© FEB 2026 | IRE Journals | Volume 9 Issue 8 | ISSN: 2456-8880
DOI: https://doi.org/10.64388/IREV9I8-1714591

Perceived Academic Stress as A Predictor of Secondary School Students' Achievement in Computer Studies in Anambra State

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Abstract- ***The study investigated perceived academic stress as a predictor of secondary school students' achievement in Computer Studies in Anambra State. Two research questions guided the study and two null hypotheses were tested at 0.05 level of significance. The predictive correlation design was adopted for the study. 42,572 SS2 students offering Computer studies constituted the population, out of which 600 students obtained using random and purposive sampling techniques were involved in the study. The instruments was Perception of Academic Stress (PASS) validated by three experts from Nnamdi Azikiwe University, Awka. The reliability of the instrument was established using Cronbach Alpha which yielded reliability coefficient of 0.82. The students' achievement scores in Computer studies were obtained from the teachers' profoma whereas PASS was administered on the students with the help of the six research assistants. The data obtained were analyzed using simple and multiple linear regressions. The findings of the study revealed among others that 4percent of the variance in Computer studies achievement scores was predicted by students' perceived academic stress. Furthermore, achievement scores in Computer studies was significantly predicted by perceived academic stress with all the dimensions of perceived academic stress being significant contributors. The conclusion drawn from the findings of the study was external academic pressures, if not well-managed, can impair students' learning outcomes in Computer studies. It was recommended among others that, parents and guardians should be sensitized to set realistic academic expectations for their children and offer support to reduce the burden of achievement anxiety.***

Index Terms- ***Perceived Academic Stress, Predictors, Achievement, Computer Studies***

I. INTRODUCTION

Computer studies have become an essential component of secondary education, equipping students with the skills required to navigate the complexities of a technology-driven world. The subject's applications span across numerous fields, including communication, healthcare, finance, and education, demonstrating its critical role in modern societies (Adeyemo and Adegoke, 2020). In Nigeria, the inclusion of computer studies in the secondary school curriculum was a strategic move to bridge the technological gap and prepare students for global competitiveness. Despite these efforts, the academic achievement of many students in Computer studies which is a technology-based subject has not appreciated especially, in Anambra State. This trend raises questions about the factors influencing students' performance in the all-important subject of Computer studies.

Computer studies is the study of how computers work, including their hardware and software, and how they can be used to represent objects and processes (Adeyemo and Adegoke, 2020). It also involves learning how to develop programs, how to use computers to solve problems and students learning about the fundamental principles of computer science, including logic, algorithms, data representation, and abstraction. Computer studies in Anambra State, Nigeria faces a number of challenges such as lack of resources, poor internet access, and inadequate training which leads to a number of problems in terms of theory and practice. These challenges make students' achievement in Computer studies unsatisfactory.

One major factor contributing to poor academic outcomes in Computer studies according to Lee and Lee (2018), is academic stress, which emerges from the pressure of meeting academic demands, often without adequate resources or support. Academic stress refers to the psychological strain and pressure that students experience as they navigate academic

demands and expectations (Brown, 2021). It arises when students perceive a discrepancy between the academic challenges they face and their ability to manage or cope with these challenges (Kumari, 2021). Stress in academic settings can stem from heavy workloads, pressure to achieve high grades, fear of failure, and the competitive nature of the educational environment (Geng, Zhang and Zhou, 2018). Perceived academic stress (PAS), on the other hand, specifically refers to students' subjective interpretation and evaluation of academic demands as stressful (Adewale, 2019). This perception according to Agberemi (2020), is influenced by individual differences, including coping skills, self-efficacy, and resilience. PAS has such dimensions as stress related to academic situations, stress related to schoolwork and examinations, and stress related to students' academic self-perceptions.

Stress related to academic situations captures the anxiety and tension students experience due to various academic pressures, including managing tight schedules, adapting to teacher expectations, and interacting with peers in competitive environments (Wang, Liu and Li, 2020). Such stress can arise when students feel overwhelmed by the academic climate or expectations placed on them. These situations are perceived as threatening when students believe they lack the resources or capabilities to meet the demands. Stress related to schoolwork and examinations Want *et al.* further emphasized, is the aspect of academic stress relates to the mental strain caused by heavy workloads, frequent assignments, and the high stakes associated with examinations. Students often feel pressured by the need to excel academically, meet deadlines, and perform well under time constraints during exams. Such stress is exacerbated when students doubt their preparedness or fear the consequences of failure.

