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Generalized Anxiety Traits, Perceived Stress, Fear of Negative Evaluation, and Academic Procrastination among University Students in Pakistan



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Accepted: 16th June, 2025, Received in Revised Form: 27th June, 2025, Published: 14th July, 2025

Abstract

Purpose: Generalized anxiety traits are frequently observed among university students and have a detrimental impact on academic performance, often contributing to procrastination. Despite this, the mediating roles of perceived stress and fear of negative evaluation in the relationship between generalized anxiety traits and academic procrastination remain underexplored, particularly within the Pakistani university context. This study aims to fill that gap.

Methodology: A cross-sectional correlational design was employed, using purposive sampling to recruit 246 university students in Pakistan (men and women), aged 18 to 35 years ($M = 21.33$, $SD = 1.89$). Standardized instruments included the Generalized Anxiety Disorder Scale (GAD-7), Perceived Stress Scale (PSS), Brief Fear of Negative Evaluation Scale – Revised (BFNE-R), and the Procrastination Assessment Scale - Students. Correlation analysis and independent samples t-tests were conducted.

Findings: Generalized anxiety traits, perceived stress, fear of negative evaluation, and academic procrastination were all positively and significantly correlated. Mediation analysis using Hayes' PROCESS macro version 4.2 revealed that perceived stress significantly mediated the relationship between generalized anxiety traits and academic procrastination. However, fear of negative evaluation did not serve as a significant mediator, as the indirect effect was not statistically significant. No significant gender differences were found across the study variables.

Unique Contribution to Theory, Policy, and Practice: The study advances theoretical understanding by highlighting perceived stress as a key mediating factor linking anxiety traits to academic procrastination, while challenging the assumed mediating role of fear of negative evaluation. The findings suggest practical implications for mental health interventions in academic settings, emphasizing the need for stress management and cognitive-behavioral support programs. Policymakers and universities should develop mental health strategies to reduce academic procrastination and enhance student well-being.

Keywords: *Generalized Anxiety Traits, Perceived Stress, Fear of Negative Evaluation, Academic Procrastination.*

Introduction

University students in Pakistan commonly experience generalized anxiety traits due to low confidence, excessive stress, and fear of meeting academic deadlines (Khuda et al., 2023; Yasmin et al., 2021). Generalized anxiety traits involves persistent, excessive worry about everyday matters, producing fear and a constant feeling of being overwhelmed (Stein & Sareen, 2015). The generalized anxiety related to academic life include constant worry about academic activities like quizzes, assignments, and exams that also possess fear of failure and under performance, or low grades (Bozukluğu et al., 2013; Kessler et al., 2001; Rabbi & Islam, 2024). A study involving 460 university students in southern Brazil and Buenos Aires found that 86.74% exhibited GAD, emphasizing the importance of preventive mental health measures (Dias Lopes et al., 2020). A seven-month cross-sectional study in Lahore, Pakistan, involving 404 university students revealed that those in the annual academic system had significantly higher anxiety levels, ranging from mild to extremely severe. Male students and those aged 22 or younger were especially vulnerable to both anxiety and depression (Saeed et al., 2018).

Perceived stress, defined as an individual's appraisal of stress at a given time, is also an important factor influencing mental health (Lee, 2012). This study investigated perceived stress among 456 undergraduate students at a Malaysian university. Results showed a 37.7% prevalence rate, with higher stress reported by female and first-year students. The Perceived Stress Scale and Student Stress Survey identified stress levels and sources (Jia & Loo, 2018). A previous study assessed stress levels among 224 clinical students at Bayero University Kano using the PSS-10. A high stress prevalence of 59.8% was found, especially among 400-level students. No significant gender difference was observed (Asani et al., 2018).

Academic procrastination—the tendency to delay academic tasks despite deadlines—is linked to statistics anxiety, a prevalent issue affecting up to 80% of graduate students and impairing academic performance (Day et al., 2000; Onwuegbuzie, 2004). Studies have shown association between perceived stress and academic procrastination. A cross-sectional survey was conducted from June to July 2023 among 1308 higher vocational nursing students in Hebei Province, China, using convenience sampling. The study aimed to explore whether negative emotions mediated the relationship between perceived stress and academic procrastination. Data analysis was performed using SPSS 26.0 and Hayes' PROCESS macro, the result should negative emotions did mediate (Cao et al., 2025).

