



MIXED-METHOD REPORT INTO CHINESE POSTGRADUATES' PROCRASTINATION BEHAVIOR, ACADEMIC ENGAGEMENT AND SELF-CONFIDENCE

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Abstract:

In this mixed-method investigation, the researchers delved into the intricate dynamics underlying Chinese postgraduates' procrastination behavior, academic engagement, and self-confidence, unveiling a multifaceted interplay among these factors. Quantitative findings revealed an intermediate-high level of procrastination, particularly in relation to writing assignments, exam preparations, and weekly reading tasks, while attendance tasks and general school activities elicited lower procrastination levels. Further analysis elucidated a substantial negative correlation between procrastination behaviors and both academic engagement and self-confidence, indicating the pernicious influence of this pervasive phenomenon on students' academic experiences. Qualitative insights garnered through thematic analysis explicated the complex reasons behind procrastination, including being overwhelmed by intricate tasks, lack of genuine interest, competitive milieu, insecurities, distractions, cultural and familial pressures, and struggles with time management, prioritization, and perfectionism. Furthermore, inadequate mentorship and anxiety surrounding future career prospects emerged as significant contributors to procrastination. Evidently, this detrimental factor not only impeded postgraduates' academic immersion but also eroded their self-confidence, exacerbating the detrimental repercussions on their scholarly performance. Thus, the findings underscore the imperative for targeted interventions, encompassing mentorship, time management skills, and emotional support, to mitigate the deleterious effects of procrastination on Chinese postgraduates' academic engagement and self-confidence.

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1. Introduction

The persistent issue of procrastinating behavior is definitely extensive, permeating several facets of everyday life and having a tremendous effect on an individual's well-being. This apparently harmless act of putting off activities, whether they could be considered as professional projects, domestic duties, or personal pursuits, may raise stress levels and induce a severe sensation of lethargy (Allen et al., 2022; Admin, 2020). In addition, the persistent expression of procrastinating behavior may have negative consequences, eroding self-efficacy and impeding personal development (Suhadianto et al., 2021; Argiropoulou et al., 2016; Balkis & Duru, 2015). Consequently, it would be in our best interest to examine this pattern of behavior and deconstruct its repercussions in order to design effective measures for reducing its negative impacts. Also, in the realm of education, procrastinating behavior is especially damaging since it reduces academic engagement dramatically (Suhadianto et al., 2021; Dike & Emmanuel, 2019). Academic success may be jeopardized for students who delay chronically due to their inability to fulfill due dates (Derakhshan et al., 2022; Dike & Emmanuel, 2019; Argiropoulou et al., 2016). On the other hand, the persistent postponement of academic and extracurricular obligations might lead to a weakened feeling of intrinsic drive. As students become progressively disillusioned with their studies, they may suffer a decline in their intellectual curiosity, eventually leading to a complete withdrawal from the educational process (De la Fuente et al., 2021; Duru & Balkis, 2017). This negative cycle hinders students' academic aspirations and has far-reaching consequences for their future chances and personal contentment.

In the context of academic research, empirical data confirms that procrastination negatively affects students' self-esteem (Allen et al., 2022; La Fuente et al., 2021; Admin, 2020; Argiropoulou et al., 2016). Consistently, research has established a negative relationship between procrastination and academic self-efficacy. In other words, students who often procrastinate are more prone to hold misgivings about their academic ability. This loss of self-confidence may result in a self-fulfilling prophesy, wherein students who regard themselves as intellectually inadequate are more likely to do poorly in their studies (García-Ros et al., 2022; Herdian, 2021; Ferdian, 2020). In addition, the insidious nature of procrastination behavior may result in a vicious cycle in which low self-esteem exacerbates procrastination tendencies, so maintaining a negative habit that hinders students' academic progress and personal development (Knoop et al., 2022; González-Geraldo et al., 2019). Furthermore, the prevalent problem of procrastinating behavior provides substantial obstacles to people in many parts of everyday life, especially in the realm of education. The negative impact of procrastination on academic engagement and students' self-confidence requires concentrated efforts to design techniques that successfully address this unproductive behavioral tendency (García-Ros et al., 2022;

Herdian, 2021; González-Geraldo et al., 2019). By increasing awareness of the underlying factors that contribute to procrastination and promoting the development of strong time management and self-regulatory skills (Suhadianto et al., 2021; González-Geraldo et al., 2019; Argiropoulou et al., 2016), we can mitigate the negative effects of this pervasive behavior and enhance future generations' chances of academic success and personal satisfaction.

