ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue XI, November 2026

Analysis of Test Anxiety Levels of Students from Allied Health Care Courses

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DOI: https://doi.org/10.51583/IJLTEMAS.2026.151100061

Received: 26 October 2026; Accepted: 01 November 2026; Published: 26 November 2026

ABSTRACT

Background: Test anxiety is a common concern among students in higher education and may affect concentration, memory retrieval, cognitive processing, and academic performance. Students pursuing allied healthcare courses face additional academic and clinical demands, including practical examinations, clinical postings, assignments, and skill-based assessments. However, research exploring test anxiety among students from different allied healthcare disciplines remains limited.

Aim: To analyse test anxiety levels among undergraduate students pursuing Occupational Therapy, Physiotherapy, and Audiology–Speech Pathology courses, with particular emphasis on performance impairment and catastrophizing (worry), and to examine the correlation between these two components.

Methodology: A cross-sectional, questionnaire-based study was conducted among 75 undergraduate students from the second, third, and final years of allied healthcare courses in colleges affiliated with Maharashtra University of Health Sciences, Maharashtra. Participants were recruited using purposive sampling. Test anxiety was assessed using the Westside Test Anxiety Scale (WTAS), a 10-item instrument rated on a five-point Likert scale that evaluates anxiety-related performance impairment and catastrophizing. Descriptive statistics and Spearman's correlation were used for data analysis. Ethical principles, informed consent, and confidentiality were maintained.

Results: Of the 75 participants, 48 were female and 27 were male. The study findings indicated variations in test anxiety across academic years, with second-year students demonstrating comparatively higher anxiety levels than final-year students and interns. The mean performance impairment score was 16.61, while the mean catastrophizing score was 11.49. Twenty-four participants demonstrated impairment scores above 18, and 28 participants had catastrophizing scores above 12, indicating elevated levels of perceived cognitive impairment and examination-related worry, respectively. A strong positive correlation was observed between performance impairment and catastrophizing ($r_s = 0.6241,\ p < 0.001$), suggesting that students reporting greater perceived difficulties with memory and cognitive processing also tended to experience greater examination-related worry.

Conclusion: Test anxiety among allied healthcare students varies across academic years and involves both perceived performance impairment and catastrophizing. The positive association between these components highlights the importance of identifying students who experience excessive worry and perceived cognitive difficulties during examinations. Early identification, academic mentoring, counselling, stress-management strategies, and interventions to strengthen coping skills may help promote academic performance and psychological well-being among allied healthcare students.

Keywords: Test anxiety, allied healthcare students, Westside Test Anxiety Scale, performance impairment, catastrophizing,

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INTRODUCTION

One of the most pervasive reactions that students have to encounter during different types of academic assessments is test anxiety**.** [1] Test anxiety is defined as a set of phenomenological, psychological, and behavioral responses that arise in anticipation of possible negative consequences during evaluative situations. It encompasses cognitive components (such as worry, self-doubt, and fear of failure), emotional reactions (tension, apprehension), physiological arousal (e.g., increased heart rate), and behavioral changes that occur before or during examinations.

Stress is not always harmful, as moderate levels can enhance alertness, concentration, motivation, and productivity. It is defined as a state of mental or emotional strain arising from challenging or demanding situations, with its effects depending on its intensity, duration, and the individual's ability to cope. [2] The signs of stress commonly experienced by students before and during examinations include irregular sleep patterns, fatigue, stomach upset, feelings of loneliness, and restlessness. Many students also report cognitive symptoms such as difficulty recalling studied material, mental blocks, panic upon receiving the question paper, and difficulty organizing or expressing answers effectively.

The physical & physiological symptoms can interfere with information processing, memory retrieval, and examination performance, negatively affecting academic achievement and psychological well-being while also contributing to avoidance behaviours.. [3].

The prevalence of test anxiety varies across individuals and educational settings, with studies reporting elevated levels of anxiety in more than one-third of undergraduate students, highlighting its significance as an academic and mental health concern.. [4] [5]

Test anxiety, primarily identified during examination preparation and evaluative situations, is a specific form of anxiety related to academic performance. It is characterized by heightened apprehension and concern about potential failure or negative evaluation. [6] Test anxiety can be experienced **before, during, and even after** an examination.