A web-based survey was conducted among full-time master's students at a teacher training university in southwest China. Using convenience sampling, participants completed measures on stress perception, and academic procrastination, the result depicted positive and significant relationship between stress perception and academic procrastination (Ma et al., 2022). A study at Vellore Institute of Technology (VIT) University in Chennai with 64 engineering students (33 females, 31 males) found a significant positive correlation between anxiety and fear of negative

evaluation, with females reporting slightly higher anxiety but no significant gender difference in fear of negative evaluation (Ganesh Kumar, 2015).

Fear of Negative Evaluation (FNE)—the belief that one will be judged unfavorably in social situations—is associated with personality traits such as anxiousness, submissiveness, and social avoidance (Seo, 2024; Rais & Norton, 2024). During the COVID-19 pandemic, a survey of 249 medical students in Lahore reported that 72.69% experienced moderate stress, while 12.05% had severe anxiety. Younger students and females exhibited higher levels of stress and anxiety, highlighting the pandemic's significant mental health impact (Ahmad et al., 2023). A recent study conducted in Pakistan (among university students in Lahore city) found that fear of negative evaluation significantly mediated the relationship between public speaking anxiety and poor academic performance (ul Huda et al., 2024).

A study of 135 graduate students found procrastination strongly associated with fear of failure, task aversiveness, and multiple anxiety dimensions including test anxiety and fear of asking for help. Interventions targeting statistics anxiety may help reduce procrastination and improve outcomes (Onwuegbuzie, 2004). A previous study conducted in Sudan among 340 medical students explored Generalized Anxiety Disorder (GAD), perceived stress, and lifestyle factors. High anxiety levels were linked to stress, poor sleep, unhealthy diet and low income. Stress was more common in females and low academic performers. The study recommends mental health support and interventions targeting modifiable risk factors (Ibrahim et al., 2024).

A quantitative correlational study was conducted on 400 university students (aged 18–25) in Lahore using standardized and translated scales. Results showed that fear of negative evaluation (FNE) was positively associated with procrastination and perceived stress and negatively associated with self-concept clarity and academic performance. Hierarchical regression revealed that self-concept clarity and GPA negatively predicted FNE, while procrastination was a significant positive predictor (Awan et al., 2023). Anxiety-related traits were also linked to procrastination through increased stress and FNE, highlighting how self-doubt and apprehension about evaluation contribute to academic delays (Hagbin et al., 2012). Another study, using the General Procrastination Scale and the Performance Failure Appraisal Inventory, found significant positive correlations between academic procrastination and anxiety-related fears, such as fear of shame and uncertainty about the future (Banger et al., 2024). However, there is limited literature on the mediating role of perceived stress and fear of negative evaluation between generalized anxiety traits and academic procrastination, particularly among Pakistani students.

Theoretical Framework

Social Anxiety Theory, pioneered by Schlenker and Leary (1982), suggests that the fear of being judged or negatively evaluated by others can deteriorate performance. In the context of students, generalized anxiety traits increase the likelihood of fearing judgment among university students. Perceived stress is another factor that contributes to students avoiding academic

activities, in an attempt to prevent embarrassment or failure—often experienced during university presentations. For instance, some students may rush to present early, while others keep delaying. This leads to academic procrastination becoming a form of escape. The theory aligns with the mediating role of fear of negative evaluation and perceived stress between the independent variable (generalized anxiety traits) and the dependent variable (academic procrastination).

