

Academic stress scale standardization among senior secondary graders. Pilot study in Vijayawada

Gogineni Padmavathi¹, Dr.Subhashini Akurathi²

¹ *PhD. Scholar, Department of Psychology. Bhartiya Engineering Science & Technology Innovation University. Anantapur. Andhra Pradesh - 515731*

² *Associate Professor, Department of Psychology. Bhartiya Engineering Science & Technology Innovation University. Anantapur. Andhra Pradesh - 515731*

Abstract—The current research was a preliminary study aimed at recognizing perceived levels of academic stress among senior secondary students in Vijayawada. This research examined the dependability and sample of intermediate students in Vijayawada. A total of 100 individuals (38% male, 62% female, average age 1.62) were considered for the present pilot study of the ASQ. To guarantee strong outcomes, the sample was randomly split into two groups for conducting reliability tests, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and measurement invariance assessments. Each of the 36 Items on the scale was reliable. The updated Academic Stress Questionnaire demonstrated strong reliability and was uniform across genders; that is, both Boys and Girls interpret and respond to the questions similarly. This pilot study confirmed that the Academic Stress Questionnaire offers a more precise tool for evaluating academic stress among students. It assists faculty and university support services in pinpointing major stressors, enhancing student well-being initiatives, and creating focused interventions.

Index Terms—pilot study. Academic stress, secondary graders. Inadequate academic environment, Worries

I. INTRODUCTION

According to reports published by the World Health Organization (WHO), people between the ages of 14 and 44 experience various mental health problems, and one of the major issues identified is stress. Stress mainly arises when the outcome of a situation is different from what a person expects, leaving them uncertain about how to respond. Similarly, students experience various forms of stress during the transition from adolescence to adulthood. Factors such as moving to a new place, increased academic

responsibilities, and other life changes contribute to their stress.

The major factors influencing stress among students include:

1. High parental expectations.
2. Comparisons with other students.
3. Pressure to obtain good marks in examinations.
4. Difficulties in expressing and managing emotions.

Many studies have reported that stress-related problems are more common among first-year students. These studies indicate that first-year students experience higher levels of stress because they are unfamiliar with the new environment and often do not know how to adapt to it. The process of selecting and adjusting to new peer groups may also contribute to stress. Some studies have reported that students' stress levels decline after the completion of the first-semester examinations. However, other studies have found that stress remains at a similar level throughout the first academic year. Stress in Intermediate students is a result of academic influences. Stress levels can rise significantly in certain students, often manifesting as anxiety, particularly during testing and exam times. Stress is a response to circumstances that leaves a person fatigued, agitated, and unable to find pleasure in everyday life. Academic stress, a particular type of stress, occurs when students find it difficult to meet school expectations despite their attempts to adjust. Perceived academic stress denotes students' personal feelings of tension arising from academic demands like substantial workloads, time constraints, limitations, and self-assessment of their educational skills. Academic pressure has extensive repercussions. It is linked to anxiety, depression, negative academic

results, substance use, sleep issues, and unhealthy lifestyle choices. With time, academic stress can also lead to chronic noncommunicable diseases like obesity, metabolic syndrome, and insulin resistance. Worryingly, academic failure has been associated with a heightened risk of suicide in young people, especially during exam times. While numerous studies in Nepal have examined academic stress in college students, research targeting adolescents and secondary school students is still scarce.

It is essential to tackle this gap when developing targeted interventions. This research evaluated the occurrence of perceived academic stress and determined important sociodemographic and academic associations among adolescents in secondary schools in Vijayawada. The results will guide stakeholders, including schools, parents, and policymakers, on adjustable factors, like workload management and support systems, to alleviate academic stress in this at-risk group. Overall, stress affects students' personal performance and personal development. Therefore, conducting mental health awareness programmes and providing counselling services at an early stage can help reduce stress and improve students' overall well-being.

Stress is a factor that disturbs students' mental peace, creates a sense of fear and anxiety, weakens their self-confidence, and reduces their ability to concentrate. As a result, stress becomes one of the major factors preventing students from achieving their expected level of academic performance. Research has shown that prolonged academic stress is associated with anxiety, depression, sleep disturbances, unhealthy lifestyle behaviours, poor academic performance, and emotional exhaustion. In severe cases, it may also contribute to physical health problems and increase the risk of suicidal behaviour. Therefore, it is essential to identify the factors responsible for academic stress and implement effective strategies to reduce its impact.

