

Understanding Academic Procrastination through the Lens of Big Five Personality Traits among University Students in Pakistan

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Abstract

This study investigated the relationship between Big Five personality traits and academic procrastination among university students in Pakistan. Although personality traits influence learning behaviors, limited research has examined this relationship within the Pakistani academic context. The study hypothesized a significant relationship between Big Five personality traits and academic procrastination among university students. A cross-sectional correlational research design was employed using convenience sampling. A total of 299 university students (149 females and 150 males), primarily enrolled in undergraduate BS programs from public and private universities in Karachi, participated through online surveys. Data were collected using the Big Five Inventory–10 (BFI–10; Rammstedt & John, 2007; $\alpha = .40-.70$) and the Tuckman Procrastination Scale (TPS; Tuckman, 1991; $\alpha = .86-.92$). Data were analyzed using SPSS through Pearson correlation analysis. Results partially supported the hypothesis, revealing significant positive correlations between academic procrastination and Extraversion, $r(297) = .161, p < .01$, and Openness to Experience, $r(297) = .164, p < .01$. However, no significant relationships were found for Conscientiousness, Neuroticism, and Agreeableness. These findings suggest that specific personality traits may contribute differently to procrastination behaviors within the Pakistani university context. Limitations, future research directions, and counseling implications are discussed.

Keywords: Big Five Personality Traits, Academic Procrastination, University Students, Correlational Research

Introduction

Personality can be defined as the stable qualities and characteristics a person has that influence how they think, feel, and behave in different situations. These personal characteristics work together with environmental factors to shape an individual's reactions and behavior (Lazarus, 1963). Based on the integrative review by (Suciu et al., 2021) personality can be understood as a fundamental psychological construct that shapes an individual's behavior in both personal and social contexts. The study emphasizes that personality significantly influences how individuals think, act, and interact with others, and it can also play an important role in determining compatibility with different environments and roles. The review further highlights that personality is not only an inherent characteristic but can also be developed through proper training and educational interventions, making it an important factor in shaping both personal growth and professional competence. The Big Five personality model refers to five broad and stable personality dimensions (neuroticism, conscientiousness, openness to experience, agreeableness, and extraversion) that describe consistent patterns of thoughts, emotions, and

behaviors across individuals. These traits are linked with important life outcomes, including cognitive functioning and mental health. More over these personality traits are significantly associated with cognitive functioning in older adulthood. Their study found that neuroticism is consistently linked with poorer performance across multiple cognitive domains, while conscientiousness is associated with better cognitive functioning in areas such as memory, attention, executive functioning, and reasoning. Openness and agreeableness also show positive associations with most cognitive abilities, whereas extraversion is particularly related to improved speed, attention, executive functioning, and verbal fluency. Overall, the findings suggest that personality traits have broad and meaningful relationships with cognitive performance, indicating that individual differences in personality may influence cognitive health outcomes later in life (Sutin et al., 2019). In another research Busseri and Erb (2023) stated that personality traits such as neuroticism, extraversion, conscientiousness, agreeableness, and openness collectively play an important role in predicting an individual's overall well-being. Their meta-analytic structural equation modeling study found that these traits significantly explain variations in life satisfaction, positive affect, and negative affect across diverse populations. Moreover they concluded Neuroticism showed the strongest association with negative emotional experiences, while the other traits contributed positively to overall subjective well-being. Extraversion, conscientiousness, and agreeableness were generally linked to higher well-being, whereas openness showed weaker or less consistent effects. The findings also suggest that personality traits are related to an underlying general factor of subjective well-being, supporting the idea of a "happy personality" pattern in which stable personality characteristics influence how individuals experience and evaluate their lives. Procrastination refers to the voluntary or habitual delay of unpleasant tasks for a later time and is characterized by immediate short-term benefits but long-term negative consequences" (Unda-López et al., 2022). Whereas Academic procrastination refers to the tendency to delay or postpone academic tasks and responsibilities and can be understood as a failure in self-regulated learning processes influenced by situational factors and individual characteristics" (Zacks & Hen, 2018) and according to González-Brignardello et al. (2023) academic procrastination is Delaying or postponing academic tasks (homework, assignments, studying, projects) despite knowing they need to be completed before a deadline. The study review concluded that academic procrastination among children and adolescents is a multidimensional behavior influenced by personal, academic, and environmental factors, with self-regulation emerging as one of the strongest predictors. In research conducted in China by Wei et al. (2025) Academic procrastination refers to the tendency of children to delay or postpone academic tasks despite expected negative consequences, and it is influenced by emotional and environmental factors such as parenting style and school engagement. Recent research suggests that academic procrastination is not simply a habit of delaying tasks but may also reflect difficulties in self-regulated learning processes. Students who experience challenges in managing time, controlling behavior, setting goals, and maintaining motivation are more likely to postpone academic responsibilities. Furthermore, situational factors such as academic pressure, environmental demands, and learning conditions may contribute to the development and persistence of procrastination behaviors. Therefore, understanding the factors underlying academic procrastination is important for developing effective interventions that can improve students' academic performance and learning experiences (Zacks & Hen, 2018). Furthermore, A research suggests that academic procrastination does not occur in the same manner among all students, as individuals may procrastinate due to different underlying patterns and psychological characteristics. A study examined various patterns of academic procrastination among university students and individuals seeking counseling for procrastination-related difficulties. The findings indicated that a considerable proportion of students exhibited severe procrastination behaviors. Different patterns were identified, including socially focused behavior, optimism, ambivalence, independence, evaluation anxiety, discouragement, depression, and