The intensity of test anxiety may vary depending on factors such as the importance of the examination, level of preparation, prior academic experiences, coping strategies, and individual resilience.. [7] Test anxiety becomes problematic when its intensity interferes with effective examination preparation and performance. Excessive anxiety can impair concentration, reduce working memory capacity, hinder information retrieval, and contribute to avoidance behaviours such as procrastination. When persistent, these difficulties can adversely affect academic functioning and achievement, while also undermining students' self-confidence, motivation, and overall well-being. [8] According to statistics, 10–20% of students suffer from test anxiety. [7]

Nursing students experience higher levels of test anxiety than students from other disciplines, with approximately 30% reporting test anxiety. This elevated level may be attributed to the demanding academic workload, clinical responsibilities, frequent evaluations, and the high expectations associated with professional healthcare training. [9] The combined academic and clinical demands place considerable cognitive and emotional stress on students, increasing their susceptibility to test anxiety.. [10]

The studies on the test anxiety levels of al allied health sciences students are scarce.

All healthcare professional courses present additional challenges beyond routine academic demands. Students are required to complete internal assignments within stipulated deadlines while simultaneously attending skill-training sessions, clinical postings, and maintaining detailed case records to refine and document their clinical competencies. Balancing theoretical learning with practical skill acquisition places considerable cognitive and time-related pressure on students.

In addition to academic and clinical demands, financial constraints, personal or family health issues, and social responsibilities may further increase students' vulnerability to test anxiety, adversely affecting their academic performance and overall well-being. [11]. [12].

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue XI, November 2026

In extreme cases, unmanaged academic stress and anxiety may increase the risk of serious mental health concerns, including depressive symptoms and suicidal ideation. Therefore, early identification, psychological support, mentoring systems, and stress-management interventions are essential to safeguard students' mental health and prevent adverse outcomes. [13] .Westside test anxiety score is the scale which measures the anxiety faced by the students just before the test .It consist of two components such as impairment experienced due to anxiety & the catastrophizing (Worry) due to anxiety

Aim of the study was to analyse the Test anxiety in the students from different colleges of Allied health care courses such as Occupational Therapy, Physiotherapy, and Audiology–Speech Pathology. . The objectives were to investigate the Anxiety levels, the performance Impairment levels, the catastrophizing in the students from allied health care courses using Westside test Anxiety scale ,to investigate in the students from allied health care courses using in the students from allied health care courses. And to correlate the effect of performance impairment & worrying leading to anxiety & stress.

The findings are expected to provide valuable insights for educators and administrators in improving teaching–learning methods and developing targeted strategies to help allied healthcare students effectively manage anxiety, enhance academic performance, and promote overall psychological well-being.

METHODOLOGY-

Cross -sectional questionnaire based study was conducted among students of allied health profession from different colleges of t Allied health care profession colleges from Maharashtra under Maharashtra health Science university, purposive sampling with 75 undergraduate students from second , third & fourth year of the allied health care professional courses were included in the study .

Ethical concern-As per declaration of Helsinki ,the participants were given information sheet about the planned research ,consent was taken from the participants ensuring the blinding of individual identity & the use of data for the research purpose only.

All the participants were given the Westside test anxiety questionnaire . Westside test anxiety questionnaire has good reliability with CR value of 0.88.Its 10 question questionnaire ,take 5-10 minutes to complete.

The Westside Test Anxiety Scale contains 10 questions & identifies two components related to anxiety - performance Impairment levels, the catastrophizing .It is graded on 5 point likert scale 1-5 ,in this 5=always true and 1=Never True , (Higher the score greater is the anxiety) [14]

The filled questionnaire forms was collected & the data sheet was compiled consisting of the year of the professional course & the sex of the respondent.

Data was entered in the data sheet & The data was analyzed using Social statistics calculator

Results: Social Sciences Statistics Software was used to analyse the data

Table 1 shows the Demographic data

No of Candidates	75
males	27
Females	48
II Year	17
III Year	28
Final Year	30

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Total participants were 75,out of which 48 were females & 27 were males .Data analysed the scores among second,third & foruth academic year students from Occupational therapy,Physio therapy & Speech Language therapy students .When observed academic year wise distribution there were 17 participants from second year,28 participants from third year & 30 participants were from final year.