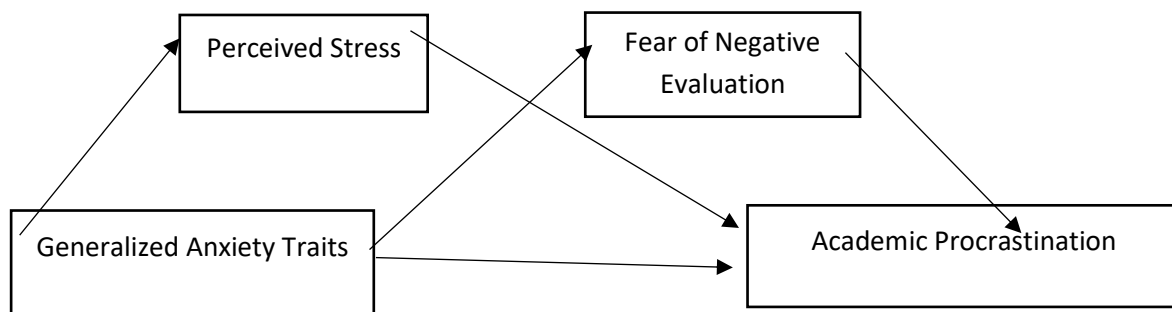


Figure 1: Theoretical Model

Rationale

Although generalized anxiety traits are commonly experienced by university students in Pakistan, effective coping strategies are often lacking, and the issue is frequently overlooked—especially when it impacts academic performance. As discussed in the literature above, generalized anxiety traits can lead to academic procrastination. However, the mediating roles of perceived stress and fear of negative evaluation have not been adequately explored in the context of generalized anxiety traits as the predictor and academic procrastination as the outcome, particularly among university students in Pakistan. Therefore, the aim of this study is to fill this gap in the existing literature and to propose targeted interventions that contribute to societal welfare, particularly by enhancing the academic performance of university students in Pakistan.

Objectives

1. To investigate the relationship of generalized anxiety traits with perceived stress, fear of negative evaluation, and academic procrastination among university students in Pakistan.
2. To examine the mediating role of perceived stress between the predictor (generalized anxiety traits) and the outcome (academic procrastination) among university students in Pakistan.
3. To investigate fear of negative evaluation as a mediator between generalized anxiety traits and academic procrastination among university students in Pakistan.
4. To explore gender differences (men vs. women) in generalized anxiety traits, perceived stress, fear of negative evaluation, and academic procrastination among university students in Pakistan.

Hypotheses

H₀₁: Generalized anxiety traits is likely to have a positive and significant relationship with perceived stress, fear of negative evaluation, and academic procrastination among university students in Pakistan.

H₀₂: Perceived stress is likely to significantly mediate the relationship between generalized anxiety traits and academic procrastination among university students in Pakistan.

H₀₃: Fear of negative evaluation is likely to significantly mediate the relationship between generalized anxiety traits and academic procrastination among university students in Pakistan.

H₀₄: There is likely to be a significant mean difference between genders (men and women) on generalized anxiety traits, perceived stress, fear of negative evaluation, and academic procrastination among university students in Pakistan.

Methodology

The study utilized a cross-sectional correlational design and employed a purposive sampling technique to collect data from 246 university students in Pakistan, aged 18 to 35 years, including both genders.

Four standardized questionnaires were used to assess the study variables. The Generalized Anxiety Disorder Scale (GAD-7), developed by Spitzer et al. (2006), contains seven items rated on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The scale has shown good internal consistency, with Cronbach's alpha ranging from 0.86 to 0.93 (Merino-Soto et al., 2023; Seo & Park, 2015; Sun et al., 2021). The Perceived Stress Scale (PSS), developed by Cohen et al. (1994), consists of 10 items rated on a Likert scale from never (0) to very often (4), with reported reliability ranging from 0.84 to 0.91. The Brief Fear of Negative Evaluation Scale (BFNE), developed by Leary (1983), consists of 12 items rated from strongly disagree (1) to strongly agree (5), with an internal consistency of 0.89. The Procrastination Assessment Scale-Students, developed by Solomon and Rothblum (1988), comprises 44 items rated on a 5-point Likert scale. It measures dimensions such as anxiety, laziness, time management, and peer pressure, and demonstrates high internal consistency (Cronbach's alpha = 0.93).

The study followed APA 7 ethical guidelines. Permission was obtained from the relevant department, and the original authors of the scales were contacted via email for formal approval. Participants were recruited from various public and private universities in Pakistan. They were provided with an informed consent form, a demographic questionnaire, and the study instruments. Participants were briefed on the purpose of the study and informed that participation was voluntary, free of coercion, and that they could withdraw at any time. After reading and signing the consent form, participants completed the demographic and study questionnaires, which took approximately 30 minutes to complete. They were thanked for their participation, and the collected data were entered into SPSS version 27 for analysis.

