

An Empirical Analysis of Anxiety and Its Effect on Academic Performance

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ABSTRACT

Anxiety is a well-established, significant predictor of academic performance. Academic stress, anxiety, and performance among higher education students are causes for concern. Students often experience nervousness and high tension while giving presentations in front of the classroom. This study aims to investigate the impacts of students' anxiety levels and emotional balance on their academic performance. The research used the cognitive theory model to analyze the relationship between anxiety levels and academic performance. Anxiety levels were measured using the Classroom Anxiety Measures (CAM) and Generalized Anxiety Disorder scales, while students' academic performance was measured using Grade Point Average (GPA). The research sample comprised 218 college students. The data was analyzed using SPSS and AMOS software. The results indicate that general anxiety, study anxiety, and emotional balance are significantly influencing academic performance. However, test anxiety does not have an impact on academic performance. For future studies, we suggest utilizing a larger sample size to enhance the robustness of the findings.

INTRODUCTION

Anxiety is one of the most important emotions that every person will experience in their life. It is an emotion of nervousness, fear, and worry about something in the past, present, or future. In today's scenario, most people are affected by anxiety or a mental health disorder. Some disorders can measure the condition of anxiety. It includes generalized anxiety disorder, social anxiety, panic disorder, etc. This anxiety will impact the individual lives of university students. Students get affected by this anxiety and go to negativity because of their poor performance in academic activities (Shangal Mirawdali et.al 2018).

The student easily gets stressed and reacts in various ways (Narasappa Kumaraswamy, 2012). This stress can lead to fluctuations in their academic performance due to anxiety. Individuals experience distress in tests, performances, event management, and stage fear, among others, which can significantly impact their academic performance and well-being. It also manifests in physiological symptoms such as increased heart rate, muscle tension, sweating, shaky hands, and stomach cramps. There are several types of anxiety disorders, including generalised anxiety disorder, panic disorder, social anxiety disorder, specific phobias, and obsessive-compulsive disorder, each of which has various symptoms for individuals. (Muhammad A. Hadi et al., 2017).

It is common for students to feel anxiety and fear before or during tests. Test anxiety refers to the collection of physical, emotional, and behavioural reactions it may occur when we are in a negative mindset of failure in exams. It is considered a unique anxiety because it will not appear in day-to-day life, only it has a fear before or during tests. (Melih Dikmen 2022). It is noted that speaking anxiety is the most significant issue for a student in their life. They get sudden fear during oral presentations or other classroom activities. While performing on stage they used to feel fear, sweat, tongue-tied, trouble breathing, nervousness, shaking, and loss of control, etc., (Shangal Mirawadali 2018) During presentations, students used to avoid making eye contact and showing facial expressions to the audience. This behaviour can lead to poor

academic performance and increased anxiety levels (Rajitha K 2020). According to R. Beiter, anxiety can significantly impact a student's college life through depression, stress, fear, and other factors. Some of the negative consequences include being treated for their weaknesses and teased about their mistakes, which can lead to stress and behavioural changes. This might result in habits such as sleeping less, poor eating habits, and noncompliance with medical issues, requiring treatment.

Anxiety can impact every stage of a student's learning process - from planning and executing to evaluating their learning, and it can be reflected in their performance. Negative anxiety can affect both academic performance and academic anxiety. It's important for students to have self-confidence and self-efficacy in order to perform well and face academic challenges (S. Hood, 2021& Benjamin J. England, *et.al* 2019). The current study focuses on students' anxiety levels and their academic performance. We are assessing the students' experiences of anxiety and how it affects them. We are also examining their perceptions and the impact of anxiety. Anxiety is characterized by feelings of tension, nervousness, fear, and sweating, among other things (J. Hilliard, *et al.*). Therefore, the research questions of this study are:

R1: What are the levels of anxiety among college students?

R2: What are the types of anxiety experienced by college students?

R3: How do college students perceive the impact of their anxiety on their academic Performance?