Table 2 shows the inferential statistical data of Test anxiety score on Westside Test Anxiety Scale and of two components in the scale- Impairments & Catastrophizing

	Mean	Median	Standard deviation
Total score all questions in the Westside Teat anxiety Scale	26.25	27	2.2275
Average score of Second year students	29.6	29	8.85
Average score of Third year students	27.59	27	27
Average score of Fourt/Final year students	26.22	24	23,24
Average score of Impairment questions	16.6	16	5.5
Average score of worry/catastrophizing questions	11.49	11	3.7

The data analysis shoes the mean score as 206.25 nearing300(Mean value2.9) ,which shows highest normal test anxiety in all the students ,with the median at 207(Mean value2.9),it shows that the data is symmetrically distributed .

This is supported by the standard deviation value =22.275

It was observed that second year students (mean =29.6)showed the highest anxiety ,as compared to students of third & fourth academic years (27.59 &26.22respectively)

The Westside Test anxiety score analyses two components as Impairment ,revealing memory loss or cognitive processing difficulties during exams & second catastrophizing or worry about exam performance .

The data for impairment score shows the total score of mean of six questions indicating that highest score being 30 & the highest normal test anxiety score =18 .The mean in the above table is 16.6 ,indicates that the impairment level was normal

Median =16.6, the median is very close to mean.

But when we analysed sorted data ,it is observed that 24 candidates had the scores more than 18 indicating moderately high or very high impairment levels

The data for catastrophizing shows the total score of mean of six questions indicating that highest score being 20 & the highest normal test anxiety score =11.5

The mean in the above table is 11.5 ,indicates that the catastrophizing level was normal.

But when we analyzed sorted data for catastrophizing ,it is observed that 28 candidates had the scores more than 12 indicating moderately high or very high catastrophizing or worry levels

The average scores for Impairment was 16/30 indicates moderate level of sense of impairment ,while catastrophizing (Worry l)evel was higher 12/20 .Thus showing more number of students have worry than fear of impairment .

The correlation between Impairment & The Catasrophizing(Worry) using Paearson's 'p'correlation test ,.

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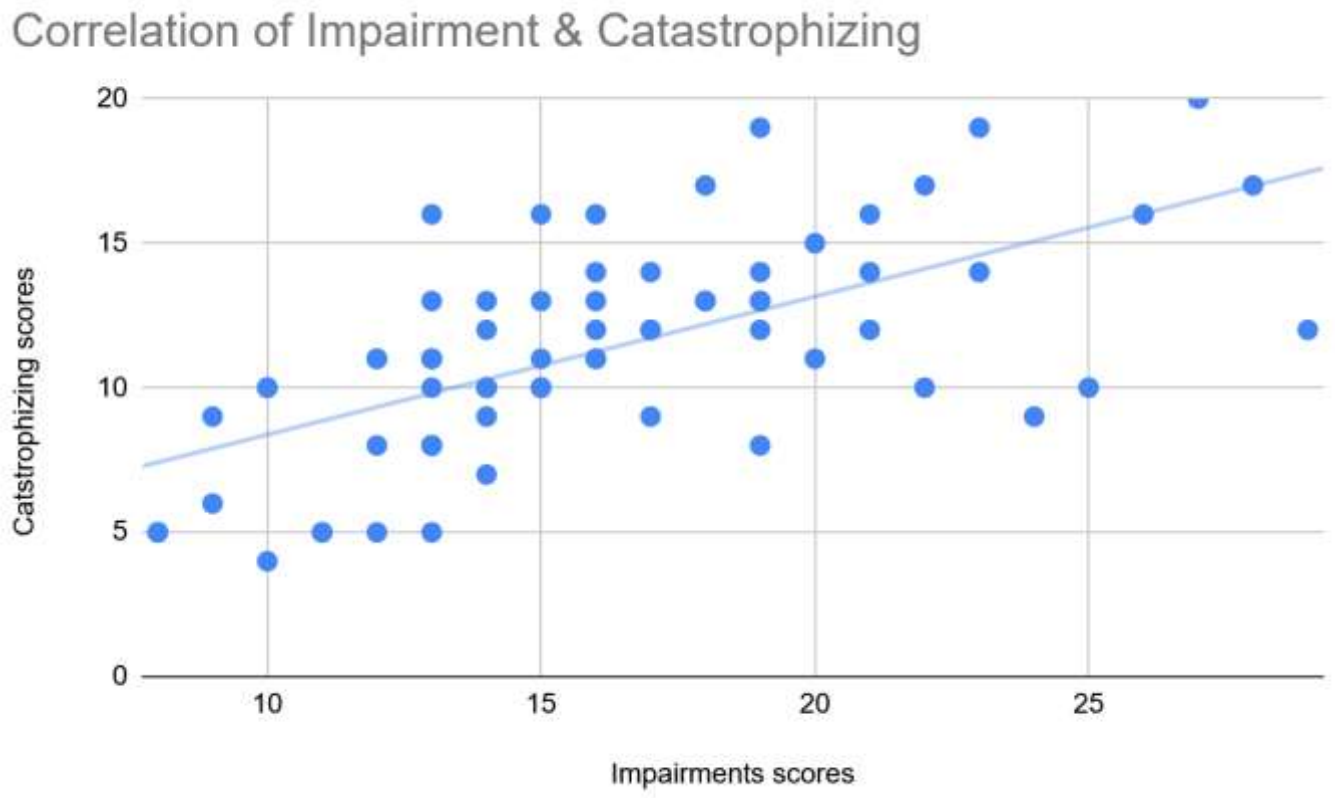
Table3 Shows the Pearson's correlation between Impairment & Catastrophizing , the worry

