

A Review of Academic Procrastination: Retrospect and Prospect

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Abstract

Academic procrastination is a common negative learning behavior among students and is also an important research topic in educational psychology. This paper systematically reviews current research on academic procrastination, focusing on its key influencing factors, core theoretical perspectives, and documented consequences. The findings show that academic procrastination arises from the interplay of contextual and intra-personal factors, with cognitive-behavioral theory and temporal motivation theory offering primary explanatory frameworks. While the behavior correlates with poor academic performance and increased psychological distress, existing research remains fragmented, lacking integrated analyses of multi-factor interactions and context-specific mechanisms. Future studies should adopt more holistic designs to explore these pathways and develop targeted interventions.

Keywords

Academic procrastination; Measurement; Influencing factors; Intervention.

1. Introduction

Academic procrastination, as a specific manifestation of procrastination behavior in the academic field, is an important research topic in the interdisciplinary field of educational psychology and organizational behavior. It is widely present among students of all levels and types, and has significant negative impacts on an individual's academic development, psychological state, and long-term growth. In educational practice, academic procrastination is manifested as students knowing the importance and urgency of the learning tasks, but still irrationally delaying the initiation, progress, or completion of the tasks. This behavior not only directly leads to a decrease in academic efficiency and a decline in academic performance, but may also trigger negative emotions such as anxiety, self-blame, and burnout, weakening an individual's self-efficacy and learning motivation. In the long run, it may even affect their time management skills and the cultivation of lifelong learning qualities.

With the rapid development of educational informatization and the gradual increase in learning pressure, the phenomenon of academic procrastination has shown a more widespread and younger trend. Moreover, due to the differences in students' learning characteristics under different cultural backgrounds and educational contexts, the manifestations and formation mechanisms of academic procrastination have become increasingly complex, further highlighting the necessity and urgency of conducting related research. For a long time, the academic community has carried out a large number of theoretical and empirical studies on academic procrastination, accumulating rich results in terms of concept connotation, measurement tools, and influencing factors. However, the existing research still has many areas for expansion, especially in the mechanism of academic emotions and the characteristics of procrastination in specific learning contexts, and a systematic and complete research system has not yet been formed.

In order to systematically grasp the current research status, core achievements and development trends in the field of academic procrastination, clarify the research framework

and existing deficiencies, and provide a clear theoretical basis and reference direction for the further development of related research, this article will focus on the core research content of academic procrastination, systematically review the evolution and core connotations of its concept definition, introduce the currently widely used measurement methods and tools, summarize the core findings of international and domestic related research, focus on analyzing the influencing factors and mechanism of academic procrastination, and finally point out the limitations of the existing research and look forward to the future research directions, in order to promote the further deepening of academic procrastination research and provide scientific theoretical support for the prevention and intervention of academic procrastination in educational practice.

2. Definition of Academic Procrastination

To clearly define academic procrastination, one must first clarify the academic definition of procrastination. Procrastination is a common and troublesome failure-inducing self-regulatory behavior. Its core characteristic lies in the fact that individuals, despite being aware that delaying the task will lead to negative consequences, still irrationally and voluntarily postpone the originally planned tasks. Steel further elaborated on the manifestations of procrastination, describing it as a situation where an individual, while undertaking one or more important tasks, instead engages in other less important or even unnecessary activities, thereby delaying the start, development, or completion of the tasks [1]. Based on the differences in consistency of the situation, procrastination can be classified into two major categories: trait procrastination and situational procrastination. Trait procrastination is also known as long-term procrastination, which refers to the frequent, widespread and habitual procrastination behavior tendency exhibited by an individual, with stability across time and across situations. Therefore, it is often regarded as a personality trait. It can be further divided into three types: arousal-type procrastination, avoidance-type procrastination and decision-making-type procrastination. Situational procrastination is also called state procrastination, which refers to the procrastination behavior that occurs only in specific situations. It emphasizes the influence of the situational environment on an individual's behavior. Academic procrastination is a typical example of situational procrastination.