Conceptual Framework

Cognitive Theory of Anxiety

Behaviour theory is converted into cognitive theory and cognitive behaviour approach. The study has used the cognitive theories of anxiety and depression (Arthur Freeman *et.al* 2015). Cognitive theories of depression will affect the people how they think about it or recall the information can lead to high-risk factors of depression or anxiety (Mathias Allemand *et.al* 2024). Cognitive therapy is structured to control anxiety and depression. It is a primary therapy to prevent the behavioral, cognitive and interpersonal effects. The cognitive model of anxiety and stress represents the emotional depression of students (David A. Clark *et.al* 2010).

The study explores the transition from behaviour theory to cognitive theory and cognitive behavioural approach. It delves into the cognitive theories of anxiety and depression as discussed by Arthur Freeman *et. al* (2015). According to Mathias Allemand *et al* (2024), cognitive theories of depression can influence the way individuals think about and process information, potentially leading to higher risk factors for depression or anxiety. Cognitive therapy is structured to manage anxiety and depression and is a primary intervention to address behavioural, cognitive, and interpersonal impacts. Additionally, the cognitive model of anxiety and stress depicts the emotional strain experienced by students, as outlined by David A. Clark *et.al* (2010).

Academic Performance

Grade Point Average (GPA) is a widely used indicator of academic performance. The theoretical model of academic performance was sourced by Prima Vitasari (2010). Some studies measure the academic competence. However, the various studies have focused on non-grade factors that could influence academic performance, such as test anxiety, study anxiety, test competence, time management skills and study strategies. (Sansgiry, 2012). Talib and Sansgiry (2012) also highlighted test competence as one of the determinants of academic performance that discriminates between low and high GPA achievers. Hence, in this study test anxiety is selected as the primary indicator of academic performance because it has no significant levels with test anxiety.

General Anxiety

Cognitive behavioural model of Generalized anxiety disorder is used to measure the anxiety levels and their types. In this model, GAD results the negative validity of anxiety levels (Naomi Koerner 2020).

Hence, in this study general anxiety is significantly influencing the academic performance.

Test Anxiety

The use of the modified Test Anxiety Inventory was used to measure the students levels. Sarason demonstrated that Cognitive Test Anxiety Scale and Reactions to Tests provide high internal consistency and predictive validity of examination performance. According to Melih Dikmen (2022), there are various methods to measure the test anxiety of students. Test anxiety scales were measured for the college students. Hence, in this study test anxiety is not significantly influencing the academic performance.

Study Anxiety

The anxiety perspective and academic performance is adopted from Cognitive theory which explains the relationship of anxiety and performance in terms of sport performance. It is important to understand the theory and the influence of anxiety upon performance. The cognitive anxiety would have negative correlation with performance and physiological anxiety have curvilinear relationship with performance. The cognitive anxiety is the component that most strongly affects performance (Robb, 2005). Researcher demonstrated that students with higher level of anxiety tend to obtain lower marks in their test (Hamzah, 2007). This study identifies the gap in student anxiety level on emotional balance in academic performance.

Conceptual Model

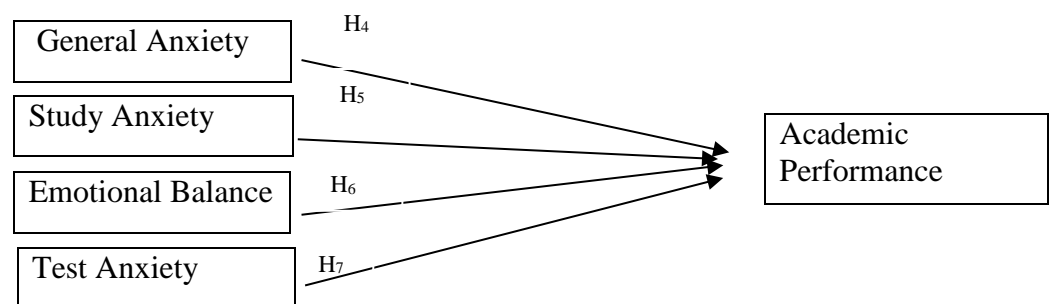


Figure: 1

Sources: Shangal Mirawdali *et.al* (2018), and Melih Dikmen (2023)