Stress related to students' academic self-perceptions on the other hand focuses on how students perceive their academic abilities and their self-efficacy in meeting academic goals (Lee and Lee, 2018). Negative self-perceptions, such as doubting one's competency or fearing judgment from others, can increase stress. When students compare themselves to peers or feel inadequate in their academic performance, it can intensify feelings of helplessness and diminish motivation. Perceived academic stress therefore, reflects not just the presence of academic challenges but also how students cognitively appraise these challenges and their available resources to address them (Lee and Lee, 2018).

Students who view academic demands as exceeding their capacity to cope are more likely to experience perceived academic stress (Reddy, Kamble and Malathi, 2020). Such students frequently struggle with the technical nature of computer studies, compounded by inadequate infrastructure such as poorly equipped laboratories and insufficient access to digital tools (Okafor and Nnamdi, 2020). Academic stress manifests through cognitive and other academic challenges that impede learning, reducing students' ability to effectively engage with the subject matter (Adebayo and Adekunle, 2019). As students grapple with these pressures, understanding the role of psychological and cognitive factors, such as academic stress and how it predicts students' academic achievement becomes necessary for educators in Anambra State.

In Anambra State, the interplay of the dimensions of academic stress has significant implications for students' achievement in Computer studies. Limited resources and socio-economic disparities exacerbate stress levels, while the absence of structured support systems in schools hinders the development of necessary skills (Eze and Udo, 2021). This dynamics highlight the necessity of examining how the dimensions of the academic stress interact to influence academic achievement, offering insights into strategies for improving student outcomes.

Purpose of the Study

The purpose of the study was to determine perceived academic stress as a predictor of secondary school students' achievement in Computer Studies in Anambra State. The study specifically determined;

1 Predictive value of perceived academic stress on students' academic achievement scores in Computer studies.

2 Relative contribution of the dimensions of perceived academic stress (stress related academic situation, stress related to school work and

examination and stress related to students' academic self-perceptions) to prediction of students' academic achievement scores in Computer studies.

II.RESEARCH QUESTIONS

The following research questions guided the study:

1. What is the predictive value of perceived academic stress on students' academic achievement scores in Computer studies?
2. What are the relative contribution of the dimensions of perceived academic stress (stress related academic situation, stress related to school work and examination, stress related to students' academic self-perceptions) to prediction of students' academic achievement scores in Computer studies?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. Perceived academic stress is not a significant predictor of students' academic achievement scores in Computer studies.
2. The relative contributions of the dimensions of perceived academic stress (stress related academic situation, stress related to school work and examination, stress related to students' academic self-perceptions) to prediction of students' academic achievement scores in Computer studies is not significant.

Method

The study adopted the predictive correlational research design. The study was conducted in Anambra state, Nigeria. The population of the study comprised 42,572 senior secondary year two (SS2) students offering Computer studies in the year 2024/2025 academic session in the 228 public secondary schools in Anranbra state. The sample for the study was 600 SS2 students offering Computer studies in Anambra state who was obtained using a multi-stage sampling procedure involving random and purposive sampling techniques.

The instruments for data collection was Perception of Academic Stress (PASS). The Perception of Academic Stress Scale (PASS), adapted from Bedewy and Gabriel (2015), is a psychometric self-report instrument used to measure academic stress among students, particularly in educational settings. The scale is widely used to assess how students perceive various stressors related to their academic responsibilities, capturing the cognitive, emotional, and behavioural aspects of stress they experience in response to academic demands. The Perception of Academic Stress Scale consists of 18 items designed to evaluate different dimensions of academic stress, including stress from academic expectations, workload, and social stressors. It also examines students' concerns about their performance and how academic pressures may impact their mental health. Responses in PASS is rated on a Likert-type scale ranging from: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral/Undecided, 4 = Agree to 5 = Strongly Agree, allowing for a nuanced measurement of each student's stress perception across these categories. The students' scores in Computer Studies was gathered using a proforma. Their results in Computer Studies for one academic year was obtained, the averaged was computed and used as students' academic achievement.

