



# Test anxiety and academic performance: A correlational study among nursing college students

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## ABSTRACT

**Background:** Test anxiety is defined as an individual's response to stimuli associated with their experiences in testing or evaluative situations.

**Objective:** This study aims to investigate the relationship between test anxiety and the academic performance of nursing college students.

**Methods:** We conducted a descriptive correlational study, selecting a sample of 98 nursing students through convenient sampling at a selected nursing college in Kerala, India. Data were collected using various tools, including a background variable proforma, a proforma for evaluating the academic achievement of nursing students, and the Westside Test Anxiety Scale.

**Results:** Our findings revealed a statistically significant negative correlation ( $r=-0.4$ ) between test anxiety and academic performance ( $p<0.05$ ). This suggests that reducing test anxiety can lead to an improvement in academic performance.

**Conclusions:** There is a need to plan psychological interventions aimed at reducing test anxiety and enhancing the academic performance of students. These interventions should be integrated at the policy level of academic performance management.

**Keywords:** test anxiety; academic performance; nursing students; nurse

Volume 2(3), 173-178

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<http://dx.doi.org/10.55048/jpns80>

e-ISSN 2827-8100

p-ISSN 2827-8496

Received : October 9, 2022

Revised 1: November 2, 2022

Revised 2: March 7, 2023

Accepted : September 4, 2023

Published: September 6, 2023



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## INTRODUCTION

Anxiety is a widespread problem that contributes to poor academic performance among students worldwide (Dawood et al., 2016). In recent years, the study of test anxiety and its various manifestations has grown significantly. Despite achieving good results throughout the year, the majority of nursing students, when compared to other students, exhibit high levels of test anxiety during the final exam (Dawood et al., 2016; Kaur Khaira et al., 2023; Shapiro, 2014).

Students frequently experience test anxiety, which negatively affects their performance on exams. Previous study by Kavakci et al. (2014) with 436 randomly selected students (220 female, 216 male) from four schools used various scales to assess test anxiety. Findings revealed that 48.0% of students exhibited test

## Nursing and Healthcare Practices

- *Teachers in healthcare education should be aware of the impact of psychological factors, such as test anxiety, on students' academic progress.*
- *Educating teachers about the psychological aspects of anxiety can help them better support their students in healthcare programs.*
- *Implementing strategies to reduce test anxiety among college students, as suggested for nurse educators, can improve academic performance and future success in healthcare careers.*

anxiety, with significant gender differences. Test anxiety correlated with several factors, including attention deficit hyperactivity disorder (ADHD) symptoms, depression, and social anxiety, and was linked to higher suicide attempt rates and internet use.

In situations involving tests, test anxiety is characterized by physiological over-arousal, tension, and physical symptoms, as well as feelings of concern, dread, fear of failure, and catastrophizing (Drachev et al., 2018). Individuals who experience significant worry, anxiety, and discomfort when taking a test or just before it are said to have this physiological condition (Sun et al., 2020). This fear poses significant obstacles to learning and performance. This study suggests that teachers can assist their students in managing their anxiety levels by avoiding excessive pressure (Hsu & Goldsmith, 2021). Parents and society should also work towards reducing tension and anxiety among students to improve their academic performance (Wu et al., 2022). It implies that teachers should employ friendly gestures during classes, but in a measured and controlled manner.

Teachers have the power to improve or transform the classroom environment, moving from standard note-taking and traditional classroom activities to a vibrant, anxiety-free, and action-oriented setting. Utilizing strategies like group discussions, role play, and engaging activities can create a stress-free atmosphere

that enhances academic performance (Cheung & Ng, 2021; Jääskä & Aaltonen, 2022). Teachers can diversify their lesson plans and classroom activities by incorporating various teaching methods and catering to different learning styles (Yin et al., 2020). Additionally, conducting periodic tests can be beneficial in aiding teachers in their lesson planning and preparation. Through supporting students' actions and behavior, teachers can further stimulate cognitive development during test preparation (Vandenbroucke et al., 2018). This study suggests that teachers can assist their students in managing their anxiety levels by avoiding excessive pressure. Parents and society should also work towards reducing tension and lowering anxiety among students to enhance their academic performance. Furthermore, it implies that teachers should employ friendly gestures during classes but exercise moderation and control in their approach. This study aims to investigate the relationship between test anxiety and the academic performance of nursing college students.

## METHODS

### Design

A quantitative research approach, specifically a descriptive correlational study, was conducted at a selected nursing college in Kerala, India. The objective of the study was to assess the impact of test anxiety on the academic performance of college students.

