

An Interplay of Academic Procrastination, Achievement Goals, and Personality Traits among Students: Evidence from South Punjab, Pakistan

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ABSTRACT: Academic procrastination is a common problem, but little research has been conducted on its relationship with personality traits and motivation in non-Western countries. This study investigated these correlations in Pakistan, utilizing a sample of 500 Pakistani university and vocational students. Employing the correlational design, the participants took part in the Big Five Inventory, Achievement Goal Questionnaire-Revised and Academic Procrastination Scale. The results demonstrated that the achievement goals had a positive but weak correlation with extraversion, agreeableness, and conscientiousness, and no correlation with neuroticism. Academic procrastination correlated negatively with extraversion, agreeableness, conscientiousness and openness and correlated positively with neuroticism. Further regression analyses found that conscientiousness, neuroticism and achievement goals collectively predicted academic procrastination. Moreover, moderation analysis found that moderate-to-high achievement goals attenuated the relationship between personality and procrastination, indicating that they acted as buffers. There were no gender differences, but the vocational students had higher achievement goals than university students. The current research expands personality and motivation research into Pakistani culture, demonstrating that achievement goals need to be developed in order to prevent procrastination.

KEYWORDS: Academic Procrastination, Personality Traits, Achievement Goals, Pakistani Scholars, Higher Education

Introduction

In Pakistan, the educational system is highly competitive and encourages students to achieve excellent results (Ashraf et al., 2023; Naz et al., 2020). Higher education is currently expanding in Pakistan, and the number of students enrolling in both long-term degree programs at universities and short-term courses at vocational institutions is rising (Hussain & Khan, 2022). The preference for one over the other stems from cultural values that hold higher education as the best option for young people and as a strategy for overcoming high unemployment rates in Pakistan (Haider et al., 2021). However, vocational and diploma programs are not as prestigious as the traditional degree programs. The overall phenomenon reflects diversity in post-secondary education in Pakistan, which is both an advantage and a disadvantage. While higher education is on the rise, disparities in quality prevail, with urban elite institutions providing better resources than their rural counterparts (Nguyen & Baker 2023).

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Amid a challenging educational environment, academic procrastination becomes an inevitable threat. Intentionally delaying an action or decision, knowing it may have negative consequences, is one of the most common coping strategies among learners (Sparfeldt & Schwabe, 2024). In the Pakistani context, several factors increase the likelihood of academic procrastination. Given that the Pakistani educational system is primarily parent-oriented, highly competitive, and lacks professional guidance, the likelihood of academic procrastination is significantly higher than in other regions (Ahmad & Bashir 2009; Bushra & Suneel 2021; Bashir & Khalid 2020). Furthermore, the norm of family honor and fear of failure may prompt students to avoid pending tasks and assignments, even when aware of the adverse outcomes.

Research indicates that academic procrastination is often associated with undesirable outcomes, including elevated stress and anxiety (Zhang et al., 2018). In recent years, the prevalence of academic procrastination among university and college students has raised significant concerns. Although numerous studies have examined the negative consequences, most originate from Western countries, and more than two-thirds of the research focuses on higher education (O'Connor & Paunonen, 2007). Therefore, further investigation is necessary to understand the nature of academic procrastination in non-Western contexts. In the Pakistani educational environment, where a family's social reputation is closely tied to a student's academic performance, academic procrastination may have different implications.

In personality psychology, the Big Five framework has been widely used to investigate procrastination. First, conscientiousness is the strongest negative predictor of procrastination, as conscientious people are organized, disciplined, and future-oriented (Bushra & Suneel, 2021). By contrast, neuroticism is the strongest positive predictor of procrastination among the Big Five, reflecting emotional instability. At the same time, while extraversion, agreeableness, and openness show less consistent results, they warrant further investigation in the context of a collectivist culture. For instance, an extraverted individual may benefit from group activities, which are popular in Pakistani universities, but may procrastinate on individual tasks (Cheng & Ickes, 2009; Sparfeldt & Schwabe, 2024).

