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# THE RELATIONSHIP BETWEEN FAMILY FUNCTIONING AND ACADEMIC BURNOUT OF COLLEGE STUDENTS: THE MEDIATING ROLE OF CORE SELF-EVALUATION AND COPYING STYLE

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**Abstract.** Family is of paramount importance in individual growth and has significant impact on individual academic burnout. Despite of the importance of family functioning, the impact mechanism of overall family functioning on students academic burnout remains unclear. Therefore, this paper examined the mediating role of core self-evaluation and coping style between family functioning and academic burnout. In this study, 314 Chinese college students from different universities were investigated with the family functioning evaluation scale, core self-evaluations scale, simplified coping style scale, and academic burnout scale. The findings showed that family functioning, core self-evaluation, and coping style were significantly and positively correlated with each other. All three variables were significantly and negatively correlated with academic burnout. As expected, core self-evaluation and coping style play a full mediating role between family functioning and academic burnout. This research reveals the impact mechanism between family functioning and academic burnout among Chinese college students, providing effective intervention strategies focusing on students' core self-evaluation and coping style.

**Key words:** Family functioning, core self-evaluation, coping style, academic burnout, China

**1. Introduction.** Family is a microsystem that influences individual growth, providing different conditions for the development of individuals' cognitive, psychological, and social aspects [10]. According to previous studies, family environment has a significant impact on students' academic burnout [32]. Academic burnout refers to the phenomenon that students become exhausted due to the pressure of long-term schoolwork, losing enthusiasm for schoolwork activities, becoming indifferent to classmates, and have negative attitudes towards schoolwork because their performance is not as good as expected [35]. Academic burnout reflects students' learning motivation and attitudes and can have a negative impact on their academic performance and efficiency [37]. Long-term academic burnout may also lead to decreases in happiness [27]. Therefore, it is crucial to study the impact mechanism of academic burnout, which can provide insights for improving academic burnout status and students' physical and mental health. Although previous studies explored the correlation between family factors and academic burnout, to my best knowledge, there is no study to clarify the mechanism of overall family functioning's impact on academic burnout. To fill the literature gap, this study explored the impact of family functioning on academic burnout and the role of core self-evaluation and coping style.

**1.1. The relationship between family functioning and academic burnout.** Family functioning is a comprehensive variable that measures the overall operational quality of a family [9]. It includes specific behavioral characteristics in family environment, such as communication, behavioral control, etc. [14]. Different factors in family environment can have impacts on academic burnout and its related factors. For example, parental involvement can effectively promote children's academic engagement and academic performance [11]. A recent meta-analysis also showed a significant and positive correlation between parental engagement and student performance [26]. In addition, individuals who grow up in a positive parenting style full of emotional warmth rather than a negative parenting style of punishment and rejection are less likely to suffer from learning disabilities [6]. A positive parenting style also makes students more confident and less likely to suffer from academic burnout [45]. A highly controlled family atmosphere can create higher academic pressure on children, thereby undermining their desire for autonomous learning [15]. In terms of family conflicts, parental marital conflicts are also an important reason for students' academic burnout [5]. This may be because parents will focus

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on marriage issues and pay less attention to children, or even refuse to communicate with children. In order to attract the parents' attention, neglected children may occasionally learn to gain the parents' attention through their problematic behaviors, and in turn such parents' attention strengthens their problematic behaviors [39].

It is worth noting that there are separate studies that have looked at the independent effects of various factors in the family environment on academic burnout. However, in real life circumstances, various factors in the family environment coexist and have a joint impact on academic burnout. Therefore, it is of paramount importance to conduct a study on the impact of various factors in the family environment, namely family functioning, on academic burnout. In addition, previous studies mostly focused on the impact of family functioning or resources obtained from the overall family on academic-related factors rather than academic burnout per se. For example, good family functioning has positive effect on children's self-regulated learning and academic achievement [7, 46], and the support obtained in the overall family is effective in preventing academic failure [3]. However, little consideration has been given to the impact and mechanism of overall family functioning on academic burnout. The current research concentrates on the impact mechanism of family functioning on academic burnou. Specifically, this study tests the mediating role of core self-evaluation and coping style between overall family functioning and academic burnout. This mediation model has not been studied and will be introduced below.

