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Relationship between Academic Self-efficacy and Academic Burnout among College Students: Mediating Effect of General Procrastination

BY

Hou Yongmei[1*], Li Chumeng[2], Ruan Miner[3]

[1,2,3]Department of Psychology, School of Humanities and Administration, Guangdong Medical University, Dongguan, Guangdong Province, China

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Corresponding author
Hou Yongmei

Abstract

Objective To explore the status of academic self- efficacy, general procrastination and academic burnout among college students, and analyze the mediating effect of general procrastination in the relationship between academic self-efficacy and academic burnout. **Methods** Academic Self-efficacy Scale (ASES), General Procrastination Scale (GPS), and Academic Burnout Scale for College Students (ABSCS) were administrated to 774 undergraduate who were selected by stratified random sampling from Guangdong Province, China. **Results** First, the total score of ASES, GPS and ABSCS were (73.14±10.91), (66.46±14.44), and (59.03±9.91), respectively. Second, There was a pairwise Correlation among the total score of ASES, GPS and ABSCS (r=-0.575, -0.280, 0.532, all P<0.01). Final, The total score of GPS had a fully mediating effect in the relationship between the total of ASES and ABSCS. **Conclusion** Academic self-efficacy has an indirect role on the academic burnout through general procrastination among college students.

Keyword: College students, Academic self-efficacy, General procrastination, Academic burnout, Mediating effect

Introduction

Academic burnout refers to a series of psychological and behavioral reactions in which individuals feel tired, frustrated, or discouraged due to a lack of motivation or interest in learning, leading to a series of avoidance of learning. Academic burnout is a common problem among college students, with a detection rate of 9.9-40.3% in foreign countries [1-2] and 24.8-51.3% in China [3-4]. Academic burnout reduces the learning enthusiasm of college students [5], leading to physical and mental fatigue [6] and psychological syndrome [7], which hinders their academic and career development [8-9].

General procrastination refers to the intentional delay in completing most essential tasks in life and work, until negative emotions and consequences arise, thereby affecting the individual's physical and mental health and quality of life [10]. The main consequence of procrastination is to hinder the completing of tasks, increasing psychological pressure, generate negative emotions such as anxiety, depression, inferiority, guilt, and self-blame, leading to a decrease in learning and work efficiency [11-13], which is not conducive to physical [14] and mental health [15]. The incidence of general procrastination among domestic college students is 81.7-95.7%, of whom 75% are aware of their procrastination problems and have a strong intention to change [16-18].

Academic self-efficacy refers to whether an individual has the belief to adopt adaptive behavior when facing challenges in academic activities [19]. Individuals with high academic self-efficacy have a belief in being able to handle various challenges in learning, are more proactive in learning, and derive a higher sense of enjoyment and achievement from learning. Individuals with low academic self-efficacy may lack confidence in their studies and experience significant academic pressure and anxiety. They may not be able to derive pleasure and a sense of achievement from their studies, but instead may experience negative emotions such as boredom or frustration.

From the concepts of academic self-efficacy, procrastination, and academic burnout, it can be seen that there is a strong logical connection among the three. Academic self-efficacy is an individual's confidence in completing learning activities, which encourages them to actively engage in learning, do their best to

complete learning tasks, and derive pleasure and a sense of achievement from them, thus making them less likely to feel fatigued and bored. They may delay completing tasks due to the difficulty, but they will not intentionally delay completing tasks. Low self-efficacy individuals lack perseverance in the face of heavy learning tasks. They are prone to intentionally procrastinating due to fear of failure, but ultimately, procrastination leads to academic setbacks and exacerbates academic burnout.

Previous studies have found a significant pairwise correlation between academic self-efficacy, procrastination, and academic burnout [20-23]. On the other hand, academic burnout manifests as a series of explicit behaviors and emotional responses, which belong to outcome variables; academic self-efficacy is a personality trait that belongs to the distant independent variable, while general procrastination is a behavioral habit that belongs to the proximal independent variable. Academic self-efficacy should be mediated by general procrastination. We can assume that general procrastination plays a mediating role between academic self-efficacy and academic burnout (as shown in Figure 1). This article intends to use college students as an example to verify this hypothesis.