Other motivators, particularly achievement goals, also contribute significantly to procrastination. Achievement Goal Theory highlights mastery goals, associated with self-improvement and learning, and performance goals, which focus on outperforming others; both have approach and avoidance tendencies (Elliot & Murayama, 2008). The Achievement Goal Questionnaire-Revised (AGQ-R) has been widely used across many cultures to assess mastery and performance goals. Mastery-approach goals decrease procrastination, whereas performance-avoidance goals increase it due to fear of failure (Zhang et al., 2018). In Pakistani culture, exams define a person's career and future, so performance-avoidance goals lead to greater procrastination. This might explain why even the best students, who are usually high achievers in demanding fields such as medicine, procrastinate.

Moreover, the Pakistani educational system lacks adequate support structures, including counseling and mentorship services, for students facing academic challenges, making it difficult to address procrastination effectively. Students are forced to rely on self-help methods passed down by friends and family (Soomro et al., 2022).

Therefore, based on the discussions, it is clear that a study of the influence of personality traits, achievement goals, and procrastination among Pakistani students is necessary.

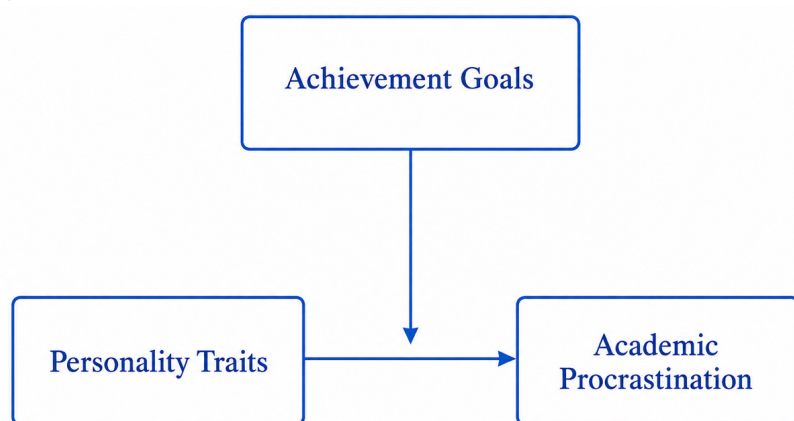
The study will focus on the relationships between the variables and their impact on Pakistani students to fill the research gap. The study of these variables is essential both theoretically and practically, as the results will help design interventions tailored to Pakistani students. Some of the hypotheses that will be tested include:

Personality traits will have a significant positive relationship with achievement goals and an inverse relationship with academic procrastination.

Neuroticism will have either a significant negative or nonsignificant relationship with achievement goals, and a significant positive relationship with academic procrastination. Personality traits and achievement goals will significantly predict students' academic procrastination. Achievement Goal probably moderates the link between personality traits and academic procrastination among students.

There is likely to be a substantial difference between genders and in course duration in personality traits, achievement goals, and academic procrastination among students. The hypothetical figure is represented in Figure 1

Figure 1



Studies indicate that approach goals reduce procrastination, whereas avoidance goals increase it (Howell et al., 2006; Wäschle et al., 2014). However, little research has examined the influence of achievement goals, in interaction with personality, on procrastination, especially in societies where competitive exams create immense pressure to succeed (Ashraf et al., 2023). Therefore, this study aims to address the following research questions:

1. The relationships between the Big Five personality, achievement goals, and procrastination,
2. Therefore, the possible mediating role of achievement goals in the relationships between personality and procrastination, and
3. Finally, the possible moderating roles of gender and enrollment type (university vs. vocational students).

Based on previous findings, it is hypothesized that personality traits will be negatively correlated with procrastination, while Neuroticism will be positively correlated (Steel, 2007). Further, it is hypothesized that achievement goals will be negatively related to procrastination (Kim et al., 2017) and will moderate the relationships between personality and procrastination, thus offsetting negative associations at higher levels of achievement goals (Wäschle et al., 2014). Lastly, gender differences are expected to be minimal (Bushra & Suneel, 2021), but enrollment type is expected to moderate these relationships due to differences in the motivational contexts of short-vs. long-term education.

While previous studies have established links between personality, academic achievement goals, and procrastination, little is known about how achievement goals and personality interact to influence procrastination. This study extends the literature by investigating the goals and motivations of Pakistani students who face intense pressure to succeed in competitive examinations. Further, the moderating roles of gender and enrollment type (university vs. vocational students) enhance understanding of the demographics of procrastination in similar societies.

Method

Research Design

The proposed hypothesis was tested within the framework of the quantitative, correlational, and descriptive study designs. The study implemented the Big Five personality traits and achievement goals as the variables under investigation. In addition, ethical approval was obtained, and informed consent was collected from the participants.