**1.2. The mediating role of core self-evaluation.** Core self-evaluation is considered to be the most core assessment of an individual's own ability and value, containing four factors: generalized self-efficacy, self-esteem, neuroticism, and locus of control [22]. Research shows that various factors in family functioning will have an impact on individual core self-evaluation. For example, higher parental involvement can help children build a higher sense of academic efficacy [1]. Parenting style, parent-child relationship, and core self-evaluation are closely related [34]. Positive family resources can also improve the individuals' core self-evaluation [18]. Research on overall family functioning also shows that the better the family functioning, the higher the core self-evaluation level [41].

In addition, students with high levels of core self-evaluation have low levels of academic burnout [38]. As a sub-dimension of core self-evaluation, self-esteem [31] and self-efficacy [12] can significantly and negatively predict academic burnout, and neuroticism [47] and external locus of control [24] also have a significant and positive correlation with academic burnout. Therefore, this study hypothesizes that family functioning has an impact on academic burnout through the mediating effect of core self-evaluation.

**1.3. The mediating role of coping style.** Coping style refers to individuals' cognitive or behavioral strategies when internal or external demands exceed their own resources [30]. There are two types of coping style: positive coping and negative coping [53]. Positive coping often focuses on problem-solving, and reflect individuals' effort to make changes. In contrast, negative coping often focuses more on emotions, and means individuals' try to reduce their bad emotions through avoidance, venting, fantasy, and other strategies.

Family functioning, as a resource that provides conditions for development, is also significantly correlated with coping style [33]. Good intimacy and adaptability in families are associated with higher levels of positive coping [4], while arbitrary and negative parent-child interactions in families increase the use of negative coping [25].

In addition, positive coping can reduce academic burnout [36,52]. When facing stressful events, college students who tend to actively respond are less prone to suffer from academic burnout [2]. Thompson et al. [49] have also found in their research on medical students that the more frequent use of method-oriented coping style, compared to avoidance coping style, can significantly reduce the risk of burnout. Therefore, this study hypothesizes that family functioning has an impact on academic burnout through the mediating effect of coping style.

**1.4. The chain mediating effect of core self-evaluation and coping style.** Both high core self-evaluation and positive coping contribute to reducing academic burnout, and research has shown a close relationship between the two. Individuals with higher core self-evaluation adopt more problem-solving coping style and fewer avoidance coping style [20]. This can be explained by the "evaluation-coping" theory, which argues that individuals' cognition and evaluation of themselves will affect their attitudes and methods of coping when facing problems. Individuals with higher levels of core self-evaluation tend to adopt positive coping when facing

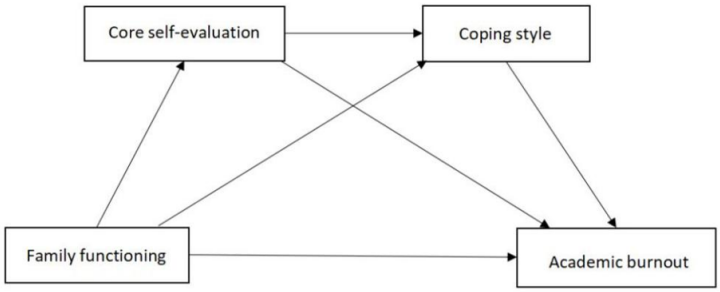


Fig. 1.1: The mediating model hypothesis of core self-evaluation and coping style between family functioning and academic burnout

difficulties, while individuals with lower core self-evaluation are more inclined to adopt negative coping style such as avoiding problems [29].

In the sub-dimensions of core self-evaluation, it can also be seen that self-efficacy affects individuals' sensory responses and thinking patterns [8]. Students with high self-efficacy are usually able to select appropriate strategies when facing failure or academic stress, thereby decreasing the intensity of any symptom of academic burnout [28]. Therefore, this study hypothesizes that core self-evaluation and coping style play a chain mediating role between family functioning and academic burnout (Figure 1.1).

