



Construction and Standardization of Academic Anxiety Scale (AAS) among Teacher Education Students

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ABSTRACT

Academic procrastination, which means voluntarily delaying required tasks despite the potential for negative consequences, is a prevalent issue among students in teacher education. The objective of this study was to create reliable scale that can quantify internal factor of academic procrastination: academic anxiety.

Academic anxiety, a critical factor contributing to academic procrastination, can significantly impact students' performance and well-being. This study focuses on the development and validation of the Academic Anxiety Scale of Academic Procrastination (AAS), designed to measure two specific dimensions: emotional imbalance and stress. The AAS was constructed through expert validation and administered to a sample of 75 teacher education students.

The scale comprises 13 items and was evaluated for reliability using Cronbach's alpha, yielding a coefficient of 0.879, indicating high internal consistency. The reliability of the individual dimensions showed coefficients of 0.853 for emotional imbalance and 0.840 for stress. The AAS provides a robust tool for accurately assessing academic anxiety, thereby aiding in the identification and intervention of procrastination-related issues among students.

Key words: Academic Procrastination, Academic Anxiety, Teacher Education, Emotional Imbalance, Stress

1. INTRODUCTION

Academic anxiety is a significant challenge that affects students' emotional well-being and academic performance. Among teacher education students, the pressure to excel in both academics and practical teaching can heighten this anxiety, leading to detrimental effects on learning and skill development. This study focuses on the development and standardization of the Academic Anxiety Scale (AAS)

specifically for teacher education students. The AAS assesses two critical dimensions: emotional imbalance, which encompasses feelings of nervousness, insecurity, and mood fluctuations, and stress, reflecting the psychological strain caused by academic demands. By measuring these dimensions, the scale aims to provide a deeper understanding of how academic anxiety impacts teacher education students and to inform the creation of targeted interventions that foster emotional resilience and better stress management, thereby improving both academic performance and professional preparedness.

2. NEED AND SIGNIFICANCE

Academic anxiety, characterized by emotional imbalance and stress, significantly affects the academic performance and personal well-being of teacher education students. This anxiety not only hinders their ability to manage demanding workloads but also contributes to academic procrastination, impeding their professional development. Despite its importance, there is a lack of reliable, context-specific tools to measure academic anxiety among these students. The development and standardization of the Academic Anxiety Scale (AAS) addresses this gap by focusing on emotional imbalance and stress, providing a valuable tool for identifying students at risk of anxiety-related academic challenges. By facilitating accurate assessments, the AAS will guide targeted interventions to improve emotional regulation, reduce procrastination, and support better academic outcomes, ultimately fostering a resilient and well-prepared teaching workforce.

3. RATIONALE

Teachers: The AAS helps teachers identify student anxiety related to emotional imbalance and stress, enabling them to create interventions that improve classroom focus and emotional resilience.

Students: The AAS allows students to recognize how anxiety affects their academic performance, guiding them to adopt better stress management and emotional regulation strategies.

Policy Makers: Insights from the AAS help policymakers develop initiatives that address student anxiety, promoting mental well-being and academic success.

Parents: The AAS provides parents with a better understanding of their children's anxiety-related challenges, enabling them to offer targeted support.

Educational Administrators: Administrators use the AAS to identify anxiety issues among students, facilitating the development of programs that enhance emotional well-being and academic performance.

Educational Researchers: Researchers rely on the AAS to study the impact of anxiety on academic performance, contributing to further research in educational psychology.

4. LITERATURE REVIEW

Academic anxiety is a key factor in procrastination, with research by Tuckman (2002) and Rothblum et al. (1986) showing that heightened nervousness and stress often lead students to delay academic tasks. This anxiety, driven by fear of failure and performance pressure, paralyzes students, preventing productive engagement in their work.

Zimmerman et al. (1996) and Sirois (2014) link this anxiety-induced stress to impaired focus and time management, pushing students toward avoidance strategies that worsen procrastination. Despite the clear connection, Klassen et al. (2008) and Seo (2013) highlight the need for tailored tools to assess anxiety's role in procrastination, particularly among teacher education students.

To address this, the Academic Anxiety Scale (AAS) of Academic Procrastination is introduced. Focusing on emotional imbalance and stress, the scale aims to provide a deeper understanding of how anxiety contributes to procrastination, guiding interventions to reduce anxiety and enhance academic performance.

5. PROCEDURE FOLLOWED FOR DEVELOPING SCALES:

STEP 1: PLANNING THE TEST

The researcher planned the construction of the Academic Anxiety Scale (AAS) of Academic Procrastination with a focus on three key dimensions: emotional imbalance, Test/Examination and stress. These dimensions were selected after a thorough review of relevant literature. Emotional imbalance was informed by studies such as Sirois and Pychyl (2013), which highlight the role of emotional distress in procrastination, while stress, particularly related to test/examination anxiety, was drawn from research by Cassady and Johnson (2002) on academic stress and Solomon and Rothblum (1984) on general academic fear. The AAS aims to offer a comprehensive tool to assess how these emotional and stress-related factors contribute to academic procrastination, ultimately guiding interventions to alleviate anxiety and improve student outcomes.