dependency. The study highlighted that procrastination is a multidimensional phenomenon and that students may procrastinate for different reasons. Therefore, individualized assessment and intervention strategies may be more effective in addressing academic procrastination than a single generalized approach. (Day et al., 2000). When we look at academic procrastination through a psychological lens, it becomes clear that how we manage our emotions and self-control plays a massive role in why we delay tasks (Hidalgo-Fuentes et al., 2024). Out of all the Big Five personality traits, conscientiousness is consistently the strongest shield against procrastination (Hidalgo-Fuentes et al., 2024; Usama et al., 2025). This makes perfect sense students who are highly conscientious naturally tend to be organized, disciplined, and deeply focused on their goals. Because they have these traits, they are structurally wired to handle tight deadlines and push past everyday distractions instead of putting things off (Hidalgo-Fuentes et al., 2024).

On the flip side, neuroticism acts as a major catalyst for procrastination (Bushra & Suneel, 2021; Usama et al., 2025). Students who score high in neuroticism often view routine university assignments or exams as incredibly threatening or stressful, which easily triggers intense anxiety and emotional distress (Hidalgo-Fuentes et al., 2024). To deal with these overwhelming feelings, these students often turn to a quick, temporary fix: avoiding the task altogether. By mentally pushing the stressful assignment away, they get immediate relief even though they are simply delaying the very thing that is causing them stress in the first place (Hidalgo-Fuentes et al., 2024). This personality-driven loop is incredibly clear when we look at university life in Pakistan, where getting good grades carries huge personal and family expectations. When Bushra and Suneel (2021) studied Pakistani undergraduates, they discovered something fascinating that out of all the Big Five traits, neuroticism was the only one that had a direct, statistically significant link to academic procrastination. Building on this, a study by Moiza et al. (2026) showed exactly how procrastination acts as a bridge between who we are and the CGPA we end up with. Using a statistical method called mediation analysis, they found that traits like extraversion, conscientiousness, and openness to experience act like a shield. These traits protect Pakistani students from getting lower grades because they naturally keep procrastination levels low. On the flip side, high neuroticism does the exact opposite: it fuels chronic procrastination, which completely explains why those students struggle academically. By moving past old historical theories, we can use these modern, measurable traits to map out exactly how a student's personality shapes their real-world success in Pakistan. By looking closely at these findings, it becomes clear that academic procrastination among university students is not just about poor time management. It is a deeply rooted behavioral response driven by a student's core personality traits. While global research highlights how traits like high conscientiousness protect students and high neuroticism leaves them vulnerable, the way these traits play out within Pakistan's highly competitive, family-centered university culture is a critical area that deserves closer attention. Understanding how these internal traits shape real-world learning behaviors can help educators and university counselors design targeted, personalized interventions to help students thrive academically.

Rationale of the Study

Firstly, Academic procrastination has become a common issue among university students and is considered an important factor affecting students' academic success. Many students often delay studying, completing assignments, preparing for examinations, and other academic tasks even when they know that postponing these responsibilities can lead to negative outcomes. Such delays can create stress, lower academic performance, poor time management, and reduced motivation. Therefore, understanding the factors that contribute to academic procrastination is important for improving students' learning experiences and academic achievements.

Secondly, Studies suggest that academic procrastination is not only caused by poor time management but is also influenced by different psychological and personal factors. Among these factors, personality traits play a significant role in shaping individual behaviors and reactions. The Big Five personality traits, including neuroticism, conscientiousness, openness, agreeableness, and extraversion, help explain differences in how individuals think, feel, and behave. Research has shown that students with high conscientiousness are generally more organized, disciplined, and responsible, making them less likely to procrastinate. On the other hand, students with higher levels of neuroticism may experience more anxiety and stress, which can increase procrastination behaviors.

Thirdly, many international studies have explored the relationship between personality traits and academic procrastination, limited research has focused specifically on university students in Pakistan. The educational environment in Pakistan often involves high academic demands, competitive pressure, and strong family expectations, which may influence students' behaviors and coping styles. Therefore, it is important to understand how personality traits affect academic procrastination within the Pakistani context.

Lastly, This study is important because it will provide a better understanding of how different personality traits are related to academic procrastination among university students in Pakistan. The findings of this research may help teachers, counselors, and educational institutions identify students who are more likely to struggle with procrastination and develop effective strategies, counseling programs, and interventions to improve students' academic performance and overall well-being.