Participants and Sampling

A convenience sample of 500 students was selected from different institutions in one city in Pakistan. Half of the selected students study multi-year degrees at the universities, while the other half attend short-term programs at vocational institutions. Participants were 18–25 years old, attended classes regularly, and could read English (the primary language of instruction). Students seeking psychological therapy or reporting learning difficulties were excluded. The final sample comprised 260 females and 240 males.

Measures

Big Five Inventory

The Big Five Inventory, developed and validated, was used to assess personality. The 44-item self-report scale of the Personality Inventory was administered, which included Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience, using a 5-point Likert-type scale: 1 (SD), 2 (D), 3 (N), 4 (A), and 5 (SA). Cronbach's alpha coefficients demonstrated good internal consistency, with the coefficient ranging between .70 (Agreeableness) and .82 (Neuroticism) when using the retail price.

Achievement Goal Questionnaire-Revised

Achievement goals were thus assessed by the Achievement Goal Questionnaire-Revised (AGQ-R) (Elliot & Murayama, 2008). It is a 12-item inventory that splits into mastery approach/mastery avoidance and performance approach/performance avoidance, with 3 items in each, which participants complete and rate on a 5-point scale. This then gave us the reason to measure participants' overall achievement goals for their academic tasks, whereby a higher mean score indicated higher academic motivation. On the internal consistency coefficient, the measure was found to be at an acceptable level, $\alpha = 0.85$, on the combined items.

Academic Procrastination Scale

This was obtained using the Academic Procrastination Scale developed by McCloskey and Scielzo (2015), which measures the amount of time spent on delayed tasks. There are 25 questions (e.g., "I often put off assignments till the last minute") for which responses range from 1 (disagree) to 5 (agree). A higher total in this case indicates a stronger tendency to procrastinate. Reliability was high ($\alpha = .92$).

Procedure

Questionnaires were administered daily for two months in a paper-based format. Consent was obtained from the participants, and upon receiving it, they completed the demographics form, which included their age, gender, enrollment status, and scores on the BFI, AGQ-R, and APS. Each survey lasted for about 15-20 minutes on average. The use of convenience sampling entailed approaching instructors and student representatives to recruit the participants. The questionnaires were first checked for any missing data and attention checks before further analyses were done on completed forms only.

Results

Descriptive and Correlation Analyses

A brief description of the respondents' demographics is as indicated in Table 1 below.

Table 1

Demographic Characteristics of Respondents (N=500)

Demographics	M (SD)	f(%)
Age	22 (2.05)	
Gender		
Male		279 (55.8)
Female		221 (44.2)
Enrollment		
University (Long-term courses)		246 (49.2)

Note. f= frequency, %= percentage

The data were collected from young adults aged 18-25 years of both genders. The respondents were enrolled in universities and in sectors that provide short courses or vocational education.

Psychometric Properties of the Scale

This portion highlights the psychometric properties of the assessment tools used for personality, achievement goals, and academic procrastination.

Table 2

Psychometric Properties of Scales Used in the Study (N=500)

Measures	Range				α
	M	SD	Potential	Actual	
Big Five Inventory	23.49	3.07	44-220	84-177	.84
Achievement Goal Questionnaire-Revised	33.39	9.54	12-60	12-52	.73
Academic Procrastination Scale	81.55	6.89	25-125	64-97	.78

Note. M – mean; SD – standard deviation; Cronbach's alpha – α .

The results of the current study indicate that the assessment scales are reliable, with Cronbach's alpha values ranging from .73 to .84 (Table 2).

Correlational analysis

Given the research question, Pearson's product-moment correlation was used to examine the moderating effects of personality, achievement goals, and academic procrastination.

