

The Effect of Positive Perfectionism on Academic Burnout Among Middle-School Students: Mediating Role of Emotional Stability and Moderating Effect of Teacher-Student Relationships

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Abstract: Academic burnout affects various educational and psychological outcomes. Students with high levels of academic burnout have been reported to show less interest in curriculums and harms students' growth. Therefore, studying the psychological mechanism of academic burnout is helpful to alleviate academic burnout and improve students' academic performance in the future. This study aims to explore the mechanism of academic burnout from external and internal factors. Using the resource protection model and process-individual-situation-time model, this study used Self-Description Questionnaire II, Teacher-Student Relationships Scale, Maslach burnout inventory-student survey, Frost Multidimensional Perfectionism Scale to investigate the influence of positive perfectionism on middle-school students' academic burnout as well as the mediating role of emotional stability and the moderating role of perceived teacher-student relationships. The results show that (a) positive perfectionism, perceived teacher-student relationships, and emotional stability negatively predict middle-school students' academic burnout; (b) positive perfectionism indirectly affects middle-school students' academic burnout through emotional stability; and (c) perceived teacher-student relationships plays a moderating role between positive perfectionism and emotional stability and between positive perfectionism and academic burnout. Students with high positive perfectionism and a good perceived teacher-student relationships have lower rates of academic burnout than students with a poor perceived teacher-student relationships. The research results are consistent with our research hypothesis and the existing research results. This study contributes to the existing literature by highlighting the differential impact of perceived teacher-student relationships on academic burnout among students with different degrees of positive perfectionism.

Keywords: Middle-school Students, Positive Perfectionism, Academic Burnout, Emotional Stability, Teacher-Student Relationships

1. Introduction

Middle-school students in China face tremendous academic pressure, which has a direct correlation to academic burnout [36, 38, 47]. Schaufeli et al describe academic burnout as having three manifestations: emotional exhaustion, cynicism, and a low sense of accomplishment. Academic burnout affects

various educational and psychological outcomes. Students with high levels of academic burnout have been reported to show less interest in curriculums [52], increasingly drop out of school [3], and have lower academic achievements [14]. Therefore, studying the psychological mechanism of academic burnout is helpful to alleviate academic burnout and improve students' academic performance in the future.

1.1. Literature Review

1.1.1. Positive Perfectionism and Academic Burnout

When in academic burnout, students' emotions and energy are low. According to Hobfoll's resource protection model [24], they may respond to this loss of energy by relying on their resources (such as object resources and personal characteristics) and social resources (social support). When students experience academic burnout, these resources may help them. Object resources (socioeconomic state) can effectively help students resist burnout because parents could send them to tutor institutions. Teachers could provide them with emotional and strategic support (social support). Maslach, Schaufeli, and Leiter suggest that personality has some effect on burnout. Furthermore [39], Frost Marten, Lahart, and Rosenblate found that perfectionism might have a significant impact on academic burnout [16].

According to Frost *et al.* [16], *perfectionism* is a complex multidimensional personality trait composed of excessive worry over mistakes, parental expectations, parental criticism, and doubts about actions, personal standards, and organization. Perfectionism can be broken into two types: negative and positive, which include concern for personal standards and organization. Negative perfectionists show fear of imperfection, fail to meet the requirements of important others, and care about their past and future mistakes. Conversely, positive perfectionists set high and adjustable goals for themselves and accomplish goals in an organized approach. Therefore, this type of perfectionism has positive effects on an individual's life and studies, helping them reduce the occurrence of burnout. Additionally, an empirical study found that having high personal standards was positively correlated with achieving goals [2]. Similarly, organization is a major component of positive perfectionism; it is shown that students who systematically manage their learning experience fewer obstacles in their studies [21], which may reduce the persistence of burnout.

1.1.2. Mediating Role of Emotional Stability

Emotional stability refers to the degree of fluctuation of an individual's emotions based on internal or external changes. This ranges from emotional stability on one end of the spectrum to neuroticism on the other [4]. An empirical study found that neuroticism positively affects academic burnout (Vahedi, Hashemi, & Shafiei, 2015). Further research found that emotional instability could reduce the mental health level of adolescents, thus exacerbating their academic burnout [1]. In contrast, those with high emotional stability feel less stress and are less likely to exhaust their emotional resources [7].

