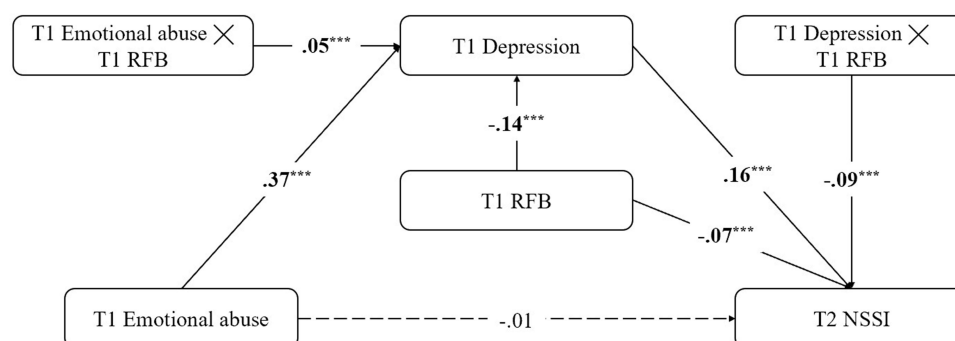
Abbreviations: RFP, Reciprocal filial piety; NSSI, Nonsuicidal self-injury; T1, Time 1; T2, Time 2.

Further simple slope test (see Figure 4) showed that emotional abuse had a stronger positive association with depression when RFP was high than when RFP was low. Depression had a weaker positive association with NSSI when RFP was high than when RFP was low.

Discussion

Drawing upon Nock's integrated model of NSSI and the biosocial development model, this study explored the emotional mechanisms underlying the impact of childhood emotional abuse on NSSI among college students, as well as the moderating role of dual filial piety. Specifically, we found that depression mediated the relationship between emotional abuse and NSSI. RFP moderated this relationship, while AFP did not exert a significant moderating effect.

Consistent with Hypothesis 1, this study found that depression mediates the relationship between emotional abuse and NSSI in college students. This finding also supports Nock's integrated model.^{6,12} In other words, childhood emotional abuse, as a distal factor, impairs emotional regulation abilities, making individuals more susceptible to depressive symptoms. This effect is profound, persisting into adulthood.^{45,46} Consequently, college students are likely to adopt self-injurious behaviors to cope with proximal negative emotions related to depression. Additionally, they may be reluctant to seek alternative strategies from social networks due to concerns about disclosing their past experiences.⁴⁷ As a result,

**Figure 3** Standardized path coefficients for the moderated mediation model of emotional abuse, depression, NSSI, and RFP.

Note: *** $p < 0.001$.

Abbreviations: RFP, Reciprocal filial piety; NSSI, Nonsuicidal self-injury; T1, Time 1; T2, Time 2.

Table 3 The Moderated Mediation Model Test (AFP as a Moderator)

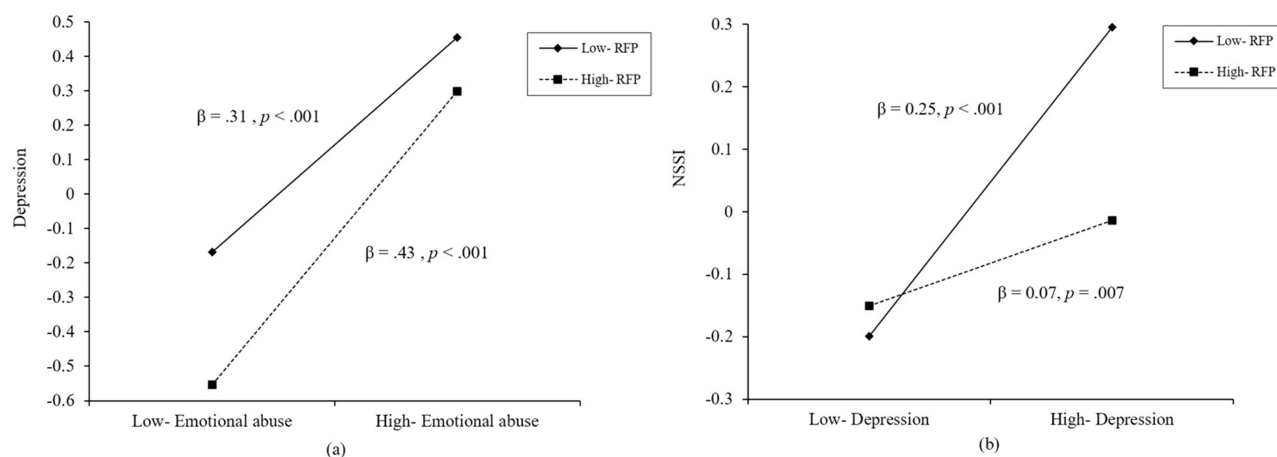
Dependent Variable	Independent Variable	β	SE	95% CI for β	R ²	F
Mediating variable: T1 depression	Sex	−0.08***	0.02	[−.11, −0.05]	0.17	130.84***
	Age	−0.08***	0.02	[−.11, −0.05]		
	Family monthly income	−0.06***	0.02	[−.09, −0.03]		
	T1 Emotional abuse	0.37***	0.02	[0.34, 0.40]		
	T1 AFP	0.11***	0.02	[0.08, 0.14]		
	T1 Emotional abuse × T1 AFP	0.00	0.01	[−.03, 0.03]		
Outcome variable: T2 NSSI	Sex	−0.06***	0.02	[−.10, −0.03]	0.03	19.03***
	Age	0.00	0.02	[−.04, 0.03]		
	Family monthly income	0.01	0.02	[−.02, 0.04]		
	T1 Emotional abuse	0.00	0.02	[−.04, 0.03]		
	T1 Depression	0.17***	0.02	[0.13, 0.20]		
	T1 AFP	0.00	0.02	[−.03, 0.03]		
	T1 Depression × T1 AFP	−0.01	0.02	[−.04, 0.02]		

Notes: Bold indicates that the confidence interval does not include zero. *** $p < 0.001$.