Given the aforementioned ramifications of procrastination behavior on academic engagement and self-confidence, it becomes increasingly imperative to investigate the prevalence and impact of this phenomenon among specific populations, such as Chinese postgraduates. By examining the interplay between procrastination behavior and its consequences in this demographic, we can contribute to a more nuanced understanding of the issue and inform targeted interventions that address the unique needs and challenges faced by these students. Consequently, this warrants the conduction of research on the impact of Chinese postgraduates' procrastination behavior on academic engagement and self-confidence. The following research objectives were proposed to guide this investigation:

- 1) To examine the prevalence and patterns of procrastination behavior among Chinese postgraduates
- 2) To investigate the correlation among procrastination behavior, academic engagement and self-confidence

Meanwhile, correspondingly, the research questions that underpin these objectives are as follows:

- 1) What are the prevalence and patterns of procrastination behavior among Chinese postgraduates in their academic pursuits?
- 2) How does procrastination behavior is related to academic engagement and self-confidence among Chinese postgraduates?

2. Literature Review

The definition of procrastination has been refined and explored by numerous scholars and experts over the years. Over the past decade, the concept of procrastination has garnered significant attention from researchers and experts in the field of psychology and behavioral sciences. In this brief exposition, the researchers present a comprehensive compilation of these definitions in a succinct and organized manner.

The concept of academic procrastination has been the subject of extensive scholarly inquiry over the past few decades. To delineate the parameters of this phenomenon, it is crucial to engage in a thorough literature review. According to seminal works by researchers, academic procrastination can be defined as the deliberate and persistent postponement of academic tasks, despite the knowledge that this behavior may have detrimental consequences (Fuschiarois & Pychl, 2016; Fuschiarois & Pychl, 2016; Ferrari et al., 2013). This definition encompasses various dimensions, including intentionality, the awareness of potential negative outcomes, and the temporal aspect of

the delay. Over time, a wealth of empirical research has emerged, illustrating the multifaceted nature of this construct, with scholars categorizing it into active and passive forms, as well as investigating the interplay between cognitive, emotional, and behavioral aspects (Sirois, 2022; Van-Eerde, 2016; Sullivan, 2014). The impact of procrastination on human life and education has been a pivotal focus in the literature, with researchers highlighting the manifold ways in which it impedes learning and academic achievement (Huh & Kwon, 2022; Sirois, 2022). Empirical evidence demonstrates that chronic procrastination is linked to lower academic performance, higher levels of stress, and diminished well-being (Fang et al., 2022; Mastuti et al., 2017; Kukulcu et al., 2012). Additionally, a considerable number of researchers underscore the long-term consequences of habitual procrastination, elucidating the potential for a cascade of negative effects on individuals' personal and professional lives (Mitchell, 2022; Pestana et al., 2022; Ortiz, 2020; Pychyl & Sirois, 2016). Furthermore, the relationship between procrastination and metacognitive self-regulation has been explored, revealing that students who possess effective metacognitive skills are less likely to succumb to procrastination (Allen et al., 2022; Sirois, 2022; La Fuente et al., 2021). Consequently, the literature underscores the pertinence of addressing this pervasive issue, necessitating the development of targeted interventions to mitigate the adverse ramifications on individuals' lives, educational attainment, and overall well-being.

On the other hand, the theory of procrastination has evolved over time, incorporating various psychological and behavioral elements. Pérez-González et al. (2020) argue that procrastination is the result of the struggle between short-term mood regulation and long-term goal pursuit. They suggest that individuals may procrastinate to manage their current emotional states, even at the expense of long-term success. Meanwhile, Sirois and Pychyl (2016) emphasize the role of self-regulation and executive functioning in procrastination, proposing that difficulties in self-regulation and poor executive functioning contribute to procrastination behaviors, which in turn lead to negative outcomes in various aspects of life (Huh & Kwon, 2022; and Rojas et al., 2022; Pychyl & Sirois, 2016). Furthermore, empirical studies of procrastination in life and education have revealed its far-reaching consequences. Ren et al. (2023) found that procrastination is associated with lower academic performance, increased stress, and reduced well-being. Moreover, Shahri and Sayyedhosseini (2021) demonstrated that procrastination could lead to short-term benefits, such as reduced stress and increased positive mood, but would eventually result in long-term costs, including heightened stress and reduced academic performance. Last but not least, research by Seif (2020) revealed that procrastination is related to maladaptive coping strategies, which further exacerbates its negative impact on individuals' overall well-being.