During puberty, as adolescents develop psychologically, emotional experiences become heightened and seem more profound, yet are often unstable. This developmental instability may lead adolescents to experience emotions that are more negative and aggravate the impact of negative events such as academic burnout. Thus, emotional stability may protect students from academic burnout by relieving their emotional exhaustion [37].

Emotionally stable individuals cherish their personal

resources and have higher happiness levels [46]. When these individuals encounter stressors, they can mobilize their resources to adopt effective coping styles with stronger resistance to stress [33]. When individuals with high emotional stability encounter academic burnout, they are, thus, more aware of their cognitive resources and remain calm, which can help them overcome feelings of burnout.

Personality traits make individuals become a continuous unity in behavior, thought, and emotion [42]. In this study, we assume that positive perfectionists (personality traits) have strict and adjustable personal expectations, and their work is systematic and organized [62]. In other words, they act more rigorously and demonstrate more stable reactions, and this personality trait manifests in their emotional behavior. Therefore, it is reasonable to speculate that positive perfectionism may affect emotional stability. Meanwhile, individuals with unstable emotions are more likely to activate negative emotional mechanisms in response to stress or burnout, suggesting that emotional stability plays a mediating role in both positive perfectionism and academic burnout.

1.1.3. Moderating Effect of Teacher-Student Relationships

Along with personality factors, situational factors are a primary source of academic burnout [33]. Bronfenbrenner and Morris believed that a person's characteristics and the external environment affect development together [6]. Their "process-individual-situation-time" model holds that children are surrounded by five environmental systems, namely, microsystem, mesosystem, ecosystem, macrosystem, and chronosystem, from the direct environment (such as family) to remote environment (such as culture). Additionally, these systems interact with each other or with children to affect an individual's development. Therefore, a child's development is influenced not only by their biological and personality characteristics, but also by the environment of the school (microsystem).

Teachers are an important factor in this environment. Good teacher-student relationships are a protective factor against peer bullying and its negative effects [63]. Compared with students who have a poor relationship with teachers, ones who have a good relationship with their teachers are more likely to seek psychological help on campus [22]. From a relational perspective, teachers who respect and support students can encourage them in their studies [18]. From an academic perspective, a good Teacher-Student Relationships promotes academic achievement, relieves academic pressure, and can enhance students' motivation to learn [56]. A cross-lag study found that the Teacher-Student Relationships in Grade 8 could positively predict students' academic participation in Grade 9 [20].

A positive Teacher-Student Relationships can also elevate teachers' feelings of achievement, whereas a negative Teacher-Student Relationships can result in job burnout and emotional exhaustion. Teachers who suffer these negative results may find it difficult to provide social support to students and, consequently, students may find it difficult to seek help for conditions such as academic burnout [11].

1.2. The Present Study

As shown in the studies described above, both the school environment and students' personalities affect academic burnout among middle-school students. Therefore, based on both Hobfoll's resource preservation theory and Bronfenbrenner's "process-individual-situation-time" model to understand how academic burnout develops among middle-school students. This study will examine the mechanism of of personal (i.e., positive perfectionism and emotional stability) and social resources (i.e., perceived Teacher–Student Relationships) on academic burnout. To this end, we propose the following three hypotheses:

H1. Emotional stability plays an intermediary role between positive perfectionism and academic burnout.

H2. Perceived Teacher–Student Relationships plays a moderating role between positive perfectionism and emotional stability.

H3. Perceived Teacher–Student Relationships has a moderating effect on the relationship between positive perfectionism and academic burnout.

We then combine Hypotheses 1–3 to form a regulated intermediary model (Figure 1).