Literature Review

One of the key perspectives in understanding academic procrastination emphasizes the role of student motivation. Orpen (1998) explored procrastination as a behavioral outcome closely linked to students' motivational orientations, defining the phenomenon as the tendency to delay academic tasks, which frequently results in rushed completion or missed deadlines that ultimately compromise academic success. This framework emphasizes that procrastination is not simply a time-management failure but is profoundly influenced by the psychological type of motivation driving a student's academic behavior. Drawing on self-determination theory, Orpen (1998) distinguished between intrinsic motivation which is driven by engaging in academic work due to personal interest and enjoyment and extrinsic or externally regulated motivation, which is driven by rewards, grades, or external pressure. The empirical findings indicated that students with higher intrinsic motivation were less likely to engage in academic procrastination, whereas those motivated primarily by external factors showed significantly higher levels of task delay. Building upon these motivational foundations, broader systematic reviews have confirmed that academic procrastination is a pervasive issue among university students that systematically undermines academic performance. In a narrative review, Moonaghi and Beydokhti (2017) synthesized findings from the existing literature to examine the characteristics and contributing factors of academic procrastination. Their review highlighted that procrastination is a widespread and multidimensional behavior influenced not only by poor time management but also by various psychological and contextual factors. By identifying key themes across the literature including definitions, prevalence, types, and associated factors, the authors emphasized that procrastination is a complex phenomenon rather than a simple behavioral deficit. Ultimately, the review concluded that academic procrastination significantly hinders academic achievement and must be evaluated through multiple integrated psychological and environmental perspectives. Consequently, these findings provide a broad conceptual foundation for further research focusing on specific psychological predictors, particularly dispositional personality traits such as the Big Five model. Further expanding the structural understanding of academic procrastination, Schouwenburg (1995) examined its theoretical foundations, behavioral manifestations, and underlying psychological mechanisms. This research highlighted that procrastination is highly

prevalent among college students and varies depending on the specific nature of the academic tasks encountered. Crucially, fear of failure and task aversiveness were identified as major psychological drivers contributing to procrastination behavior. Schouwenburg (1995) explained that this behavioral pattern is reflected through delayed intentions, systematic discrepancies between intentions and actions, and a chronic preference for alternative activities over academic responsibilities. The author also suggested that irrational beliefs and self-defeating thought patterns heavily contribute to these delaying tendencies. These structural insights imply that a student's unique personality characteristics directly influence their behavioral execution, emphasizing the relevance of examining the relationship between academic procrastination and the Big Five personality traits. To capture how these psychological mechanisms manifest in real-time, academic procrastination has also been examined from qualitative and theoretical perspectives to map its underlying cognitive architecture. Schraw et al. (2007) conducted a grounded theory study exploring students' lived experiences of procrastination and developed a conceptual model explaining its complexity. Their findings revealed that procrastination includes both adaptive and maladaptive dimensions. Adaptive aspects involved cognitive efficiency and peak performance experiences under pressure, while maladaptive aspects included fear of failure and chronic task postponement. The study also identified a spectrum of coping strategies such as prioritization, cognitive reframing, and self-handicapping used by students during the procrastination cycle. Overall, Schraw et al. (2007) proposed a five-component model of academic procrastination, emphasizing that it is a multidimensional phenomenon shaped concurrently by cognitive and emotional processes. The multidimensional nature of procrastination identified in this study strongly suggests that stable individual characteristics, including dispositional personality traits, may play an important role in explaining why certain students lean into maladaptive postponement.

Consistent with these multidimensional models, subsequent research has increasingly linked these behavioral patterns back to stable individual differences and personality-related factors. Brownlow and Reasinger (2000) found that lower levels of academic motivation, perfectionism, and an external locus of control were robustly associated with increased academic procrastination among college students. Furthermore, highly procrastinating students tended to attribute their academic outcomes to external circumstances rather than personal effort. Because these cognitive appraisals and perfectionist tendencies are deeply rooted in behavioral dispositions, these findings collectively underscore the reality that individual differences in personality contribute significantly to procrastination behaviors. This firmly supports the necessity of examining broader, comprehensive personality dimensions, such as the Big Five personality traits, to understand the overarching psychological profile of the academic procrastinator. To understand how individual differences lead to task delay, it is helpful to first establish what personality actually is. Lazarus (1963) described personality as the stable internal attributes, or dispositions, that a person carries with them through life. He argued that human behavior is never just a random reaction to the immediate environment or temporary situations. Instead, actions and emotional experiences are the direct result of a continuous interplay between external stimuli and these stable, internal personality structures. To truly understand or predict how a person will react to a situation, researchers must evaluate both the external environment and the underlying personality traits of the individual. This perspective provides a valuable lens for exploring academic behavior. It suggests that when students face academic pressure, their reaction is not just a response to the assignment itself, but a reflection of how their unique personality interacts with that stressor. For instance, an assignment deadline is an external stimulus, but a student's decision to either tackle it immediately or avoid it completely depends heavily on their internal personality traits. Therefore, Lazarus's (1963) framework directly supports my research by highlighting that chronic academic procrastination can only be fully

