ACADEMIC STRESS, ACADEMIC PROCRASTINATION AND ACADEMICPERFORMANCE:
A MODERATED DUAL-MEDIATION MODEL

Estresse, Procrastinação e Desempenho Acadêmico:
Um Modelo de Mediação Dupla Moderado.

Lu Qian, Zhao Fuqiang
School of Management, Wuhan University of Technology, Wuhan, P.R.China.
E-mail: 1198246741@qq.com, zhaofq@whut.edu.cn

Abstract: : In this study, we investigated the mediating effects of active procrastination and passive procrastination on the relationship between academic stress and academic performance. In addition, we proposed the moderating effect of academic self-efficacy on the relationship between academic stress and academic procrastination. According to the study, the influence of academic stress on academic performance is mediated by academic procrastination. When individuals perceive the academic stress, they will have better performance if they take active procrastinate while passive procrastination can produce poor performance. Moreover, when individuals have high self-efficacy, it will promote our active procrastination. That is to say, when the individual is aware of the academic stress, it is necessary to believe in their own ability and take active action, which will create good results.

Keywords: Academic stress; Active procrastination; Passive procrastination; Academic self-efficacy; Academic performance

Resumo: Neste estudo, se pesquisam os efeitos mediadores da procrastinação ativa e da procrastinação passiva na relação entre estresse acadêmico e desempenho acadêmico. Além disso, se analisa o efeito moderador do auto eficácia acadêmica na relação entre estresse acadêmico e procrastinação acadêmica. Segundo o estudo, a influência do estresse acadêmico no desempenho acadêmico é mediada pela procrastinação acadêmica. Quando os indivíduos percebem o estresse acadêmico, eles terão um melhor desempenho se adotar a procrastinação ativa, enquanto a procrastinação passiva pode produzir um desempenho ruim. Além disso, quando os indivíduos têm alta auto eficácia, isso promove a procrastinação ativa. Ou seja, quando o indivíduo está ciente do estresse acadêmico, é necessário acreditar em sua própria capacidade e tomar ações ativas, o que gerará bons resultados.

Palavras-chave: Estresse acadêmico; Procrastinação ativa; Procrastinação passiva; Auto eficácia acadêmica; Performance acadêmica

INTRODUCTION

As the saying goes, you have to look before you leap. That is to say, we have to think clearly before we do something. But in modern society, there has been a phenomenon-meeting without discussion, discussion without decision and decision without execution. A meta-analysis of procrastination showed that 80-95% college students, or at least half of them, have procrastination (Kim K R, 2015), and this phenomenon is becoming more common.

Foreign scholars have already begun to study procrastination as early as the 1980s, and have come to a lot of research conclusions. Firouzeh explored the relationship between academic procrastination and academic achievement from the perspective of self-efficacy and achievement motivation (Firouzeh, 2013). Krausehas shown that there is more procrastination when individuals dislike the task and experience fear of failure (Krause, 2014). Sirois suggested that self-compassion is a mediator of the relationship between stress and procrastination, when the individual has low self-compassion; the negative correlation between pressure and procrastination is weaker (Sirois, 2014).Harrison argued that self-efficacy and perfectionism are negatively related to procrastination and lead to poor academic performance (Harrison, 2014).

In recent years, domestic scholars have paid close attention to procrastination, and have done a lot of research on the basis of drawing on foreign research experience. Chu Junfan suggested that procrastination is harmful to college students and puts forward relevant countermeasures (Chu Junfan, 2016). Yu Ying argued the situation and countermeasures of college student's procrastination in Chinese context (Yu Ying, 2015). Chen Wenting explored the promoting effect of learning apathy on procrastination (Chen Wenting, 2013). Compared with foreign studies, domestic research is more about antecedent research, such as emotion, cognition, personality, motivation, and some interventions.