Academic procrastination refers to the procrastination behavior that occurs in the context of academic tasks. Scholars have conducted numerous discussions on its definition. Solomon & Rothblum defined academic procrastination as the behavior where students postpone tasks related to learning (such as writing papers, preparing for exams, etc.) and experience subjective discomfort. This discomfort encompasses three interrelated processes: cognition, emotion, and behavior [2]. Barrera, in his definition, emphasizes the irrational characteristics of academic procrastination, considering it an individual's tendency to unreasonably delay the start or progress of academic tasks [3]. Based on reiterating the irrational nature of academic procrastination, Lay further highlighted the significance of cognitive factors, pointing out that individuals are clearly aware that postponing academic tasks will have adverse effects on themselves, yet they still choose to procrastinate [4]. From the perspective of behavioral tendency, Tuckman interprets academic procrastination as the behavior of individuals who habitually choose to postpone or avoid academic tasks [5]. Eerde further enriched the definition of academic procrastination from the perspective of emotions, arguing that academic procrastination is a way for individuals to cope with academic emotions [6].

Compared with international related research, Chinese scholars' exploration of academic procrastination started relatively late. Their studies mostly drew on the existing international achievements, combined with the learning situations and educational backgrounds of local students, and gradually formed an understanding and perception with local characteristics.

Chen Baohua believes that academic procrastination refers to the procrastination behavior in the learning context. Specifically, it manifests as students having the intention to complete learning tasks but failing to take actions consistent with that intention; it usually leads to substandard learning outcomes, such as sloppy homework, unqualified term papers, and low exam scores, etc.; at the same time, academic procrastination is often accompanied by negative emotional experiences such as anxiety, depression, and loss [7]. CAI Shu simply pointed out that academic procrastination is the behavior of procrastinators who know that they must complete the learning task, but fail to complete it within the prescribed time, and thus produce negative emotions [8]. In summary, academic procrastination is defined as a multi-dimensional concept encompassing behaviors, cognition, and emotions. Academic procrastination refers to the delaying behavior that occurs in the learning context, and it usually leads to substandard learning outcomes and is accompanied by negative emotional experiences.

It is worth noting that both the broad concept of procrastination and specific forms of academic procrastination can bring various negative consequences to individuals. This is also the reason why the academic community has been continuously focusing on the research on procrastination. Existing studies have fully confirmed that procrastination leads to a decline in academic performance, increased psychological stress, a decrease in subjective well-being, and damage to physical health. Academic procrastination, as the main manifestation of procrastination in educational scenarios, has more targeted negative effects. It not only directly affects students' academic performance and learning efficiency, but also has long-term impacts on their learning motivation, self-efficacy, and even hinders their long-term development.

3. Measures of Academic Procrastination

With the continuous deepening of research on academic procrastination, researchers worldwide have successively developed and revised a number of measurement tools with good reliability and validity, providing important support for accurately assessing the level of individual academic procrastination and conducting related empirical studies. These tools can be roughly divided into two categories: one is international classic standardized scales, and the other is scales that have been locally revised or compiled based on the Chinese context.

In the international context, measurement tools for academic procrastination have developed relatively maturely, and a number of widely used standardized scales have been established. Aitken was the first to develop the college student procrastination questionnaire, which consists of 19 items and uses the Likert 5-point scoring method. Among them, 9 questions are scored inversely, and are mainly used to assess the degree of long-term procrastination among college students, laying the foundation for subsequent academic procrastination measurement research [9] is currently one of the most commonly used scales for measuring academic procrastination among college students. This scale consists of 38 items and is divided into two parts. One part is used to measure the degree of students' academic procrastination, while the other part uses the Likert 5-point scoring method to assess the specific reasons for students' academic procrastination. The overall reliability and validity of this scale are high, and it can comprehensively reflect the current situation and causes of academic procrastination among college students [2]. Lay focuses on measuring the general procrastination behaviors exhibited by individuals in daily life and study, and proposes the General Procrastination Scale (GPS), which contains 20 items and adopts a 5-point scoring method, among which 10 items are entitled reverse scoring, which has a wider scope of application [4]. In addition, the Tuckman Procrastination Scale (TPS) is mainly used to measure the individual's procrastination tendency and self-perception of procrastination behavior. The scale adopts Likert 4-point scoring method. The higher the score, the more serious the individual's procrastination tendency. It has good reliability and validity, and is widely used in academic research [5]. These

scales have all undergone long-term empirical verification and provide reliable measurement tools for a thorough understanding of the issue of academic procrastination.