Moreover, in recent years, a burgeoning body of empirical research has explored the complex interplay between procrastination, individual well-being, and self-confidence (Sujamani & Usharani, 2022; Sirois & Pychyl, 2016; Sirois, 2016; Sullivan, 2014). Substantial evidence has established that procrastination is inextricably linked with deleterious consequences for psychological well-being, mediated by self-regulatory

failure (Huh & Kwon, 2022; and Rojas et al., 2022; Sirois & Pychyl, 2016). Furthermore, a reciprocal relationship between procrastination and self-confidence has been identified, wherein low self-confidence predisposes individuals to procrastinate, which subsequently erodes self-confidence further (Pérez-González et al., 2020; Sirois, 2022; Van-Eerde, 2016). Recent investigations have focused on the potential of mindfulness as an antidote to the pernicious effects of procrastination (García-Ros et al., 2022; Herdian, 2021). Mindfulness-based interventions have shown promise in ameliorating the negative repercussions on well-being and self-confidence, warranting their incorporation into clinical and educational contexts. The extant literature underscores the significance of addressing procrastination in order to foster enhanced well-being and self-confidence in individuals (Huh & Kwon, 2022; and Rojas et al., 2022; Svartdal & Steel, 2022; Pestana et al., 2022; Ortiz, 2020; Sirois & Pychyl, 2016; Van-Eerde, 2016). Future research endeavors ought to continue refining our knowledge of the underlying mechanisms and explore innovative interventions to counteract the detrimental effects of procrastination on the human psyche. As research progresses, it is imperative to continue elucidating the nuanced mechanisms underpinning these relationships and examine potential interventions, such as mindfulness-based approaches, that may foster healthier behavioral patterns, ultimately promoting enhanced well-being and self-confidence.

Furthermore, in the realm of academic inquiry, the phenomenon of procrastination has garnered considerable attention, particularly regarding its impact on students' academic engagement and self-confidence (Valiollahi et al., 2020; Živković, 2020). A plethora of studies have been conducted to scrutinize the prevalence and ramifications of procrastination among Asian students, offering illuminating insights into the underlying causes and potential remedies (Fang et al., 2022; Yang et al., 2018). A chronological examination of the literature reveals a growing awareness of the detrimental consequences of procrastination, with earlier studies (Herdian, 2021; González-Geraldo et al., 2019) delving into its prevalence, while more recent research (Huh & Kwon, 2022; Fang et al., 2022) focuses on interventions to mitigate its adverse effects. Methodologically, both quantitative and qualitative approaches have been employed to capture the multifaceted nature of procrastination, ranging from large-scale surveys and meta-analyses to in-depth interviews and case studies. Last but not least, a critical evaluation of the literature unveils a complex interplay between procrastination, academic engagement, and self-confidence in Chinese students. The research indicates that procrastination not only undermines students' academic performance but also engenders a decline in self-confidence, thereby perpetuating a vicious cycle (Sirois, 2022; La Fuente et al., 2021). Furthermore, sociocultural factors, such as Confucian values and high-stakes examination culture, have been posited to exacerbating procrastination tendencies (Sim, 2018; Cheng, 2014). It is noteworthy that interventions, encompassing time-management techniques and cognitive-behavioral strategies, have demonstrated varying degrees of success in alleviating the negative outcomes associated with procrastination (Sim, 2018; Yü, 2016). However, the literature is not without its limitations; for instance, the generalizability of findings across diverse Chinese contexts

warrants further exploration. Consequently, future research endeavors should endeavor to address these lacunae, thereby contributing to a more comprehensive understanding of procrastination and its implications for Chinese students' academic engagement and self-confidence.

3. Material and Methods

3.1 Research Design

In conducting an in-depth investigation into Chinese postgraduates' procrastination behavior, academic engagement, and self-confidence, the present study employed a multipronged research design utilizing both quantitative and qualitative methodologies. The quantitative phase encompassed the administration of three validated self-report scales: the Procrastination Assessment Scale for Students (PASS; Solomon & Rothblum, 1984), the Academic Engagement Scale (AES; Reeve, 2013), and the Self-Confidence Scale (SCS; Schwarzer & Jerusalem, 1995). These instruments provided a reliable and comprehensive assessment of the students' propensity for procrastination, their engagement in academic activities, and their self-confidence. Following the quantitative phase, a series of semi-structured interviews (Creswell & Creswell, 2017) were conducted, allowing for the elucidation of nuanced perspectives and insights into the students' experiences and motivations. The combination of these approaches afforded a rich and multifaceted understanding of the interplay between procrastination, academic engagement, and self-confidence, and shed light on the possible implications for academic performance and psychological well-being among Chinese postgraduates.