### Sample and Setting

In this study, the sample size was estimated based on the results of a previous study on anxiety among university students, resulting in a sample size of 98 for the study groups. The samples were selected using a convenience sampling technique.

### Instruments

The variables in this study include test anxiety and academic performance among college students.

The Westside Test Anxiety Scale is a standardized tool that was developed. The Rosenberg Self-Esteem Scale (RSES) used in the study demonstrated acceptable internal reliability with a Cronbach's alpha of 0.828. This scale consists of 10 items, rated on a 4-point scale (3-Strongly agree, 2-Agree, 1-Disagree,

**Table 1.** Frequency and Percentage Distribution of Background Characteristics of Nursing Students (n=98)

Category	n	%
Age		
18 years	59	60
19 years	37	38
20 years & above	2	2
Medium of Instruction in School		
English	67	68
Tamil	30	31
Others	1	1
Sector of School Education		
Government School	14	14
Aided School	32	33
Private School	52	53
Percentage of marks obtained in Higher Secondary examination		
< 60%	17	17
61-74%	59	60
>75%	22	23

0-Strongly Disagree), comprising both positive and negative statements. Negative items were reverse-scored. To minimize respondent bias, positive and negative items were presented in random order. The total score was calculated by summing the numerical responses for each item after reversing the scores for negative items. Therefore, the total possible score ranged from 0 to 30, with higher scores indicating higher self-esteem.

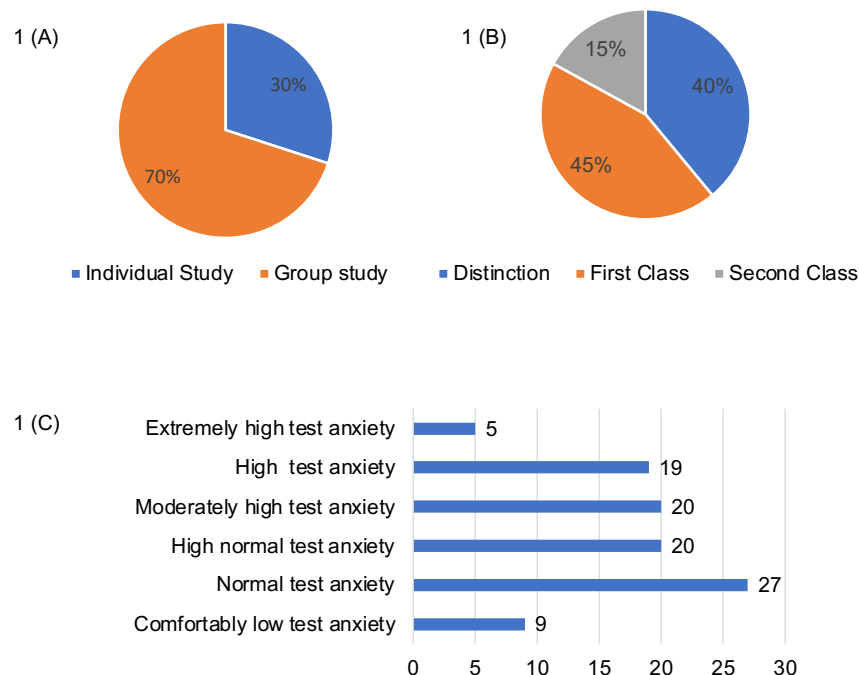
In this study, the assessment of academic performance relied on the total marks attained by students in the most recent college examination, which was scored out of 75 and subsequently converted into a percentage. This average percentage served as the metric for evaluating academic performance. Additionally, the study encompassed an examination of baseline characteristics, including factors such as age, monthly family income, religion, family type, residential area, medium of instruction in prior education, academic performance in the 10th and 12th standards, and the educational background of the students' parents.

To gauge students' test anxiety, the researchers employed the Westside Test Anxiety Scale, a standardized 10-item rating scale developed by Richard Driscoll in 2007. This scale offered five response options (ranging from 'Always true' to 'Never true') for each item. The 10 items were categorized into

two groups: six items assessed memory loss and poor cognitive processing (items 1, 4, 5, 6, 8, and 10), while four items gauged students' concerns and worries related to examinations (items 2, 3, 7, and 9). The scale's total possible score spanned from 10 to 50, with test anxiety scores calculated by dividing the total obtainable score by 10. These scores were then interpreted on a scale from comfortably low test anxiety to extremely high anxiety.

To evaluate academic performance, a proforma was utilized, taking into account the total marks achieved by students in both model theory and model practical examinations. The question papers for these examinations were developed following the guidelines provided by Kerala University, and the overall marks obtained were converted into a percentage. Academic performance was categorized into three groups: Distinction (>75%), First Class (74% - 60%), and Second Class (<60%).

