

A Study on the Correlation of Sense of Hope, Coping Style and Academic Burnout among College Students

Hou Yongmei*

Department of Psychology, School of Humanities and Administration, Guangdong Medical University, Dongguan, Guangdong Province, China

*Corresponding author: *Hou Yongmei*,

Abstract Objective: To explore the characteristics of sense of hope, coping styles and academic burnout among college students, and explore the correlation among the above 3 variable. **Methods** Five hundred and twenty-five college students are selected by stratified random sampling. They are surveyed with Adult Dispositional Hope Scale (ADHS), Simplified Coping Style Questionnaire (SCSQ) and Academic Burnout Scale for Undergraduate (ABSU). **Results** (1) The total scores of ADHS, SCSQ and ABSU are (20.07 ± 3.34) , (-6.49 ± 5.89) and (65.20 ± 12.94) , respectively. (2) There is a significantly pairwise correlation among the total scores of ADHS, positive coping (PC) and ABSU ($r=.623, -.370, -.416$; all $P<.01$), and a significantly pairwise correlation among the total scores of ADHS, positive coping (NC) and ABSU ($r=-.601, -.370, .249$; all $P<.01$). (3) The score of PC and NC play a partial mediating effect in the relationship between the total scores of ADHS and ABSU, with the mediating effects accounting for 60.75% and 57.17% of the total effect, respectively. **Conclusion** The sense of hope not only directly influences academic burnout in the undergraduates, but also indirectly influences it through coping style.

Keywords: College Students, Sense of Hope, coping style, Academic Burnout, Mediating Effect

I. Introduction

The Hope Theory was first proposed by Snyder [1]. He believes that the sense of hope is a positive motivational state based on the internal sense of success, consisting of two parts: willingness and path. Willingness is a self-belief system that initiates individual actions and supports individuals to continue moving towards their goals along a predetermined path. Path is a set of beliefs and perceptions about an individual's ability to find effective paths to achieve desired goals. In the field of education, the sense of hope is considered a motivational positive emotion that is positively correlated with academic achievement [2]. Students with a high sense of hope still believe that they can achieve success when facing academic difficulties, objectively evaluate problems as much as possible, actively seek solutions, and always maintain a positive learning motivation [3]. It can be seen that the level of hope affects an individual's coping style. When individuals perceive a high level of

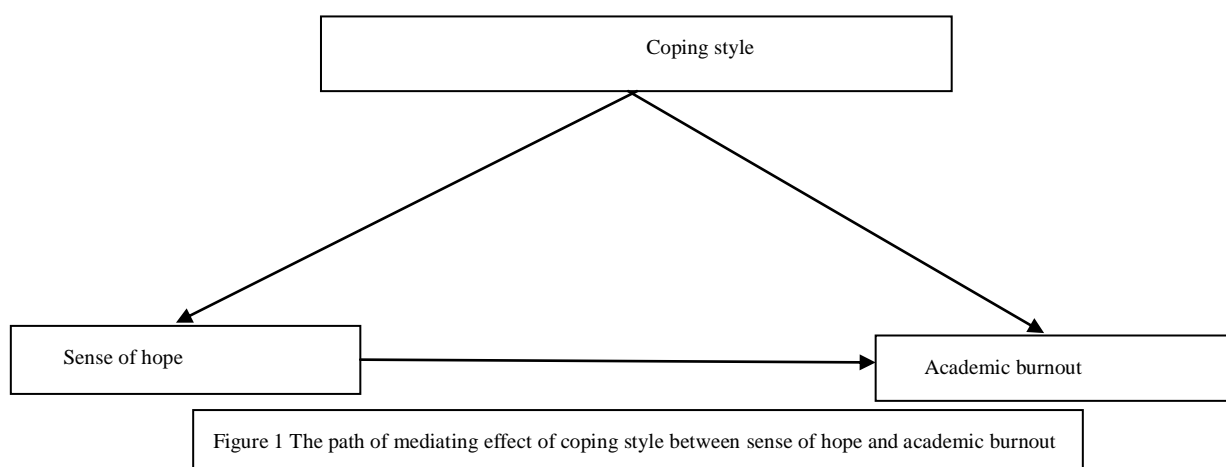
hope for problem-solving, they often adopt positive coping strategies. If the level of hope is low, they tend to adopt negative coping strategies.