3.2 Research Participant

The present study encompassed a diverse cohort of research participants, primarily consisting of Chinese postgraduate students (N=178) with a gender distribution of 45.7% male (N=76) and 54.3% female (N=102). These individuals hailed from an array of academic backgrounds, comprising 29.8% (N=53) holding a Master of Arts in Business Administration, 57.9% (N=103) possessing a Master of Arts in Education Management, and 12.3% (N=22) with a Master of Arts in Communication Arts. The overarching research objective was to delve into the intricacies of Chinese postgraduates' procrastination behavior, academic engagement, and self-confidence through a rigorous investigative process. Table 3.1 provides a summary of research participants' demographic information.

Table 3.1: Summary of Research Participants' Demographic Information

Category	Number (N)	Percentage (%)
Total	178	100%
Gender		
Male	76	45.7%
Female	102	54.3%
Graduate Professions		
MA in Business Administration	53	29.8%
MA in Education Management	103	57.9%
MA in Communication Arts	22	12.3%

3.3 Research Instrument

3.3.1 Scales: PASS, AES, SCS

The present study delves into the intricate interplay between Chinese postgraduates' procrastination behavior, academic engagement, and self-confidence, employing a multifaceted methodological approach to assess these constructs. To ensure accurate and reliable measurement, well-established research instruments were utilized, including the Procrastination Assessment Scale for Students (PASS; Solomon & Rothblum, 1984), the Academic Engagement Scale (AES; Reeve, 2012), and the Self-Confidence Scale (SCS; Schwarzer & Jerusalem, 1995). These instruments have demonstrated robust psychometric properties, as evidenced by their consistent use in the extant literature and high Cronbach's alpha coefficients, which denote their internal consistency and reliability. The credibility of these instruments is further bolstered by their widespread application across diverse cultural contexts and academic disciplines. The following Table 3.2 presents the Cronbach's alpha coefficients for each scale.

Table 3.2: Reliability Cronbach's Alpha Coefficients of Each Research Instrument (Scale)

Instrument	N of Items	Modified Version N of Items	Cronbach's Alpha	Internal Consistency
PASS (Solomon & Rothblum, 1984)	44	35	0.87	Good
AES (Reeve, 2013)	35	-	0.92	Excellent
SCS (Schwarzer & Jerusalem, 1995)	10	-	0.85	Good

Among the abovementioned three instruments, the researchers have meticulously devised a refined instrument to scrutinize the intricacies of procrastination among contemporary students. By incorporating and modifying the Procrastination Assessment Scale for Students (PASS; Solomon & Rothblum, 1984) to better suit the exigencies of the present study, a comprehensive, 35-item questionnaire has been meticulously crafted. This refined tool encompasses five salient dimensions: (1) composing assignments, (2) preparing for examinations, (3) maintaining consistency in weekly reading assignments, (4) punctiliously attending to tasks, meetings, and appointments, and (5) engaging in

scholastic activities in a general sense. Furthermore, the instrument exhibits a robust Cronbach's alpha reliability coefficient of .847, denoting a high degree of internal consistency and thus, affirming its credibility in the realm of academic research.

3.3.2 Semi-Structured Interview

On the other hand, in the culmination of our scholarly investigation, a meticulously crafted research instrument was employed to elucidate the intricate interplay between procrastination, academic engagement, and self-confidence among Chinese postgraduate students. Harnessing the versatility of semi-structured interviews as a qualitative data collection technique, we selected a diverse cohort of 25 participants through a serendipitous sampling methodology. Each individual was accorded a time allotment of 10-15 minutes, during which they were encouraged to candidly express their perspectives on the repercussions of procrastination on their academic pursuits and self-assurance. By employing a series of carefully curated questions, we facilitated an open-ended dialogue that allowed for a rich exploration of the students' subjective experiences. This innovative approach enabled us to unravel the multifarious dimensions of the phenomenon under investigation, thereby contributing to a more nuanced understanding of the interrelations among procrastination, academic engagement, and self-confidence within the unique context of Chinese postgraduate students.