	Impairment	Catastrophizing	'p'value	'*p*' value one tailed Hypothesis
Mean (Average)	16.613	11.493	0.6366	≤0.00000
Median	16	11		
Mode	13, appeared 11 times	11, 10, each appeared 10 times		
Largest	36	20		
Smallest	8	4		
Range	28	16		

'*p*'significant if '*p*'≤0.05

The above table that impairment & Catastrophizing i.e.worry has a strong positive correlation between them with '*p*'≤ 0.00000

Graph 1 Shows the coorelation between Impairment & catastrophizing



The above graph shows the rising trend line in correpation between the impairment & worry , indicating worry may lead to more fear of memory loss & cognitive ability of processing during exams

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DISCUSSION

As observed in table1, there were more females than males ,as a trend allied health care courses are preferred more by females than males. The sample size of second year students was lesser than the third of fourth /final year students.

Table 2 revealed that Test anxiety scores were moderately high in most of the students ,final year showed lesser anxiety thus balancing the overall scores, showing less need for the active interventionfor senior students .The similar was the observation in the studies by Bhatta et al. 2020 study as a year of study was a significant factor in test anxiety difference, but with no effect on participants' age [15]It was observed that that graduate level i.e. final year students scored lower on test anxiety than other groups

Every student has a dream to lead success, family pride & social mobility [16] . Test

Anxiety is understood as a bi-directional construct comprising both affective and cognitive components. [17]

The student anxiety during the test causes an inability to recall information, leading to memory loss & recollect information during appropriate time perceived as impairment as seen in table2.

The diversity of findings across various studies indicates that multiple factors contribute to test anxiety among students [18]). During discussions with our study participants, revealed that, at times, the fear of facing the examiner during practical sessions or examinations can trigger anxiety. Additionally, some students reported a fear of memory loss while writing examinations, as well as concerns about slow cognitive processing due to time constraints, which further exacerbate their anxiety levels.

As observed in the datasheet ,it was indicated awareness on the exam performance & anxiety or worries of getting exhausted ,leads to more of catastrophizing tendency related to cognitive factors shows the anxiety scores showing the moderate anxiety.

The present study found that female participants constituted the majority across all academic years, which may be relevant when interpreting anxiety levels; however, differences in anxiety should not be attributed to gender alone., [19] Arch reported a very high prevalence of anxiety and depression (70%) among medical students in Pakistan. [20] Another study demonstrated that academic demands and examinations are the most significant stressors among medical and paramedical students . [21] This may occur due to the highly competitive academic environment and the repeated internal examinations required to assess students' knowledge and clinical skills..

The data revealed that test anxiety levels varied across different years of study, with second-year students demonstrating extremely high levels of anxiety. This suggests that progression through academic years may influence anxiety levels, with the earlier years of study being associated with greater anxiety. Similarly, a study conducted in 2019 reported that being in the initial year of university was one of the significant predictors of test anxiety among medical students., [11]

It was observed that the, in allied health courses, students are exposed to new subjects and are expected to acquire completely novel information and correlate it with its future clinical application. Such academic demands can increase cognitive load and contribute to heightened anxiety levels.

Second-year students, in particular, demonstrated higher anxiety scores on impairment-related questions, indicating self-doubt regarding their cognitive abilities, memory, or information processing during examinations.

These findings are consistent with other published studies that have used the Westside Test Anxiety Scale (WTAS) or similar standardized tools to measure test anxiety levels, suggesting comparable patterns across different student populations [22].