Results

Table 1

Characteristics of The Participants (N=246)

Characteristics	<i>f</i>	%	<i>M</i>	<i>SD</i>
Age			21.77	2.49
Gender				
Women	105	43		
Men	141	57		
Socioeconomic Status				
Upper Class	64	26		
Middle Class	84	34		
Lower Class	98	40		
Enrolled Program				
Bachelor Program	137	56		
Master Program	84	34		
Ph.D. Program	25	10		

Note. *f*=Frequency, %=Percentage, *M*= Mean, *SD*= Standard Deviation

The mean age of the participants in this study is 21.77 years (*SD* = 2.49). Among them, 105 (43%) are women and the majority, 141 (57%), are men. The socioeconomic status of the participants indicates that most belong to the lower class (98, 40%), followed by the middle class (84, 34%), while a minority are from the upper class (64, 26%). Most participants are enrolled in a BS program (137, 56%), followed by those in a master's program (84, 34%), and a smaller portion in a Ph.D. program (25, 10%).

Table 2

Relationship among Study Variables (246).

Variables	1	2	3	4
Generalized Anxiety Traits	-	.97**	.65**	.30**
Perceived Stress		-	.63**	.29**
Fear of Negative Evaluation			-	.25**
Academic Procrastination				-

Note. ** $p < .01$

The above table depicts that generalized anxiety traits, perceived stress, fear of negative evaluation, and academic procrastination have a positive and significant association with one another.

Table 3

Mediation Analysis Using Hayes Process Macro 4.2 (N=246).

Antecedents	Consequences			AP (Y)				
	Perceived Stress (M)							
	β	SE	P	β	SE	P		
GAT (X)	a	1.28	.01	<.001	c'	.66	.23	.54
Perceived Stress (M)	-				b	.36	.81	.65
Constant	I	-8.52	.35	<.001	I	76.95	4.50	<.001
	$R^2=.95$ $F=4917.90$			$R^2=.08$ $F=11.68$				
	$P<.001$			$P<.001$				

Note. *** $p<.001$, GAT= Generalized Anxiety Traits, AP= Academic Procrastination

The above table depicts that generalized anxiety traits has positive and significant effect on perceived stress ($\beta=1.28$, *** $p<.001$). However, its effect on academic procrastination is not significant ($\beta=.66$, $p>.05$). The effect of perceived stress is not significant ($\beta=.36$, $p>.05$) on academic procrastination.

Table 4

Indirect Effect (N=246)

Indirect Path	Effect	Standardized Effect	LLCI	ULCI
Perceived Stress	.46	.12	-.38	-.67

The above table depicts that perceived stress significantly mediates the effect of generalized anxiety traits on academic procrastination.

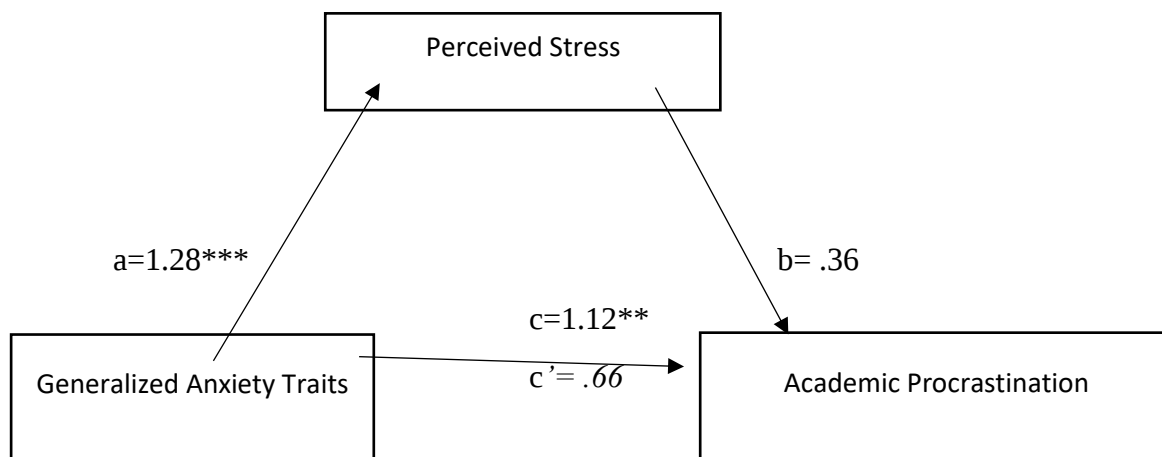


Figure 2: Statistical Model

The statistical model depicts that path a, the effect of generalized anxiety traits on perceived stress, is statistically significant ($\beta = 1.28$, *** $p<.001$). However, path b, the effect of the mediator perceived stress on academic procrastination, is not statistically significant ($\beta = .36$, $p > .05$). Similarly, path c', the direct effect of generalized anxiety traits on academic procrastination, is