Furthermore, there is a need for more research on academic stress beginning at the secondary school level to identify its causes and develop appropriate intervention strategies. The findings of such research should be disseminated to teachers and school counsellors so that they can conduct awareness and intervention programmes. These initiatives can help reduce academic stress among students, strengthen their psychological resilience and self-confidence, and ultimately improve their academic performance and

overall well-being. Every individual responds to stress differently. The way a person experiences and manages stress varies depending on several factors, including personal characteristics and environmental influences. Stress is the body's natural physiological and psychological response to various demands or unpleasant environmental stimuli. An individual's ability to cope with stress is greatly influenced by factors such as culture, environment, personal interests, beliefs, attitudes, previous experiences, and coping skills. These factors determine how a person perceives and reacts to stressful situations.

Among students, the economic condition of a country also plays a significant role in determining stress levels. Students from developing and economically disadvantaged countries often experience higher levels of stress than those from developed nations. This difference may be attributed to variations in educational policies, socioeconomic conditions, available resources, and government support systems. Another study reported that place of residence is also an important factor influencing stress levels. It found significant differences in perceived stress between students from urban and rural areas. The study revealed that urban students experience higher levels of stress due to factors such as a fast-paced lifestyle, academic and career-related pressures, social influences, and the high cost of living. In contrast, rural students experience stress because of limited access to quality education, unemployment, and inadequate healthcare facilities. These findings indicate that although the sources of stress differ, both urban and rural students are vulnerable to experiencing psychological stress.

According to the theory proposed by Lazarus and Folkman, two major components are central to understanding stress. The first is Appraisal, which refers to an individual's evaluation of whether a particular situation is threatening, challenging, or stressful. The second is Coping, which refers to the cognitive and behavioural strategies adopted by an individual to manage or overcome stressful situations. These two processes play a crucial role in determining the intensity of stress experienced by an individual.

II. REVIEW OF LITERATURE

Researchers from Universiti Teknologi Malaysia (UTM), Malaysia, conducted a study to identify the

sources of academic stress among university students. They classified the sources of academic stress into seven domains, namely lecturers, examinations, academic results, peer relationships, group study, time management, and self-inflicted stress. A total of 100 university students participated in the study. The researchers used a 33-item Academic Stress Inventory questionnaire to conduct the study. According to the findings of the study, examinations (Mean = 3.87) were the major source of academic stress among students. This was followed by peer influence (Mean = 3.65), academic results (Mean = 3.56), and self-inflicted stress (Mean = 3.53). The overall mean score of academic stress was 3.51, indicating a high level of academic stress. The study also found that second- and third-year students experienced higher levels of academic stress than first- and fourth-year students. The researchers recommended time management skills, mental health awareness programmes, counselling services, and stress management training to reduce academic stress among students.

A study conducted in Kathmandu, Nepal, examined the factors associated with academic stress among 353 secondary school students. The researchers used the Perception of Academic Stress (PAS) Scale to assess the level of academic stress among the participants. The findings revealed that 46.7% of the students experienced a high level of academic stress. In particular, workload and examination-related stress recorded the highest mean scores. The study also found that male students experienced higher levels of academic stress than female students. Based on these findings, the researchers recommended several strategies to reduce academic stress, including providing adequate time for examination preparation, balancing academic workload and examination pressure, offering career guidance, and helping students set realistic academic and career goals.

Okoyee (2022) conducted a cross-sectional study at Delta State University, Nigeria, to understand how academic stress affects 64 medical students studying medicine. The Medical Student Stressor Questionnaire (MSSQ-40) was used to assess academic, teaching and learning, social, interpersonal, desire-related, and group activity-related stressors. The findings revealed that Academic Related Stressors (ARS) were identified as the major source of stress among the students. Specifically, an extensive syllabus, frequent examinations, lack of time for revision of the lessons

learned, and difficulty in understanding the academic subjects were identified as the major causes of academic stress. As a result of these factors, students were found to skip meals and have less sleeping time, which also contributed to their stress levels. The researchers made several recommendations to reduce academic stress. They suggested reviewing the curriculum, providing training in time management skills, strengthening mental health counselling services, and promoting a healthy lifestyle to reduce academic stress.

