



Analysis of Factors Related to Academic Delays Affecting Master's Students ——an Empirical Study Based on SPSS Statistical Analysis

Ximei Yang^{1,*}, Yan Ma², Lan Hong¹, Renju Tang¹

¹*School of computer and information science, Chongqing Normal University, Chongqing, China*

²*Wisdom Education Research Institute, Chongqing Normal University, Chongqing, China*

yxm1601@126.com, 20130939@cqnu.edu.cn, 2248619140@qq.com, tang123336@126.com

Correspondence should be addressed to Xi Mei Yang: yxm1601@126.com

Abstract

In order to explore the mechanism of self-efficacy of master's students on academic delays tendency under the influence of stress perception, a questionnaire survey was conducted on 281 master's students using the Master's Academic Delays Tendency Scale, Self-Efficacy Scale, and Stress Perception Scale, and a model of stress perception and academic delays was established using SPSS hierarchical regression method to observe the relationship and interaction between the variables. The results revealed that stress perception was significantly and positively correlated with academic delays among master's students, and the direct effect of stress perception on academic delays tendency received the moderating effect of self-efficacy.

Keywords: *SPSS, related analysis, hierarchical linear regression.*

1 INTRODUCTION

Graduate education shoulders the important mission of high-level talent training and innovation and creation, and graduate students are an important driving force of national development. However, some studies have shown that the postgraduate population shows a negative phenomenon of tending to postpone when conducting research activities, which is also known as academic delay. This phenomenon has become a common problem in the current research activities of graduate students, and is an important factor that hinders academic progress [17]. Academic delays often lead to negative academic outcomes, such as almost or always postponing academic assignments, delaying graduation by missing deadlines for writing papers, or even being forced to drop out of school. Not only does academic delays make students waste a lot of time and lose the best time to complete their tasks, which affects their academic achievement, the delays experience also brings students negative emotions such as distress and anxiety, which ultimately affects their mental health level. Through literature analysis, it is found that the current studies on academic delays mainly focus on high school and undergraduate students, and there are not enough studies that take master's degree students as the

subjects of investigation, and the current researchers mainly focus on the negative effects brought by academic delays, and the research on the mechanism of the effect of academic delays is not deep enough [14]. Based on this, this study mainly explores the relevant factors affecting academic delays of master's students and their mechanisms of action in order to make suggestions for effectively improving academic delays of master's students and thus promoting the quality of graduate training.

The word delays is derived from the Latin word Pro-crastinare, which originally referred to postponing or delaying things until later and. solomon and Rothblum argued that individuals develop delays behaviors by unnecessarily delaying tasks for which they may experience subjective discomfort [15] Academic delays is a type of delays in students' learning, and to date academics still do not have a fully unified definition of academic delays. Solomon and others defined academic delays in terms of emotional experience and considered academic delays as a behavioral tendency of the acting individual to postpone learning tasks indefinitely when unnecessary, resulting in subjective feelings of maladjustment. Milgram defined academic delays in terms of trait theory and

considered academic delays as a trait of individuals, those who possess the delays trait [12]. Steel considered academic delays as passive academic delays, which means that an individual is not prepared to procrastinate in completing academic tasks, but actually acts to postpone or avoid academic tasks, while producing emotional changes such as stress and anxiety [16]. Chinese scholars Zhang Chuanhua et al. combined previous studies and defined academic delays as an individual's failure to complete the originally scheduled academic tasks within the specified time [1], accompanied by negative emotions such as low self-esteem and anxiety. In general, studies have defined academic delays mainly in terms of cognitive, emotional, volitional, and operational aspects. From a cognitive perspective, academic delays is a behavior in which learners are well aware of the consequences of procrastinating behavior but still choose to procrastinate. From an emotional perspective, academic delays is a delaying behavior that occurs when learners try to avoid bad emotions. From a volitional perspective, academic delays is a delaying behavior that results from learners' lack of confidence in self-organization and poor self-management. From a behavioral perspective, academic delays is a delayed behavior that occurs when learners try to avoid responsibility. Based on the etymology and previous studies, combined with the actual situation of academic tasks of graduate students, this study defines academic delays as a behavior in which individuals interact with the external environment through complex psychological processes such as cognition, emotion and volition, i.e., learners' academic tasks such as completing term papers and assignments, reading academic literature and materials, publishing papers or completing research papers and tasks assigned by instructors due to adverse reactions. The behavior of postponing academic responsibilities, often accompanied by guilt, anxiety, depression and other negative emotions [9].

