

## THE RELATIONSHIP BETWEEN ANXIETY AND ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS IN PAKISTAN: A CORRELATIONAL STUDY

Zarafshan Ali<sup>\*1</sup>, Muneeba Amin<sup>2</sup>, Sidra Jamal<sup>3</sup>, Raja Shahrukh Ullah Khan<sup>4</sup>, Hajra Shereen<sup>5</sup>, Maimoona<sup>6</sup>

<sup>\*1</sup>De Montfort University UK, Dubai Campus

<sup>2</sup>Clinical Psychologist, School of Professional Psychology, University of Management and Technology, Lahore

<sup>3</sup>Clinical Psychologist, Clinical Psychologist, PAF Hospital

<sup>4</sup>Clinical Psychologist, Al-Shifa Clinic, Rawalpindi

<sup>5</sup>Clinical Psychologist, AFIMH

<sup>6</sup>Lecturer of Psychology, Govt Graduate College for Women Vehari

<sup>1</sup>zarafshanaly@gmail.com, <sup>3</sup>sidra.jamal1998@gmail.com, <sup>4</sup>shahrukhullah69@gmail.com, <sup>5</sup>hajramoonlight@gmail.com, <sup>6</sup>maimoonaaasghar645@gmail.com

Corresponding Author: \*

Zarafshan Ali

DOI: <https://doi.org/10.5281/zenodo.20454694>

Received  
11 March 2026

Accepted  
21 April 2026

Published  
30 May 2026

### ABSTRACT

This study aimed to explore the relationship between anxiety and academic success among university students in Pakistan. A sample of 150 students (75 male and 75 female) from various educational levels, including bachelor's, master's, and doctoral programs, participated in the research. Anxiety levels were evaluated using the Beck Anxiety Inventory (BAI), and academic performance was measured using the Academic Performance Scale (APS). Pearson's correlation analysis was performed to assess the relationship between the two variables. The results indicated a strong and statistically significant negative correlation between anxiety and academic performance  $r(148) = -0.83, p < .001$ . This indicates that higher anxiety levels are associated with lower academic performance among Pakistani university students.

**Keywords:** anxiety, academic performance, relationship, correlation, quantitative study, university students, mental health

### INTRODUCTION

Anxiety is a prevalent psychological phenomenon characterized by feelings of tension, worrisome thoughts, and physical changes (Fishstrom et al. 2022). In academic settings, it can manifest as test anxiety or general anxiety related to one's academic performance. Academic performance serves as a primary metric for evaluating an individual's educational achievement, problem-solving capacity, and mastery of course material

(Yan Ju & YanMei, 2021). Understanding the relationship between these two variables remains a critical focus of psychological and educational research.

University life is a critical stage of growth in which people learn important life skills, adjust to their newfound independence, and adapt to continual changes in their social, intellectual, and personal lives (Khan & Khurshid, 2025). During this time, one frequently develops a distinct personality,

makes deep bonds, and prepares for future commitments while conforming to social and cultural norms (De Azua et al., 2024).

The relationship between anxiety and academic performance has been widely examined, with research suggesting that anxiety negatively influences students' achievement (Pascoe et al., 2019). Furthermore, Lukasik et al. (2019) pointed out that emotional disorders, including anxiety and depression, result in affective, social, and cognitive manifestations that impair concentration, cause intrusive thoughts, and disrupt working memory processes.

Young adults undergoing the transition to university and higher education represent a highly susceptible population for both anxiety and academic performance (Farrer et al., 2024). During this critical developmental stage, students face increased academic workloads, heightened expectations, and the need to achieve academic success to secure future employment (Zhang et al., 2024). Chu et al. (2022) found that impaired mental health status, such as anxiety and depression, particularly during the first semester of university study, predicts an increased risk of poor academic performance.