Scale	Dimensions
Academic Anxiety Scale	1. Emotional Imbalance
	2. Test/Examination
	3. Stress/Fear

The investigator developed the Academic Anxiety Scale (AAS) of Academic Procrastination using a four-point Likert scale: Always, Often, Rarely, and Never. The AAS includes both positive items (where higher agreement indicates lower academic anxiety) and negative items (where higher agreement reflects higher academic anxiety). This structure ensures consistency in measuring the levels of academic anxiety, providing a reliable tool to assess emotional imbalance, Test/Examination and stress as key internal factors influencing academic procrastination among students.

Scale	Type of statements	Always	Often	Rarely	Never
Academic Anxiety	Positive Items	4	3	2	1
	Negative Items	1	2	3	4

STEP 2: PREPARATION OF THE TEST WRITING AND POOLING OF TEST ITEMS:

The investigator developed the Academic Anxiety Scale (AAS) of Academic Procrastination, comprising 24 items systematically categorized into three key dimensions: emotional imbalance, test/examination anxiety, and stress/fear. These dimensions were selected based on their relevance to academic procrastination, providing a comprehensive tool for assessing the role of anxiety in procrastination among teacher education students.

Table 1: Preliminary items for the Academic Anxiety Scale (AAS) of Academic Procrastination

Scale	Dimensions	Part	No. of Items constructed
Academic anxiety Scale	Emotional Imbalance	A	12
	Test/Examination Anxiety	B	05
	Stress/Fear	C	07
Total Items			24

STEP 3: PRELIMINARY FORM OF TEST:

The Academic Anxiety Scale (AAS) of Academic Procrastination, with its 24 items in a 4-point response format, was reviewed by ten experts in research, education, and psychology. Their evaluation focused on aspects such as grammatical accuracy, item structure, potential distractions, and student appropriateness. Based on their feedback, 2 items from the AAS were removed, leaving a total of 22 items for the pilot study. The retained items cover the dimensions of emotional imbalance, test/examination anxiety, and stress/fear.

Table 2: Dimensions and Retained Items of the Academic Anxiety Scale (AAS) of Academic Procrastination

Scale	Dimensions	Part	No. of Items Retained
Academic anxiety Scale	Emotional Imbalance	A	12
	Test/Examination Anxiety	B	03
	Stress/Fear	C	07
Total Items			22

STEP 4: PILOT STUDY

a) Try-out of the Test

The final draft of the scale was administered to 75 teacher education students in Shivamogga District. Each dimension was evaluated individually after collecting and scoring all completed scales. During the pilot study, items that were identified as unstable or inconsistent were either revised or removed.

b) Item Analysis

The internal consistency and reliability of the scale was assessed using Cronbach's alpha. A thorough analysis of all test items ensured the reliability and validity of the scale.

Table 3: Item analysis using Cronbach’s Alpha method of Academic Anxiety Scale (AAS) of Academic Procrastination

Sl. No	Dimensions	Item Number	Corrected Item-Total Correction	Remarks
1.	Academic Anxiety Scale (AAS) Dimension: <u>Emotional Imbalance</u> Example: • I delay in starting the assignment work due to academic worries.	Item No. 01	0.711	Accepted
2.		Item No. 02	0.634	Accepted
3.		Item No. 03	0.549	Accepted
4.		Item No. 04	0.731	Accepted
5.		Item No. 05	0.563	Accepted
6.		Item No. 06	0.444	Accepted
7.		Item No. 07	0.050	Rejected
8.		Item No. 08	0.709	Accepted
9.		Item No. 09	0.754	Accepted
10.		Item No. 10	0.769	Accepted

11.		Item No. 11	0.302	Rejected
12.		Item No. 12	0.553	Accepted
13.	Academic Anxiety Scale (AAS)	Item No. 13	0.452	Accepted
14.		Item No. 14	0.420	Accepted
15.	Dimension: <u>Test/Examination Anxiety</u> <ul style="list-style-type: none"> I feel panic during internal tests and external exams. 	Item No. 15	0.037	Rejected
16.	Academic anxiety Scale (AAS) Dimension: <u>Stress/Fear</u> Example: <ul style="list-style-type: none"> Panic about my academic work leads me to delay in starting the tasks on time. I am afraid of receiving poor grades. 	Item No. 16	0.217	Rejected
17.		Item No. 17	0.149	Rejected
18.		Item No. 18	0.500	Rejected
19.		Item No. 19	0.266	Rejected
20.		Item No. 20	0.346	Rejected
21.		Item No. 21	0.523	Rejected
22.		Item No. 22	0.372	Accepted

6. SELECTION OF ITEMS:

Items with corrected item-total correlation values above 0.30 were chosen to establish construct validity, as recommended by de Vaus (2004). The corrected item-total correlation values for the Academic Anxiety Scale ranged from 0.372 to 0.769. The table below presents the final 22 statements across the two dimensions of these scales.