Coping style is an effort process of cognition and behavior made by individuals in the face of frustration and stress in order to reduce their impact, including positive and negative coping [4]. Coping style is one of the important indications of mental health [5], and an intermediary mechanism between stress and mental health with buffer effect [6-8].

Academic burnout is the most common problem appearing among undergraduates, which detection rate abroad is 9.9-40.3% [9-11], domestically being 70.46-93.39% [12-15]. It can reduce individual academic initiative [9], leading to physical and mental fatigue [10-11] and psychological syndrome [11, 13], and hindering academic [14-15] and occupational development [13].

From the elaboration of the three concepts of sense of hope, coping style, and academic burnout, it can be seen that there is a close logical connection between the three: those with high sense of hope tend to adopt positive coping styles, while those with low sense of hope tend to adopt negative coping styles; Those who are unable to cope with academic stress (with inappropriate coping methods) are prone to academic burnout, which in turn leads to a low sense of hope; Academic burnout often leads to inappropriate ways of dealing with people and things, such as emotional exhaustion and depersonalization.

On the other hand, empirical research has also demonstrated a significant pairwise correlation between sense of hope, coping styles, and academic burnout [16-18]. Academic burnout manifests as explicit behavioral and emotional responses, which is an outcome variable; The sense of hope is a deep personality trait that belongs to the distal variable; Coping style is a superficial personality trait that belongs to the proximal variable. Therefore, the sense of hope should be more mediated by coping styles. Based on this analysis, we can assume that coping styles play a mediating role between sense of hope and academic burnout. The mediation path is shown in the figure 1:



II. Objects and Methods

2.1 Objects

A total of 600 college students are selected by stratified random sampling method from 8 universities in Guangdong Province, including South China University of Technology, Zhongkai Agricultural College, South China Normal University, Guangdong Medical University, Guangzhou Academy of Fine Arts, Guangzhou Institute of Physical Education, Guangdong University of Foreign Studies, and Guangdong University of Finance and Economics. Five hundred and twenty-five valid questionnaires were collected, with an effective rate of 87.5%. The age ranges from 17 to 25 years, with an average of (21.54±3.67) years old. Among them, 319 males and 203 females; 94 from South China University of Technology, 54 from Zhongkai Agricultural College, 83 from South China Normal University, 77 from Guangdong Medical University, 36 from Guangzhou Academy of Fine Arts, 43 from Guangzhou Institute of Physical Education, 75 from Guangdong University of Foreign Studies and Economics, and 63 from Guangdong University of Finance and Economics; 151 freshmen, 133 sophomores, 107 juniors, 82 seniors, and 52 fifth-year students.

2.2 Tools

2.2.1 Adult Dispositional Hope Scale, ADHS

Compiled by Snyder et al. [19] and revised by Ren Jun et al. [20] into Chinese version. This scale is based on Snyder's Hope Theory and consists of 8 questions, divided into two dimensions: willingness motivation (WM) and path thinking (PT). The additional four questions about goals are used to transfer participants' attention, without scoring. The Likert 4-point scoring method is used to score from 1 to 4 points corresponding to completely incorrect to completely correct. The higher the total score, the higher the sense of hope. In this study, the Cronbach's α coefficient of the total scale is 0.792, and the Cronbach's α coefficients of the two dimensions of willingness motivation and path thinking are 0.733 and 0.708, respectively.

2.2.2 Simplified Coping Strategy Questionnaire, SCSQ

Compiled by XieYN (1990) [21], SCSQ has 20 items, divided into two subscales: positive coping (PC) and negative coping (NC), and the total score of SCSQ is called "coping style tendency (CST)". The Likert 4-point scoring is used to score from 0 to 3 points corresponding to 4 choices, namely, "not used", "occasionally used", "sometimes used" and "frequently used". The higher the total score or the score of a certain dimension, the stronger the tendency. In this study, the Cronbach's α coefficient of the total scale is 0.89, and the Cronbach's α coefficients of the positive and negative coping subscales are 0.85 and 0.81, respectively.

2.2.3 Academic Burnout Scale for Undergraduate, ABSU

Compiled by Lian Rong and Yang Lixian [22], ABUS contains 20 entries, which are divided into three dimensions: low mood (LM), misbehavior (MB) and low sense of achievement (LSA). The Likert 5-point scoring is used to score from 1 to 5 points corresponding to completely non-conforming to fully conforming, respectively. The higher the score is, the higher the degree of academic burnout is. In this study, the Cronbach's α coefficient of the total scale is 0.875, and the Cronbach's α coefficient of each subscale is 0.781 to 0.833.