In the context of Pakistani culture and collectivistic societies, young adults, particularly university students face unique sociocultural and systemic hurdles that amplify their academic anxiety (Jamil et al., 2025). Pakistani society often places high expectations on youth to excel in examinations, leading to rigid self-expectations, perfectionism, and competitive environments that foster anxiety and psychological distress among students (Khan et al., 2025). While some stress and anxiety can motivate students, excessive academic anxiety often leads to avoidance-based coping strategies and procrastination, thus lowering academic performance (Martin et al., 2025). The cultural stigma surrounding mental health issues also prevents students from seeking professional help, causing them to internalize their anxieties, which in turn impairs their academic progress (AthinarayananRao et al., 2025; Tauhid, 2025).

Several psychological theories explain the link between anxiety and academic performance.

According to cognitive interference theory, anxious students are preoccupied with task-irrelevant thoughts, which consume their limited working memory capacity and hinder focused instruction and problem-solving (Dombrowski, 2016). Additionally, Cognitive Interference Theory posits that highly anxious individuals divide their attention between the task at hand and internal, worry-related thoughts, thereby diminishing the cognitive capacity required for complex academic tasks (Shi & Qu, 2021).

Another foundational perspective is the Self-Worth Theory, which suggests that students protect their perceptions of their ability by avoiding difficult tasks, triggering test anxiety when they experience repeated failure (Lawrence & Charbonneau, 2009). Furthermore, cognitive-behavioral frameworks indicate that maladaptive beliefs about success and failure lead to catastrophic thinking, anxiety, and avoidance of coping strategies (Wang et al., 2023).

Moreover, when students possess a dispositional or natural inclination toward high anxiety, the constant presence of intrusive, worry-related thoughts divides their attention, effectively reducing the working memory capacity required for complex problem solving and information retention, as suggested by attention control theory (Eysenck et al., 2007).

Recent empirical studies have defined these relationships. A meta-analysis by Huntley et al. (2019) found that interventions targeting the reduction of academic anxiety can improve students' academic performance. Similarly, Hernández et al. (2020) demonstrated that anxiety symptoms interact significantly with different academic performance groups, with the core symptoms of emotional dysregulation affecting university students' academic performance. In an earlier prospective study, Voltas et al. (2014) also showed that persistent anxiety and emotional symptoms negatively predicted academic achievement during the transition into early adolescence and young adulthood. Consequently, naturally anxious students often experience elevated levels of psychological distress in competitive educational environments, which manifests as avoidance coping behaviors, reduced

classroom engagement and diminished academic achievement (Roy et al., 2025).

In conclusion, anxiety is a major barrier to the academic achievement of university students, particularly when exacerbated by cultural pressures, high self-expectations, and a lack of adaptive coping strategies. Addressing academic anxiety through targeted psychological support can play a vital role in improving educational outcomes in high-pressure environments.

### Rationale

While a large body of literature examines the relationship between stress and student performance, there is a distinct gap in understanding the unique intersection of anxiety and academic performance, especially in Pakistani culture, because many university students are anxious, which impacts their grades and academic performance, which has been frequently overlooked in our culture. Given the high levels of anxiety and its impact on academic performance, cultural expectations, and systemic barriers in higher education, it is critical to explore how these psychological and academic variables overlap and relate to each other. Understanding these dynamics can help establish tailored, culturally relevant mental health interventions and counseling programs for universities and colleges.

### Aim

1. To explore the relationship between and levels of anxiety and academic performance.

### Objectives

2. To measure the levels of anxiety and academic performance among university students using Beck Anxiety Inventory (BAI) and Academic Performance Scale (APS).

3. To investigate the relationship between anxiety and academic performance among university students.

### Research Question

What is the relationship between anxiety and academic performance among Pakistani University students?

### Hypothesis

- $H_1$ : There will be a significant negative relationship between anxiety and academic performance among university students.

### Methods

#### Research Design

This study used a quantitative, cross-sectional, and correlational research design. This approach enabled the researcher to examine the relationship between anxiety and academic performance at a single point in time without manipulating variables.