Research Methodology

3.1 Participants

The research article consists of sampling of 218 students. A statistical simple random sampling method were used. Percentage analysis, Regression, and Path analysis. A specific sample of research was consisted at each stage. Detailed information about the individual was provided in every phrase. The participants 69% of the respondents were male and 30% were female. Among the respondents, 24.8% of the respondents were in the age group of 17–19 years, 57.8% of the respondents were in the age group of 20–22 years, 12.8% of the respondents were in the age group of 23–25 years, and 4.6% of the respondents were in the age group of Above 26 years. Among the respondents 36.2% of the respondents under the qualification of UG, 54.6% of the respondents under the qualification of PG, and 9.2% of the respondents under the qualification of research scholar.

3.2 Measures

The data was collected by the student for the survey, and the questionnaire consists of 4 parts. The first part is considered a demographic variable of the participants, such as gender, age, programme pursued, and stream in college. The second part is considered a student anxiety level. The purpose of this instrument was to determine the student's anxiety level from their perspective of the Classroom Anxiety

Measures (CAM) (Richmond V.P). This stage is to identify the student's anxiety, and it has four items to calculate the Generalized anxiety Disorder scales. The sample consisted of a total of 218 students. The instrument showed the overall Cronbach's alpha reliability analysis $\alpha = .613$ as well as its scales, namely Academic Performance $\alpha = .621$, General Anxiety $\alpha = .814$, Study Anxiety $\alpha = .568$, Emotional Control $\alpha = .618$, and Test anxiety $\alpha = .543$.

3.3 Data Analysis

The data collected from the participants were analyzed using descriptive analysis. As a first step, the data were collected using google forms and converted into Excel and imported a data in SPSS. The evaluation of analyzes were analyzed using Statistical Package for Social Sciences (SPSS) Version 26. The means and the standard deviations were computed to determine the extent to which the student anxiety. The person correlation coefficients were calculated in order to determine the relationship between the constructs of performance and study anxiety. (Emnijeta Ahmetovic, 2020). A chi-square analysis, and path analysis was conducted to examine the relationship between anxiety levels and academic performance.

4. Results

Hypothesis

H₀₁: There is no significant relationship between General anxiety and academic performance adopted.

H_{A1}: There is a significant relationship between General anxiety and academic performance adopted.

H₀₂: There is no significant relationship between academic performance and test anxiety adopted.

H_{A2}: There is a significant relationship between academic performance and test anxiety adopted.

H₀₃: There is no significant relationship between academic performance and study anxiety adopted.

H_{A3}: There is a significant relationship between academic performance and study anxiety adopted.

Table No.1: Chi – Square Test

S. No	Particulars	Value	Dr	Asymp.Sig. (2-sided)	Result
1	General Anxiety + Academic performance	620.110	300	.000	Rejected
2	Academic performance + Test Anxiety	185.772	80	.000	Rejected
3	General Anxiety + study Anxiety	259.992	120	.000	Rejected

5 percent significance level

Table 2 reveals that the probability value (.000) is greater than 5 percent of the significant level. All null hypothesis is rejected. So, there is a significant relationship between General anxiety and Academic performance. There is a significant relationship between Academic performance and test anxiety. There is a significant relationship between Academic performance and study anxiety.