Rodah and Bismirty (2025) conducted a comparative cross-sectional study to compare the levels of perceived stress among 160 young adults aged 18–25 years, including 80 participants from rural areas and 80 participants from urban areas. For this study, the researchers used the Perceived Stress Scale (PSS-10) to collect the data. According to the findings of the study, the mean perceived stress score of urban young adults ($M = 20.7$) was significantly higher than that of rural young adults ($M = 19.1$) ($t = 1.67$, $p = 0.049$). The data were analysed using the Independent Samples t-test. The researchers explained that these findings were due to greater competition, a fast-paced lifestyle, and the influence of the media in urban areas compared to rural areas, which were identified as the major factors contributing to higher stress levels among urban young adults.

Bedewy and Gabriel (2015) conducted a study at Tanta University, Egypt, using the Perception of Academic Stress Scale among 100 students in the university to identify the sources of academic stress. This scale consists of 18 items and four dimensions, namely Academic Expectations, Workload and Examinations, Academic Self-Perceptions, and Time Restraints. These four major dimensions were taken to measure academic stress. According to the findings of the study, the major causes of academic stress among students were high parental expectations, teachers' criticism, peer competition, excessive academic workload, and a difficult examination system.

Miraj (2024) conducted a cross-sectional study among physiotherapy students at AIHMS, New Delhi, India, to understand how academic stress affects academic performance among students. A total of 272 physiotherapy students participated in this study. The Perceived Medical School Stress (PMSS) Questionnaire was used to assess the level of academic stress among the students. The data were analyzed

using SPSS Version 25 with the Student's t-test and ANOVA. The findings revealed that students with lower GPA had higher levels of academic stress. It was also found that first-year students experienced higher levels of stress than final-year students. The researchers reported that students' personal financial conditions and hostel accommodation were also the major causes of stress among the students.

Sharma (2018) conducted a study among 130 undergraduate students studying in management colleges in Delhi to examine academic stress. For this study, the Perception of Academic Stress Scale (PAS) was used to collect the data. The data were analyzed using SPSS with the Independent Samples t-test. According to the findings of the study, the causes of stress among students were fear of failing examinations, fear of not being able to meet parents' expectations, and teachers' criticism.

III. OBJECTIVES OF THE STUDY

If we are to develop programs to assist students in their scholastic activities and to minimize Academic stress and decrease their distress, one should develop a reliable tool to measure the sources of their stress and its associated causes. The objective of this study is to statistically assess an instrument with demonstrated evidence of item reliability to measure academic stress, the Academic Stress Questionnaire, among intermediate students,

Materials and Methods

Study Design, Setting, and Participants: A descriptive study was conducted among senior secondary students (Grades 11&12th) in Vijayawada government English-medium schools, selected based on administrative feasibility (approval timelines and accessibility) and resource constraints (time and budget). All students in Grades 8–10 at these six schools were eligible to participate.

Sample Size and Sampling Method No formal sample size calculation was performed because this study employed a census sampling approach within the selected schools. Due to the study's scope and logistical constraints, the aim was to include all eligible intermediate students from government senior secondary schools. Participants were obtained from the eligible population of $N = 100$,

Data Collection Tool and Variable Measurement

Data were collected using a structured, self-administered English- language questionnaire (the medium of instruction in all selected schools). The questionnaire was structured into distinct sections. **Structure:** The scale comprises five subscales: inadequate academic performance(nine items), lack of adjustment (eight items), Apprehensive about the future (seven items), poor administration (six items), Worries(Six items) **Scoring:** Items are scored on a Likert scale (strongly agree to disagree strongly), yielding a continuous total score range of 36-180, with higher scores indicating higher stress levels

IV. RESULTS AND DISCUSSION

Academic Stress Scale Pilot Study Statistics

N of Items	Mean	Variance	Std. Deviation	Cronbach's Alpha
36	29.4848	510.293	22.58967	.955

Table 1 describes the results of students' responses. The internal consistency reliability (Cronbach's alpha) was 0.955 for the 36 items of the ASQ. 36 items: Mean value 29.48 and SD value 22.58.