There is a great deal of empirical research on academic procrastination and academic achievement. But the results were inconsistent. The researchers reported that academic procrastination may have a negative impact on learning achievement, such as low scores and fail the exam (Aremu, 2011; Balkis M, 2013). Another scholar suggested that the academic procrastination caused by the time pressure may reduce the accuracy and timeliness of learning, and on this basis it can be considered that academic procrastinationmay affect performance (Eerde W V, 2003). Other studies did not find a correlation between procrastination and academic achievement (Seo E H, 2011), and some even reported that procrastination had a positive impact on academic performance (Steel P, 2007).

According to thedomestic and foreign research, the relationship between procrastination and academic achievement is still ambiguous. Therefore, it is necessary to research procrastination and understand the mechanism of the relationship between procrastination and performance. In this study, the academic procrastination is divided into active procrastination and passive procrastination, and the two kinds of procrastination are creatively used as the two mediating variables. It explains why this phenomenon occurs and expands the literature of procrastination.

LITERATURE REVIEW

Academic Procrastination

In 1984, the concept of academic procrastination was first mentioned in the American Psychological Association's "Counseling Psychology", which means that the study of academic procrastination has begun. Domestic and foreign experts have defined the concept of academic procrastination from different angles:

Table 1 Definition of Academic Procrastination

Author	Definition
Solomon 1984	In the case of unnecessary, the individual postponed academic tasks in indefinite period, resulting in subjective experience of maladaptive behavior tendencies.
Tuckman 1991	The behavior tendency of the individual to take the delayed or even completely avoided to deal with the academic task that he must undertake.
Chu 2005	The procrastination is divided into active procrastination and passive procrastination.

Chu considers that "active academic procrastination" is a kind of adaptive learning method that individuals choose to temporarily avoid academic tasks to reduce stress or get more resources. Corresponding to this is "passive procrastination", from the subjective intention; the individual does not intend to delay the academic task. However, the academic task completion time is often delayed. In essence, this kind of procrastination is a kind of non-adaptive learning.

Based on the Chu's point of view, this study defined the academic procrastination: procrastination is divided into active and passive procrastination, which active procrastination refers to the individuals because of insufficient resources or task difficulty and other reasons to need time to get more resources initiatively choose to temporarily avoid academic tasks in order to obtain a better academic performance. Passive procrastination refers to the individual does not intend to delay the academic task, but because of the difficulty of the task to produce anxiety and other emotions, involuntarily choose to delay.

Academic self-efficacy

Self-efficacy was first proposed by Bandura in 1977, and he argues that self-efficacy refers to the affirmation of the individual's faith and ability to succeed in fulfilling a task (Bandura, 1997). Therefore, academic self-efficacy refers to the subjective judgment of the individual's academic ability. Different scholars have different classification of academic self-efficacy, mainly in the following categories:

Table 2 Dimension of Academic Self-efficacy

Author	Dimension	
Bian Yufang 2003	Control self-efficacy	Ability self-efficacy
Xiao Zhiling 2002	Academic ability self-efficacy	Development ability self-efficacy
Liang Yusong 2000	Academic ability self-efficacy	Academic behavior self-efficacy

Liang Yusong believes that academic ability self-efficacy refers to the individual's subjective judgment and self-assessment on whether he can finish his studies successfully and get good grades without losing his academic achievements(Liang Yusong, 2000). Academic behavior self-efficacy refers to the individual's subjective judgment and self-assessment to the ability to take effective learning methods, and through their own efforts to determine the learning objectives.

In this study, Academic Self-efficacy is defined as: in the face of a certain academic situation, individual's subjective judgment and self-assessment of whether they can play their own ability or the effectiveness of resources, and by taking effective learning methods to successfully complete the established academic tasks without failing.

Academic stress

On the definition of the concept of academic stress, few scholars have discussed this issue alone. "Dictionary of psychology" has the following description of academic stress: academic stress refers to the pressure caused by learning psychological burden and tension, mainly from two aspects: the external environment, such as meeting future major decision exams; within the individual, for example, the expectations of the community for students is much greater than the students themselves, and students are unable to achieve social expectations for their own reasons. Generally speaking, academic stress is the psychological pressure caused by the excessive demands and expectations of the students, and the gap of the students' self-expectation and social expectations.