Two experts from the Department of Science Education and one from the Department of Educational Foundations (Measurement and Evaluation Unit) all from Nnamdi Azikiwe University, Awka validated the instrument. As the instruments are polytomously scored, Cronbach Alpha was used to determine the reliability of PASS which yielded coefficient of internal consistency of 0.82. The instruments was administered with the help of six research assistants, who are the researcher's colleagues and worked closely with the Computer Studies teachers in the selected schools. The study's data was analyzed by employing simple linear and multiple regressions. All null hypotheses were tested at a 0.05 significance level and were rejected whenever the P-value was less than or equal to 0.05 ($P \leq 0.05$), but was not be rejected where greater than 0.05 ($P > 0.05$).

RESULTS

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Research Question 1**:** What is the predictive value of perceived academic stress on students' academic achievement scores in Computer studies?

Table 1: Prediction of Students' Achievement score in Computer studies by Perceived Academic Stress

Model	R	R^2	Adjusted R^2	Unstandardized coefficients (B)	Std. Error
Constant	.199[a]	.040	.039	78.968	11.907
PAS				-.126	

a. Predictors: (Constant), Perceived Academic Stress

Table 1 shows that the R-Square value of .040 indicates that 4percent of the variance in students' Computer studies achievement score is predicted by perceived academic stress. The unstandardized coefficient B of -.126 shows that a unit rise in perceived academic stress decreases achievement score in Computer studies by .126.

Research Question 2**:** What are the relative contribution of the dimensions of perceived academic stress (stress related academic situation, stress related to school work and examination, stress related to students' academic self-perceptions) to prediction of students' academic achievement scores in Computer studies?

Table 2: Contributions of the Dimensions of Perceived academic stress in the Prediction of Achievement scores in Computer studies

Model	Unstandardized Coefficients		Standardized Coefficients	t	Pvalue
	B	Std. Error	β		
(Constant)	77.535	4.001		19.380	.000
1.Stress related to Academic Expectation	.310	.149	.084	2.082	.038
Stress related to School Work and exam	-.224	.101	-.090	-2.210	.028
Stress related to acad. self-perception	-.168	.083	-.082	-2.011	.045

a. Dependent Variable: Computer studies Achievement score

Table 2 shows the standardized beta coefficient which indicates predictive correlation between individual dimensions of perceived academic stress and achievement score in Computer studies. The unstandardized B coefficient shows the predictive value of each dimension of perceived academic stress which indicates their relative contribution to achievement score in Computer studies. Table 2 shows that achievement in Computer studies increases by .0310 whenever a students' stress relating to academic expectation increases by one unit. Achievement however, decreases by .224 for every unit increase in stress related to school work and examination, by .168 for every unit increase in stress related to academic self-perception. The order of relative contribution to achievement score in Computer studies from the highest to lowest by each dimension of perceived academic stress therefore is; stress related to academic expectation, followed by stress related to school work and examination and stress related to academic self-perception.

Hypothesis 1: Perceived academic stress is not a significant predictor of achievement scores of students in Computer studies.

Table 3**:** Significance of Prediction of Achievement score in Computer studies by Students' Perceived Academic Stress

Model		Sum of Squares	df	Mean Square	F	Pvalue
1	Regression	663.818	1	663.818	4.682	.031[b]
	Residual	84788.175	598	141.786		
	Total	85451.993	599			

a. Dependent Variable: Achievement

b. Predictors: (Constant), Perceived Academic Stress

Table 3 shows that perceived academic stress is a significant predictor of achievement scores in Computer studies, F (1, 598) = 4.682, p < .05. The null hypothesis was therefore rejected meaning that perceived academic stress is a significant predictor of secondary school students' achievement scores in Computer studies. Since perceived academic stress is a significant predictor of achievement scores in Computer studies, the regression model (Y= a + bX) for the prediction of achievement score in Computer studies as derived from Table 1, where constant = 78.968 and b value = -.123 is:

Achievement = 78.968 - 0.126(PAS)

Where, Achievement = Achievement score in Computer studies and PAS = Perceived academic stress.