Chinese researchers have fully taken into account the differences in cultural background, educational context and characteristics of the student group when choosing measurement tools. They mostly adopt the localization revision of international scales. At the same time, some researchers, in accordance with the actual characteristics of the research subjects, have independently compiled targeted scales and conducted strict reliability and validity tests to ensure the accuracy and reliability of the measurement results. The academic procrastination questionnaire for College students compiled by Zhao Wanli contains 19 items in total, divided into three dimensions: delayed action, poor completion and insufficient planning, which can comprehensively evaluate the academic procrastination situation of college students [10]. Zuo Yanmei took middle school students as the research object and compiled the Academic procrastination Questionnaire for Middle School Students based on a large amount of information collection and pre-investigation. The questionnaire has 17 items and comprehensively evaluates the academic procrastination level of middle school students from four perspectives of delayed planning, delayed execution, delayed recovery and delayed summary, with high reliability and validity. It provides a reliable tool for the study of academic procrastination of middle school students [11].

4. A Retrospect of Existing Research on Academic Procrastination

Existing research on academic procrastination has focused on its antecedents, theoretical mechanisms, and outcomes. This section systematically reviews these three core aspects: key influencing factors, main theoretical perspectives, and consequences.

4.1. Influencing Factors (Contextual vs Intra Personal)

Academic procrastination is widespread in various educational settings, and this phenomenon has been well-supported by numerous empirical studies. Hou and Gai pointed out that academic procrastination is particularly common among students [12]; Steel indicates that 80% to 90% of students exhibit varying degrees of procrastination [1]; and a survey conducted by Pang and Han on Chinese college students shows that approximately 40% of the students have varying degrees of academic procrastination [13]. Academic procrastination is not caused by a single factor, but rather the result of multiple factors working together. Current research mainly examines its influencing mechanism from two perspectives: Contextual factors and Intra personal factors, and conducts a systematic investigation.

4.1.1. Contextual Factors

Contextual factors are important triggers for academic procrastination. Originating from the external environment and objective conditions in which individuals are situated, these factors mainly include academic task characteristics, parenting styles, and social support, providing external conditions for the occurrence of procrastinatory behaviors.

Among these, the characteristics of academic tasks themselves are most closely associated with academic procrastination. As the direct objective objects faced by individuals, core characteristics such as task value and reward timeliness significantly affect individuals' procrastinatory behaviors. Johnson *et al.* found that compared with tasks with high value and delayed rewards, procrastinators are more inclined to choose tasks with low value and immediate rewards [14], indicating that the immediate feedback and value perception of tasks directly affect individuals' willingness to perform tasks, thereby inducing or inhibiting procrastinatory behaviors.

As an important external environment in the process of individual growth, parenting styles are also important contextual factors affecting academic procrastination. Zheng *et al.* pointed out

that positive parenting styles help individuals form reasonable time management tendencies and positive learning attitudes, thereby reducing the occurrence of academic procrastination to a certain extent [15]; on the contrary, inappropriate parenting styles may exacerbate individuals' avoidance psychology and increase the probability of procrastinatory behaviors.

In terms of social support, the level of external support obtained by individuals also has a significant impact on academic procrastination. Xiao showed that individuals who receive more social support have higher efficiency in completing academic tasks and a lower probability of academic procrastination [16]. Sufficient social support can provide individuals with emotional comfort and practical help, effectively alleviate learning pressure, enhance learning confidence, and help them better plan and complete academic tasks, thereby reducing procrastinatory behaviors.

4.1.2. Intra Personal Factors

In recent years, an increasing number of scholars have shifted their focus to the intra-personal factors influencing academic procrastination. Derived from individuals' inherent psychological characteristics and internal states, these factors mainly include personality traits, emotional states, self-control ability, and learning motivation, which play a core driving role in the occurrence of academic procrastination.

At the level of personality traits, studies on middle school students have shown that personality traits significantly predict academic procrastination: academic procrastination is positively correlated with neuroticism and negatively correlated with agreeableness and conscientiousness. This conclusion is highly consistent with the research findings of Eerde [6], indicating that individuals' stable personality tendencies exert long-term impacts on their learning decisions and behavioral choices, thereby influencing the frequency and degree of procrastinatory behaviors.

In terms of emotional states, negative emotions serve as important intra-personal triggers for academic procrastination. Researchers have found that negative emotions such as depression and anxiety significantly reduce individuals' learning initiative, thereby exacerbating procrastinatory behaviors. Flett *et al.* showed that students who engage in procrastination often experience higher levels of anxiety [17], and such negative emotions can induce individuals to avoid academic tasks, ultimately leading to the occurrence of procrastination.