#### Participants

**Sample Size:** Data was gathered from 150 university students. To determine the required sample size in G\*Power (version 3.1.9.7), a medium effect size ( $\rho = .30$ ) was used, based on Cohen's (1988) behavioral science standards and existing research demonstrating a considerable negative influence of anxiety on academic performance. The research revealed that at least 138 individuals were necessary to obtain a power of 0.95 with an alpha of 0.05.

**Sampling Technique:** A Simple Random Sampling technique was used to guarantee the results' high external validity and generalizability. The study successfully reduced selection bias by using a random selection technique instead of a purposive or convenience-based strategy, which made it possible to explore the relationship between anxiety and academic performance across a larger university student body more precisely than previous studies.

#### Inclusion Criteria

- Currently enrolled university students (undergraduate, postgraduate & Doctorate), aged 18–35 years, who provided informed consent.

#### Exclusion Criteria

- Individuals diagnosed with neurological diseases, psychological conditions, or clinical comorbidities that may severely impede cognitive performance were not eligible and were excluded from the study.

### Instruments

1. **Beck Anxiety Inventory (BAI):** A 21-item self-report scale that assesses anxiety severity on a 4-point Likert scale (0-3). It has a strong internal consistency (Cronbach's  $\alpha = .92$ ). Total ratings range from 0 to 63, with categories for low (0-21), moderate (22-35), and concerning levels of anxiety (36+).

2. **Academic Performance Scale (APS):** The Academic Performance Scale (APS) is an 8-item Likert scale (1-5) that assesses academic behaviors and habits. It has a good reported reliability (Cronbach's  $\alpha = .89$ ) and total scores ranging from 8 to 40, classified as "Failing Performance" to "Excellent Performance."

### Procedure

Data were collected using an online survey. Participants were briefed on the study's purpose, and their anonymity was guaranteed. After providing informed consent, the participants completed a demographic sheet, followed by the BAI and APS. The process took approximately 10 min per participant.

### Data Analysis

Data were analyzed using IBM SPSS Statistics (version 22.0). Descriptive statistics and frequency distributions were used to summarize the participants' demographics, focusing on age, gender, and degree level. The Shapiro-Wilk test was used to assess the normality of the data distributions for the key research variables to select the best bivariate testing model. After violating the normality assumption for the academic performance variable, a non-parametric Spearman rank-order correlation analysis was performed to examine the direction and strength of the relationship between anxiety and academic performance. All statistical decisions were evaluated at a significance level of  $\alpha = .05$ .

### Result

The result section presents the demographic characteristics of the participants, descriptive statistics of the variables used in the study, normality assumptions check, and Spearman's correlation analysis.

**Table 1.**  
**Demographic Characteristics of the Participants**

Demographics	<i>F</i>	%	<i>M</i>	<i>SD</i>
Age			27.07	5.39
<b>Gender</b>				
Male	75	50%		
Female	75	50%		
Total (N)	150	100%		
<b>Degree Level</b>				
Undergraduate	58	38.7%		
Graduate	49	32.7%		
Doctorate	43	28.7%		

Note. N= 150, f= frequency, %= percentage, M= mean, SD= standard deviation

Table 1 summarizes the demographic characteristics of the sample (N= 150). The average age of the participants was 27 years (SD= 5.39).

The sample was evenly split by gender (50.0% male, 50% female), with undergraduate degree holders having the highest number of participants (38.7%).

**Table 2.**  
**Shapiro-Wilk Test of Normality (N= 150)**

Measure	<i>W</i>	<i>Df</i>	<i>P</i>
Anxiety (BAI)	.99	150	.390
Academic Performance (AP)	.94	150	.000

Note. *W*= statistic, *df*= degree of freedom, *p*= probability value

Table 2 shows that anxiety (BAI) values followed a normal distribution ( $W = .99$ ,  $p = .390$ ). Academic Performance (AP) ratings were significantly different from normality ( $W = .944$ ,  $p < .001$ ).