also not statistically significant ($\beta = .66, p > .05$). However, the total effect, path c, remains statistically significant ($\beta = 1.12, ***p < .001$).

Table 5

Mediation Analysis Using Hayes Process Macro 4.2 (N=246).

Antecedents	Consequences				AP (Y)			
	FoNE (M)							
		β	SE	P		β	SE	P
GAT (X)	a	.74	.05	<.001	c'	.93	.31	.003
FoNE (M)	-				b	.31	.27	.24
Constant	I	8.68	.05	<.001	I	73.59	5.14	<.001
	$R^2=.43$ $F=184.67$				$R^2= .09$ $F=12.95$			
	$P<.001$				$P<.001$			

Note. * $***p < .01$, $***p < .001$, GAT= Generalized Anxiety Traits, FoNE= Fear of Negative Evaluation, AP= Academic Procrastination

The above table depicts that generalized anxiety traits has positive and significant effect on perceived stress ($\beta = .74***, ***p < .001$) and academic procrastination ($\beta = .93**, **p < .01$). The effect fear of negative evaluation on academic procrastination is not significant ($\beta = .31, p > .05$).

Table 6

Indirect Effect (N=246)

Indirect Path	Effect	Standardized Effect	LLCI	ULCI
Fear of Negative Evaluation	.23	.20	-.06	.15

The fear of negative evaluation does not significantly mediate the effect of generalized anxiety traits on academic procrastination.

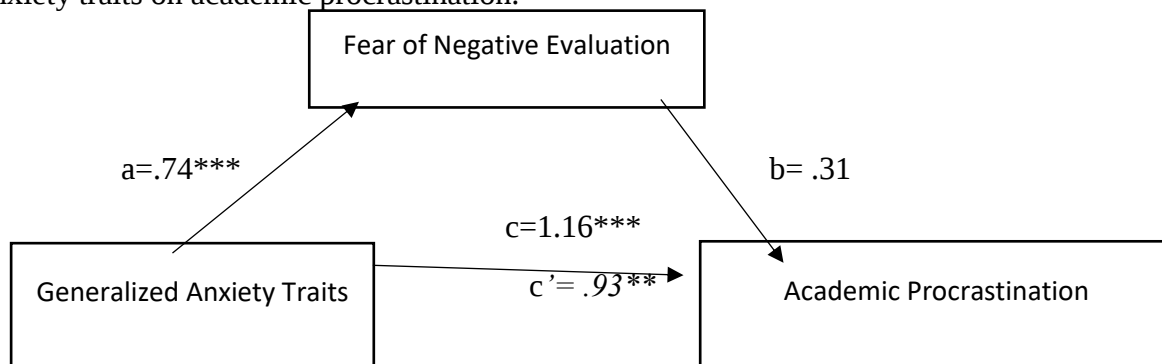


Figure 3: Statistical Model

The statistical model depicts that path a, the effect of generalized anxiety traits on fear of negative evaluation, is statistically significant ($\beta = .74, ***p < .001$). However, path b, the effect of the mediator perceived stress on academic procrastination, is not statistically significant ($\beta = .31,$

$p > .05$). However, path c' , the direct effect of generalized anxiety traits on academic procrastination, is statistically significant ($\beta = .93$, $***p < .001$). However, the total effect, path c , remains statistically significant ($\beta = 1.16$, $***p < .001$).

Table 7

Gender Difference between Study Variables (N=246).