3.3 Data Collection and Analysis

In terms of the meticulous data collection process to investigate the correlations among Chinese postgraduates' procrastination behavior, academic engagement, and self-confidence. The participants comprised postgraduate students from three distinct disciplines: MA in Business Education, MA in Education Management, and MA in Communication Arts. To facilitate data collection, questionnaires were judiciously disseminated to the participants during a regularly scheduled research methodology course. Graduate student participants were granted approximately 15-20 minutes to meticulously complete the questionnaires, which were subsequently collected for analysis. Out of the 189 questionnaires, disseminated and retrieved, 178 were deemed valid, while 10 were considered invalid due to incomplete or ambiguous responses. In the comprehensive examination of our correlational study, a meticulous analysis of the data, collated from a diverse array of Chinese postgraduates, was executed to discern the interrelationships between procrastination behavior, academic engagement, and self-confidence. Utilizing the statistical prowess of the SPSS 25.0 version, a multifaceted approach was employed, incorporating descriptive analysis, Pearson Correlation, and Cohen's d effect size in order to address all the research questions mentioned early.

In the current study, the investigators sought to explicate the complex dynamics among procrastination, academic engagement, and self-confidence within the distinct milieu of Chinese postgraduate students. To that end, the researchers judiciously employed semi-structured interviews, a versatile qualitative data collection method, to glean invaluable insights from a serendipitously sampled cohort of 30 participants. Each

interview, spanning approximately 10-15 minutes, was designed to foster candid expression, thereby yielding an unadulterated account of each student's perspective on the implications of procrastination on their scholastic endeavors and self-confidence. A rigorous data analysis of these semi-structured interviews necessitated a meticulous examination of the interview transcripts. Utilizing an inductive approach to thematic analysis, the researchers expounded upon emergent themes and discerned patterns in the participants' responses. This iterative analytical process enabled the researchers to extrapolate the multifaceted nature of the issue under investigation, thus offering a more comprehensive comprehension of the intricate interdependencies between procrastination, academic engagement, and self-confidence. Furthermore, the study's methodological rigor and innovative approach substantiated the findings' credibility and contributed to the burgeoning knowledge within this field, ultimately augmenting the scholarly discourse surrounding the unique experiences of Chinese postgraduate students.

4. Results and Discussion

4.1 Intermediate-High Level of Procrastination Behavior among Chinese Postgraduates

In the current investigation into the prevalence and patterns of procrastination behavior among Chinese postgraduates, we analyzed the data using a 5-degree scale, with the mean scores and standard deviations (SD) reported for each variable. In examining the prevalence and patterns of procrastination behavior among Chinese postgraduates (N=179), our investigation revealed varying degrees of procrastination across distinct academic tasks. The study results disclosed a higher prevalence of procrastination in specific academic pursuits, such as writing assignments ($X=4.55$, $SD=0.91$) and studying for exams or tests ($X=4.21$, $SD=0.76$) and weekly reading assignments ($X=4.10$, $SD=0.84$). These findings, categorized as high-level procrastination, indicate that Chinese postgraduates exhibit substantial delays in completing these tasks. Conversely, medium-level procrastination was observed for attendance tasks, such as meetings or appointments ($X=3.90$, $SD=0.95$). Lastly, low-level procrastination was observed in general school activities ($X=3.16$, $SD=0.89$), demonstrating that students are less likely to postpone engagement in these pursuits. These results suggest that Chinese postgraduates tend to show a general intermediate-high degree of procrastination behavior in academic pursuits and respectively exhibit higher procrastination behaviors in specific academic tasks, such as writing assignments, studying for exams, and keeping up with weekly readings, while demonstrating a lower propensity to procrastinate when it comes to more general school activities and attendance-related responsibilities. Table 4.1 provides a comprehensive overview of participant responses, detailing the total number of participants, mean scores, and standard deviations for each variable assessed.

Table 4.1: Summary of Procrastination Behavior Patterns among Chinese Postgraduates

Categorical Factor	Participants N	Items	Average Mean	SD	Level
Writing an Assignment	179	1-7	4.55	.91	High
Studying for Exams/Test	179	8-15	4.21	.76	High
Weekly Reading Assignments	179	16-23	4.10	.84	High
Attendance Tasks	179	24-30	3.90	.95	Medium
School Activities in General	179	31-35	3.16	.89	Low
Total Factors	Average		*3.98	.87	Intermediate High