understood by looking at how a student's inner personality traits interact with the high-pressure demands of the university environment. To fully understand how these individual differences shape a student's behavior, it is necessary to look at what constitutes a personality trait. Allport (1931) provided the foundational definition of this concept, arguing that a trait is a "generalized response-unit" within an individual. In simple terms, a trait is a stable psychological structure that causes a person to behave in a consistent way across many different situations over time. Allport emphasized that traits are not just temporary moods or simple isolated habits; instead, they are active, deep-seated characteristics that directly drive and direct how a person reacts to their environment. Building on this educational connection, recent research has looked closer at the exact mechanism through which specific Big Five traits influence student outcomes. Sparfeldt and Schwabe (2023) investigated this by tracking 109 university students across a full semester to see how conscientiousness, academic procrastination, and exam performance interact. The researchers measured the students' conscientiousness at the start of the semester, their procrastination levels near the end, and their actual grades on the final exam. Their statistical analysis revealed that highly conscientious students were significantly less likely to procrastinate, which directly led to better exam performance. Crucially, the study proved that academic procrastination acts as a mediator. This means that a lack of conscientiousness does not directly cause poor grades on its own; rather, it leads to a habit of chronic task delay, which ultimately damages academic success. While focusing on specific traits like conscientiousness helps explain the direct paths to task delay, it is also important to look at how the entire five-factor model operates together in a university setting. Karatas (2015) expanded on this by studying the correlations among academic procrastination, all five personality traits, and academic achievement in a sample of university students. The results showed that different traits lead to completely opposite academic behaviors. Conscientiousness, agreeableness, extraversion, and openness to experience were all negatively linked to procrastination, meaning students with these traits rarely delayed their work. On the other hand, neuroticism showed a significant positive relationship with procrastination. Furthermore, the study confirmed that higher levels of procrastination directly led to lower academic achievement. To better understand these broad personality dimensions, recent research has looked at how specific traits affect students in actual university settings. Moiza et al. (2026) studied this by looking at how academic procrastination connects the Big Five personality traits to student grades. Looking at a sample of 200 undergraduate students, the researchers found that a student's personality traits heavily drive whether they delay their work. Their results showed that traits like extraversion, conscientiousness, and openness to experience protect students from procrastinating, students high in these traits were more likely to start their work on time and get better grades. On the other hand, neuroticism showed a strong positive link with procrastination. Through statistical modeling, the authors discovered that the negative impact of neuroticism on academic success was completely driven by procrastination. This means that anxious or emotionally sensitive students do not get lower grades because they lack ability instead, their anxiety triggers an avoidant habit of putting off tasks, which ultimately harms their performance. While these findings clearly show how emotional sensitivity drives task delay, they also highlight the importance of testing these traits within specific high-pressure environments. Because university students encounter intense performance expectations and strict systemic deadlines, my research applies this personality lens directly to these unique environmental stressors to uncover why certain undergraduates become vulnerable to chronic procrastination. When looking at the existing research as a whole, a few major gaps stand out. First, most of what we know about personality traits and procrastination comes from studies conducted in Western universities. This leaves a significant missing piece in our understanding, as we do not fully know how these dynamics play out in different cultural and regional environments where student life and system expectations might be completely different. Second, while the current literature establishes broad

connections between personality and task delay, there is still limited data on how these traits function when students are facing highly specific, intense institutional pressures. In many university settings especially highly competitive higher education landscapes, students are dealing with a heavy mix of extreme academic expectations, intense workloads, and completely rigid, unforgiving deadlines. While we know that traits like low conscientiousness or high neuroticism make a student more likely to avoid work, there is a clear need to map out exactly how this entire balance of traits operates under these specific environmental stressors. This research aims to address these areas by examining how students function within this exact high-pressure framework. Instead of treating procrastination as a simple time-management mistake or just an act of laziness, this study views it through a correlational lens as a behavioral outcome tied to a student's stable personality profile. By examining how the entire balance of the Big Five traits relates to procrastination under rigid institutional timelines, this study seeks to uncover the psychological pathways that put certain undergraduates at risk. Ultimately, the value of this research lies in its ability to connect big-picture personality science with the practical, daily struggles of university students, helping educators design better, more personal support systems for those who need them most.

Hypothesis

H1: There would be a significant relationship between Big Five personality traits and Academic procrastination among university students.

Methodology

Research Design

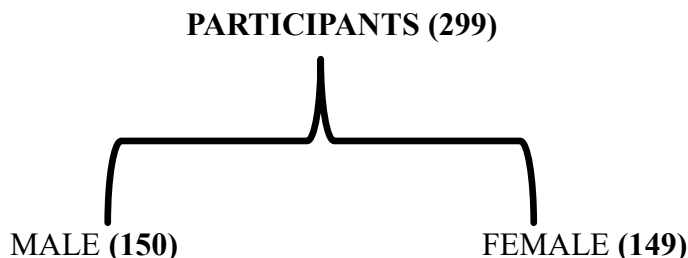
In this study, a quantitative, correlational research design was used. This design was employed to examine the relationship between Big Five personality traits and academic procrastination among university students

Sampling Technique

In the current study, a convenience sampling technique (non-probability) was used to select the participants.

Participants

In the current study, 299 participants were selected who were university students. Among those individuals, 149 female participants and 150 male participants were selected. Their ages ranged from 18 to 43 years. Beside that, certain other demographic variables were also considered, and they are highlighted with statistics in Table 1 (demographic form is also attached in Appendix B).



Research Sites

Participants were selected from different universities across Pakistan. The study was conducted online, and data were collected through digital platforms, including online survey forms distributed among university students.