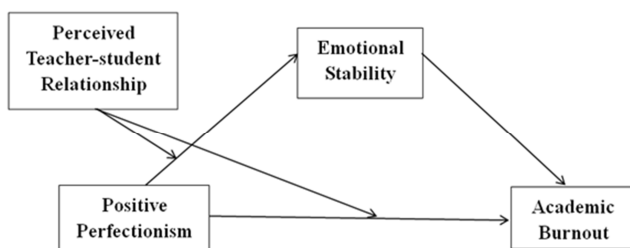


Figure 1. Hypothesized research model.

2. Method

2.1. Participants and Data Collection

We used a convenient sampling method to obtain study participants. A total of 1,227 students from a middle-school in Xi'an were recruited to take the online test in the school's computer room. Informed consent for participation was obtained from the students. We evaluated 11 invalid responses, leading to a final sample size of 1,216 (age 13.4 ± 1.32 years old). Of these, 928 were in their first and second years of junior high school and 288 were in the first year of senior high school. There were 634 boys and 582 girls. All materials and procedures were approved by the Ethics in Human Research Committee of the author's University.

2.2. Measures

2.2.1. Teacher–Student Relationships Scale

Perceived Teacher–Student Relationships was measured using the Teacher–Student Relationships scale for students [12]. The three-factor 18-item scale assesses a student's relationship with their teacher (e.g., you hate teachers or teachers hate you). The scale is scored using a two-point

system: 1 = "yes" and 2 = "no." In the current study, the Cronbach α of the three dimensions are 0.766, 0.881, and 0.882, respectively. The higher the student score, the better the perceived Teacher–Student Relationships.

2.2.2. Self-Description Questionnaire

We measured emotional stability using Chen, Zhu, Yue, and Tang's self-description questionnaire, which includes 102 six-point items on 11 subscales [10]. Emotional stability was measured using statements such as "I am worried about many things." The higher the individual score, the lower the emotional stability. In the current study, the Cronbach α of the total scale is 0.959, and the Cronbach α of emotional stability is 0.708.

2.2.3. Academic Burnout Questionnaire

We assessed academic burnout using the Chinese version of the Maslach burnout inventory–student survey (MBI-SS) [26]. This questionnaire includes 15 seven-point items in three dimensions: emotional exhaustion, low sense of achievement, and depersonalization. An exemplification is "I feel exhausted because of my studies." The higher the student score, the higher the academic burnout. In the current study, the Cronbach α of the total questionnaire is 0.87.

2.2.4. Frost Multidimensional Perfectionism Scale

We also asked students to respond to the multidimensional perfectionism scale designed by Frost et al [16]. This 35 five-point items questionnaire includes six dimensions: orderliness, worries about mistakes, parents' expectations, personal standards, doubts about actions, and parents' criticism. Orderliness and personal standards are considered positive perfectionism, whereas the remaining four dimensions are considered negative perfectionism. The items included "I am an organized and well-organized person." In the current study, the Cronbach α of the total scale, positive perfectionism, and negative perfectionism are 0.878, 0.847, and 0.855, respectively.

2.3. Control Variable

Owing to genetic and environmental factors, male and female students have differences in cognition and coping styles [27]. Empirical studies find significant differences in academic burnout between boys and girls, with girls reporting higher academic burnout than boys [67]. Further research shows that female students experience fatigue more frequently and male students are cynical more frequently [55, 23]. As these studies show that gender is an important variable affecting academic burnout, this study regards gender as a control variable.

2.4. Procedures

We first contacted school psychologists at local secondary schools and obtained consent from teachers and students. Second, we imported the questionnaire questions into the computer system of the school computer room. Third, we trained teachers who administrated the surveys in skills such as computer operation, instruction narration, and relieving

subjects' anxiety. Fourth, we arranged for students to complete the test in an ordered manner in class.

2.5. Statistical Analysis

SPSS21 was used for reliability analysis, descriptive statistics, and correlation analysis. Further, we estimated a structural equation model in Mplus 8 with maximum likelihood estimation and bootstrapping with 1,000 replicates to examine the mediation effect and moderated mediation effect. The model fit we used includes chi-square, compare fit index (CFI), the standardized root mean square residual

error (SRMR), and the root mean square residual error (RMSEA). The model fit is acceptable when CFI value > 0.90 and SRMR value ≤ 0.08 , and a RMSE value within the range of 0.05 to 0.08 would indicate a good fit [26].