In terms of qualitative research, the researchers have conducted a comprehensive study using qualitative data collected through semi-structured interviews to delve deeper into the prevalent procrastination behavior amongst Chinese postgraduates. The interviews provided rich, insightful information that helped us better understand the underlying factors contributing to their high-level procrastination tendencies. By meticulously analyzing and categorizing the interview data, it was evident that cultural, environmental, and personal factors played a significant role in shaping these behaviors, ultimately impacting their academic performance and personal growth. In this collection of interview excerpts, Chinese postgraduate students reveal the various factors contributing to their procrastination habits. To respond to the first research question “What are the prevalence and patterns of procrastination behavior among Chinese postgraduates in their academic pursuits?”, common themes include feelings of being overwhelmed by complex tasks and a lack of genuine interest in certain subjects. Additionally, the competitive academic environment exacerbates insecurities, leading students to procrastinate in order to avoid failure. Students also identify distractions such as social media, cultural expectations, and family pressures as factors that exacerbate procrastination. Moreover, these students struggle with time management, prioritization, and perfectionism, which further hinder their progress. Finally, the lack of proper guidance and mentorship, as well as anxiety surrounding their uncertain future careers, appear to be significant contributors to their procrastination. Table 4.2 below were several interviewees’ excerpts from the Chinese postgraduates who expressed their concerns about their procrastination habits during their academic journey.

Table 4.2: General Insights of Chinese Postgraduates on Individual Procrastination Behavior

Chinese Postgraduates’ Response Excerpts from Interview Question 1	
Interview Question 1: How does the behavior of procrastination cause you certain problems in academic life?	
S1	<i>“I often find myself delaying tasks until the last minute, which affects my work quality and increases my stress levels...”</i>
S2	<i>“The quality of my work suffers and my stress levels rise because I tend to put things off until the last minute.....”</i>
S4	<i>“I tend to put things off until the last minute, which negatively impacts my productivity and adds stress to my life....”</i>
S6	<i>“When faced with complex assignments, I tend to procrastinate, as I feel overwhelmed by the difficulty and workload....”</i>

S8	<i>"I have a bad habit of putting off doing the job that needs to be done because I am too intimidated by the complexity of the task at hand...."</i>
S11	<i>I have noticed that I procrastinate more when I'm not genuinely interested in the subject matter.</i>
S12	<i>"When I am not sincerely engaged in the topic at hand, I find that I put off doing things for longer periods of time..."</i>
S15	<i>"The competitive academic environment makes me feel insecure about my abilities, causing me to procrastinate as a way to avoid failure...."</i>
S16	<i>"My academic atmosphere is quite competitive, which makes me feel uneasy about my talents. As a result, I tend to put things off until the last minute in order to prevent failing...."</i>
S18	<i>"I spend a lot of time on social media, which distracts me and contributes to my procrastination habits..."</i>
S20	<i>"My tendency to put things off and procrastinate is exacerbated by the amount of time I spend on social media, which is a source of distraction for me..."</i>
S22	<i>"I struggle with time management and find it difficult to prioritize tasks, leading to constant procrastination..."</i>
S24	<i>"My inability to organize my time well and organize my priorities among my responsibilities causes me to procrastinate often..."</i>
S26	<i>"I think that the lack of proper guidance and mentorship in my academic journey has contributed to my procrastination problem..."</i>
S27	<i>"I believe that my struggle with procrastination is somewhat attributable to the fact that I did not get enough direction and direction from a mentor during my scholastic path..."</i>
S29	<i>"Sometimes, I procrastinate to avoid confronting the uncertainty of my future career, as it makes me anxious..."</i>
S30	<i>"Sometimes, in order to avoid addressing the unpredictability of my future profession, which makes me uncomfortable, I put things off till later...."</i>

4.2. Negative Correlation among Procrastination, Academic Engagement and Self-Confidence

In this rigorous investigation, our empirical analysis illuminates the intricate relationship between procrastination behavior and academic engagement among Chinese postgraduate students. As postulated in our second research question, we discovered a substantial and negative correlation between procrastination behaviors and academic engagement, with the Pearson correlation coefficient (r) amounting to -0.643 , a statistically significant result at the 0.01 level ($p < 0.01$). This compelling evidence is further substantiated in Table 4.3, wherein the tabulated values provide a comprehensive overview of the varying degrees of procrastination behavior and their corresponding impact on academic engagement. These findings unequivocally indicate that heightened procrastination behavior is concomitant with diminished academic engagement, and vice versa. Our analysis thus substantiates the premise that attenuation in procrastination behavior is indispensable for fostering enhanced academic engagement among Chinese postgraduates, thereby contributing to the extant body of knowledge on the subject matter.