Measures

It should be noted that formal written permission (from original source/authority) has been taken for all measures used in current study.

A) Consent Form

A consent form was given to all participants. In consent form all ethical guidelines by APA were included and strictly followed.

B) Demographic Form

Demographic form was also provided to all participants. Participants were asked to provide basic demographic details such as age and gender.

C) Tuckman Procrastination Scale (TPS)

The Tuckman Procrastination Scale (TPS), developed by Tuckman (1991), was used to assess academic procrastination among university students. It is a self-report measure designed to capture common procrastination behaviors, such as delaying tasks, difficulty initiating work, and ineffective time management in academic settings. The version used in this study consists of 15 items. Responses are recorded on a Likert-type scale ranging from strongly disagree to strongly agree. After appropriate scoring, higher total scores indicate greater levels of academic procrastination. In terms of reliability, the TPS has consistently demonstrated strong internal consistency across different samples. Previous research reports Cronbach's alpha values typically ranging from 0.86 and 0.92, indicating high internal consistency reliability. The scale also shows good construct validity, as it is positively associated with behaviors like poor self-regulation and negatively related to academic performance and effective time management. Its widespread use in student populations supports its suitability for academic research.

D) Big Five Inventory-10 (BFI-10)

The Big Five Inventory-10 (BFI-10), developed by Rammstedt and John (2007), was used to measure personality traits. This brief inventory includes 10 items, with two items representing each of the five major personality dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. Responses are rated on a Likert scale, typically ranging from strongly disagree to strongly agree. Each personality trait is assessed using one positively worded item and one reverse-scored item, (having 5 reversed scored items) which helps control for response bias. Scores are calculated by combining the two items for each trait after reversing where necessary. Due to its short length, the BFI-10 tends to have lower internal consistency compared to longer personality measures. Reported Cronbach's alpha values usually range from 0.40 to 0.70, which is considered acceptable for brief scales. Despite this, the inventory demonstrates good validity, including strong correlations with longer measures like the BFI-44, making it a practical choice for studies requiring a quick assessment of personality traits.

Inclusion Criteria

- Only individuals who were actively enrolled as university students (including undergraduate, MPhil, and PhD programs) were included in this study to ensure the sample directly represented the target academic population experiencing academic deadlines.
- Those participants were only included in the current study whose age ranged from 18 years and above, ensuring they met the legal and developmental definition of adulthood for independent participation.
- Only individuals who possessed the ability to fully understand, read, and respond to English self-report questionnaires were included; this precaution was a requisite of the study theme to maintain data accuracy and avoid misinterpretation.
- Participants had to be currently attending recognized public or private higher education institutions located in Karachi to maintain geographical and cultural consistency within the sample.
- Only students who voluntarily agreed to participate and signed the informed consent form were included in the final sample.

Exclusion Criteria

Those individuals who were not currently enrolled in a university program were strictly excluded from the current study to eliminate outside environmental factors that do not align with academic settings.

- Those individuals who were below the age of 18 years were excluded from our study to avoid ethical complexities regarding parental consent and minor populations.
- Participants who submitted incomplete questionnaires or missed multiple assessment items were excluded from the final data set during the screening phase to ensure the overall statistical findings are accurate and reliable.
- Participants who demonstrated clear patterns of careless responding (such as choosing the exact same answer for every single question without reading) were excluded to ensure data validity.
- Students who were studying entirely online from other countries outside of Pakistan were excluded to keep the localized research environment controlled.

Ethical Considerations

In the current study, all ethical considerations provided by the American Psychological Association (APA) were strictly followed throughout the research process. Permission to conduct the study was obtained from the course instructor. Participation was completely voluntary, and participants were informed of their right to withdraw from the study at any time without any penalty. Confidentiality and anonymity of the responses were fully ensured to protect the privacy of the participants. The data collected were used exclusively for academic and research purposes.

Procedure

In the current study, participants were selected from different educational environments (like public and private universities) which were located in Karachi. It was ensured that all the participants met the specified inclusion criteria before data collection. Participants were approached either personally or through online platforms for data collection. Upon approaching the participants, rapport was established, and they were fully informed about the purpose and objective of the study. Clear instructions were provided, and all ethical standards were explained to the participants. Informed consent was obtained prior to their actual participation in the study. Once consent was given, participants were first asked to provide basic demographic details such as age and gender. Following the demographic form, they completed the standardized psychological measures of the study, which included the Tuckman Procrastination Scale (TPS) and the Big Five Inventory–10 (BFI–10). Throughout this process, participants were assured that their responses would remain strictly confidential and be used solely for academic and research purposes. Upon completion of the questionnaires, participants were thanked for their valuable time and cooperation.

Statistical Analysis

Scoring of the collected data was completed with the help of the respective standardized manuals for each scale. Both descriptive and inferential statistics were performed using the Statistical Package for the Social Sciences (SPSS, latest version). Descriptive statistics (frequencies, percentages, means, and standard deviations) were calculated to summarize the demographic characteristics of the sample. For inferential statistics, Pearson correlation analysis was conducted to examine the strength and direction of the relationships between the Big Five personality traits (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience) and academic procrastination among university students.