Self-control ability is a key intra-personal factor affecting academic procrastination, and the internal relationship between the two has been revealed by Duckworth *et al.* [18]. Students with lower self-control are more likely to be distracted by external factors, making it difficult for them to reasonably plan study time, firmly implement study plans, and flexibly apply effective learning strategies, thus exhibiting more academic procrastination behaviors. In other words, self-control is significantly negatively correlated with academic procrastination.

In addition, as an inherent learning driving force, learning motivation is also an important factor influencing academic procrastination [19]. Senecal found that individuals with stronger learning motivation have higher learning interest and initiative, and correspondingly fewer procrastinatory behaviors [20]; studies on Chinese student groups have reached consistent conclusions, i.e., learning motivation is significantly negatively correlated with academic procrastination [21]. Sufficient intrinsic learning motivation can effectively inhibit individuals' avoidance tendencies and reduce procrastinatory behaviors.

4.2. Research from Different Theoretical Perspectives

Academic procrastination is a complex self-regulatory failure, and its underlying mechanisms have been explored from diverse theoretical lenses.

4.2.1. Cognitive - Behavioral Theory

A central tenet of cognitive-behavioral theory is that an individual's emotional experiences and behavioral manifestations are guided by internal cognitive patterns, rather than external events directly. Specifically, academic procrastination essentially arises from the long-term interaction between irrational cognitions and maladaptive behavioral habits [3]. Procrastinators commonly hold irrational beliefs such as excessive perfectionism, fear of failure, and low self-efficacy, which trigger anxiety and distress when facing academic tasks. To alleviate immediate negative emotions, students often postpone or avoid tasks, creating a vicious cycle that reinforces procrastination in the long run.

A wealth of empirical research supports this cognitive-behavioral model. Milgram and Toubiana found that individuals overly concerned with performance standards and external criticism are prone to procrastination [22], confirming the driving role of irrational cognitions. Furthermore, cognitive-behavioral interventions (e.g., cognitive restructuring, behavioral activation) have proven highly effective in reducing procrastination. Sam et al. demonstrated that cognitive behavioral therapy corrects irrational cognitions and improves maladaptive behaviors, thereby reducing procrastination frequency and severity [23]. These findings indicate that cognitive-behavioral theory not only explains the mechanisms of academic procrastination but also provides practical guidance for intervention.

4.2.2. Temporal Motivation Theory

Among the theories explaining academic procrastination, the most influential is the Temporal Motivation Theory (TMT). Proposed by Steel and König, this theory focuses on the mechanism through which the temporal dimension shapes individuals' attention allocation and effort investment in tasks. According to TMT, the higher an individual's expectancy of task completion and the more positive the perceived task value, the stronger their action motivation, and the weaker their procrastination tendency [24]. Conversely, when a task is highly aversive, has a long delay to reward, or an individual has high impulsivity (sensitivity to time delay), action motivation drops significantly, and procrastination behavior increases accordingly [25].

Furthermore, procrastination is closely tied to the dynamic changes in individuals' motivation over time [24]. When the expected benefits of task completion are distant, the temporal discounting effect [26] leads individuals to underestimate the impact of future outcomes on current decisions, weakening their willingness to engage in tasks. As deadlines approach, the temporal compression enhances perceived task value, thereby boosting motivational drive. This phenomenon explains why students often cram for exams at the last minute but struggle to initiate study plans early.

A wealth of empirical research has provided strong support for the TMT model of academic procrastination. Marek *et al* found that delay discounting is positively correlated with academic procrastination—individuals with higher delay discounting are more likely to postpone task completion [27]. Zhang *et al* found that guiding students to set clear goals and strengthen time management can effectively reduce procrastination behavior, which further confirms the practical value of TMT in solving academic procrastination problems [28].

4.3. Consequences of Academic Procrastination

As a common form of self-regulation failure, academic procrastination can have multifaceted negative impacts on students' academic development and mental health; existing research primarily examines this phenomenon from two main dimensions: academic consequences and psychological and emotional consequences.

The most direct impact of academic procrastination is reflected in academic performance. Extensive empirical research indicates that academic procrastination is significantly negatively correlated with academic performance. Procrastination leads to insufficient study time, lower-

quality homework, and inadequate exam preparation, which in turn results in declining grades, higher failure rates, and even an increased risk of dropping out [29]. At the same time, procrastination undermines students' ability to apply effective study strategies and develop good study habits, exerting a lasting negative impact on their long-term academic development [30].