A descriptive statistics in this study has shown that the students who perceived the memory loss or difficulty in cognitive processing during the examination ,also showed worries or catastrophizing during the exams .

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As seen in Table 3& the graph1 , impairment and worry demonstrated a positive correlation. This indicates that greater perceived cognitive impairment—particularly difficulties related to memory and information processing—is associated with increased levels of worry. Such a relationship may adversely affect academic performance, as excessive worry can further interfere with concentration, recall, and effective time management during examinations.

When analyzing catastrophizing or worry-related components of anxiety in previous studies, it has been observed that maladaptive thought patterns—such as anticipating failure or overestimating negative outcomes—significantly contribute to heightened test anxiety and reduced performance outcomes. (23)

Moderate anxiety can improve alertness and performance when adequate cognitive resources are available, whereas excessive anxiety can impair performance by disrupting memory and information processing.. (24).Thus most of the fourth year students shown the positive effects of anxiety without reporting more impairments, whereas most of them reported more thinking of catastrophizing or worries about the performance in exam rather than impairments (23)

In contrast, other studies have reported either no significant association or even an inverse association between anxiety and academic performance. These findings suggest that the relationship between anxiety and performance is not always linear. In some cases, mild to moderate levels of anxiety may enhance alertness, motivation, and focus, thereby supporting better academic outcomes, whereas excessive anxiety may become debilitating and impair performance.

Such variability across studies indicates that the impact of anxiety on academic performance may depend on factors such as severity of anxiety, coping strategies, individual resilience, cognitive abilities, and the academic environment. (8)

The results of this study have significant public health implications, highlighting two key concerns:These impairments can negatively affect academic functioning, self-confidence, and overall psychological well-being, persistent negative thought patterns and exaggerated fear of failure may contribute not only to academic difficulties but also to emotional distress, reduced life satisfaction, and impaired social functioning.

Addressing these concerns through early identification, structured psychological support, academic counseling, and stress-management interventions may help mitigate long-term adverse outcomes and promote holistic well-being among students

This study can serve as a basis for further extensive studies to tackle the impact of mental health on academic performance, and vice versa. Study has classified the performance of students of different class .The anxiety levels in students can also be correlated to their academic performance to understand the effect of anxiety on their academic performance

The unusually low value of the anxiety score in our study raises fundamental questions about if the participants fully understood the instrument or the cultural stigma has affected the self-reporting of anxiety symptoms.Small sample size of participants.

High-quality research is required to explore the association between academic performance n, is recommended on the the larger sample size, study the Correlation of academic performance of children with Anxiety levels of the students .

CONCLUSION

The present study concludes that test anxiety among allied healthcare students is moderately prevalent and varies across academic years, with second-year students demonstrating comparatively higher levels of anxiety. The higher representation of female students reflects the gender trend in allied healthcare courses, and consistent with previous literature, females reported greater anxiety levels. Final-year students exhibited lower anxiety

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue XI, November 2026

scores, suggesting that academic progression, increased clinical exposure, and adaptation to examination patterns may contribute to improved coping mechanisms over time.

The findings reinforce that test anxiety is a multidimensional construct comprising cognitive (worry, self-doubt, fear of failure) and affective (emotional and physiological arousal) components. The cognitive component—particularly worry and perceived impairment in memory and concentration—emerged as a significant factor. A positive correlation between impairment and worry indicates that students who perceive cognitive difficulties during examinations are more likely to experience catastrophizing thoughts, which may further interfere with academic performance.

ACKNOWLEDGEMENT

The research team expresses its sincere gratitude to the **President and Management Committee of Vidyadan Sahayyak Mandal (VSM)** for granting permission to conduct the study titled **"Analysis of Test Anxiety Levels of Students from Allied Healthcare Courses"** and for permitting the inclusion of students enrolled in the various courses under the Trust as study participants.

The OTPT career team deeply appreciates the trust and confidence placed in them by the management, along with their encouragement and support throughout the research process. Our career team also gratefully acknowledges the Management Committee's recognition of the their collective efforts and commitment to promoting student well-being and academic development.

The valuable support and encouragement from VSM management team have been instrumental in facilitating this research initiative, which aims to understand test anxiety among allied healthcare students and contribute to developing appropriate strategies to enhance their academic performance and psychological well-being.

The research team sincerely thanks Vidyadan Sahayyak Mandal for its continued support, encouragement, and commitment to student welfare and research

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