Operational Definitions

Academic Procrastination

Academic procrastination is operationally defined as a widespread and maladaptive behavioral pattern among students characterized by the voluntary, irrational delay of intended academic tasks (such as assignments, studying, or exam preparation) despite realizing that the postponement will result in negative consequences, emotional distress, or decreased performance (Sirois, 2023).

Big Five Personality Traits

The Big Five personality traits refer to a universally accepted, empirically validated hierarchical framework that conceptualizes human personality structure into five comprehensive, stable, and universal dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (Soto & John, 2017).

Extraversion

Defined as a fundamental personality dimension reflecting a person's core energetic activation, comfort level, and assertiveness in social environments, characterized by traits such as being outgoing, highly talkative, sociably enthusiastic, and active (Soto, 2021).

Agreeableness

Defined as an interpersonal, prosocial trait dimension that determines how an individual interacts with others, characterized by a natural tendency toward empathy, social compliance, altruistic cooperation, compassion, and trust (Soto & John, 2017).

Conscientiousness

Defined as an individual's internal capacity for behavioral self-regulation, cognitive focus, organization, goal-directed task persistence, and rule-following responsibility when managing demands or long-term objectives (Roberts et al., 2017).

Neuroticism

Defined as a stable disposition toward emotional reactivity and instability, characterized by a heightened vulnerability to experiencing psychological distress, persistent anxiety, depressive moods, and negative emotional states when encountering everyday academic or personal stressors (Widiger, 2017).

Openness to Experience

Defined as a dimension of cognitive flexibility and experiential breadth, characterized by an individual's intellectual curiosity, imaginative originality, aesthetic sensitivity, creative drive, and a strong preference for mental variety and novelty (DeYoung, 2020).

Result

The chapter involves the detail statistical analysis of research data. Statistical Package for Social Sciences (SPSS) used to analyze the data. Significant level of .05 was used for the analysis.

Table 1 *Demographic Characteristics of Participants (N = 299)*

Variable	Category	n	%
Gender			
Female	149	49.8	
Male	150	50.2	
Age (in years)	17	1	0.3
	18	10	3.4
	19	28	9.4
	20	47	15.8
	21	56	18.9
	22	64	21.5
	23	29	9.8
	24	22	7.4

25	20	6.7			
26	8	2.7			
27	2	0.7			
28	3	1.0			
Variable	Category	n	%		
29	3	1.0			
		30	1	0.3	
38	1	0.3			
41	1	0.3			
43	1	0.3			
Marital Status					
Single	284	95.0			
Married	15	5.0			
Employment Status					
Student	188	62.9			
Employed	51	17.1			
Unemployed	42	14.0			
Part-Time	18	6.0			
Socioeconomic Status					
Lower	17	5.7			
Middle	260	87.0			
Upper	22	7.4			
Locality					
Urban (City)	263	88.0			
Rural (Village)	36	12.0			
Family System					
Nuclear	172	57.5			
Joint	125	41.8			
Variable	Category	n	%		
Other	2	0.7			
Academic Program					
BS (Undergraduate)	259		86.6		
BSc	26	8.7			
MPhil	9	3.0			
MSc	5	1.7			
Religion					
Islam	295	98.7			
Christianity	2	0.7			
Hinduism	1	0.3			
Other	1	0.3			

Note. *N* = total number of participants; *n* = frequency; % = percentage.

Table 2

Descriptive Statistics for Study Variables

Variable	N	M	SD
TOTAL_PROS	299	22.89	5.42
TOTAL_PS	299	25.01	4.11
Extraversion	299	6.25	1.80
Agreeableness	299	6.10	1.91
Conscientiousness	299	6.21	1.75
Neuroticism	299	6.51	1.82
Openness	299	6.71	2.14

Note. *N* = sample size; *M* = mean; *SD* = standard deviation.

Table 3

Bivariate Correlations Between Study Variables

Variables	1	2	3	4	5	6	7
1. TOTAL_PROS	—						
2. TOTAL_PS	-.046	—					
3. Extraversion	.161**	-.051	—				
4. Agreeableness	.047	-.002	.439**	—			
5. Conscientiousness	-.005	.037	.298**		—		
6. Neuroticism	.064	.016	.380**	.318**	.369**	—	
7. Openness	.164**	-.180**	.406**	.318**	.304**	.270**	—

Note. TOTAL_PROS = Total Procrastination Score; TOTAL_PS = Total Personality Score.

$p < .05$, $p < .01$.

Discussion

The present study was designed to examine the relationship between Big Five personality traits (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience) and academic procrastination among university students in Pakistan. A quantitative, correlational research design was employed, and data were collected from 299 university students using the Tuckman Procrastination Scale (TPS) and the Big Five Inventory–10 (BFI–10). The findings of this study are discussed below in light of the existing literature, theoretical frameworks, and the specific Pakistani academic context. Before interpreting the core findings, it is important to reflect on the demographic profile of the sample, as it helps in understanding the representativeness of the study. The sample consisted of 299 university students, comprising 150 males (50.2%) and 149 females (49.8%), which reflects a near-equal gender distribution. This balanced representation is a strength of the study, as it reduces the risk of gender bias in the findings. The majority of participants fell in the 20–22 age range, with the most common age being 22 years (21.5%), followed by 21 years (18.9%) and 20 years (15.8%). This is consistent with the typical age range of undergraduate students in Pakistan and is representative of the target population. In terms of marital status, the overwhelming majority of participants were single (95.0%), which aligns with the undergraduate demographic. Most participants identified their socioeconomic status as middle class (87.0%) and lived in urban areas (88.0%), which reflects the predominantly city-based nature of higher education in Pakistan. The majority of participants were enrolled in BS (undergraduate) programs (86.6%), while smaller proportions were studying BSc, MPhil, or MSc programs. Furthermore, 98.7% of participants identified as Muslim, which is consistent with the broader religious demographic of Pakistan.