## 2. Methods.

**2.1. Participants.** This study adopted the questionnaire method. In the study of mediating effects, the sample size should reach 250 [17]. This study collected 314 valid questionnaires. The participants were all college students aged 17 to 26 from various regions in China ($M = 20.09$, $SD = 1.31$), of which 123 were males and 182 were females (9 of whom did not want to disclose their gender).

### 2.2. Measures.

**2.2.1. Family functioning.** A Family Functioning Evaluation Scale suitable for Chinese cultural background was developed by [58] for adolescent participants, consisting of 33 questions, including five dimensions: mutuality, conflict and harmony, communication, parental concern, and parental control. The scale adopted a 5-point scoring system, ranging from 1 "*completely dissimilar*" to 5 "*completely similar*". Nine items were reverse coded, because the lower the scores on these items, the higher the degree of the characteristic measured by this questionnaire. The average score of all items was calculated. The higher the score, the better the participants' family functioning. The Cronbach alpha coefficient for Family Functioning Evaluation Scale in this study was 0.96.

**2.2.2. Core self-evaluation.** This research adopted the adjusted version of the Core Self-Evaluations Scale established by [22]. The original scale contained 12 questions and was a single-dimensional tool for directly measuring core self-evaluation. A confirmative factor analysis with Chinese sample showed that only after deleting 2 of the questions could the remaining 10 questions be classified into the same underlying factor [13]. The scale adopted a 5-point scoring system, ranging from 1 "*completely disagree*" to 5 "*completely agree*". Six items were reverse coded. The average score of all items was calculated. The higher the score, the higher the participants' core self-evaluation. The Cronbach alpha coefficient for Core Self-Evaluations Scale in this study was 0.91.

**2.2.3. Coping style.** This research employed the Simplified Coping Style Scale developed by [53]. The scale consisted of 20 questions, including two subscales: positive coping and negative coping. The scale adopted a 4-point scoring system, which ranges from 1 "*never use*", 2 "*occasionally use*", 3 "*sometimes use*" to 4 "*frequently use*". After the negative coping dimension items were scored reversely, the average score of all items

Table 3.1: Mean, standard deviation, and correlation coefficient between variables

| Variable | M ± SD | Family functioning | Core self-evaluation | Coping style | Academic burnout |
|---|---|---|---|---|---|
| Family functioning | 3.917±0.620 | 1 | | | |
| Core self-evaluation | 3.439±0.707 | 0.423** | 1 | | |
| Coping style | 2.861±0.322 | 0.360** | 0.574** | 1 | |
| Academic burnout | 3.586±1.101 | -0.370** | -0.737** | -0.617** | 1 |

Note: **p<0.01

was calculated. The higher the score, the more active the participants' coping style was when facing difficulties and problems. The Cronbach alpha coefficient for Simplified Coping Style Scale in this study was 0.68, which was greater than 0.6 and within the acceptable range [48].

**2.2.4. Academic burnout.** This research adopted the Academic Burnout Scale (MBI-SS) established by [42]. It consisted of 15 questions and included three dimensions: exhaustion, cynicism, professional efficacy. The scale adopted a 7-point scoring system, ranging from 1 "*completely non-compliant*" to 7 "*completely compliant*". Six items were reversely coded. The average score of all items were calculated. The higher the score, the more severe the academic burnout of the participants. The Cronbach alpha coefficient for Academic Burnout Scale in this study was 0.94.

**2.3. Testing procedures and data analysis.** The present research utilized the online questionnaire platform "Wenjuanxing" to create and distribute questionnaires. 517 copies of questionnaires were distributed. Participants saw questionnaire information in WeChat groups of college students across China. After the selection by quality screening questions (For example: Please select "completely agree" for this question), 314 valid questionnaires were left (Participants who did not select the specified option would be excluded). All participants were given 3 yuan (roughly equal to 0.42 dollars) as a token of appreciation. Participants were told that the questionnaire was anonymous and would only be used for scientific research purposes. After completing the questionnaire, all participants were informed of the research purpose.