Because the normality assumptions for academic performance was violated, a parametric Pearson product-moment correlation could not be used. Spearman's rank-order correlation was used as a reliable non-parametric method to determine the relationship between the variables.

**Table 2.**

Variable	1	2
1. BAI Total (Anxiety)	-	-.687***
2. AP Total (Academic Performance)		-

Note. \* $p < .0001$ , two-tailed.

Table 3 presents the results of the correlation analysis used in this study. A Spearman rank-order correlation was used to explore the relationship between anxiety and academic performance.

A Spearman correlation study found a significant strong correlation between anxiety and academic performance  $r_s(148) = -.69$ ,  $p < .001$ . This result indicates that when university student's anxiety level increases, their academic performance declines significantly.

### Discussion

The primary goal of this study was to examine the relationship between anxiety and academic performance among university students in Pakistan. Statistical research has found a substantial negative correlation between the two variables. This suggests that as anxiety levels rise, academic achievement declines dramatically. This inverse association confirms the foundational research hypothesis and is consistent with the current educational psychology literature, which emphasizes that psychological discomfort poses a significant danger to cognitive and behavioral learning domains (Asif et al., 2020).

The structural form of this worry is strongly related to the student status of young adults in the study. Anxiety creates invasive cognitive strain in higher education settings. According to the Processing Efficiency Theory, an individual's working memory is reduced by high levels of physical and cognitive anxiety (Eysenck & Calvo, 1992). For university students juggling a demanding course curriculum, this mental focus exhausts cognitive resources for complex tasks such as critical problem solving, reading comprehension, and long-term memory retrieval for high-pressure tests. The significant negative relationship discovered in this study is consistent with global findings in psychology and social sciences. Sociological and educational experts from different parts have consistently proven that emotional distress interferes with educational achievements. For example, large-scale studies in the behavioral sciences have shown that students with clinical levels of anxiety have lower self-efficacy, higher rates of academic burnout, and severe patterns of behavioral avoidance, such as chronic procrastination and class absenteeism (Pascoe et al., 2020).

Furthermore, psychological literature suggests that the physical and emotional transitions that occur

during young adulthood act as a biological and environmental trigger for anxiety disorders. University students are especially vulnerable since this developmental stage coincides with the brain's ongoing prefrontal cortex growth, which is in charge of executive functioning and stress control (Korucu et al., 2023). When these underlying neurobiological shifts are paired with the intensive, self-directed responsibilities of higher education, the accompanying psychological strain consistently results in low academic performance measures across a wide range of student demographics worldwide.

Students in Pakistani Universities experience a highly competitive academic environment in which educational performance is tightly linked with economic survival. Due to restricted corporate job vacancies, high national inflation, and career uncertainty, maintaining a perfect grade point average has become an existential fight rather than a simply academic pursuit (Soham, 2026). This sociocultural context keeps students in a permanent state of physiological hyperarousal, which directly increases their BAI scores.

In Pakistan's collectivist framework, a student's academic standing is rarely seen as an individual affair; rather, it is interpreted as a direct reflection of family honor and collective social position. South Asian parenting methods commonly use authoritarian or conditional-approval methods, which tie parental affection and familial respect directly to a student's grades (Hania et al., 2023). This intensive psychological environment promotes significant fear of failure, resulting in severe test anxiety and cognitive paralysis during assessments.

In conclusion, this study confirms that anxiety is a severe and statistically significant negative influencing factor of academic performance among university students in Pakistan. The exceptionally high descriptive anxiety scores indicate an urgent mental health crisis in the higher education sector. Because young adults represent the primary intellectual and economic future of their country, mitigating their psychological distress is paramount.

### Recommendations

- Check predictors and mediators leading to anxiety and lack of academic performance in university students.
- Create Counseling and therapy centers in universities to assess and provide mental health services to students and faculty members to improve mental health of both students and teachers as well as guide teachers to not let students' mental health get affected and to boost students' academic performance by improving their mental health and anxiety.
- Seminars, workshops and lectures to guide students how to manage their anxiety and improve their academic performance and mental health.