Gender	Frequency	Percent	Mean	SD
Male	38	38	1.6238	.48686
female	62	62		
Total	100	100.0		

Demographic sample descriptive statistics for the Academic Stress Questionnaire pilot study for a hundred samples. Table 2 describes the results of descriptive statistics for gender based on 36-item ASQ responses. The participating sample demographic variable gender Male 38%, Female 62% with a mean of 1. 623.SD of 0.486.

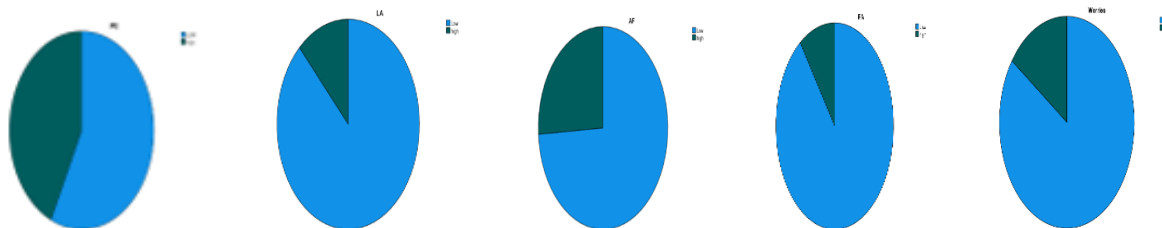


Table-3 Academic stress questionnaire factors descriptive statistics

ASQ Factor	description	Frequency	Percent	Mean	SD
IAE	Low	57	57.0	1.1200	.35510
	High	43	43.0		
LA	Low	88	88.0	1.1100	.34510
	high	12	12.0		
AF	Low	74	74.0	1.2600	.44084
	high	26	26.0		
PA	Low	90	90.0	1.1000	.30151
	high	10	10.0		
W	Low	85	85.0	1.1515	.36037
	high	15	15.0	1.1515	.36037

IAE (Inadequate anaemic environment), LA (Lack of adjustment) AF (Apprehensive about future).PA (Poor administration (Worries)

V. FINDINGS

The pilot study was conducted among 100 students to assess the reliability and preliminary findings of the 36-item Academic Stress Questionnaire (ASQ). The instrument demonstrated excellent internal consistency, with a Cronbach's alpha of 0.955, confirming its high reliability. The study sample consisted of 38% male and 62% female participants. The factor-wise analysis revealed that low levels of academic stress were observed in five domains, making it the highest among all ASQ factors. In contrast, these findings indicate that the Academic Stress Questionnaire (ASQ) is a reliable instrument and is suitable for use in the main study. The findings showed that in an inadequate academic environment, 57 (57%) participants had a low level of stress, whereas 43 (43%) participants had a high level of stress. The mean score was 1.12 (SD = 0.36), indicating that most participants experienced a low level of stress in this domain. In Factor two: lack of adjustment, the findings showed that 88 (88%)

participants had a low level of stress, whereas 12 (12%) participants had a high level of stress in the lack of adjustment domain. The mean score was 1.11 (SD = 0.35), indicating that most participants experienced a low level of stress in this domain. The factor, Apprehensive about the future: The findings showed that 74 (74%) participants had a low level of stress, whereas 26 (26%) participants had a high level of stress in the Apprehensive about the future domain. The mean score was 1.26 (SD = 0.44), indicating that most participants experienced a low level of stress in this domain.

In Factor four: poor administration the findings showed that 90 (90%) participants had a low level of stress, whereas 10 (10%) participants had a high level of stress in the poor administration (PA) domain. The mean score was 1.10 (SD = 0.30), indicating that most participants experienced a low level of stress in this domain. Worries (W): The findings showed that 85 (85%) participants had a low level of stress, whereas 15 (15%) participants had a high level of stress in the Worries (W) domain. The mean score was 1.15 (SD = 0.36), indicating that most participants experienced a low level of stress in this domain.