Hypothesis 2: The relative contributions of the dimensions of perceived academic stress (stress related academic situation, stress related to school work and examination, stress related to students' academic self-perceptions) to prediction of students' academic achievement scores in Computer studies is not significant.

Table 4: Significance of Prediction of Achievement score in Computer studies by the Individual Dimensions of Students' Perceived Academic Stress

Model		Sum of Squares	df	Mean Square	F	Pvalue
1	Regression	1820.450	3	606.817	4.324	.005[b]
	Residual	83631.544	596	140.321		
	Total	85451.993	599			

a. Dependent Variable: Achievement
b. Predictors: (Constant), Stress related to academic self-perception, Stress related to Academic Expectation, Stress related to School Work and exam

Table 4 shows that all the individual dimension of perceived academic stress jointly predicted the students' achievement scores in Computer studies significantly, F (3, 596) = 4.324, p < .05. However, data contained in Table 2 shows the significance of the contributions of the individual dimensions to the prediction of achievement scores in Computer studies.

Table 2 shows that stress related to academic expectation is not a significant predictor of achievement scores in Computer studies, t(3, 596) = 2.082, p < 0.05, stress related to school work and examination is a significant predictor of achievement scores in Computer studies, t(3, 596) = 2.210, p < 0.05, stress related to academic self-perception is a significant predictor of achievement scores in Computer studies, , t(3, 596) = 2.011, p < 0.05. Thus, all the dimensions of perceived academic stress are significant contributors to the achievement score of students in Computer studies in order of significance are stress related to academic expectation, stress related to work and examination and stress related to academic self-perception. However, since the joint prediction of all the dimensions of perceived academic stress in the prediction of achievement score in Computer studies is significant, the regression model ($Y= a + bX_1 +cX_2+cX_3$) for the prediction of achievement score in Computer studies as derived from Table 4.2 is as follows:

Achievement = 77.535 + .310 (SRAE) - .224(SRSWE) - .168(SRAS)

Where, Achievement = Achievement score in Computer studies and SRAE= Stress Related to Academic Expectation, SRSWE = Stress Related to Work and Examination, SRAS = Stress related to Academic Self-perception.

III. Discussion

The findings of the study indicate that students' perceived academic stress significantly predicted 4% of the variance in their Computer studies achievement scores, with each unit increase in stress leading to a decrease of 0.126 in achievement. This suggests that while academic stress is a statistically significant predictor of achievement in Computer studies, its overall contribution to the variance in achievement scores is relatively modest. The negative relationship implies that higher levels of perceived stress are associated with lower academic achievement, which aligns with existing literature on stress and learning outcomes. The study further

breaks down the dimensions of perceived academic stress, revealing that stress related to academic expectations has the strongest negative impact on achievement, followed by stress from schoolwork and examinations, and finally stress stemming from academic self-perception. This hierarchy suggests that external pressures, such as meeting high academic expectations and coping with heavy workloads, may be more detrimental to achievement than internal perceptions of one's academic abilities.

The dominance of academic expectation-related stress as the most significant predictor highlights the role of external pressures, possibly from parents, teachers, or societal standards, in shaping students' stress levels. When students feel overwhelmed by the expectations placed upon them, their ability to perform optimally in Computer studies may be compromised. The second most influential factor, stress from schoolwork and examinations, underscores the challenges posed by rigorous academic demands, including frequent assessments and heavy workloads. This finding resonates with studies that link excessive academic workload and examination pressure to diminished cognitive functioning and reduced academic achievement. The least influential, though still significant, dimension was academic self-perception, which suggests that while students' self-doubt and negative self-evaluations contribute to stress, their impact on achievement may be less direct compared to external stressors.