3. Results

3.1. Descriptive Results

Table 1 shows the mean and standard deviation of the variables.

Table 1. Descriptive Statistics, Alpha Coefficients, and Correlations.

	1	2	3	4	5	6	7
1. Positive perfectionism	—						
2. Emotional stability	.32***	—					
3. Perceived teacher-student relationship	.24***	.39***	—				
4. Academic burnout	-.41*** _v	-.58***	-.51***	—			
5. Emotional exhaustion	-.23*** _v	-.47***	-.42***	.86***	—		
6. Depersonalize	-.28***	-.43***	-.41***	.85***	.76***	—	
7. Low sense of accomplishment	-.48***	-.50***	-.41***	.73***	.34***	.37***	—
<i>M</i>	3.66	3.05	.29	3.20	3.28	2.45	3.87
<i>SD</i>	.61	.76	.51	1.04	1.38	1.06	1.41

Note. *N* = 1216.

*** $p < .001$.

3.2. Testing the Mediating Effect of Emotional Stability

The mediation model represented in Figure 2 revealed a saturation model: CFI = 1, RMSEA = 0, and SRMR = 0.01. Since this is a saturation model, we focused only on the path coefficients. Positive perfectionism positively predicted emotional stability ($B = 0.32$, $SE = 0.03$, $p < 0.001$, 95% CI [0.27, -0.37]). Additionally, emotional stability negatively predicted the academic burnout of middle-school students ($B = -0.50$, $SE = 0.02$, $p < 0.001$, 95% CI [-0.55, -0.46]). In addition, the residual effect of positive perfectionism on academic burnout was significant ($B = -0.25$, $SE = 0.02$, $p < 0.001$, 95% CI [-0.30, -0.20]). Bootstrapping analyses indicated that emotional stability significantly mediated the relationship between the positive perfectionism and academic burnout of middle-school students (indirect effect = -0.16, $SE = 0.01$, 95% CI [-0.19, -0.13]).

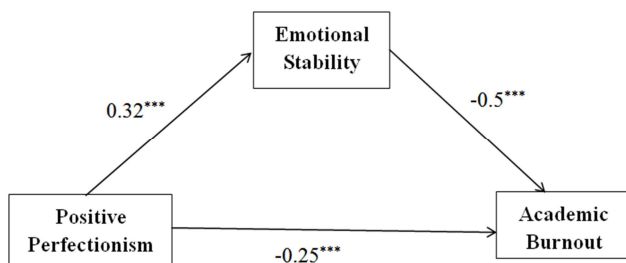


Figure 2. The mediating effect of emotional stability.

3.3. Testing the Moderated Mediating Effect

The moderated mediation model represented in Figure 3 revealed a good fit to the data: CFI = 0.99, RMSEA = 0.02,

and SRMR = 0.01. The bias-corrected percentile bootstrap results indicated that the indirect effect of positive perfectionism on academic burnout through emotional stability was moderated by the Teacher-Student Relationships. Specifically, the Teacher-Student Relationships moderated not only the association between positive perfectionism and academic burnout ($B = -0.07$, $SE = 0.02$, $p < 0.01$, 95% CI [-0.12, -0.02]), but also the association between positive perfectionism and emotional stability ($B = 0.1$, $SE = 0.03$, $p < 0.001$, 95% CI [0.044, 0.15]).