SPSS 23 was employed for descriptive statistical analysis and correlation analysis, and its plug-in process 4.0 was utilized to test the mediating effect. The Bootstrap mediating test method [17] was employed to test the mediating effect.

**3. Results.**

**3.1. Common method bias control.** The utilization of self-reported data collection could result in common method bias. This study adopted the Harman single-factor test [54], revealing that 17 factors had a characteristic value greater than 1. The variance elucidated by the first factor was 26.7%, lower than 40% (the critical value). Thus, no obvious common method bias was found in the current research.

**3.2. Descriptive analysis and correlation analysis.** From Table 3.1, it could be seen that family functioning had positive correlations with core self-evaluation and coping style. Core self-evaluation had a positive correlation with coping style. Family functioning, core self-evaluation, and coping style were negatively correlated with academic burnout.

**3.3. Mediation Analysis.** The findings of the testing of the mediation model were reported in Table 3.2 (the values between variables in the table were non-standardized regression coefficients, and the values in parentheses were standardized regression coefficients). The control variables are gender and age. According to the results in Table 3.2, family functioning significantly and negatively affected academic burnout among college students, with a total effect of -0.632.

Further analysis and summary of the effects were shown in Table 3.3. Family functioning significantly and positively affected core self-evaluation ($r$ = 0.477, $p < 0.001$) and coping style ( $r$ =0.077, $p$ = 0.004). Core self-evaluation significantly and positively affected coping style ($r$ = 0.233, $p < 0.001$), and negatively affected academic burnout ($r$ = -0.854, $p < 0.001$). Coping style significantly and negatively affected academic burnout ($r$ = -0.966, $p < 0.001$). After adding two mediating variables, the direct effect was not significant anymore,

Table 3.2: Mediating effect model test (n=314)

| | Core self-evaluation | Coping style | Academic burnout | Academic burnout |
|---|---|---|---|---|
| Constant | 1.395** | 1.621** | 7.603** | 10.674** |
| Gender | -0.085(-0.059) | 0.006(0.009) | 0.382**(0.171) | 0.296**(0.132) |
| Age | 0.015(0.027) | 0.006(0.025) | -0.107*(-0.121) | -0.084**(-0.095) |
| Family functioning | 0.477** 0.418 | 0.077** 0.148 | -0.632** -0.356 | -0.042 -0.024 |
| Core self-evaluation | | 0.233** 0.511 | | -0.854** -0.549 |
| coping style | | | | -0.966** -0.282 |
| R2 | 0.183 | 0.349 | 0.185 | 0.629 |
| Adjusted R2 | 0.175 | 0.340 | 0.177 | 0.623 |
| F-value | F (3,310)=23.195** | F (4,309)=41.361** | F (3,310)=23.399** | F (5,308)=104.295** |

Note: **p<0.01

Table 3.3: Summary of the effect analysis process

| | Functional relationship | Effect | SE | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|---|
| Direct effect | Family functioning→Academic burnout | -0.042 | 0.069 | -0.614 | 0.540 | -0.178 | 0.093 |
| Indirect effect | Family functioning→Core self-evaluation | 0.477 | 0.059 | 8.134 | 0.000 | 0.362 | 0.592 |
| | Family functioning→Coping style | 0.077 | 0.026 | 2.928 | 0.004 | 0.025 | 0.129 |
| | Core self-evaluation→Coping style | 0.233 | 0.023 | 10.064 | 0.000 | 0.187 | 0.278 |
| | Core self-evaluation→Academic burnout | -0.854 | 0.069 | -12.390 | 0.000 | -0.989 | -0.719 |
| | Coping style→Academic burnout | -0.966 | 0.147 | -6.564 | 0.000 | -1.254 | -0.677 |
| Total effect | Family functioning→Academic burnout | -0.632 | 0.091 | -6.920 | 0.000 | -0.810 | -0.453 |

Note: LLCI represents the lower limit of the 95% interval of the estimated value, while ULCI represents the upper limit of the 95% interval of the estimated value.

indicating that core self-evaluation and coping style played a full mediating role between family functioning and academic burnout.