These findings are supported by previous research in similar contexts. Chukwuemeka (2018) found that perceived academic stress negatively correlated with achievement among Nigerian secondary school students, particularly in subjects requiring high cognitive engagement, such as Computer studies. Adebayo (2019) also reported a negative relationship between academic stress and achievement, with stress from examinations being a major contributor. Adewale (2019) focused on mathematics achievement and similarly found that academic stress significantly predicted lower achievement, particularly when students perceived their workload as unmanageable. Okonkwo (2020) expanded on this by examining different stress dimensions, confirming that external academic pressures had a stronger negative effect than internal self-perception. Agberemi (2020) reinforced these findings in Lagos State, showing that high-stress levels were associated with lower grades, particularly in STEM-related subjects.

Further validation comes from Brown (2021), whose study in Cape Town demonstrated that academic stress was a significant predictor of achievement, with students reporting higher stress levels performing worse in assessments. Finally, Okigbo and Ozumba (2024) specifically examined Computer studies in Awka and found that academic stress, particularly from expectations and examinations, negatively impacted achievement, aligning closely with the current study's findings. Collectively, these studies suggest that while academic stress is a universal challenge in education, its impact varies across dimensions, with external pressures exerting a stronger influence on achievement than internal perceptions.

Conclusion

The study concludes that perceived academic stress has a significant but modest negative impact on students' achievement in Computer studies, with higher stress levels associated with lower achievement. Among the dimensions of stress, academic expectation exerts the greatest negative influence, followed by stress from schoolwork, examinations, and self-perception. These findings suggest that external academic pressures, if not well-managed, can impair students' learning outcomes in technology-related subjects.

Recommendations

The following recommendations are made based on the findings of the study:

1. Teachers and school counsellors should implement regular academic stress screening and provide support systems such as academic mentoring and time management workshops to help students cope effectively with academic demands.
2. Curriculum developers and educational policymakers should design a more balanced and flexible Computer Studies curriculum that reduces pressure from academic expectations and allows

students adequate time for comprehension and application.

3. Parents and guardians should be sensitized to set realistic academic expectations for their children and offer support to reduce the burden of achievement anxiety.

REFERENCES

[1] Adebayo, S. O. and Adekunle, F. R. (2019). Academic stress and its impact on students' academic performance in technical subjects. *International Journal of Educational Psychology, 18*(2), 89–102

[2] Adewale, R. (2019). The role of academic stress in predicting the performance of secondary school students in mathematics in Oyo State, Nigeria. *African Journal of Mathematics Education, 8*(3), 56-70.

[3] Adeyemo, A. A. and Adegoke, T. A. (2020). The role of computer studies in preparing Nigerian students for global competitiveness. *Journal of Educational Technology and Research, 15*(3), 120–132.

[4] Agberemi, M. (2020). The impact of perceived academic stress on the academic performance of senior secondary students in Lagos State, Nigeria. *Journal of Educational Research in Nigeria, 12*(4), 45-57.

[5] Brown, L. (2021). Perceived academic stress and achievement among secondary school learners in Cape Town. *South African Journal of Education, 35*(2), 103-118.

[6] Eze, C. F. and Udo, I. A. (2021). Digital resource challenges in teaching computer studies in Nigerian schools. *Nigerian Journal of Educational Development, 14*(4), 233–248.

[7] Geng, Y., Zhang, J. and Zhou, Y. (2018). Influence of academic stress on mental health and academic achievement in university students: A mediation model. *Journal of Psychological Research and Behavior Management, 11*, 401–410.

[8] Kumari, M. (2021). Academic stress and its impact on students: A study on college students. *International Journal of Education and Research, 9*(1), 54–67.

[9] Lee, J. and Lee, K. (2018). Perceived academic stress in adolescents and its association with resilience and emotional well-being. *Asian Journal of Social Psychology, 21*(4), 251–260.

[10] Okafor, J. E. and Nnamdi, A. C. (2020). Barriers to effective teaching of computer studies in secondary schools. *Nigerian Journal of Education, 13*(2), 78–94.

[11] Reddy, V., Kamble, S. and Malathi, R. (2020). Perceived stress and academic performance among college students. *Indian Journal of Health and Wellbeing, 11*(2), 123–129.

[12] Wang, Y., Liu, C. and Li, J. (2020). Peer effects and academic stress: Evidence from China. *China Economic Review, 62*, 101-118.