Table 3

Correlation among Study Variables (N=500)

Variables	1	2	3	4	5	6	7
1 Extraversion	-	.93**	.93**	.65**	.92**	.66**	-.46**
2 Agreeableness		-	.82**	.93**	.96**	.79**	-.37**
3 Conscientiousness			-	.93**	.96**	.79**	-.37**
4 Neuroticism				-	.92**	.66**	.46**
5 Openness					-	.79**	-.34**
6 Achievement Goals						-	-.49**
7 Academic Procrastination							-

Note. *** $p < .001$; ** $p < .01$; * $p < .05$

Table 3 shows that Extraversion is positively related to agreeableness, conscientiousness, neuroticism, openness, and achievement goals, and negatively related to academic procrastination. Agreeableness is positively correlated with conscientiousness, neuroticism, openness, and achievement goals. Agreeableness is also negatively related to academic procrastination. Conscientiousness is positively related to neuroticism, openness, and achievement goals, and negatively related to academic procrastination. Neuroticism is positively related to openness and achievement goals and negatively related to academic procrastination. Similarly, openness is positively associated with achievement goals and negatively associated with academic procrastination.

Regression Analysis

To investigate whether personality traits and achievement goals can predict academic procrastination, multiple Hierarchical Regression analyses were conducted. Table 4 presents the results.

Table 4

Hierarchical Regression Analysis Summary for Academic Procrastination (N=500)

Variable	B	95% CI		SE	β	R ²	ΔR^2
		LL	UL				
Step 1						.26	.26*
Personality Traits							
Extraversion	-.15	.92	1.23	.54	.02		
Agreeableness	-.21	.19	.77	.49	-.03		
Conscientiousness	-.20	.73	1.14	.47	.06		
Neuroticism	.05	.51	1.60	.79	.008		
Openness	-.19	.95	1.34	.58	.04		
Step 2						.27	.27*
Achievement Goals	-.12	-.22	-.02	.05	-.17		

Note. CI = Confidence Interval; LL = Lower limit; UL = Upper limit; **p < .01, ***p < .001

Thus, to determine whether personality traits and achievement goals predict academic procrastination, a two-step hierarchical multiple regression analysis was conducted. The findings are presented in Table 4. The first element (personality traits) includes the following components: extraversion, agreeableness, conscientiousness, and openness, which are negative predictors of academic procrastination, while neuroticism is a positive predictor. Lastly, Achievement goals are also perceived to have a negative relationship with academic procrastination in Step 2.

Moderation Analysis

Hierarchical regression analyses were conducted to test interactions between each personality trait and achievement goals. Across traits, especially Conscientiousness and Neuroticism, the results indicated that moderate and high levels of achievement goals weakened the usual trait-procrastination relationships. For example, highly neurotic students with strong achievement goals reported less procrastination than those with low achievement goals. Likewise, low-conscientious students experienced reduced procrastination if they endorsed higher achievement goals, suggesting that strong academic motivation helped compensate for trait-related risk factors. The results are presented in Table 5 given below.

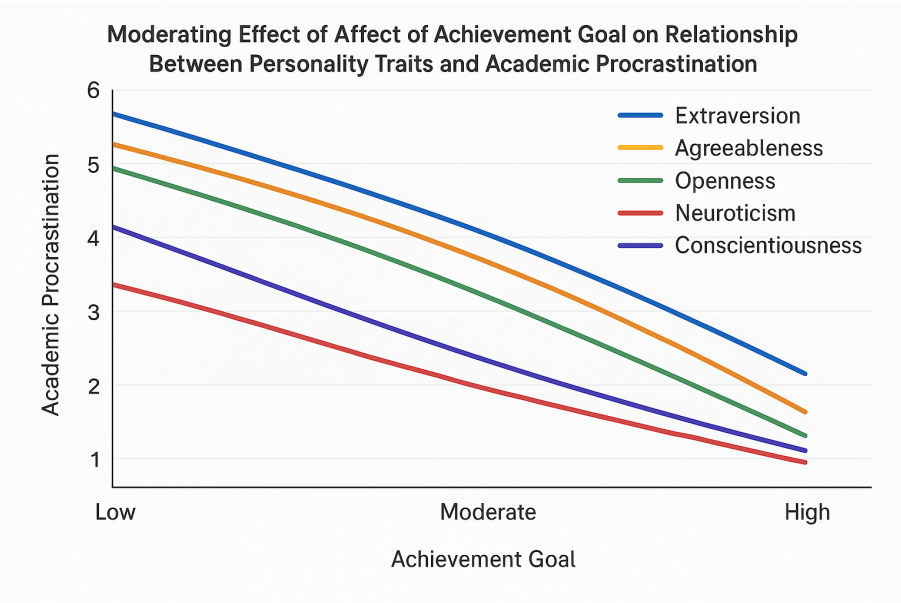
Table 5*Regression Analysis Examining the Interaction Effect (N = 500)*