2 FACTORS INFLUENCING ACADEMIC DELAYS

2.1 The relationship between stress perception and academic delays

Perceived Stress refers to the degree to which an individual perceives an external event as stressful and reflects the individual's interpretation and perception of the stressful event. By evaluating and constructing meaning from the external stimulus, the stimulus goes beyond the event itself and becomes a combination of the event itself and the individual's feelings. In other words, it is not only the external event that generates stress, but also the additional meaning that the individual constructs on top of the event, and if the need to resolve and cope with the event exceeds the individual's own capacity, stress will be generated. In

1995, Helmke and Van Aken showed that the higher the level of academic stress, the more likely students were to show avoidance when confronted with learning again, and the more likely they were to choose to quit trying when they had trouble in school [7]. Burka and Yuen's [3] study argues that when people are faced with higher levels of stress and demands, if do not have the means to cope well, they will choose to delay for a while before doing so. Chinese scholars Dou fen et al [5] found that stress perceptions of master's students predicted their delays behaviors, and the greater the stress perceptions of students, the more likely they were to engage in academic delays. Based on the above, this study intends to investigate the effect of stress perception on academic delays of master's students and its underlying mechanism, and proposes hypothesis H1: stress perception has a positive predictive effect on academic delays.

2.2 The moderating effect of self-efficacy on stress perception and academic delays

The concept of self-efficacy is derived from social cognitive theory and was first introduced by American psychologist Bandura in the 1970s [2]. Self-efficacy is an individual's subjective judgment and level of confidence in organizing and performing a particular action to achieve a desired outcome [18]. An individual's personal experience of success or failure, alternative experiences from observing the actions of others, verbal persuasion by others, and the individual's emotional and physiological state all influence the individual's self-efficacy. In many existing studies, self-efficacy is one of the variables currently used by scholars to study academic delays. For example, Kong Yuying et al found that academic self-efficacy was a significant predictor of academic delays in a questionnaire survey of college students [10]. Zhang Juan et al. found that by increasing students' self-efficacy, they were able to reduce the occurrence of academic delays by investigating a group of students with learning difficulties in colleges and universities [19]. Wang Lihua et al. found that 94% of graduate students had moderate or higher levels of delays and that self-efficacy could play an important role in improving individual attitudes [17]. Previous studies have also supported that high levels of self-efficacy can buffer the negative effects of stress on individual health, but it is unclear whether self-efficacy can help master's students mitigate the effects of stress and reduce their academic delays [11]. This study hypothesized that self-efficacy, as a positive psychological quality, may be a coping resource for individuals in the face of stress, modulating their stress perceptions and reducing their undesirable behaviors. Therefore, we hypothesize that H2, when students face high levels of academic stress, having a strong sense of self-efficacy will have a mitigating effect on their academic delays, reduce the

occurrence of delays behaviors.

Therefore, this study focuses on the influence of stress perception on academic delays and the moderating role of self-efficacy, so as to discover the process and conditions under which stress perception affects academic delays and expects to provide theoretical guidance for the intervention of academic delays for master's students. The hypothetical model of the relationship between the variables involved in the study is shown in Figure 1.

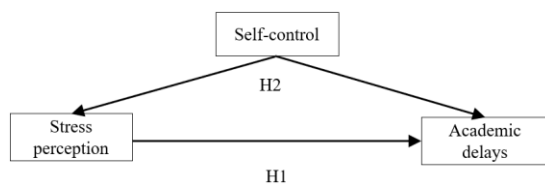


Figure 1: Conceptual map of the relationship between stress perception and academic delays and the moderating effect

3 METHOD

3.1 Participants

The sample consisted of 281 full-time master's students (65% female and 35% male, aged 22-26 years). 35% of first-year students, 46% of second-year students and 19% of third-year students.

3.2 Measures

Students responded to a questionnaire that included demographic information and the following three scales.

The Perception of Stress Scale (PSS) was used to examine the level of perceived stress in patients. The scale contains 14 items [4], and all items are summed to obtain a total stress perception score, with higher scores indicating higher levels of subjective stress in the individual's life. The Cronbach's alpha coefficient of the PSS scale in this study was 0.85.

Since this study focused on measuring the academic delays tendency of master's students, only the delays

score and the expectation to reduce delays score of each learning activity were examined. The scale consists of four learning activities [13], each of which contains two items measuring the sample's delays level and expectation of reducing delays, for a total of eight questions. The scale was scored on a 5-point Likert scale, with no reverse scoring items, and the response options ranged from "1=never" to "5=always". The higher the total score, the higher the subject's expectation of reduced delays or tendency to procrastinate.