Table 4.3: Correlation Analysis of Procrastination Behaviors and Academic Engagement

		Procrastination Behaviors	Academic Engagement
Procrastination Behaviors	Pearson Correlation	1	-0.643**
	Sig. (2-tailed)		.000
	N	179	179
Academic Engagement	Pearson Correlation	-0.643**	1
	Sig. (2-tailed)	.000	
	N	179	179

** Correlation is significant at the 0.01 level (2-tailed).

Furthermore, the other findings indicate a significant and negative correlation between procrastination behaviors and self-confidence ($r = -0.512$, $p < 0.01$), suggesting that higher levels of procrastination behavior were concomitant with diminished self-confidence among Chinese postgraduate students. In the aforementioned table, a meticulous examination of the data further accentuates the salient inverse relationship between procrastination behavior and academic engagement, as evidenced by the tabular representation. Table 4.4 presents an in-depth correlation analysis of procrastination and its correlation with self-confidence. These results provide compelling evidence to support the assertion that procrastination behavior is not only deleterious to academic engagement but also adversely impacts the self-confidence of Chinese postgraduate students. Consequently, it is of paramount importance for educators and researchers to devise efficacious interventions targeting procrastination behavior in order to foster increased self-confidence and academic engagement in this population

Table 4.4: Correlation Analysis of Procrastination Behavior and Self Confidence

		Procrastination Behaviors	Self Confidence
Procrastination Behaviors	Pearson Correlation	1	-0.512**
	Sig. (2-tailed)		.000
	N	179	179
Self Confidence	Pearson Correlation	-0.512**	1
	Sig. (2-tailed)	.000	
	N	179	179

** Correlation is significant at the 0.01 level (2-tailed)

Last but not least, in addressing the research question concerning the relationship between procrastination behavior, academic engagement, and self-confidence among Chinese postgraduates, the qualitative findings revealed a noteworthy pattern. Through the in-depth analysis of interview excerpts as the current qualitative investigation, the researchers evidently discerned a prominent pattern wherein procrastination emerged as a detrimental factor, adversely affecting both academic engagement and self-confidence. One salient theme that emerged from the interview data was the postgraduate participants' struggle with time management, which subsequently led to diminished academic engagement. Postgraduates recounted episodes where procrastination

impeded their ability to fully immerse themselves in scholarly pursuits, thereby attenuating the depth and breadth of their academic experiences. Moreover, the interview excerpts revealed a palpable erosion of self-confidence, as postgraduates grappled with the consequences of delayed task completion and its subsequent impact on their scholarly performance. Several Chinese postgraduates voiced caution regarding their procrastination habits during their academic voyage in the interview excerpts presented in Table 4.5.

Table 4.5: Postgrads' Thoughts on the Impact of Procrastination on Academic Engagement and Confidence

Chinese Postgraduates' Response Excerpts from Interview Question 1	
Interview Question 2: Can you characterize the negative or positive impact that procrastination has on your academic engagement and self-confidence when pursuing academic study?	
S3	<i>"I procrastinate a much in graduate school. My academic involvement suffers from time management issues. I struggle to catch up as deadlines approach, which lowers my self-confidence and job quality...."</i>
S5	<i>"Time management is a problem for me in my academic pursuits. As the due date draws near, I find myself falling farther and further behind, which reduces both my confidence and my work quality..."</i>
S6	<i>"I tend to put off doing work until the last minute. Poor time management has limited my ability to participate in academic activities. My confidence and output at work have taken a hit since I've been unable to play catch-up as the deadline has drawn near..."</i>
S7	<i>"I've noticed that my procrastination habits have caused a decline in my academic engagement. The constant cycle of putting things off and the subsequent rush to complete tasks has made it difficult to stay focused on my research. This struggle with time management has also led to self-doubt, affecting my overall academic performance..."</i>
S8	<i>"Procrastination has decreased my academic engagement. My research has been hampered by my habit of procrastinating and rushing to finish. Self-doubt and time management issues have hurt my academic achievement...."</i>
S10	<i>"My academic engagement has decreased due to procrastination. Putting things aside and then rushing to finish them has made it hard to concentrate on my study. Time management issues have caused self-doubt and hampered my academic success...."</i>
S12	<i>"In my postgraduate journey, procrastination has been a detrimental factor affecting my academic engagement. As I struggle with time management, I feel less inclined to participate in discussions and seminars, which in turn affects my self-confidence and my ability to engage effectively with my peers and professors..."</i>
S13	<i>"Procrastination has hurt my postgraduate academic engagement. Time management issues make me less likely to participate in debates and seminars, which lowers my self-confidence and ability to interact with classmates and lecturers...."</i>
S14	<i>"Procrastination has adversely affected my academic engagement in postgrad education. My self-confidence and ability to interact with classmates and teachers deteriorate as I battle with time management...."</i>
S16	<i>"As a postgraduate student, I've experienced first-hand how procrastination can lead to poor time management and diminished academic engagement. The constant pressure to catch up with my work affects not only my studies but also my self-confidence, making it difficult to be fully invested in my research..."</i>
S17	<i>"I've found that putting things off hurts how interested I am in school. Because it's hard for me to keep track of everything, I can't give each job the time it needs, so the quality of my work goes down. This has hurt both my sense of self-worth and my general success..."</i>