Variables	Women(n=105)		Men (n=141)		t (n=244)	p	Cohen's d
	M	SD	M	SD			
Generalized Anxiety Traits	19.05	5.14	18.30	5.02	1.14	.25	.14
Perceived Traits	15.89	6.73	15.01	6.65	1.01	.31	.13
Fear of Negative Evaluation	22.40	5.52	22.63	5.93	-.31	.75	.04
Academic Procrastination	100.60	19.89	96.31	19.36	1.69	.09	.21

Note. M = Mean, SD = Standard Deviation

The above table shows that women scored higher on generalized anxiety traits and perceived stress, whereas men scored higher on fear of negative evaluation and academic procrastination. However, none of the score differences were statistically significant.

Discussion

There is substantial research on generalized anxiety traits, perceived stress, fear of negative evaluation, and academic procrastination. However, such studies are limited in the context of Pakistan—particularly those examining the mediating role of perceived stress and fear of negative evaluation between generalized anxiety traits (predictor) and academic procrastination (outcome) among university students. Therefore, this study aims to fill this gap in the existing literature and offer useful implications.

The first hypothesis of the study states that generalized anxiety traits is likely to be significantly and positively related to perceived stress, fear of negative evaluation, and academic procrastination among Pakistani university students. A previous study supports this finding, showing that among Chinese nursing students, perceived stress was positively and significantly related to academic procrastination, with negative emotions acting as a mediator (Cao et al., 2025). The current study's results also align with previous findings showing that anxiety significantly and negatively affects academic performance and has a positive association with fear of negative evaluation among Pakistani university students, while fear of negative evaluation is negatively and significantly related to academic performance (ul Huda et al., 2024).

Generalized anxiety traits consist of fear, restlessness, tension, and excessive worry, which make individuals more vulnerable to environmental stressors. In the context of Pakistani university students—who often face continuous pressure from quizzes, assignments, and exams without sufficient academic breaks—academic and social stress tends to increase perceived stress levels.

Anxiety can also lead to a fear of negative evaluation, such as during presentations or exams, and students may worry about being criticized or made fun of if they receive low grades. This fear contributes to avoidance behaviors, such as academic procrastination, where students delay academic tasks to escape embarrassment or potential failure. In Pakistan's collectivistic culture, where social image and academic success are highly valued, the relationship between generalized anxiety traits, perceived stress, fear of negative evaluation, and academic procrastination is likely to be strongly interconnected.

The second hypothesis of the study states that perceived stress significantly and positively mediates the relationship between generalized anxiety traits and academic procrastination among Pakistani university students. A U.S.-based study found a positive relationship between anxiety and stress, with poor sleep quality acting as a major cause of increased anxiety and stress among 242 undergraduate students (Zhang et al., 2018). Similarly, a study in China found a significant positive association between perceived stress and academic procrastination among students (Yang et al., 2022).

In the Pakistani context, the reason perceived stress significantly mediates the link between generalized anxiety traits and academic procrastination could be the intense academic and social pressures faced by students. Grades are highly valued, and receiving lower grades is often seen as a source of embarrassment in front of peers, family, and relatives. Due to these collectivistic norms, high anxiety increases the perception of academic pressure, which in turn elevates stress. This heightened stress can impair concentration, reduce motivation, and lead to emotional fatigue—ultimately resulting in procrastination as a coping mechanism. Another contributing factor may be the lack of social and psychological support, combined with high expectations placed on students, making stress a key bridge between anxiety and procrastination.

The third hypothesis states that fear of negative evaluation significantly and positively mediates the relationship between generalized anxiety traits and academic procrastination. However, the mediation analysis using Hayes' PROCESS Macro 4.2 showed that fear of negative evaluation did not significantly mediate this relationship among university students in Pakistan. Interestingly, a previous study found that among students, public speaking anxiety negatively affected academic performance, and this relationship was significantly mediated by fear of negative evaluation (ul Huda et al., 2024).

The reason for the non-significant mediation in this study may be that not all students procrastinate due to fear of being criticized or judged. Many students may delay tasks due to general stress, tension, worry, or lack of self-confidence, rather than social fears. In Pakistan's collectivistic culture, academic pressure is a shared experience among students, and their procrastination may stem more from emotional exhaustion and pressure than from fear of others' opinions. This could explain why perceived stress showed a stronger mediating effect between generalized anxiety traits and academic procrastination than fear of negative evaluation.