To sum up, the academic stress can be defined as the mental burden of the students in the learning activities. It is mainly affected by the external environment for the students and students in the internal environment of the external environment for the cognitive and evaluation.

HYPOTHESES DEVELOPMENT

Active procrastination as a mediator

Chu and Choi's study found that some individual delays were due to their preference for pressure to deliberately take procrastination, and the pressure preference was the core feature of the active procrastination. According toconservation of resources theory, the loss of resources will produce pressure, and the pressure will lead to individual investment resources. In order to make their resources to achieve the best level of optimization, the active procrastinators tend to be evaluated before action. And after thinking, they choose to postpone the task of learninginitiatively, so as to focus on the more important things, such as access to more resources. Previous studies have shown that employment pressure can promote active procrastination (Wang Hua, Ji Wei, Xu Dandan, 2015). Therefore, we hypothesize:

Hypothesis 1: Academic stress is positively related to active procrastination.

Based on conservation of resources theory, in the face of the academic stress of the fear of failure and perfectionism pursuit, individuals will actively take the initiative to access to resources in order to complete the academic task, and active procrastination will happen. Research on active procrastination has shown that active procrastination has a positive effect on performance (Kim K R, Seo E H, 2015).

Hypothesis 2: Active procrastination mediates the relationship between academic stress and academic performance

Passive procrastination as a mediator

Passive procrastinators are prone to over-overestimate or underestimate the difficulty of the task itself and their own ability, and care about others' evaluations, and lack the ability to act in a timely manner so that the task is often set aside until it can't be completed on time. According to self-defense theory, when the individual at risk, there will be two instinctive reactions: fighting or escape.When individuals perceive a stress source, they will firstly assess whether they have the ability to solve this threatening source of stress. If the individualscan't solve, the pressure source will let them produce anxiety, worry and pressure. In order to avoid the pressure source, delay behavior occurred. There are some studies have shown that stress is positively related to passive delay (Stead R, 2010). Therefore, we hypothesize:

Hypothesis 3: Academic stress is positively related to passive procrastination

Wang Lingzhisuggested that academic procrastination will bring direct external consequences: academic tasks can't be completed on schedule, poor academic performance, and missed opportunities. When an individual is faced with the threat that the task can't be completed, it will take evasive action. Research on passive procrastination has shown that passive procrastination has a negative effect on performance (Seo E H, 2013). Therefore, we hypothesize:

Hypothesis 4: Passive procrastination mediates the relationship between academic stress and academic performance

Academic self-efficacy as a moderator

When they meet learning difficulties, high academic self-efficacy students are often more able to adhere to learning, and strive to overcome difficulties. They are convinced of their ability to overcome difficulties, and whenever they can try their best to meet the challenge.Previous studies have shown that high self-efficacy is positively associated with active procrastination.According toconservation of resources theory, when individuals perceive the pressure of learning, they will choose to delay initiatively in order to obtain more resources. Individuals with high academic self-efficacy will have a stronger desire and ability to acquire resources. Therefore, it will promote the individual's active procrastination, and thus they will have better performance. Therefore, we hypothesize:

Hypothesis 5: Academic self-efficacy moderated the indirect (through active procrastination) relationship between academic stress and academic performance. When the academic self-efficacy is high, the indirect (through active procrastination) relationship between academic stress and academic performance is stronger.

Woltersshowed that low self-efficacy students always try to delay the start time in the face of academic assignments.Some studies have shown that low self-efficacy is positively related to passive procrastination(Klassen R M, 2008). According to self-defense theory, when they perceive threat of learning pressure, individuals will take evasive strategies, resulting in passive procrastination. However, the low academic self-efficacy can enhance the individual's fear and reduce the individual's confidence, which will further promote the passive procrastination, and will also lead to worse performance.