### REFERENCES

- AthinarayananRao, K., C. Ah Gang, G. C., & Ading, C. (2025). Mental health stigma among international University students in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 15(4). <https://doi.org/10.6007/ijarbss/v15-i4/25213>
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. (1988). Beck Anxiety Inventory. *PsycTESTS Dataset*. <https://doi.org/10.1037/t02025-000>
- Birchmeier, C., Grattan, E., Hornbacher, S., & McGregory, C. (2015). *Academic performance scale*. Saginaw Valley State University
- Chu, T., Liu, X., Takayanagi, S., Matsushita, T., & Kishimoto, H. (2022). Association between mental health and academic performance among university undergraduates: The interacting role of lifestyle behaviors. *International Journal of Methods in Psychiatric Research*, 32(1). <https://doi.org/10.1002/mpr.1938>

- De Azua, S. R., Ozamiz-Etxebarria, N., Picaza, M., Jiménez-Etxebarria, E., & Idoiaga, N. (2024). University students' views on the challenges faced by students with difficulties. *Social Sciences*, 13(11), 613. <https://doi.org/10.3390/socsci13110613>
- Dombrowski, C. V. (2016). The Influence of Cognitive Interference and Anxiety on Working Memory and Performance Validity Tests. *University of Connecticut*.
- Eysenck, M. W., & Calvo, M. G. (1992). Anxiety and performance: The processing efficiency theory. *Cognition & Emotion*, 6(6), 409-434. <https://doi.org/10.1080/02699939208409696>
- Eysenck, M. W., Derakshan, N., Santos, R., & Calvo, M. G. (2007). Anxiety and cognitive performance: Attentional control theory. *Emotion*, 7(2), 336-353. <https://doi.org/10.1037/1528-3542.7.2.336>
- Farrer, L. M., Jackson, H. M., Gulliver, A., Calex, A. L., & Batterham, P. J. (2024). Mental health among first-year students transitioning to University in Australia: A longitudinal study. *Psychological Reports*. <https://doi.org/10.1177/00332941241295978>
- Fishstrom, S., Wang, H., Bhat, B. H., Daniel, J., Dille, J., Capin, P., & Vaughn, S. (2022). A meta-analysis of the effects of academic interventions on academic achievement and academic anxiety outcomes in elementary school children. *Journal of School Psychology*, 92, 265-284. <https://doi.org/10.1016/j.jsp.2022.03.011>
- Hania, A., Subhan, S., Saleem, S., & Mahmood, Z. (2022). Development of familial role identification scale for adolescents with perceived parental disharmony. *Pakistan Journal of Psychological Research*, 37(2), 237-254. <https://doi.org/10.33824/pjpr.2022.37.2.15>
- Hernández, E. V., Marquez Ortega, M. A., & Santillan Briceño, V. E. (2020). Anxiety and Academic Performance in University Students. *American International Journal of Contemporary Research*, 10(2), 8-12. <https://doi.org/10.30845/aijcr.v10n2p2>
- Huntley, C. D., Young, B., Temple, J., Longworth, M., Smith, C. T., Jha, V., & Fisher, P. L. (2019). The efficacy of interventions for test-anxious university students: A meta-analysis of randomized controlled trials. *Journal of Anxiety Disorders*, 63, 36-50. <https://doi.org/10.1016/j.janxdis.2019.01.007>
- Jamil, N., Shahzadi, N., & Toor, M. A. (2025). Mental health challenges among Pakistani University students: A study of sleep problems, burnout, and anxiety. *The Critical Review of Social Sciences Studies*, 3(3), 1452-1461. <https://doi.org/10.59075/g9k9t790>
- Khan, M. A., Parveen, N., Fatima, A., Khudija, M., & Kotera, Y. (2025). Impact of academic perfectionism on test anxiety among university students in Pakistan through mediating role of avoidance of academic coping strategies. *Journal of Psychiatry and Brain Science*, 10(6). <https://doi.org/10.2090/jjpbs.20250015>