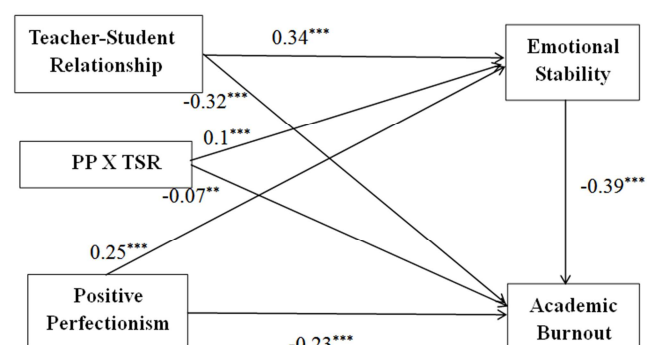


Figure 3. The model of moderated mediation of those paths, the following was significant: gender to academic burnout ($B = -0.05$, $SE = 0.02$, $p < 0.05$, 95% CI [-0.09, 0.009]). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. PP: Positive Perfectionism, TSR: Teacher-Student Relationship.

We conducted a simple slopes test, as depicted in Figure 4. Positive perfectionism was significantly associated with emotional stability among the students with good Teacher-Student Relationships (1 *SD* above the mean, $b = 0.52$, $SE = 0.07$, $p < 0.001$, 95% CI [0.37, 0.66]). However, for those

with poor Teacher–Student Relationships (1 *SD* below the mean), positive perfectionism also had a positive predictive effect on emotional stability, but its predictive effect was small ($b = 0.11$, $SE = 0.05$, $p < 0.05$, 95% CI [0.004, 0.22]). Therefore, the predictive effect of positive perfectionism decreases with the decrease in strength of Teacher–Student Relationships among students (see Table 2). Moreover, Teacher–Student Relationships had a significant positive association with emotional stability ($B = 0.34$, $SE = 0.02$, $p < 0.001$, 95% CI [0.29, 0.39]) and a significant negative relationship with academic burnout ($B = -0.32$, $SE = 0.03$, $p < 0.001$, 95% CI [-0.37, -0.27]).

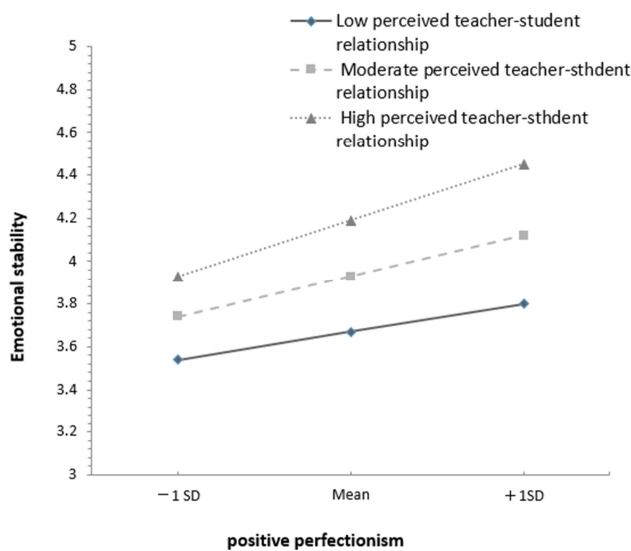


Figure 4. Plot of the interaction between positive perfectionism and perceived teacher-relationship on emotional stability.

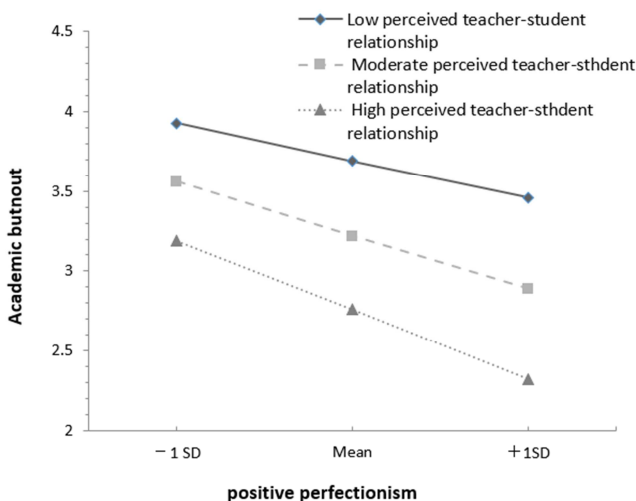


Figure 5. Plot of the interaction between positive perfectionism and perceived teacher-relationship on academic burnout.