0.	Academic Procrastination			
	B	SE	95 % confidence Interval	
			LL	UL
Constant	81.54***	.31	80.93	82.14
Extraversion	-1.47***	.12	1.24	1.69
Achievement Goals	-.41***	.08	.56	1.26
Extraversion x Achievement Goals	-.42**	.02	.03	1.03
Low Achievement Goals	.99	.01		
Moderate Achievement Goals	-.54**	.06		
High Achievement Goals	-.48**	.11		
R ²	.42			
F	.76***			
Constant	81.80***	.34	81.13	82.47
Agreeableness	-1.22***	.12	.99	1.45
Achievement Goals	-.06***	.10	-.70	-.40
Agreeableness x Achievement Goals	-.02**	.01	-.04	-.02
Low Achievement Goals	.59			
Moderate Achievement Goals	-.80***			
High Achievement Goals	-.37***			
R ²	.40**			
F	1.60			
Constant	81.45***	.34	80.78	82.11
Openness	-.96***	.11	.75	1.18
Achievement Goals	-.47***	.10	-.66	-.28
Openness x Achievement Goals	-.10***	.01	-.05	-.03
Low Achievement Goals	.79			
Moderate Achievement Goals	-.68***			
High Achievement Goals	.24***			
R ²	.02***			
F	.28			
Constant	81.54***	.31	80.93	82.14
Neuroticism	1.47	.12	1.24	1.69
Achievement Goals	-.41***	.08	-.56	-.26
Neuroticism x Achievement Goals	-.54***	.02	-.03	-.01
Low Achievement Goals	.48			
Moderate Achievement Goals	-.08			
High Achievement Goals	-.04***			
R ²	.01***			
F	.54			
Constant	81.80***	.34	81.13	82.47
Conscientiousness	1.22***	.12	.99	1.45
Achievement Goals	-.60***	.10	-.79	-.41
Conscientiousness x Achievement Goals	-.02**	.01	-.04	-.01
Low Achievement Goals	-.65	.01		
Moderate Achievement Goals	-.59	.05		
High Achievement Goals	-.05***	.02		
R ²	.07***			
F	1.60			

Note. ***p< .001, **p<.01, *p<.05

From Table 5, it is clear and consistent with the hypothesis that the achievement goal is the major moderator of the relationship between personality traits (extraversion, agreeableness, openness, conscientiousness, and neuroticism) and academic procrastination. This table reveals that people with low achievement goals fail to regulate the correlation between the personality traits (extraversion, agreeableness, and openness) and academic procrastination. But for moderate- and high-level academic achievement goals, there is no correlation between personality traits (extraversion, agreeableness, openness) and academic procrastination. Still, while proposing that pro-city does not mitigate at t low and moderate levels between neuroticism, conscientiousness (personality traits), and academic procrastination, the study suggests that pro-city acts as a mediator between neuroticism, conscientiousness (personality traits), and academic postponement. Figure 2 presents the results.

Figure 2



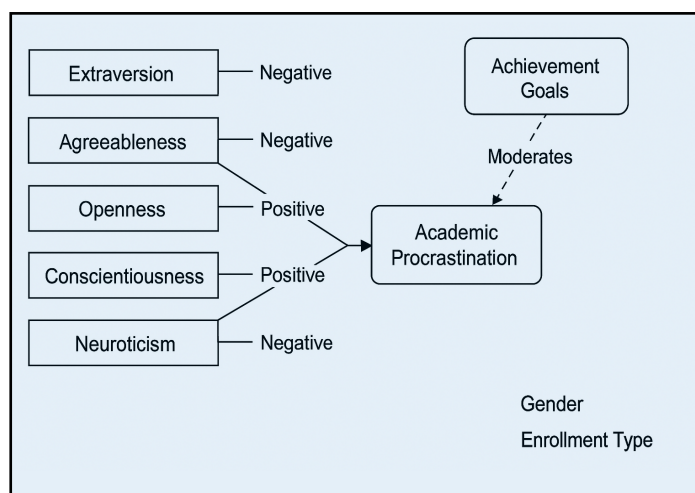
Gender and Enrollment-Type Differences

Independent-samples t-tests found no significant gender differences across any of the key variables, suggesting that male and female students in this sample exhibited broadly similar patterns of personality, motivation, and procrastination. However, vocational education students scored significantly higher on achievement goals than university enrollees ($p < .05$), though both groups reported comparable levels of procrastination. This distinction may reflect differing educational structures and short-term objectives in vocational education programs.