2.3 Data Processing

SPSS 20.0 software is used for statistical analysis. The average scores and standard deviation of each scale

are calculated with descriptive statistics; Pearson product correlation is used to explore the correlation between various variables; Linear regression analysis is used to analyze the impact of sense of hope on academic burnout.

III. Results

3.1 Common Method Deviation Testing

This study is an anonymous survey, which to some extent reduces the impact of common methods on the results. Further using Harman's single factor test [23] for common method bias testing, the results showed that there are 14 factors with eigenvalue greater than 1, and the first factor explains a variation of 21.46%, which is below the critical value of 40%. Therefore, the results of this study are not significantly affected by common method bias.

3.2 The Situation of College Students' Sense of Hope, Coping Styles, and Academic Burnout

From Table 1, it can be seen that the sense of hope, path thinking, willingness motivation, positive coping, academic burnout, low mood, and low sense of achievement are at a moderate level [19, 20, 21, 22], while negative coping and misbehavior are at a high level [21, 22]; The coping style tends to be negative [22].

Table 1. Descriptive Statistics of Each Component Scale (n=525)

Variable	M	SD	Min	Max	M of items	Average SD of items
WM	9.69	1.46	6.00	15.00	2.42	0.38
PT	10.38	2.52	5.00	16.00	2.60	0.63
ADHS	20.07	3.34	11.00	30.00	2.51	0.37
PC	15.04	3.97	11.00	27.00	1.25	0.33
NC	21.53	4.78	12.00	29.00	2.69	0.60
CST	-6.49	5.89	-24.00	20.00		
LM	25.58	6.13	10.00	40.00	3.20	0.79
MB	21.48	4.24	9.00	35.00	3.58	0.74
LSA	18.14	3.69	8.00	28.00	3.02	0.66
ABSU	65.20	12.94	33.00	96.00	3.26	0.65

3.2 Correlation Analysis of Sense of Hope, Coping Style and Academic Burnout

It can be seen that there is a significantly pairwise correlation among the total scores of ADHS, positive coping (PC) and ABSU ($r=.623, -.370, -.416$; all $P<.01$), and a significantly pairwise correlation among the total scores of ADHS, negative coping (NC) and ABSU ($r=-.601, -.370, .249$; all $P<.01$).

Table 2 Correlation Analysis of ADHS, SCSQ and ABSU (n=525)

Variable	2	3	4	5	6	7	8	9	10
1. WM									
2. PT	.392** *								
3. ADHS	.842** *	.823* **							
4. PC	.424** *	.403* **	.623 ***						
5. NC	-.238* **	-.229 ***	-.601* **	.938** *					
6. CST	.295** *	.266* **	.257* *	.852** *	.613***				
7. LM	-.305* **	-.277 ***	-.287* **	-.234* *	.338 ***	.290* **			
8. MB	-.248* **	.369* **	-.356* **	-.256* *	.436***	.437** *	.315* **		
9. LSA	-.422* **	-.451 ***	-.441* **	-.208* *	.214***	.5119 ***	.315* **		
10. ABSU	-.359*** ***	-.370* **	-.416*** **	-.353 ***	.366** *	.451* **	.484* **		

Note: * $P<0.05$, ** $P<0.01$, *** $P<0.001$.

3.3 The Mediating Effect of Coping Style between Sense of Hope and Academic Burnout

According to the mediation effect test method proposed by Zhonglin Wen *et al.* (2005)[24], the total score of ABSU is used as the dependent variable, the total score of ADHS is used as independent variable, and the scores of positive and negative coping are used as intermediate variables respectively. The results are shown in Tables 3 to 4.

3.3.1 The Mediating Effect Test of Positive Coping between Sense of Hope and Academic Burnout

Table 3 shows that positive coping has a partial mediating effect between sense of hope and the total score of ABSU. The ratio of the mediating effect to the total effect is effect $m = a \times b / c \times 100\% = (0.663) \times (-0.416) / (-0.454) \times 100\% = 60.75\%$.