Table 04: Distribution of Items across Dimensions in the Academic Anxiety Scales of Academic Procrastination

Scale	Dimensions	Part	No. of items retained
Academic Anxiety Scale	Emotional Imbalance	A	07
	Stress/Fear	B	06

Table 04 shows that 13 items were retained in the Academic Anxiety Scale of Academic Procrastination, distributed across two dimensions: 7 items for emotional imbalance and 6 items for stress/fear. The final Academic Anxiety Scale, consisting of these two dimensions and 13 items, was prepared for further evaluation.

7. ESTABLISHING RELIABILITY

TEST - RETESTED METHOD:

The reliability of the test was established using the test-retest method. Initially administered to 75 teacher education students in Shivamogga City, the test was re-administered two weeks later. The correlation coefficient between the two sets of scores was computed using Pearson's product-moment correlation for every dimension of the scales.

SPLIT HALF METHOD

The accuracy and internal consistency of a test are what reliability refers to. Internal consistency was determined using the split-half method with a sample of 75 students in this study. The test scores were categorized into two parts: the first 50% and the last 50% of the statements. Each dimension's correlation between these two halves was determined by using the Spearman-Brown prophecy formula.

CRONBACH'S ALPHA METHOD

The Academic Anxiety Scale of Academic Procrastination, which was tested for academic procrastination, showed reliability results as follows: 0.853 for emotional imbalance and 0.840 for stress. The overall reliability coefficient for the Academic Anxiety Scale, as measured by Cronbach's alpha, was 0.879.

Table 5: Different methods of Reliability Coefficients for four sub scales Academic anxiety Scale of Academic Procrastination.

Scale	Dimensions	Test-Retest		Split half (Spearman-Brown Coefficient)		Cronbach's Alpha
		Test	Retest	I half	II half	
Academic anxiety Scale	Emotional Imbalance	0.781	0.774	0.743	0.810	0.853
	Stress	0.757	0.736	0.798	0.708	0.840
	Total	0.769	0.755	0.850	0.797	0.879

8. ESTABLISHING VALIDITY

CONTENT VALIDITY

The scale's face validity was validated because every statement focuses on its intended measure. Content validity was determined by expert analysis. The scale's content validity was evaluated by ten experts, including research guides, educational psychology experts, and senior teacher educators. The statements were accepted by them as being relevant and valuable for data collection. Modifications were made to some items according to their feedback. The experts found the test items and scoring procedures to be satisfactory, confirming that the scale was comprehensive and relevant.

ITEM VALIDITY

Item validity was assessed using Cronbach's alpha, with corrected item-total correlation values ranging from 0.372 to 0.769 for the Academic Anxiety Scale of Academic Procrastination. According to de Vaus (2004), correlations below 0.30 are considered weak and should be excluded from the composite score.

Table 6: Inter Scales Correlations of Academic anxiety Scales of Academic Procrastination

Inter-Item Correlation Matrix		
Emotional Imbalance	1.000	0.797
Stress	0.797	1.000

The inter-item correlation matrix for the Academic Anxiety Scale shows a high correlation of 0.797 between the two dimensions: emotional imbalance and stress. This significant positive correlation indicates a strong relationship between these two aspects of academic anxiety. In other words, students who experience higher levels of emotional imbalance are likely to also experience higher levels of stress.

The matrix confirms the interconnectedness of emotional imbalance and stress, highlighting the need for comprehensive approaches that address both dimensions to effectively manage academic anxiety.

9. SCORING

The Academic Anxiety Scale of Academic Procrastination uses a four-point response format with options: always, often, rarely, and never. The total score for the Academic Anxiety Scale ranges from a minimum of 13 to a maximum of 52. Responses are scored as 1 for "always," 2 for "often," 3 for "rarely," and 4 for "never." It is important to note that all items on the scale are negatively phrased, as procrastination is inherently associated with negative outcomes.

10. IMPLICATIONS

Teachers: The AAS helps teachers identify students dealing with anxiety and stress, enabling them to create targeted strategies to improve focus and emotional well-being in the classroom.

Students: The AAS allows students to recognize the impact of anxiety on their academic performance, helping them adopt better stress management techniques and improve productivity.

Policy Makers: Data from the AAS informs policymakers in developing mental health initiatives that address academic anxiety, promoting better emotional and academic outcomes.

Parents: The AAS provides parents with insights into their children's anxiety, helping them offer supportive interventions at home.

Educational Administrators: Administrators can use the AAS to design programs that address student anxiety and promote a healthier learning environment.

Educational Researchers: Researchers can use the AAS to study the effects of anxiety on academic performance, leading to evidence-based solutions for educational challenges.

CONCLUSION

To conclude, the Academic Anxiety Scale of Academic Procrastination was developed and standardized through a meticulous process to ensure its reliability and validity. The scale underwent rigorous validation, including item analysis and expert review, confirming its effectiveness in assessing academic anxiety. With a scoring range from 13 to 52, the scale provides a thorough framework for evaluating anxiety-related factors. By capturing internal factors associated with procrastination as negative constructs, the scale identifies areas needing intervention. Ongoing validation and refinement will maintain its reliability and enhance its value in educational research and practice.

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