Summary of the Results

The study revealed significant relationships among personality traits, achievement goals, and academic procrastination. Achievement goals showed positive correlations with all personality traits except Neuroticism and a negative correlation with academic procrastination. Achievement goals also significantly predicted lower levels of procrastination. In terms of moderation, achievement goals weakened the relationship between Extraversion, Agreeableness, and Openness and procrastination at moderate and high levels, but not at low levels. For Neuroticism and Conscientiousness, moderation occurred only at high levels of achievement goals. No significant gender differences were observed, but students enrolled in vocational education programs reported higher achievement goals than university students. The summary of the results is presented in Figure 3

Figure 3



Discussion

The present study significantly contributes to the academic literature by investigating how Big Five personality traits and achievement goals interact to predict academic procrastination in Pakistani students. The study's value lies in its ability to bridge an existing gap in the literature by simultaneously examining the impact of personality and motivational factors on academic outcomes in an educational context distinct from Western settings (Naz et al., 2020, Ashraf et al., 2023). Such an analysis is important because Pakistani society is characterized by a highly competitive academic environment, where students are often under pressure to perform well and meet their families' high expectations regarding their qualifications (O'Connor & Paunonen, 2007; Bushra & Suneel, 2021). This study is valuable in this respect because it provides further evidence regarding the relationships between personality, achievement goals, and academic procrastination. Specifically, the findings demonstrated that personality traits significantly predicted academic procrastination, consistent with the initial hypotheses. In particular, Conscientiousness and Neuroticism were found to be significant contributors to individual differences in academic procrastination.

Conscientiousness proved to be the most critical personality trait in reducing procrastination. This result corroborates previous research indicating that this pattern is universal, as conscientiousness is strongly negatively correlated with procrastination (Sparfeldt & Schwabe, 2024; Steel, 2007; Zhang et al., 2018). The finding that the Pakistani education system, with its associated stress of performing well in exams and meeting parents' expectations, is related to levels of conscientiousness suggests that students who score higher on this trait cope better with academic demands. By contrast, neuroticism showed the most significant positive relationship with academic procrastination. This finding aligns with prior results demonstrating that neurotic individuals are more likely to struggle with stress and have negative expectations about their performance (Ashraf et al. 2023, O'Connor and Paunonen 2007). Given that the academic environment in Pakistan is highly dependent on familial and communal support, it can be posited that similar levels of individual neuroticism would lead to higher rates of procrastination than observed in individualistic societies.

Although to a lesser extent, personality traits such as Extraversion, Agreeableness, and Openness also showed negative relationships with procrastination. Extraversion might be positively related to cooperation in collaborative activities, which is encouraged in many Pakistani universities, helping students avoid task delays (Cheng & Ickes, 2009; Sparfeldt & Schwabe, 2024). Agreeableness is associated with task avoidance behaviors, although excessive agreeableness may reduce motivation to complete individual tasks. While Openness had a minor effect on procrastination, being both proactive and creative, a student might also become a victim of their own mind, unable

to conform to the strict system of a university. Thus, the analysis demonstrates that while Conscientiousness and Neuroticism dominate the relationship with procrastination, other traits also play a role in the process.

Achievement goals were confirmed as key predictors of procrastination and provided an additional motivational source to the personality–procrastination relationship. Students who endorsed high-performance approach goals exhibited lower levels of procrastination, suggesting that specific academic goals can serve as motivational factors that energize task engagement (Howell et al., 2006; Kim et al., 2017). Achievement goals uniquely predicted procrastination as compared to personality traits and were associated with motivational theories that highlighted their protective role against procrastination (Wäschle et al., 2014; Pychyl & Sirois, 2016). Accordingly, this study established the unique role of motivation in procrastination alongside personality characteristics.

Perhaps the most interesting finding of this study was its theoretical contribution in demonstrating the moderating role of achievement goals. They indeed tempered the negative impact of the two personality traits on academic procrastination. Namely, moderately and highly achieving students were less likely to procrastinate even if they scored low on conscientiousness and high on neuroticism. The study is important because it reveals that factors such as achievement goals can attenuate the otherwise detrimental impact of personality traits. In many cases, there is little one can do about their personality. Therefore, understanding how to use one's mind and resources to reduce procrastination is crucial. The study suggests that working on goal setting may be an effective way to prevent or alleviate procrastination, especially among those prone to it (Sparfeldt & Schwabe, 2024).