VI. DISCUSSION

The present pilot study was conducted to examine the reliability and preliminary findings of the 36-item Academic Stress Questionnaire (ASQ) among secondary school students. The instrument demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of 0.955, indicating that the questionnaire is highly reliable for assessing academic stress. The findings revealed that the majority of the participants experienced low levels of academic stress across all five domains of the ASQ. However, the Learning Assessment and Evaluation (LAE) domain showed the highest proportion of students reporting high stress (43%) compared with the other domains. This finding suggests that examinations, assessments, and evaluation-related activities remain the major sources of academic stress among students. Similar findings have been reported by Bedewy and Gabriel (2015), Omar et al. (2020), and Karki et al. (2026), who identified examinations, academic workload, and academic expectations as the major contributors to academic stress.

The Learning Activities, Academic Factors, Parental Aspects, and Worries domains showed comparatively lower levels of stress among the participants. These findings indicate that although students experience academic stress, it is primarily associated with assessment and evaluation rather than other academic or personal factors. Overall, the findings suggest that the Academic Stress Questionnaire (ASQ) is a reliable instrument for assessing academic stress among secondary school students and is appropriate for use in the main study. The pilot study also confirms that the questionnaire can effectively identify different domains of academic stress, providing a strong foundation for the main research.

VII. CONCLUSION

The findings of the pilot study demonstrated that the 36-item Academic Stress Questionnaire (ASQ) is a highly reliable instrument for assessing academic stress among students. The scale showed excellent internal consistency with a Cronbach's alpha coefficient of 0.955, indicating high reliability. The descriptive analysis revealed that the majority of the participants experienced low levels of academic stress across all ASQ domains, including Learning

Assessment and Evaluation, Learning Activities, Academic Factors, college administration, and Worries. Among these domains, Learning Assessment and Evaluation showed the highest proportion of students reporting low academic stress. Overall, the results suggest that the ASQ is a reliable and appropriate instrument for measuring academic stress and can be used for the main study.

VIII. SUGGESTIONS

Further research is suggested to suggesting Student accommodation should be maintained in a clean, safe, and hygienic environment. Adequate hostel facilities, proper sanitation, nutritious food, and a peaceful atmosphere can help. Teachers should maintain a friendly and supportive attitude towards students. Creating a positive classroom environment, providing constructive feedback, and encouraging open communication can help students feel more comfortable and confident in their learning process. Educational institutions should provide sufficient time between examinations. Adequate preparation time before examinations will help students revise the syllabus effectively, reduce examination-related stress, and improve their academic performance.

REFARANCES

- [1] Bedewy, D., & Gabriel, A. (2015). Examining perceptions of academic stress and its sources among university students: The Perception of Academic Stress Scale. *Health Psychology Open*, 2(2), 1–9.
- [2] Karki, R., Tamang, A., & Kaphle, M. (2026). Perceived academic stress and its correlates among secondary school adolescents in Kathmandu, Nepal. *Public Health Challenges*, 5, e70186
- [3] Miraj, M. (2024). Academic stress and its impact on academic performance among physiotherapy students. *Journal of Pioneering Medical Sciences*, 13(1), 76–80.
- [4] Okoye, O. C. (2022). Academic-related stressors among clinical medical students in Delta State University, Nigeria.
- [5] Omar, M., et al. (2020). Academic stress among university students: Sources and levels of

academic stress. Universiti Teknologi Malaysia, Malaysia.

- [6] Rodah, R., & Bismirty, B. (2025). A comparative cross-sectional study of perceived stress among rural and urban young adults.
- [7] Sharma, S. (2018). Perceived academic stress among undergraduate students. *Research Review International Journal of Multidisciplinary*, 3(8), 421–425.
- [8] Bedewy, D., & Gabriel, A. (2015). Examining perceptions of academic stress and its sources among university students: The Perception of Academic Stress Scale. *Health Psychology Open*, 2(2). <https://doi.org/10.1177/2055102915596714>
- [9] Karki, R., Tamang, A., & Kaphle, M. (2026). Perceived academic stress and its correlates among secondary school adolescents in Kathmandu, Nepal. *Public Health Challenges*, 5, e70186. <https://doi.org/10.1002/puh2.70186>