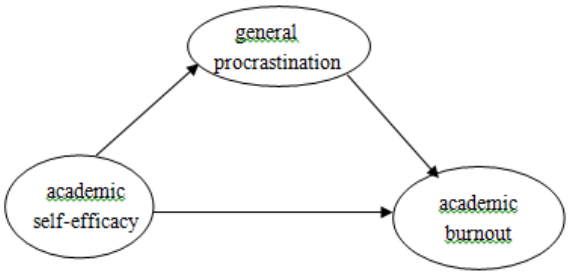

Figure 1

1. Objects and Methods

1. Objects

A stratified random sampling method is used to select 836 undergraduates from Guangdong Province, China, and 774 valid questionnaires are collected, with an effective rate of 92.6%. Among them, there are 420 male and 354 female students; age (18.5 ± 1.4) years old; 175 freshmen, 156 sophomores, 154 juniors, 149 seniors, and 140 fifyh-year students; 201 in engineering, 171 in science, 149 in medicine, 135 in humanities, 77 in sports, and 41 in art.

1.2 Tools

1.2.1Academic Self-efficacy Scale, ASES

Compiled by Liang Yusong (2000) [24], there are 22 items, divided into two dimensions including academic ability self-efficacy (AABSE) and academic conduct self-efficacy (ACOSE), with 11 items in each dimension. The Likert 5-point scoring method is used to score from 1 to 5 points corresponding to “completely disagree” to “completely agree”. The higher the total score, the higher the academic self-efficacy. In this study, The Cronbach's α coefficient of the total scale is 0.866, and the Cronbach's α coefficients of two dimensions are 0.819 and 0.785, respectively.

1.2.2General Procrastination Scale, GPS

Compiled by Lay (1986) [25] and revised by Bao Cuiqiu et al. (2006) [26] into the Chinese version, and it is used to evaluate the degree of procrastination of individuals in most affairs. There are a total of 20 items, grouped into one dimension, The Likert 5-point scoring method is used, with scores ranging from 1 to 5 points corresponding to "completely disagree" to "completely agree". Those with a total score greater than 60 are considered procrastinators, while those with a total score ≤ 60 are considered non procrastinators. In this study, the Cronbach's α coefficient of the scale is 0.828.

1.2.3Academic Burnout Scale for College Students, ABSCS

Compiled by Lian Rong et al. [27], there are 20 items divided into three dimensions: low mood (LM), inappropriate behavior (IB), and low sense of achievement (LSA). The Likert 5-point scoring method is used to score from 1 to 5 points corresponding to "completely disagree" to "completely agree", The higher the total score, the higher the degree of academic burnout. In this study, The Cronbach's α coefficient of the total scale is 0.847, and the Cronbach's α coefficient of each dimension ranges from 0.742 to 0.794.

1.2.4Self-compiled personal general information questionnaire

It includes four items: gender, age, grade, and major category.

1.3 Data processing

SPSS 20.0 is used for statistical analysis. The average score and standard deviation of each scale are calculated by descriptive statistics; Pearson product moment correlation is used to explore the correlation between variables; Linear regression analysis is used to analyze the mediating role of general procrastination between academic self-efficacy and academic burnout.

2. Results

2.1 Current status of academic self-efficacy, general procrastination, and academic burnout among college students

As shown in Table 1, the academic self-efficacy [24] of this group are at a moderate level, while general procrastination behavior is at a high level [25, 26], and academic burnout is at a moderate to high level [27].

2.2 Correlation between various variables

As shown in Table 1, the pairwise correlation coefficients of ASES, GPS, and ABSCS are all statistically significant (r=-0.575, -0.280, 0.532, all P<0.01).

Table 1. Descriptive statistics and correlation analysis of each variable (n=772)

Variable	M	SD	1	2	3	4	5	6	7	8
1.AABSE	37.81	6.83								
2.ACOSE	35.44	5.69	.535***							
3.ASES	73.14	10.91	.899***	.851***						
4.GPS	66.46	14.44	-.585***	-.408***	-.575***					
5.LD	23.82	6.04	-.119**	-.202**	.031	.728**				
6.IB	18.58	3.72	-.277**	-.128**	-.238**	.774**	.740 ***			
7.LSA	16.63	3.59	-.563***	-.404***	-.619***	.698***	.887 **	.704***		
8.ABSCS	59.03	9.91	-.389**	-.074*	-.280**	.532 ***	.912**	.692***	.944***	