Therefore, we hypothesize:

Hypothesis 6: Academic self-efficacy moderated the indirect (through passive procrastination) relationship between academic stress and academic performance. When the academic self-efficacy is low, the indirect (through passive procrastination) relationship between academic stress and academic performance is stronger

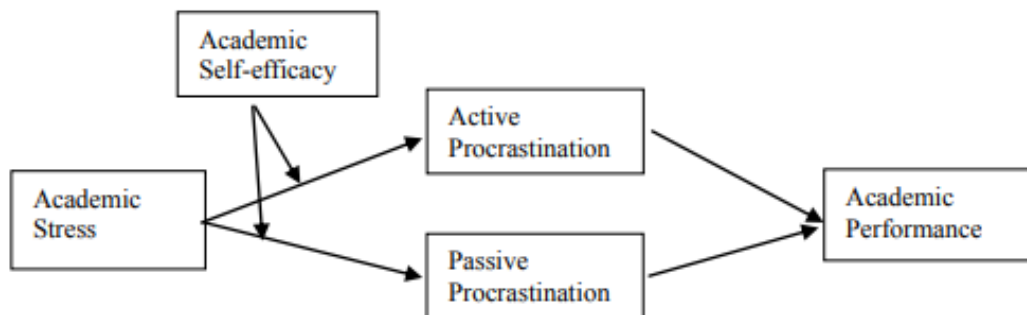## THE CONSTRUCTION OF A RESEARCH MODEL

Figure 1 Construction of the Research Model

The existing research presents the relationship between academic stress, academic procrastination and academic performance, as shown in the above conceptual model.Active procrastination and passive procrastination mediate the relationship between academic stress and academic performance.Based on conservation of resources theory, when the individuals perceive academic stress, such as fear of failure and the pursuit of perfection, they will get more resources in order to complete the academic task, then task completion time will be delayed.But academic performance will be goodbecause of more resources.According to self-defensetheory, when individuals are afraid of other people to have a bad evaluation of their own arising from the pressure of learning, they will take evasive behavior; the task will not be completed before the deadline.In addition, when the academic self-efficacy is high, the individual has more confidence in their ability to acquire resources, which will increase the confidence of the completion of the task, and they are more likely to take the initiative to delay. When the academic self-efficacy is low, the individual will produce more task failure threat, so as to avoid the academic task, then they are more likely to take passive procrastination.

CONCLUSION
This study examines the mediating effects of two different academic procrastinations on the relationship between academic stress and academic performance, and identifies the role of moderator in academic self-efficacy.Most of the research on procrastination is the study of the factors that affect procrastination. Moreover, the influence of procrastination on performance is uncertain. In this study, we use different theories to explain why this phenomenon occurs. Finally, we get the hypothesis thatacademic stress has a positive effect on academic performance through active procrastination, and high self-efficacy promotes this positive relationship.

Therefore, we can know that when faced with learning pressure, different behaviors will produce different performance. Although all of them take the act of procrastination, different psychological reactions will have different results.So, procrastination is not terrible, and the key is why we procrastinate.

Although we have explained why there are different performance responses to procrastination, it is necessary to study the boundary conditions and internal mechanisms of this phenomenon. For example, organizational situational factors and leadership behaviors may have an impact on procrastination, and then may have an impact on the attitudes and behaviors of members or subordinates.

We explore procrastination in individual behavior, and future research can focus on the effects of organizational procrastination or the atmosphere of procrastination on members. Individuals may not procrastinate themselves, and they feel the procrastination is taken for granted after being influenced by the organization. This procrastination may be positive which is helpful for their creativity.

Our research subjects are students, and future research can be conducted in the enterprise. Incentives for students and staff are different, so the causes of procrastination are also different. The impact of business procrastination may be more widespread.

As empirical studies on procrastination are scarce, we call for more empirical analysis. Procrastination involves more psychological aspects, which may be difficult to measure and lead to a lack of empirical research. However, the integration of disciplines is necessary, and we should overcome the difficulties and contribute to the literature.

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