The results of the statistical tests conducted to assess the reliability and validity of the measures, as well as to evaluate the conceptual model, are outlined in this section. The validity and reliability of the concept were confirmed using CFA (Kline, 2011). The model was validated through a complete structural equation modeling (SEM) process with AMOS (Version 26). The model's goodness of fit was evaluated using GFI, AGFI, CFI, and RMSEA, and the results fell within the acceptable range for a well-fitting model. The SEM model, based on maximum likelihood, suggests that the data fits the proposed model well: GFI= 0.991; AGFI = 0.955; CFI = 0.970, RMSEA = 0.056. Therefore, the empirical data supports the hypothesis model, indicating that the model is good and reliable. The results for the proposed hypotheses are

presented in a table. Based on the theoretical background provided, the study tested the following hypotheses.

H₀₄: There is no significant relationship between General Anxiety and Academic Performance

H_{A4}: There is a significant relationship between General Anxiety and Academic Performance

H₀₅: There is no significant relationship between Study Anxiety and Academic Performance

H_{A5}: There is a significant relationship between Study Anxiety and Academic Performance

H₀₆: There is no significant relationship between Emotional Balance and Academic Performance

H_{A6}: There is a significant relationship between Emotional Balance and Academic Performance

H₀₇: There is no significant relationship between Test Anxiety and Academic Performance

H_{A7}: There is a significant relationship between Test Anxiety and Academic Performance

Path Analysis:

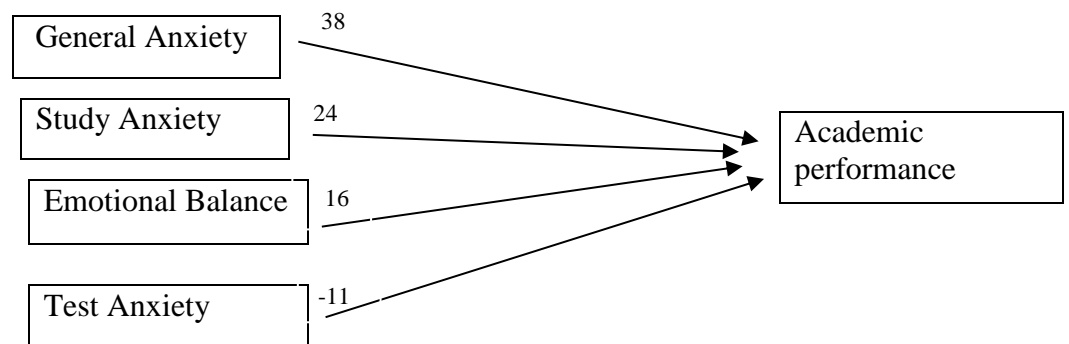


Figure 2

Sources: Shangal Mirawdali *et.al* (2018), and Melih Dikmen (2023)

Table No: 3

This table represents hypothesis and relationships between variables

Research proposed Path	Estimates β	C.R	P value	Result
H ₀₄ : GA → AP	.176	1.069	.000	Rejected
H ₀₅ : SA → AP	.367	3.720	.000	Rejected
H ₀₆ : EB → AP	.193	2.399	.000	Rejected
H ₀₇ : TA → AP	-.117	-1.586	.113	Accepted

Table 3 reveals that the p-value (.000) exceeds the 5% significance level. The null hypotheses for H₀₄, H₀₅, and H₀₆ are rejected, while the null hypothesis for H₀₇ is accepted. Therefore, null hypothesis H₀₄, which states that there is a significant relationship between General Anxiety and Academic Performance, is rejected. Null hypothesis H₀₅, which states that there is a significant relationship between Study Anxiety and Academic Performance, is rejected. Null hypothesis H₀₆, which states that there is a significant relationship between Emotional Balance and Academic Performance, is rejected. Null hypothesis H₀₇, which states that there is significant relationship between Test Anxiety and Academic Performance, is accepted.