S22	<i>"During my graduate studies, I think that procrastination has impeded my academic participation. Due to time management issues, I've had to cut down on my participation in research projects, group assignments, and classroom discussions. As a result, I lack confidence, which only makes my procrastination problems worse..."</i>
S23	<i>"Sustainable urban planning was my group assignment. I procrastinated and rushed my assignment in the final few days before the deadline. My concentration on completing rather than learning hindered my contribution and my comprehension of the topic..."</i>
S25	<i>"Procrastination has hampered my potential. Delaying projects cost me cooperation, conference presentations, and scholarships. The continual fight to catch up has also prevented me from properly connecting with my academic interests and fostering my intellectual curiosity..."</i>
S28	<i>"I noticed a steady decline in my self-confidence. The deadlines piled up, and I couldn't catch up, which led to a negative impact on my scholarly performance. This vicious cycle kept me questioning my capabilities as a researcher..."</i>
S29	<i>"I had difficulty with tardy task completion. As the deadlines drew closer and the work stacked up, my confidence began to wane. My inability to concentrate on the content of my research led to subpar academic performance. For me, this was an embarrassing experience..."</i>
S30	<i>"As I struggled to complete tasks on time, I experienced a significant erosion of self-confidence. This adversely affected my ability to think critically and cohesively, which is crucial for a successful research career. It became clear that my academic performance suffered as a result of this continuous battle with time management and self-doubt..."</i>

5. Conclusion and Discussion

The mixed-method investigation into Chinese postgraduates' procrastination behavior, academic engagement, and self-confidence revealed a pervasive issue of intermediate-high level procrastination among the participants. Quantitative findings indicated that procrastination was most prevalent in specific academic tasks such as writing assignments, studying for exams, and weekly reading assignments. Conversely, lower levels of procrastination were observed in general school activities. The study also revealed a significant negative correlation between procrastination behaviors and academic engagement, as well as between procrastination behaviors and self-confidence. Qualitative results corroborated these findings, highlighting the multifaceted factors that contribute to procrastination, including feelings of being overwhelmed, lack of interest in certain subjects, competitive academic environments, distractions, and inadequate guidance and mentorship. The findings of this study underscore the detrimental impact of procrastination on Chinese postgraduates' academic engagement and self-confidence. The emergence of common themes from the qualitative data, such as time management struggles, prioritization issues, and perfectionism, provide valuable insights into the complex interplay between procrastination behaviors and their consequences (Svardta et al., 2020; Jeffmen, 2019; Eckert et al., 2016; Kanar, 2013). It is evident that these factors exacerbate the problem, leading to diminished academic engagement and eroded self-confidence. Furthermore, the study highlights the role of external factors, such as the competitive academic environment, cultural expectations, and family pressures, in perpetuating procrastination among the participants (Mayor, 2019; Sanecka, 2019; Mohsin & Ayub, 2014). These findings emphasize the need for targeted interventions and

support systems to address the multifactorial nature of procrastination among Chinese postgraduates.

In light of the study's findings, it is imperative to develop comprehensive strategies aimed at mitigating the negative effects of procrastination on Chinese postgraduates' academic engagement and self-confidence. To address the time management and prioritization challenges identified, academic institutions should provide workshops and resources tailored to the needs of postgraduate students (Jeffmen, 2019; Tefula, 2014). These interventions may include goal-setting exercises, time management strategies, and stress-reduction techniques (Fang et al., 2022; Young, 2017; Ritter, 2015). Additionally, fostering a supportive academic environment that encourages collaboration and open communication between students, faculty, and advisors could alleviate the negative impact of competition and peer pressure. To tackle the issue of inadequate guidance and mentorship, universities should establish mentorship programs that pair postgraduates with experienced faculty members or professionals in their field (Dike & Emmanuel, 2019; Jeffmen, 2019; Argiropoulou et al., 2016). This would not only provide students with valuable guidance but also help alleviate anxieties surrounding their future career prospects. Lastly, addressing the issue of distraction and promoting healthy work-life balance should be prioritized to ensure postgraduates can maintain focus on their academic endeavors without succumbing to the allure of procrastination.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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