Notes: *P<0.05; **P<0.01, ***P<0.001

2.3 The mediating effect of general procrastination in the relationship between academic self-efficacy and academic burnout among college students

According to the mediation effect test method proposed by Wen Zhonglin et al. [28], the total score of ABSCS is used as dependent variable (Y), the total score of ASES is used asindependent variable (X), and the mediator variable (M) that needs to be verified is the total score of GPS. The specific steps are as follows. In the first step, regression analysis is performed using ABSCS total score as the dependent variable and ASES as independent variable to obtain the regression coefficient c; In the step 2, GPS total score is used as the dependent variable and ASES total score as the predictive variable to conduct regression analysis and obtain the regression coefficient a; In step three, using ABSCS as the dependent variable and ASES and GPS total score as the predictive variables together, perform regression analysis to obtain regression coefficients b and c '. The results are shown in Table 2.

Table 2: Test of the mediating effect of general procrastination between academic self-efficacy and academic burnout

Step	Dependent variable	Independent variable	β	t	P
1 (c)	ABSCS total score	ASES total score	-0.280	-8.104	<0.001
2 (a)	GPS total score	ASES total score	-0.575	-19.515	<0.001
3 (c')	ABSCS total score	GPS total score	0.555	14.879	<0.001
(b)		ASES total score	0.039	1.042	0.298

As shown in Table 2, in the first step, ASES total score predicts ABSCS total score negatively, and the regression coefficient between the two is (-0.280), indicating a significant progression to the second step. In the second step, ASES total score negatively predicts the total score of GSES, and the regression coefficient between the two is (-0.575), indicating a significant progression to the second step; In the third step, after controlling for the impact of GPS total score on that of ABSCS, the regression coefficient between ASES and ABSCS total score was not significant. It can be inferred that the mediating effect of GPS between ASES and ABSCS is a complete mediating effect.

3. Discussion

The academic self-efficacy of this group of college students is at a moderate level, general procrastination is at a high level, and academic burnout is at a moderate to high level. Among the three dimensions of the academic burnout scale, inappropriate behavior scored the highest. Consistent with the results of previous studies [20, 22-23, 29], it suggests that there is significant room for improvement in academic self-efficacy among college students, who generally exhibit severe procrastination and academic burnout mainly manifested as negative learning behaviors such as skipping classes and lack of concentration.

This study found a significant negative correlation between academic self-efficacy and academic burnout among college students, consistent with previous research findings [20]. That is to say, college students with higher self-efficacy are more actively engaged in learning. They mostly enjoy overcoming learning difficulties and completing various learning tasks, so they are less likely to feel significant learning pressure or burnout.

Further hierarchical regression analysis shows that general procrastination plays a complete mediating role between academic self-efficacy and academic burnout among college students. That is to say, the academic self-efficacy of college students does not have a direct predictive effect on academic burnout, but rather has an indirect effect through general procrastination. The specific pathways of action are as follows: academic self-efficacy - general procrastination - learning fatigue. If college students repeatedly fail

to study well, their academic self-efficacy will also be lower. However, they can still do their best to study and complete learning tasks on time, regardless of the effect, hoping that diligence can make up for their shortcomings. Only when their academic self-efficacy is low and they believe that diligence does not make up for awkwardness, they lose the motivation to learn, are unwilling or even afraid to engage in learning activities, can avoid and procrastinate, resulting in or exacerbating procrastination behavior. Due to procrastination, their learning outcomes are low, ultimately leading to academic burnout.

This study preliminarily revealed the mediating effect of general procrastination between academic self-efficacy and academic burnout. Based on the results of this study, we propose the following reference suggestions for family and school education. To address academic burnout among college students, we should start with strengthening their mental health education and psychological quality training. On one hand, we should help them develop and adhere to reasonable learning and life arrangements, improve their ability to grasp the key of learning, and play an important role in preventing the occurrence of academic burnout; On the other hand, reforming existing teaching methods, creating a good learning environment, improving the self-efficacy of college students, enabling them to better solve learning difficulties, handle emotional problems calmly, and avoid low sense of achievement and academic burnout caused by procrastination. In the future, we should add longitudinal research data to further explore the relationship between academic self-efficacy, procrastination behavior, and academic burnout among college students.

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