The study used the Master's Degree Academic Self-Efficacy Questionnaire developed by Chunbao Hu [8] which consists of nine questions. The scale was scored on a 5-point Likert scale without reverse scoring, with options ranging from "1=completely disagree" to "5=completely agree", with higher scores indicating higher self-efficacy. The Cronbach's alpha coefficient of the scale was 0.933 based on the survey data of the study.

4 RESULT

4.1 Descriptive and correlation analyses

Correlation analysis of the study variables revealed that stress perception was significantly negatively related to self-efficacy, significantly positively related to academic delays, and self-efficacy was significantly negatively related to academic delays, with statistically significant correlations between the variables.

4.2 Analysis of reconciliation effects

4.2.1 hierarchical linear regression

The results are shown in Table 1. The positive main effect of stress perception on academic delays of master's degree students was significant, while the main effect of self-efficacy on academic delays of master's degree students was not significantly predicted. However, the interaction term with stress perception was significant in predicting academic delays.

Table 1: Stratified regression results.

Variables	Model 1	Model 2	Model 3
Grade	-0.001	0.062	0.104
Specialties	0.151*	0.170**	0.132*
Stress Perception		0.563***	0.647***
Self-efficacy		-0.007	-0.025
Stress perception x self-regulated learning efficacy			-0.430***
R ²	0.029	0.170	0.244
ΔR ²	0.029	0.140	0.074
F	1.506	6.773***	9.125***

4.2.2 Analysis of Moderating Effects

Further simple slope analysis showed (Figure 2) that stress perceptions negatively predicted academic delays among master's degree students when self-efficacy was at low (mean - 1 standard deviation) and medium (mean) levels, and the negative effect of stress perceptions was significantly higher at low self-efficacy levels than at medium levels, while no negative prediction of academic delays existed for stress perceptions when self-efficacy was at high levels.

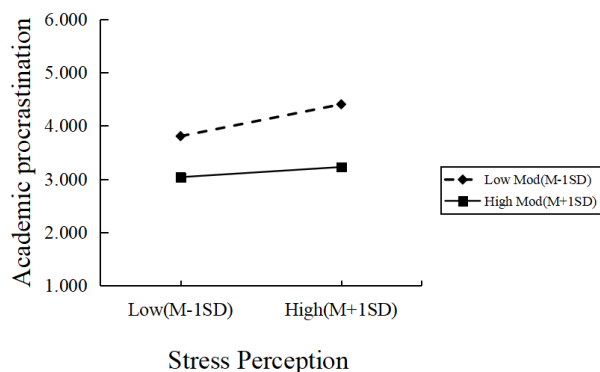


Figure 2: The moderating effect of self-efficacy on stress perception and academic delays.

5 DISCUSSION

The correlation analysis of this study showed that stress perception was significantly and positively related to academic delays among master's students, and the higher the stress perception, the more likely the master's students were to procrastinate. This finding supports the hypothesis that excessive or persistent stress tends to trigger a series of physical and psychological reactions that affect human behavior and lead to delays. At the same time, self-efficacy was significantly and negatively correlated with stress perception, which is consistent with the results of other studies that the higher the self-efficacy of master's students, the lower their level of stress perception [6].

Further moderating effects showed that self-efficacy had no direct effect on academic delays among master's degree students, but could indirectly influence graduate students' academic delays behaviors by moderating stress perceptions. Specifically, the predictive effect of stress perception on academic delays was not significant for graduate students with high self-efficacy levels, i.e. high levels of self-efficacy weakened the risky effect of stress perception on graduate students' delays behaviors. The improvement of graduate students' self-efficacy helps them transform various social resources into skills for coping with stress, which helps master's students adapt to stress, express their inner demands, adjust their psychological stress, promote self-monitoring of their own delays behaviors, and help improve the quality of learning.

6 CONCLUSION

This study used SPSS hierarchical regression to develop a model of stress perceptions and academic delays. The findings suggest that master's students' stress perceptions can lead them to engage in academic delays, but that self-efficacy can reduce the occurrence of procrastination. Our findings have important implications for both master's students and educators, as well as some limitations. Future researchers could expand the sample size to investigate students from different countries and at different levels of education, and could also observe and quantify students' emotions through perceptual devices. Although our study has some limitations, school administrators, teachers and students can refer to our findings to develop strategies to reduce students' academic procrastination behaviour. Potential interventions include having students recall their own experiences of experiencing success or observing the success of others for inspiration, and teachers and parents can also encourage students more, thus promoting a greater sense of self-efficacy and increasing students' intrinsic drive to reduce academic procrastination behaviour.

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