Overall, the demographic profile suggests that the sample was reasonably homogeneous in several key characteristics, which may limit the generalizability of findings to more diverse

student populations. However, the sample is well-suited for understanding procrastination tendencies within the mainstream Pakistani university student population. The descriptive statistics revealed several noteworthy patterns in the study variables. The mean score for academic procrastination ($M = 22.89$, $SD = 5.42$) on the Tuckman Procrastination Scale suggests that, on average, participants reported a moderate level of academic procrastination. This finding is consistent with existing literature indicating that academic procrastination is a common and widespread issue among university students globally (Moonaghi & Beydokhti, 2017). Given Pakistan's high-pressure academic environment characterized by rigid deadlines and strong family expectations around academic performance, a moderate level of procrastination in this sample is both expected and meaningful. Among the Big Five personality traits, Openness to Experience yielded the highest mean score ($M = 6.71$, $SD = 2.14$), followed by Neuroticism ($M = 6.51$, $SD = 1.82$), Extraversion ($M = 6.25$, $SD = 1.80$), Conscientiousness ($M = 6.21$, $SD = 1.75$), and Agreeableness ($M = 6.10$, $SD = 1.91$). The relatively higher mean for Neuroticism is a noteworthy finding, as it suggests that a considerable proportion of the sample tends to experience emotional instability, anxiety, and psychological distress these are the characteristics that have been consistently linked to heightened procrastination behaviors in the existing literature (Hidalgo-Fuentes et al., 2024; Bushra & Suneel, 2021). The moderately high mean for Conscientiousness ($M = 6.21$) also has important implications. As Sparfeldt and Schwabe (2023) demonstrated in their longitudinal study, higher conscientiousness is directly associated with lower procrastination levels and better academic performance. The fact that Conscientiousness scores were moderate rather than high in this sample may partially explain the observed moderate levels of procrastination. The central focus of this study was to examine the relationships between Big Five personality traits and academic procrastination. The Pearson correlation analysis yielded several significant and theoretically meaningful findings that are discussed below in relation to each personality trait. The results revealed a statistically significant positive relationship between Extraversion and academic procrastination ($r = .161$, $p < .01$). This finding suggests that students who score higher on Extraversion tend to report slightly higher levels of procrastination. This result may appear counter-intuitive at first, given that extraverted individuals are generally outgoing and socially energetic. However, this pattern can be understood when considering the nature of academic work, which often requires solitary, focused effort over extended periods. Highly extraverted students may be more drawn to social activities and peer interactions, potentially at the expense of their academic responsibilities. This finding partially diverges from Karatas (2015), who found a negative relationship between Extraversion and procrastination, suggesting that cultural context particularly Pakistan's socially oriented university culture may play a moderating role in how extraversion manifests in academic behavior. No statistically significant relationship was found between Agreeableness and academic procrastination ($r = .047$, $p > .05$). This finding is consistent with prior research indicating that Agreeableness tends to have the weakest and least consistent association with procrastination among the Big Five traits (Karatas, 2015; Hidalgo-Fuentes et al., 2024). Agreeableness, which reflects traits such as empathy, cooperation, and interpersonal trust (Costa & McCrae, 1992), may not directly influence the self-regulatory processes involved in task initiation and completion. Therefore, the absence of a significant relationship in the current study is both expected and theoretically justifiable. Contrary to the hypothesis and the wider body of literature, the current study found no statistically significant relationship between Conscientiousness and academic procrastination ($r = -.005$, $p > .05$). This is a surprising result, as Conscientiousness is widely regarded as the strongest and most consistent predictor of academic procrastination across multiple studies (Hidalgo-Fuentes et al., 2024; Sparfeldt & Schwabe, 2023; Karatas, 2015; Moiza et al., 2026). Highly conscientious individuals are characterized by self-regulation, goal-directed behavior, organization, and task persistence (Roberts et al., 2009), all of which are considered natural buffers against procrastination. The

null finding in the current study could be attributed to a few possible reasons. First, the BFI–10 is a brief personality measure that uses only two items per trait, which may limit its sensitivity in detecting fine-grained trait differences, particularly for Conscientiousness (Rammstedt & John, 2007). Second, the moderate range of Conscientiousness scores in this sample suggests limited variance, which can weaken correlations. Third, situational factors specific to Pakistani university students such as systemic academic pressures, institutional expectations, and cultural study habits may moderate the trait-behavior link for Conscientiousness in ways that differ from Western samples. The results indicated no statistically significant relationship between Neuroticism and academic procrastination in this sample ($r = .064, p > .05$). This finding is inconsistent with the bulk of existing research, which consistently identifies Neuroticism as a significant positive predictor of procrastination (Bushra & Suneel, 2021; Hidalgo-Fuentes et al., 2024; Moiza et al., 2026). Neuroticism, defined as the chronic tendency to experience emotional instability, anxiety, and negative emotional states (Widiger & Costa, 2002), is theoretically expected to drive procrastination through emotional avoidance mechanisms. Students high in Neuroticism tend to avoid anxiety-provoking tasks rather than engage with them.