In addition, the result illustrated in Figure 5 showed that positive perfectionism was negatively associated with academic burnout among the students with good Teacher–Student Relationships (1 *SD* above the mean, $b = -0.59$, $SE = 0.08$, $p < 0.001$, 95% CI [-0.75, -0.44]). However, for those with poor Teacher–Student Relationships (1 *SD*

below the mean), positive perfectionism also had a negative predictive effect on academic burnout, but its predictive effect was small ($b = -0.18$, $SE = 0.08$, $p < 0.05$, 95% CI [-0.37, -0.04]). Therefore, the predictive effect of positive perfectionism decreases with the decrease in strength of Teacher–Student Relationships among students (see Table 2).

Table 2. The mediating effect of perceived teacher-student relationship at different levels.

	Teacher-Student Relationship	B	Boot SE	Boot CI
Emotional Stability	M - 1SD	0.11	0.05	[0.004, 0.22]
	M	0.32	0.03	[0.24, 0.38]
	M + 1SD	0.52	0.07	[0.37, 0.66]
Direct Effect	M - 1SD	-0.18	0.08	[-0.37, -0.04]
	M + 1SD	-0.59	0.08	[-0.75, -0.44]

4. Discussion

4.1. Mediating Effect of Emotional Stability

These findings are in line with Schachter and Singer's two-factor model of emotion [57], which holds that both physiological and cognitive factors generate emotions; the latter play an important role in evaluating the current situation and recalling past experiences. In the case of academic burnout, this means that if individuals assess that the current situation is unpleasant, those who are short of resources (negative perfectionists) are more likely to suffer from the “loss spiral effect” [44, 59].

Individuals with poor organization, or positive perfectionism, are prone to anxiety when encountering stress and cannot calm down in a short period. They may adopt “emotion-centered coping strategies” such as suppressing their emotions, which is not conducive to emotional resolution and problem solving and results in a shortage of personal resources, a state not conducive to coping with academic burnout. These individuals' emotional instability makes them more inclined to use self-handicapping strategies to protect their sense of self-worth, which can further aggravate academic burnout [51, 5]. Thus, emotional instability can positively predict academic burnout [28].

Positive perfectionists, on the other hand, can use past experiences to understand that negative emotions such as anxiety and panic cannot solve problems and instead solve problems through effective planning. In addition, these individuals' organizational performance allows them to remain relatively stable even as their emotions change. Emotional stability is a resource, and individual emotional stability is related to low levels of perceptual interference [60]. In other words, students' emotional stability can reduce their perception of academic pressure and relieve academic burnout. Previous studies have found that higher emotional stability significantly negatively predicts the level of emotional exhaustion [37].

4.2. Moderating Effect of Perceived Teacher–Student Relationships

Our results also show that the perceived Teacher–Student Relationships could significantly adjust the relationship between positive perfectionism and academic burnout. Students with high positive perfectionism and a good perceived Teacher–Student Relationships have lower rates of academic burnout than students with a poor perceived Teacher–Student Relationships. Among students with a low level of positive perfectionism, those with a good perceived Teacher–Student Relationships are less likely to suffer burnout than those who perceive a negative relationship. Burnout is the highest among those who have a low rate of positive perfectionism and perceived estranged relationship with their teachers.

This finding reflects Hobfoll's theory of resource conservation, which holds that personal resources and social support can help individuals deal with stress [24]. Positive perfectionism is a personal resource: It allows individuals to set reasonable and strict goals for themselves and engage in organized learning and time management [13]. As we all know, a good relationship with teachers is a type of social support resource. When experiencing academic burnout, students who perceive a good relationship between teachers and themselves will seek out and receive support from their teachers, i.e., teachers may ask students about their recent learning objectives and provide suggestions. In other words, both personal and social resources work together to address the pressures of academic burnout.

However, students who perceive a bad relationship between themselves and teachers only have positive perfectionism to rely on in cases of burnout; they cannot seek support from teachers when encountering difficulties. Teachers also need feedback from students [29]; when teachers do not know a student, they can provide little help. In other words, it is difficult for teachers to provide students with the resources they need in the absence of feedback, which is not conducive to alleviating students' academic burnout.