The validity of these assessment tools was ensured through expert evaluation in various relevant fields, including nursing education, nursing research, psychology, and psychiatric nursing. Any suggested modifications or improvements made by these experts were incorporated into the assessment tools before data collection commenced.



**Figure 1.** (A) Percentage distribution of preferred study habits during examination preparation among nursing students; (B) Level of academic performance of nursing students; (C) Percentage distribution of level of test anxiety among nursing students

## Data Collection

The study was conducted after obtaining clearance from the Ethical Committee. Consent was obtained from all participants before data collection, and confidentiality was maintained throughout the study. The data were collected through a Google questionnaire from nursing students.

## Data Analysis

Descriptive and inferential statistics were analyzed. The collected data was entered and analysed using appropriate descriptive (Frequency, %, Mean and SD), and inferential (correlation) statistics using SPSS version 20.

## Ethical Consideration

Institutional Ethical Committee approval was obtained for the data collection setting. Informed consent was given and signed by the participants, and the researchers also adhered to ethical principles.

## RESULTS

Table 1 illustrates that the majority of students were 19 years old (60%), attended English-medium schools (68%), scored between 61-74% on their current term examinations (60%),

and studied in private schools (53%). Figure 1(A) reveals that the majority of students preferred studying in groups (70%), while 30% preferred individual study. Figure 1(B) demonstrates that 45% of nursing students achieved first-class grades, followed by distinction (40%) and second-class (15%) in the examination. Figure 1(C) displays the distribution of test anxiety levels among students: 5% had extremely high test anxiety, 19% had high test anxiety, 9% had high-normal test anxiety, 27% had normal test anxiety, 20% had high-normal test anxiety, and 20% had moderate-high test anxiety. Furthermore, the statistical analysis indicates that the correlation coefficient 'r' is 0.40, indicating a negative correlation between academic achievement and test anxiety among nursing students.

## DISCUSSION

A previous study that assess testing times and the association of intolerance of uncertainty and metacognitive beliefs with test anxiety among college students (Huntley et al., 2022). Approximately 25% of college students experience high test anxiety, with females reporting more severe test anxiety than males. Highly test-anxious individuals react with excessive worry about the consequences



of failure and experience somatic anxiety symptoms (e.g., muscle tension) during tests (Huntley et al., 2019). Test anxiety directly interferes with the process of taking tests and also influences students' learning style, with test-anxious students more likely to adopt a surface-learning approach. Given the negative effects of test anxiety on learning and test performance, understanding and treating test anxiety is essential so that students can fulfil their academic potential (Ayalp & Özdemir, 2016; Huntley et al., 2022).

The findings indicate a negative correlation between college students' academic success and test anxiety, suggesting that as anxiety levels rise, academic achievement declines, and vice versa. This correlation may be attributed to social factors, including pressure and high expectations from parents, teachers, schools, and society, which can lead to elevated anxiety levels and subsequent tension, ultimately resulting in lower academic achievement (Mofatteh, 2021; Zheng et al., 2023). Additionally, increased competition in various aspects of society may contribute to this phenomenon. Nowadays, academic achievement is often assessed solely based on grades and numbers, without considering the individual potential and capabilities of students (Kool et al., 2018). This trend encourages rote memorization over understanding, which represents a lower level of cognitive development. Consequently, it leads to diminished academic achievement.

Several studies have demonstrated that an individual's psychological well-being is an essential component of health (Kim et al., 2017; Trudel-Fitzgerald et al., 2019). Stress and anxiety both play significant roles in an individual's functioning, and they have been shown to exert a powerful influence on students, affecting their academic achievement and performance in their courses (Zeng et al., 2021).

## CONCLUSION

It can be inferred that college administrators, particularly teachers, should be aware of the effect that test anxiety has on students' academic progress. Teachers need to be educated about the psychological aspects of exam anxiety to better meet the needs of their students, and they must closely monitor how they interact with classmates and other individuals. To develop programs that will enable teachers

and administrators to work more effectively as a group, as well as individually in the classroom and institutionally, research must be conducted. Nurse educators and other stakeholders should create and implement a variety of strategies to reduce test anxiety among college students. This will also contribute to enhancing academic performance, which is essential for achieving success in life.

## Declaration of Interest

*The author declares that this manuscript does not have a conflict of interest with the other study or author.*

## Acknowledgment

*We acknowledge the students participated in the study for their wilful cooperation.*

## Funding

*This research did not get funding from any party.*

## Data Availability

*The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.*

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