The non-significant result may be partially explained by the measurement tool used. The BFI–10 measures each trait with only two items, and Neuroticism's broader emotional complexity may not be fully captured by such a brief scale. Additionally, in high-pressure academic environments like Pakistan where academic failure carries significant social and family consequences even highly neurotic students may feel compelled to engage with academic tasks despite their anxiety, which could suppress the typical Neuroticism–procrastination link. A statistically significant positive relationship was found between Openness to Experience and academic procrastination ($r = .164, p < .01$). This means that students who score higher on Openness are characterized by intellectual curiosity, creativity, and a preference for novelty (DeYoung, 2015) these tend to report higher levels of procrastination. This finding can be interpreted in a few ways. Students high in Openness may be more likely to engage in exploratory thinking, divergent activities, or creative pursuits that compete with structured, deadline-driven academic tasks. Their preference for novelty may also lead them to lose interest in routine or repetitive academic work, resulting in task delay. This finding is partially consistent with Moiza et al. (2026), who found that while Openness can protect students from procrastination in some contexts, its relationship with academic behavior is more nuanced and context-dependent. The overall hypothesis of the study stated that there would be a significant relationship between Big Five personality traits and academic procrastination among university students. The results partially support this hypothesis. Specifically, statistically significant positive relationships were found for Extraversion ($r = .161, p < .01$) and Openness to Experience ($r = .164, p < .01$), suggesting that these two traits are meaningful correlates of academic procrastination in this sample. However, the expected significant relationships for Conscientiousness which was negative and Neuroticism which was positive, the two traits most consistently linked to procrastination in the literature were not confirmed.

Conclusion

The present study examined the relationship between Big Five personality traits and academic procrastination among 299 university students in Pakistan. The findings partially supported the study's hypothesis: statistically significant positive relationships were found between Extraversion and procrastination, and between Openness to Experience and procrastination. However, the anticipated significant negative relationship with Conscientiousness and positive relationship with Neuroticism were not confirmed, which may reflect methodological limitations related to the brief personality measure used and the unique contextual pressures of the Pakistani academic environment. Overall, this study contributes to the growing body of research on personality and academic behavior within non-Western contexts, highlighting that the

relationship between personality and procrastination is nuanced, culturally shaped, and cannot be fully understood through a one-size-fits-all framework. The findings carry meaningful implications for educators, counselors, and policymakers seeking to design targeted interventions that support the psychological well-being and academic success of university students in Pakistan.

Limitations of the Study

Several limitations must be acknowledged when interpreting the findings of this study. First, the use of convenience sampling limits the generalizability of the findings to the broader population of university students in Pakistan. The sample was predominantly drawn from urban areas of Karachi, which may not represent students from rural or less economically privileged backgrounds. Second, the use of the Big Five Inventory–10 (BFI–10) as the measure of personality traits is a notable limitation. While the BFI–10 is a practical and widely used measure, its brevity (two items per trait) results in lower reliability estimates (Cronbach's $\alpha = .40-.70$) compared to longer inventories such as the BFI–44. This may have reduced the statistical power to detect significant relationships, particularly for traits like Conscientiousness and Neuroticism.

Third, the cross-sectional design of this study does not allow for causal inferences. The correlational findings indicate relationships between variables but cannot establish whether personality traits cause procrastination or vice versa. Fourth, self-report measures are subject to social desirability bias. Participants may have underreported their procrastination or misrepresented their personality traits, particularly in a culturally conservative academic environment where admitting to procrastination may carry a degree of social stigma. Fifth, the sample was largely homogeneous in terms of religion, socioeconomic status, and locality, which may limit the diversity of the findings.

Implications

The findings of this study have several practical implications for educators, university counselors, and academic institutions in Pakistan. First, the significant positive association between Extraversion and procrastination suggests that highly extraverted students may benefit from structured study routines and accountability systems that channel their social energy toward collaborative academic tasks rather than away from them. Group study programs, peer mentoring, and socially embedded learning strategies may be particularly effective for this population. Second, the significant positive relationship between Openness to Experience and procrastination indicates that creative, curious, and novelty-seeking students may be at risk of delaying routine academic work. Educators can address this by incorporating varied, intellectually stimulating tasks that align with these students' intrinsic interests, thereby reducing the aversiveness of standard academic assignments. Third, the overall finding of moderate procrastination levels in this sample underscores the need for university-level interventions targeting self-regulated learning, time management, and academic self-efficacy. As Zacks and Hen (2018) highlighted in their review of academic interventions, targeted strategies that address both the behavioral and psychological aspects of procrastination are most effective in improving student outcomes.

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