Abbreviations: AFP, Authoritarian filial piety; NSSI, Nonsuicidal self-injury; T1, Time 1; T2, Time 2.

many college students, unable to bear the pressure and distress, may resort to this maladaptive strategy due to its convenience and secrecy.

Additionally, the results of this study supported Hypothesis 2, showing that RFP moderated both the impact of emotional abuse on depression and the influence of depression on NSSI. This is consistent with previous research.³⁴ Specifically, in the first half of the mediation process, RFP buffered the effect of emotional abuse on depression, but this effect was conditional. Among students with low RFP, depressive symptoms remained high regardless of the level of emotional abuse. In contrast, high RFP reduced depression, but only when emotional abuse was at lower levels. RFP which emphasizes the importance of mutual connection and care between children and their elders,⁴⁸ fosters emotional communication and bonding between parents and children.⁴⁹ Therefore, college students with high RFP are more likely to benefit from a caring family environment, reducing their risk of depression. However, when childhood emotional abuse is severe, RFP does not offer significant protection. The lingering effects of trauma may overshadow any positive

**Figure 4** Moderation effects in the model.

Notes: (a) Emotional abuse × RFP interactive effects in relation to depression. (b) Depression × RFP interactive effects in relation to NSSI. Functions are graphed for two levels of RFP: 1 standard deviation above the mean and 1 standard deviation below the mean.

Abbreviations: RFP, Reciprocal filial piety; NSSI, Nonsuicidal self-injury.

influence of RFP,⁵⁰ as abusers may fail to reciprocate care and respect, leading to inner conflict and intensified depression.

In the latter half of the mediation process, we found that higher levels of RFP attenuated the effect of depression on NSSI. College students with high levels of RFP care for their parents and avoid causing their parents distress.⁵¹ There is an old Chinese proverb saying “Shēn Tǐ Fā Fū, Shòu Zhī Fù Mǔ, Bù Gǎn Huǐ Shāng, Xiào Zhī Shǐ Yě”. This proverb implies that one’s body, given by their parents, should not be harmed. Therefore, filial college students are less likely to engage in self-harm, as protecting and cherishing oneself is seen as a way of honoring their parents.⁵² In contrast, college students with low levels of RFP are more likely to struggle with establishing strong relationships with their parents and receive less familial support. They are also more vulnerable to depressive emotions and, consequently, more prone to maladaptive self-injurious behaviors.

Based on the exploratory Hypothesis 3, we found that AFP did not have a significant moderating effect in the model, which is consistent with previous research. Individuals who have experienced emotional abuse in childhood often lack emotional comfort and support, making them more susceptible to depressive symptoms. AFP promotes unconditional obedience and does not encourage children to express their emotional needs to their parents.⁴⁸ As a result, it causes to less emotional relief or support. Additionally, authoritarian filial piety typically inhibits the individual’s freedom to express their true emotions.³⁶ This cultural and familial norm may restrict individuals from seeking external help, leading them to internalize emotional problems. Consequently, AFP does not help mitigate the risk of depression and NSSI caused by emotional abuse in Chinese college students.

Limitations and Contributions

This study has certain limitations. First, it relied on self-report measures, which may lead to subjectivity in assessment. Future research could adopt more diverse measurement methods, such as multi-informant assessments. Second, the study was conducted with Chinese college students, limiting the generalizability of the findings to this population. Additionally, filial piety is a psychosocial variable characteristic of Eastern cultures,⁵³ so future research should collect data from more diverse populations to assess the generalizability of the conclusions or perform cross-cultural comparisons. Third, although emotional abuse may be the most influential form of abuse affecting NSSI, it is possible that NSSI may also be influenced by other forms of abuse. Future research should measure and control for other types of abuse and neglect in the analysis.

Despite these limitations, this study provides important insights. From the perspective of Confucian culture in China, we extended Nock’s integrative model of NSSI and identified the mediating role of depression in the relationship between emotional abuse and NSSI. We also explored the different roles of reciprocal and authoritarian filial piety within this framework. Therefore, in educational guidance and clinical counseling and intervention, educators and counselors should focus on depression among college students with early emotional trauma and conduct targeted interventions to more effectively reduce the occurrence of maladaptive self-injurious behaviors. Furthermore, students could be encouraged to cultivate reciprocal filial piety to mitigate the risks of depression and NSSI, while also being made aware of the ineffectiveness of authoritarian filial piety.

Conclusion

Guided by the integrated model of NSSI and the biosocial development model, this study investigated the mediating role of depression in the relationship between childhood emotional abuse and NSSI among Chinese college students. Additionally, the moderating effects of filial piety were examined. The findings indicated that childhood emotional abuse positively predicted NSSI by increasing depression. Moreover, RFP was protective in depression and NSSI, while AFP did not exert the same effect.

Ethics Approval

This study was approved by the ethics committee of the Faculty of Psychology, Beijing Normal University (protocol number: No.12220085). This study complies with the Declaration of Helsinki.

Informed Consent

All participants gave informed consent before their inclusion in the study.

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Disclosure

The authors report no conflicts of interest in this work.

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