The Bootstrap mediating test method (repeated sampling 5,000 times) was employed to further test the mediating effect, and the findings were depicted in Table 3.3.

The confidence interval of the mediating effect test of core self-evaluation between family functioning and academic burnout was [-0.295, -0.164], excluding 0. 64.46% of the total effect resulted from this mediating effect. Thus, family functioning can affect academic burnout by influencing core self-evaluation. The confidence interval of the mediating effect test of coping style between family functioning and academic burnout was [-0.073, -0.015], excluding 0. 11.77% of the total effect resulted from this mediating effect. Thus, family functioning can affect academic burnout by influencing coping style. The confidence interval of the chain mediating effect path was [-0.086, -0.037], excluding 0. Thus, the chain mediating effect path existed, and 16.99% of the total effect resulted from this chain mediating effect. Thus, family functioning can affect academic burnout by influencing core self-evaluation and subsequently influencing coping style. This study took the standard regression coefficient to draw the model diagram, as depicted in Figure 3.1.

**4. Discussion.** This study examined the mediating role of core self-evaluation and coping style between family functioning and academic burnout. In the area of research on academic burnout, previous studies mostly focused on how separate factors in the family environment affected academic burnout, while lacking research on overall family functioning. This study focused on the impact of overall family functioning on academic burnout, using a chain mediation model to demonstrate its influencing mechanism, providing more insights to research in this field.

This study showed that good family functioning could reduce academic burnout, which was in line with previous studies. For example, family environment could significantly and negatively predict academic burnout [32], and support from the family had an important role in preventing academic failure [3], and family functioning could promote self-regulated learning and academic achievement [46]. In addition, the current research

Table 3.4: Mediating effect analysis

| Functional relationship | Effect | Boot SE | BootLLCI | BootULCI | z | p |
|---|---|---|---|---|---|---|
| Family functioning→ →Core self-evaluation→ →Academic burnout | -0.407 | 0.034 | -0.295 | -0.164 | -12.152 | 0.000 |
| Family functioning→ →Coping style→ →Academic burnout | -0.074 | 0.015 | -0.073 | -0.015 | -4.897 | 0.000 |
| Family functioning→ →Core self-evaluation→ →Coping style→Academic burnout | -0.107 | 0.012 | -0.086 | -0.037 | -8.697 | 0.000 |

Note: BootLLCI represents the lower limit of the 95% interval for Bootstrap sampling, and BootULCI represents the upper limit of the 95% interval for Bootstrap sampling.

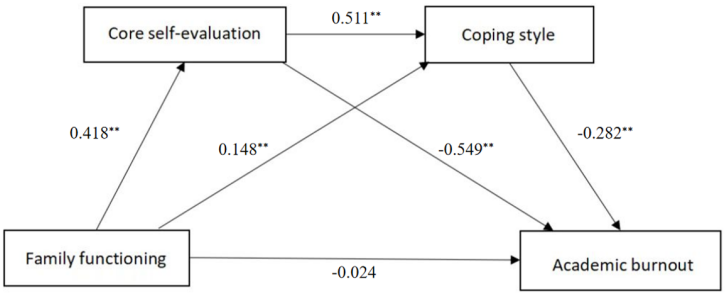


Fig. 3.1: The mediation model of family functioning, core self-evaluation, coping style, and academic burnout (Note: **p <0.01)

found that core self-evaluation played a mediating role between family functioning and academic burnout. This was consistent with previous theoretical mechanisms, where factors in the family, such as parents' attitudes and specific behaviors, were further internalized into children's own beliefs (cognition and evaluation of themselves). For example, the care given and expectations showed by parents to children, could be transformed into children's more positive learning attitudes and stimulate their learning motivation, thereby decreasing the possibility of academic burnout [40].