In addition to its impact on academic performance, academic procrastination can also lead to a range of negative psychological and emotional issues. Research shows that procrastination is significantly positively correlated with negative emotions such as anxiety, depression, and stress [31]. Procrastinators often experience intense feelings of guilt and low self-esteem due to unfinished tasks, resulting in a significant decline in subjective well-being. Furthermore, there is a bidirectional relationship between procrastination and emotional issues: procrastination exacerbates negative emotions, while negative emotions further trigger procrastination, creating a vicious cycle that causes long-term damage to students' mental health [17].

5. Future Directions and Prospects

Academic procrastination, as a significant topic continuously studied in the field of educational psychology, has seen the development of a relatively systematic research framework regarding its conceptual definition, measurement tools, and influence mechanisms. From the perspective of its conceptual connotation, the academic community generally recognizes that academic procrastination has core characteristics such as irrationality, delay, situational nature, and accompanying negative consequences. The related definitions have gradually shifted from behavioral descriptions to an integrated perspective of cognition, emotion, and behavior. At the measurement level, internationally mature scales provide standardized tools for research, while the revision and development of local scales enhance the cultural applicability of the research, laying a methodological foundation for conducting high-quality empirical studies. In terms of influencing factors, the research perspective has shifted from external factors such as tasks, family, and social support to internal factors such as personality traits, emotional experiences, self-control, and learning motivation, highlighting the psychological mechanism essence of academic procrastination.

Although the existing body of research on academic procrastination has yielded substantial findings, several critical gaps remain to be addressed in future investigations.

First, the emotional antecedents of procrastination have been predominantly explored through a negative-centric lens, with most studies focusing on maladaptive emotions such as anxiety, depression, and stress. In contrast, systematic and in-depth explorations of positive emotional variables (e.g., academic pleasure, learning engagement, psychological resilience) and their protective roles against procrastination remain relatively scarce. Meanwhile, the potential of positive psychology perspectives—such as strengths-based intervention, growth mindset cultivation, and positive emotion regulation—to mitigate procrastination has not been fully integrated into existing theoretical frameworks, limiting the development of proactive, strength-oriented intervention strategies.

Second, while numerous studies have identified individual and contextual predictors of academic procrastination, the revelation of the interaction effects among multiple factors, as well as the underlying mediating and moderating mechanisms, still requires further deepening. Future research should move beyond the examination of isolated variables to explore the complex interplay between cognitive, emotional, motivational, and contextual factors, and to verify the boundary conditions of existing theoretical models (e.g., Temporal Motivation Theory, Cognitive-Behavioral Theory) across diverse student populations. For instance, integrating TMT with self-control theory and emotion regulation theory can help clarify how time

discounting, impulsivity, and emotional regulation jointly shape procrastination behavior, thereby enriching the theoretical explanatory power of procrastination mechanisms.

Third, targeted research on academic procrastination within specific learning contexts remains relatively limited. Most existing studies adopt a generalized research design, failing to account for the unique characteristics of different educational stages, subject disciplines, and learning environments (e.g., online learning, project-based learning). Future research should conduct context-specific investigations to explore the formation path and intervention strategies of academic procrastination in tailored scenarios, so as to enhance the practical applicability of research findings. Building on this, future interventions can further integrate positive psychology principles—such as fostering autonomous motivation, enhancing task value perception, and cultivating adaptive time management habits—to develop more comprehensive, student-centered intervention programs that not only address the temporal and motivational mechanisms of procrastination but also promote long-term positive learning behaviors.

In summary, future research should further integrate multi-dimensional theoretical perspectives (e.g., emotion regulation, self-control, positive psychology) and TMT' s core insights into temporal motivation, strengthen the examination of the joint mechanisms of positive and negative emotions, and deepen the research on the formation path of academic procrastination in specific contexts. This will not only advance the theoretical understanding of academic procrastination but also provide more targeted theoretical basis and practical insights for the prevention and intervention of procrastination among students.

Acknowledgments

This work was supported by Postgraduate Scientific Research Innovation Project of Hunan Province (Grant No.CX20251500) and the Hunan Provincial Higher Education Teaching Research and Reform Project (Grant No. 202401000865).

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