Table 3 Test of Mediating Effect of Positive Coping on Sense of Hope and ABSU Total Score

Step	Dependent variable	Independent variable	β	t	R ²
Step 1 (c)	ABSU total score	Sense of Hope	-0.454	-5.275*	0.138
Step 2 (a)	PC	Sense of Hope	0.663	3.984*	0.388
Step 3 (c')	ABSU total score	Sense of Hope	-0.286	-7.002*	0.228
(b)		PC	-0.416	4.922**	

3.3.2 The mediating effect test of negative coping between sense of hope and Academic Burnout

Table 4 shows that negative coping has a partial mediating effect between sense of hope and the total score of ABSU. The ratio of the mediating effect to the total effect is effect $m = a \times b / c \times 100\% = (-0.725) \times (0.358) / (-0.454) \times 100\% = 57.17\%$.

Table 4. Test of Mediating Effect of Negative Coping on Sense of Hope and ABSU Total Score

Step	Dependent variable	Independent variable	β	t	R ²
Step 1 (c)	ABSU total score	Sense of Hope	-0.454	-5.275*	0.138
Step 2 (a)	NC	Sense of Hope	-0.725	3.984*	0.388
Step 3 (c')	ABSU total score	Sense of Hope	-0.238	-7.002*	0.228
(b)		NC	0.358	4.922**	

IV. Discussion

This study found that college students' sense of hope, willingness motivation, path thinking, positive coping, academic burnout, low mood, and low sense of achievement are at a moderate level, while negative coping and misbehavior are at a high level, and their coping styles tend to be more negative, consistent with previous studies [8-16]. It is suggested that current college students have a common sense of academic burnout, and their coping styles are not proactive enough, and their sense of hope needs to be improved.

This study also found that there are significant direct and indirect effects between college students' sense of hope and academic burnout.

First, there is a significant negative correlation between college students' sense of hope and academic burnout, indicating a direct effect between them, consistent with the results of Wang et al [16] and Gustafsson et al [25]. That is to say, college students with a higher sense of hope often have a lower level of academic burnout. This is because academic burnout arises from excessive academic stress [14]. The Hope Theory points out that if an individual often experiences a low sense of hope, it can easily lead to psychological stress and even damage

their mental health [1]. Compared to those with low sense of hope, those with high sense of hope often have higher achievement motivation and confidence, and are less likely to experience negative emotions or emotional exhaustion due to academic stress. Therefore, the hindrance of academic stress on them will be smaller, and the impact of academic burnout will also be lighter.

Second, there is a significant indirect effect between sense of hope and academic burnout. The specific path is as follows: the sense of hope - coping styles (including positive and negative coping) - academic burnout. That is to say, coping styles play a partial mediating role between the sense of hope and academic burnout. Coping style is an independent predictor of academic burnout. Positive coping style negatively predicts academic burnout, while negative coping style positively predicts academic burnout [18]. The sense of hope is an important psychological capital for preventing and combating psychological and physiological diseases. On one hand, the sense of hope motivates individuals to believe that difficulties can be overcome, thereby enhancing their courage to face difficulties and enhancing their confidence in the future. People with high sense of hope often master and generate more cognitive and behavioral strategies for problem-solving. On the other hand, sense of hope influences an individual's coping style through goal oriented and beneficial cognitive evaluation. That is to say, the sense of hope can have a significant impact and adjustment on the target interests, coping processes, and coping outcomes of individuals in the coping process [26]. In this way, individuals with high hope can adopt more humorous and positive ways to deal with life stress, behave more actively and healthily, make more attempts, and are more likely to successfully solve difficulties. When the sense of hope is lacking, individuals may experience symptoms such as decreased confidence and motivation, artificial obstacles in achieving goals, reduced resistance to stress and frustration, etc. [27], resulting in academic difficulties being unreasonably exaggerated until they cannot be overcome, leading to academic burnout.

V. Conclusion

This study preliminarily explores the relationship between college students' sense of hope, coping style, and academic burnout, and proves the following theoretical hypothesis: coping style plays a partial mediating role between sense of hope and academic burnout. On one hand, there is a significant positive correlation between sense of hope and academic burnout, which is a direct effect between the two; On the other hand, there is an indirect effect between the sense of hope and academic burnout. The specific pathway of action is as follows: sense of hope - coping style - academic burnout. In the future, we can conduct large-scale cross-cultural tracking studies to explore the relationship between sense of hope, coping styles, and academic burnout, further confirming the role of sense of hope in individual's physical and mental health.

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