Moreover, the current research found that coping style played a mediating role between family functioning and academic burnout. This could be because an individual's coping style played an important mediating role between the stress situation and the individuals' short-term or long-term mental health problems (i.e., academic burnout in this study) it led to [44]. For instance, when the family functioning was poor, this could lead to some stress situations (such as parental conflicts), which could affect children's coping style and lead to psychological problems such as emotional exhaustion (a sub-dimension of academic burnout). Similarly, more stressful life events directly led to more avoidance coping style, rather than problem-solving coping style. This also indicated that when poor family functioning caused stress, children were more prone to develop negative coping style, thus being more likely to suffer from academic burnout [2]. Moreover, On the basis of the conservation of resources theory, individuals with more resources would adopt more positive coping styles when faced with problems, thereby they can obtain more resources. On the contrary, the fewer resources they had, the more likely they would adopt more negative coping styles, and this would result in fewer resources [19]. Family functioning is a resource that provides conditions for individuals' development, and when it was well functioning, individuals could adopt more positive coping styles and obtain more resources to invest in learning, which also made individuals less prone to academic burnout. Lastly, this study found for the first time that core self-evaluation and coping style played a chain mediating role between family functioning and academic

burnout, revealing a more complete mechanism of the impact of family functioning on academic burnout. This chain mediation also conformed to the "evaluation-coping" theory proposed by previous scholars, which stated that individuals' core self-evaluation affected their coping style when facing problems [30].

The chain mediation model also provided new insights for designing effective interventions in students' academic burnout problems. Family functioning is relatively difficult to regulate and intervene effectively, as it is a complex variable involving multiple individual members in the family. Comparably, core self-evaluation and coping style are more prone to be intervened through relevant methods, thereby reducing students' academic burnout. For example, research showed that personality advantage based mental health treatment methods (which made people aware of their positive qualities or advantages) had a continuous improvement in self-esteem and self-efficacy (sub-dimensions of core self-evaluation) [50]. Additionally, the research by [21] also demonstrated that six-week occupational interventions (including adaptability, self-concept, decision-making, *etc.*) showed strong effects in addressing negatively coping style. Due to the full mediating effect of core self-evaluation and coping style, educators can use these therapies to improve core self-evaluation and coping style to effectively improve academic burnout. At the same time, educators or therapists using these therapies should undergo rigorous ethical review, and there could also be policies in place to support the improvement of academic burnout with these therapies.

Finally, there are also some shortcomings and limitations in this study. First of all, the participants in this study were selected only from Chinese college students, and future studies may consider selecting participants from different cultural backgrounds. Secondly, the research method was a cross-sectional study. The analysis of the mediation effect may not indicate causal relationships. The longitudinal design can be used in the future to discuss this issue more deeply. Thirdly, the questionnaire of this study adopted self-report method, and the responses of the participants may not be entirely accurate, and may also be influenced by external factors. Future research could consider combining the reported results of others (such as parents, teachers, and friends), or use methods such as interviews and senarios. Lastly, some variables may moderate the impact of family functioning on academic burnout. Future research could study potential moderators, and this will provide meaningful insights for designing effective interventions, too. For example, emotional intelligence may moderate the impact of family functioning on academic burnout. Thus, individuals with high emotional intelligence are less prone to suffer from academic burnout [51], which means they may be less susceptible to external stress events and may still be able to maintain a good state of learning engagement even when family functioning is poor. This possibility can be explored in the future.

**5. Conclusion.** In summary, this article investigates for the first time the chain mediating effect of core self-evaluation and coping style between family functioning and academic burnout. This research draws the following crucial conclusions:

1. Family functioning, core self-evaluation, and coping style are all significantly and positively correlated with each other. All three variables are significantly and negatively correlated with academic burnout;
2. Core self-evaluation and coping style play a full mediating role between family functioning and academic burnout. The findings of this research also inspire relevant researchers to design interventions based on students' core self-evaluation and coping style, in order to improve students' academic burnout.

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