DISCUSSION

Shangal Mirawdali *et al* (2018) found that academic anxiety had a significant impact on the academic performance of Master of Pharmacy undergraduates. They identified key factors such as test anxiety, academic competence, time management, and strategic studying as important contributors to students' success or challenges. This study investigates the intricate connection between anxiety levels, emotional balance, and academic performance among students in higher education, providing valuable

insights into the multifaceted nature of academic anxiety and its far-reaching implications. Academic anxiety, often a combination of emotional and cognitive responses, manifests in various forms, including general anxiety, study anxiety, and test anxiety. These components were assessed alongside emotional balance, a key factor influencing how students manage stress and maintain focus under academic pressure which is contrast from the study of Shangal Mirawdali.

Notably, students exhibit elevated stress levels during test scenarios, with individual variability in their responses to such stressors. Previous research corroborates these findings, indicating that both undergraduate and postgraduate students equally experience anxiety and stress (Archana Kumari, 2014). Furthermore, test anxiety, particularly in practical examinations, negatively impacts performance by inducing physiological stress responses (Muhammad A. Hadi *et.al* 2017). However, a contrasting observation reveals that test anxiety may not directly influence overall academic performance, suggesting that other psychological and situational factors play a significant role in determining academic outcomes.

The findings reveal that general anxiety, study anxiety, and Emotional balance where positively influence students' ability to perform academically. General anxiety, characterized by persistent worry and tension, can diminish cognitive efficiency, leading to difficulties in concentration, problem-solving, and decision-making. Study anxiety, which arises from concerns about preparation and understanding, further exacerbates these challenges, often resulting in procrastination or ineffective study habits. Conversely, emotional balance plays a crucial role in moderating these effects. Students with a higher degree of emotional stability tend to manage anxiety more effectively, maintaining composure and resilience in demanding situations. Emotional balance fosters a positive mental state, enabling better focus, efficient time management, and strategic study practices, which are essential for academic success but this study is contrast from Muhammad A. Hadi and Archana Kumari.

Narasappa Kumaraswamy (2012) and Mustafa Baloglu *et al.* found that test anxiety did not have a significant impact on academic performance, while other factors were shown to have a considerable effect on academic outcomes. Their results emphasized the importance of understanding students' emotional well-being, as students often face emotional, psychiatric, and psychological difficulties. Based on these findings, they suggested that counseling and mentorship be provided to help students overcome these academic challenges. But this study indicates that test anxiety has an impact on academic performance. Test anxiety, a specific form of performance anxiety, adds another layer of stress during critical assessments, impacting students' ability to retrieve information and perform optimally under pressure. Moreover, training programs in anxiety management and workshops aimed at enhancing emotional intelligence could serve as preventive and remedial measures. These interventions can empower students with the skills to regulate their anxiety levels and improve their emotional balance, thereby facilitating better academic performance. As emotional well-being is intrinsically linked to cognitive functioning and academic success, fostering such competencies among students should be prioritized within educational frameworks.

The study emphasizes the complex interplay between emotional well-being, and academic performance. It suggests that addressing anxiety and enhancing emotional balance are critical for improving educational outcomes. Interventions such as stress management programs, counselling, and training in emotional intelligence can equip students with the tools to navigate academic challenges more effectively. Ultimately, the research highlights the importance of fostering an environment in higher education that prioritizes students' emotional well-being as a foundation for their academic achievement and personal growth. Future research should further explore the underlying mechanisms linking emotional balance and anxiety to academic performance, with a focus on longitudinal studies to capture the evolving nature of these relationships over time.

CONCLUSION

Previous researches have shown that students experience higher levels of anxiety tend to achieve lower grades in their examination. Anxiety during studying is a significant predictor of academic performance, as highlighted by McCraty (2007). With various studies demonstrating the detrimental impact of anxiety, the present study investigated the relationship between academic performance and students' anxiety levels, including general anxiety, study anxiety, test anxiety and emotional balance. The results show a significant relationship between academic performance, general anxiety, study anxiety, and emotional balance. However, the relationship between test anxiety and academic performance is not significant. It was found that students with high levels of anxiety achieve lower academic performance. For future research, a larger sample size is recommended to strengthen the outcome of this research.

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