- Khan, R. S., & Khurshid, H. (2025). GENDER DIFFERENCES IN BULLYING VICTIMIZATION AMONG UNIVERSITY STUDENTS: A COMPARATIVE STUDY. *International Journal of Social Sciences Bulletin*, 3(8), 1046-1057. <https://doi.org/10.5281/zenodo.17062181>
- Korucu, I., Paes, T. M., Costello, L. A., Duncan, R. J., Purpura, D. J., & Schmitt, S. A. (2023). The role of peers' executive function and classroom quality in preschoolers' school readiness. *Journal of Applied Developmental Psychology*, 86, 101532. <https://doi.org/10.1016/j.appdev.2023.101532>
- Lawrence, J. S., & Charbonneau, J. (2009). The link between basing self-worth on academics and student performance depends on domain identification and academic setting. *Learning and Individual Differences*, 19(4), 615-620. <https://doi.org/10.1016/j.lindif.2009.08.005>
- Lukasik, K. M., Waris, O., Soveri, A., Lehtonen, M., & Laine, M. (2019). The relationship of anxiety and stress with working memory performance in a large non-depressed sample. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.00004>
- Martin, S. P., Chavez, J. A., Candido, R. R., Boleche, K. G., & B Condes, R. L. (2025). Effect of academic stress and procrastination on mathematics performance. *Advances in Nonlinear Variational Inequalities*, 28(6s), 808-814. <https://doi.org/10.52783/anvi.v28.4427>
- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2019). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 25(1), 104112. <https://doi.org/10.1080/02673843.2019.1596823>
- Prakash, A. (2023). Prevalence of cell phone addiction and its relation with anxiety: A cross-sectional study among young Indian medical students. *International Journal of Science and Research (IJSR)*, 12(4), 1603-1608. <https://doi.org/10.21275/sr23423234347>
- Roy, S., Biswas, A. K., & Sharma, M. (2025). Stress, anxiety, and depression as psychological distress among college and undergraduate students: A scoping review of reviews guided by the socio-ecological model. *Healthcare*, 13(16), 1948. <https://doi.org/10.3390/healthcare13161948>
- Shi, Y., & Qu, S. (2021). Cognition and academic performance: Mediating role of personality characteristics and psychology health. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.774548>
- Soham, S. (2026). Academic stress and academic performance: A study of undergraduate students. *INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS*, 14(2). <https://doi.org/10.56975/ijcr.v14i2.301217>
- Tauhid, S. (2025). Where silence becomes suffering: Tackling mental health stigma in Pakistan. *Journal of the Dow University of Health Sciences*, 19(3). <https://doi.org/10.36570/jduhs.2025.3.2788>
- Voltas, N., Hernández-Martínez, C., Aparicio, E., Arija, V., & Canals, J. (2014). Psychopathological factors that can influence academic achievement in early adolescence: A three-year prospective study. *The Spanish Journal of Psychology*, 17. <https://doi.org/10.1017/sjp.2014.100>

- Wang, Y., Zhang, S., Liu, X., Shi, H., & Deng, X. (2023). Differences in central symptoms of anxiety and depression between college students with different academic performance: A network analysis. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1071936>
- Yan Ju, S., & YanMei, S. (2021). Examining the role of anxiety, self-efficacy, and motivation in the vocabulary performance among MFL learners. *International Journal of Academic Research in Progressive Education and Development*, 10(1). <https://doi.org/10.6007/ijarped/v10-i1/8954>
- Zhang, J., Peng, C., & Chen, C. (2024). Mental health and academic performance of college students: Knowledge in the field of mental health, self-control, and learning in college. *Acta Psychologica*, 248, 104351. <https://doi.org/10.1016/j.actpsy.2024.104351>