In turn, the study also aimed to explore the link between student demographics and procrastination. The analysis tested the null hypotheses regarding the influence of gender and institutional type on procrastination levels. Remarkably, the results demonstrated no gender differences in any of the studied variables. In fact, previous studies have confirmed that, net of personality and motivation, gender makes little difference in procrastination level (Bushra & Suneel, 2021). Thus, it appears that there are no particular gender-related traits that make one group more likely to procrastinate. At the same time, the analysis revealed that some student categories have similar characteristics. For instance, vocational students demonstrated higher levels of achievement goals than their university counterparts, likely due to the focused nature of vocational education (Hussain et al., 2023). Nevertheless, they did not demonstrate significantly lower levels of procrastination, which could be explained by the fact that such students are more motivated but also experience more stress from their education (Ashraf et al., 2023).

Overall, the presented research has made significant progress in both theoretical and practical understandings of procrastination. First, in terms of theoretical understanding, the researchers expanded the conceptualization of the phenomenon by including both personality-related and achievement-motivation aspects. Indeed, previous empirical studies failed to provide consistent evidence on the relationship between procrastination and either personality or achievement motivation (Sparfeldt & Schwabe, 2024; Zhang et al., 2018). Meanwhile, the current article demonstrated that both aspects significantly moderate procrastination, thereby contributing to the theoretical understanding of the phenomenon. In terms of practical implications, the researchers advanced the conceptualization of possible interventions to reduce students' procrastination levels (Sparfeldt & Schwabe, 2024). Specifically, they revealed that both achievement motivation and personality should be considered in attempts to reduce procrastination. Finally, the researchers provided evidence for the motivation-personality link, which appears to be universal even among South Asian students.

Practically, the research results have implications for teachers, policymakers, and counselors. Interventions targeting self-discipline and time management skills only are ineffective if they do not consider motivational orientations. Schools can integrate goal-setting, feedback, and mentoring interventions to enhance achievement goals among students with high neuroticism and low conscientiousness. Additionally, institutions can invest in digital learning resources, motivational guidance, and peer-support networks to increase resistance to procrastination

(Hussain et al., 2023, Wäschle et al. 2014). Notably, interventions should be sensitive to Pakistan's collectivist cultural orientation, which emphasizes communal relationships and family ties.

In summary, the present study partially supported the initial hypotheses regarding personality traits, achievement goals, and academic procrastination in the Pakistani sample. No gender differences were found; therefore, the study's results are universal, meaning no specific actions should be taken for male or female students. In addition, no differences were found for students who studied various types of programs, which implies that any other studies should consider this aspect. The current research provides valuable insights into student procrastination and offers theoretical support for reducing academic procrastination through motivational techniques. Overall, the study's results contribute to future academic research and practical applications, confirming the critical role of achievement goals in combating academic procrastination.

Implications

The results of this research can contribute to the development of interventions to reduce academic procrastination among students. For instance, given the finding that mastery and performance goals moderate the relationships between students' personalities and academic procrastination, school counselors can conduct specialized workshops or provide individual counseling for students with low conscientiousness and high neuroticism. Such individuals are likely to engage in academic procrastination and need to be taught how to set academic goals and receive appropriate feedback. Moreover, teachers can encourage students to set performance and mastery goals to maintain their motivation throughout the academic quarter.

Limitations and Future Directions

This research has several limitations that should be considered when publishing the results. First, because this study was correlational, it was not possible to establish a causal relationship between the variables. Although the results demonstrated that personality, goals, and academic procrastination of students were negatively related, this does not mean that changes in one person's characteristics can cause others to change. Therefore, future studies should adopt a longitudinal design to establish directionality and determine whether changes in goals moderate the relationship between personalities and academic procrastination. Second, future studies should measure achievement goals and academic procrastination more objectively. This would help minimize the impact of common method variance and provide more accurate, unbiased results. The next series of studies should be designed to explore the role of achievement goals, including performance-avoidance goals and mastery-approach goals, in academic procrastination. Finally, it is essential to replicate this study with a similar population and, preferably, within the global population of Pakistan.

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