The “process-individual-situation-time” model suggests that children will also affect other individuals in the environment. When the relationship between students and teachers is negative, students will reduce their interactions with teachers. When teachers perceive a poor relationship between themselves and students, they are more likely to report a state of emotional exhaustion [11]. In other words, it is difficult for teachers to bring positive resources, such as social support, to estranged students when their emotional resources are scarce. When students perceive a bad relationship with a teacher, their interest in the subject and their learning motivation decreases, which can aggravate academic burnout [45].

In addition, perceived Teacher–Student Relationships can affect the intermediary path of the “positive perfectionism → emotional stability → academic burnout” model. Among those with low positive perfectionism, students do not have

appropriate and clear goals for themselves, which may lead to the excessive pursuit of unrealistic learning goals determined by others [9]. This may lead to heightened instances of anxiety, tension, and depression [32]. These students gradually form negative self-schema, which is not conducive to the formation of individual emotional stability. If they also perceive a negative relationship between teachers and themselves, their basic psychological needs of belonging and love cannot be met; this will aggravate negative emotions such as irritability and moodiness and lessen emotional stability. On the contrary, when a student feels that they have a good relationship with their teacher, and their basic psychological needs are met partially or wholly, the intensity and frequency of negative emotions are reduced, and the intensity and frequency of positive emotions increase.

A study of children with mental developmental disabilities found that depression caused by peer injury could be relieved by a good Teacher–Student Relationships [45]. The theory of positive emotional expansion and construction holds that positive emotions such as happiness, interest, and satisfaction broaden an individual's cognitive vision and establish long-term personal resources—including physical, social, intellectual, and psychological resources—and change behavior [15]. Perceiving that the relationship between teachers and themselves is good, students will feel pleasure and satisfaction, allowing them to quickly complete cognitive reevaluation, i.e., to move from burnout to “In fact, things are not that bad; my teacher will help and care for me.” Once this shift in cognition occurs, negative emotions will slow down, calm and satisfied emotions will slowly rise, and the level of emotional stability will increase.

5. Conclusion

The results of this study show that positive perfectionism can significantly predict the level of academic burnout in middle-school students through the mediating effect of emotional stability. As emotional stability increases, the predictive power of positive perfectionism on academic burnout decreases. Our results also show that the perceived teacher–student relationships could moderate the relationship between positive perfectionism and academic burnout. Therefore, the predictive effect of positive perfectionism decreases with the decrease in strength of Teacher–Student Relationships among students. In addition, perceived teacher–student relationships can affect the intermediary path of the “positive perfectionism → emotional stability → academic burnout” model. Among those with low positive perfectionism, students do not have appropriate and clear goals for themselves, which may lead to the excessive pursuit of unrealistic learning goals determined by others. This study contributes to the existing literature by highlighting the differential impact of perceived teacher–student relationships on academic burnout among students with different degrees of positive perfectionism.

There are several limitations in the present research must be acknowledged. Firstly, the cross-sectional is hardly to

observe the developmental continuity of academic burnout. It is suggested that, longitudinal study can be used in the future, which can better explore the development track of middle-school students' academic burnout. Secondly, the current study only used scale as a research method. Future research is encouraged to add collect the process data of subjects.

6. Recommendation

The findings of the current research also provided some suggestions. First, it is notable that positive perfectionism affects academic burnout through providing emotional stability. To reduce the level of academic burnout, parents could teach their children effective emotion adjustment methods. Reappraisal is an effective strategy that promotes emotional stability and consequently enhances school adjustment, less academic burnout [30]. Moreover, more care and attention should be given to those adolescents with high level of neuroticism, in the light of their more vulnerable reaction to stressors that are easier to make them burnout.

Second, the research uncovered the resources-based mechanism of academic burnout. We found that both personal and social resources work together to address the pressures of academic burnout. To reduce the degree of academic burnout, teachers can provide social support for students in academic burnout.

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