The fourth hypothesis proposed that there would be significant mean differences between men and women in generalized anxiety traits, perceived stress, fear of negative evaluation, and academic procrastination among university students in Pakistan. However, the findings revealed no statistically significant gender differences in any of these variables. While women scored slightly higher—though not significantly—on generalized anxiety traits and perceived stress, men scored slightly higher on fear of negative evaluation and academic procrastination.

Several previous studies provide context. A U.S.-based study of 2,843 university students found anxiety or depressive disorders in 15.6% of undergraduates and 13.0% of graduate students, with women reporting higher anxiety levels than men (Eisenberg et al., 2007). A longitudinal study in China involving 1,892 college students found anxiety to be more common among females in the first two years of college and linked to introversion, body image, drinking habits, and academic performance (Gao et al., 2020). Another U.S. study of 448 undergraduates found that females reported higher stress levels, particularly near the end of the semester, and more often used emotion-focused coping strategies such as self-distraction and seeking support (Graves et al., 2021). A Spanish study of 4,301 university students found high levels of perceived stress, with 50.2% showing clinical anxiety—53.82% in women versus 40.27% in men (Miron et al., 2019). A study at Vellore Institute of Technology (VIT) University in Chennai with 64 engineering students (33 females, 31 males) found a significant positive correlation between anxiety and fear of negative evaluation, with females reporting slightly higher anxiety but no significant gender difference in fear of negative evaluation (Ganesh Kumar, 2015). A study of 200 students in Islamabad found significant gender differences in academic procrastination, with female students procrastinating significantly less than males (Khan et al., 2014).

The non-significant gender differences in the current study may be due to the shared competitive academic environment faced by both men and women, as well as similarly limited access to mental health resources. While women may be more likely to experience anxiety and stress, men may be slightly more concerned about academic judgment and may procrastinate to avoid uncomfortable situations. Shared cultural expectations and academic challenges likely result in similar psychological responses across genders, minimizing statistically significant differences.

Conclusion

It is concluded from this cross-sectional correlational study that there is a significant and positive relationship between generalized anxiety traits, perceived stress, fear of negative evaluation, and academic procrastination among university students in Pakistan. However, the central hypothesis of the study—which proposed that perceived stress and fear of negative evaluation would positively and significantly mediate the relationship between the predictor variable (generalized anxiety traits) and the outcome variable (academic procrastination) among university students in Pakistan—was only partially supported. Using Hayes Process Macro 4.2, it was found that perceived stress significantly mediated the relationship, whereas fear of negative evaluation did not, as its indirect effect was not statistically significant. Additionally, the mean

differences between genders (men and women) revealed no significant differences with respect to the study variables.

Limitations and Recommendations

The first limitation of this study is the small sample size ($N = 246$), which may not adequately represent the larger student population. Future studies should include a larger, more diverse sample. Second, the use of a cross-sectional correlational design restricts the ability to observe changes over time; longitudinal designs would provide better insights into the development of these variables. Third, there was demographic imbalance in terms of socioeconomic status (lower, middle, and upper class) and education level (bachelor's, master's, and Ph.D.), which may limit generalizability.

Implications

Based on the study results, several important implications emerge. First, there is a need for mental health awareness campaigns led by professionals to help students manage stress and anxiety. Second, university lecturers and professors should be trained to identify students with anxiety-related traits and refer them for mental health support. Universities should also establish on-campus counseling centers staffed by licensed mental health professionals to address students' cognitive distortions using cognitive-behavioral techniques such as examining evidence for and against thoughts, cognitive restructuring, antecedent-behavior-consequence techniques, alternative thoughts, and mindfulness exercises like deep breathing and progressive muscle relaxation.

Third, parents need to be educated to recognize early signs of anxiety in their children and seek professional help when needed. Unfortunately, awareness of mental health issues among students in Pakistan remains low. Therefore, media campaigns and community education led by mental health professionals are urgently needed. Lastly, the government must take concrete steps by assigning officials to assess students' mental health in universities, provide institutional support, and develop proper psychological care setups in government hospitals. Private hospitals should also be encouraged to establish similar services for the well-being of the broader society.

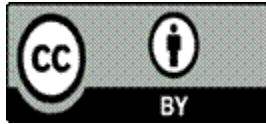
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