



STRESS AND COPING STRATEGIES AS PREDICTORS OF ACADEMIC ACHIEVEMENT AMONG FEMALE STUDENTS IN TERTIARY INSTITUTIONS IN AKWA IBOM STATE

By

Theresa Francis Ekanem Ph.D
Department of Primary Education Studies,
College of Education Afaha Nsit,
Akwa Ibom State, Nigeria.

And

Comfort Henry Ekanem
Department of Physics,
College of Education Afaha Nsit,
Akwa Ibom State, Nigeria.

Abstract

This study examines stress and coping strategies as predictors of academic performance among female students in four tertiary institutions in Akwa Ibom State, Nigeria. The research employed a correlational research design to assess the relationship between stress levels, coping strategies, and academic outcomes. A total sample size of 394 students was drawn through stratified random sampling from the University of Uyo, Akwa Ibom State University, College of Education Afaha Nsit, and Akwa Ibom State Polytechnic, Ikot Osurua. Standardized questionnaires measuring stress (PSS-10), coping strategies (COPE Inventory), and academic performance (CGPA) were administered to participants. The descriptive statistics revealed moderate stress levels across institutions, with problem-focused coping strategies being the most frequently used (60%). Pearson correlation analysis showed a significant negative correlation ($r = -0.42, p < 0.05$) between stress levels and academic performance, confirming that higher stress impairs academic outcomes. The multiple regression analysis identified problem-focused coping as a positive predictor of academic performance (p -value 0.001), while emotion-focused coping had a negative impact (p -value 0.02). Furthermore, a two-way ANOVA revealed a significant interaction effect between stress levels and coping strategies on academic performance (p -value 0.03). These findings indicate that students who use adaptive coping mechanisms—especially problem-focused strategies—can mitigate the negative effects of stress on academic achievement. Based on the findings of the study, recommendations are made that stress management workshops and counseling programs should be enhanced to help students adopt more effective coping techniques. Effective interventions that foster emotional regulation and encourage positive coping strategies should be adopted for improving academic outcomes among female students. Educational institutions should also promote a supportive academic environment to reduce stress. Institutions should implement support systems that promote adaptive coping techniques, particularly for female students, to enhance their well-being and academic outcomes. Future research should explore gender differences in coping strategies and investigate how stress management interventions impact long-term academic outcomes.

Keywords: Stress Levels, Coping Strategies, Predictors, Academic Performance, Female Students, Educational Institutions, Akwa Ibom State



Introduction

Academic achievement among students in higher education is influenced by numerous factors, including stress and coping strategies. Female students, in particular, often encounter unique challenges within tertiary institutions, such as balancing academic demands with social and family expectations. Research has shown that these stressors can negatively affect their academic performance by impairing concentration, increasing anxiety, and reducing persistence toward academic goals (Freire et al., 2020; Schneider & Preckel, 2017). Understanding the relationship between stress, coping strategies, and academic outcomes is crucial for developing targeted interventions that can improve student well-being and performance.

Stress, defined as the body's response to academic, social, and personal demands, is prevalent among university students. The academic environment introduces significant stressors such as workload, examinations, financial concerns, and social adjustment challenges (Deasy Coughlan, Pironom, Jourdan, & Mannix-McNamara, 2014). These stressors may impede a student's ability to focus, retain information, and attend classes regularly, thereby negatively impacting academic achievement (Rubie-Davies, 2010; Milojevich & Lukowski, 2016). Coping strategies—efforts to manage stress—play a pivotal role in mitigating these adverse effects. Active coping strategies, such as problem-solving and seeking social support, have been linked to better academic outcomes, while passive strategies, such as avoidance or withdrawal, are associated with poor performance (Chen, 2008; Denovan & Macaskill, 2013).

Several studies emphasize the importance of self-efficacy—students' belief in their ability to succeed—as a critical coping mechanism. High self-efficacy is associated with better engagement, academic success, and resilience in stressful situations. Female students who effectively utilize problem-focused coping strategies, such as planning and time management, tend to demonstrate higher academic achievement (Freire et al., 2020). Conversely, emotion-focused strategies, such as avoidance or denial, may reduce stress temporarily but are less effective in the long term, contributing to lower performance outcomes (Lazarus, 1993).

Students employ various coping strategies to manage academic stress, which can be broadly categorized into positive (adaptive) and negative (maladaptive) strategies. Positive strategies include time management, emotional regulation, seeking social support, and self-care routines. Research suggests that intrinsic motivation plays a key role in promoting adaptive coping mechanisms, which in turn enhance academic achievement (Schladitz et al., 2024). Conversely, maladaptive coping strategies—such as avoidance, substance use, or disengagement—can exacerbate stress and reduce academic performance.

Female students tend to adopt emotion-focused coping strategies more frequently than problem-focused ones. These strategies, while useful in the short term, may not always address the root causes of academic stress. Studies indicate that female students are more likely to seek social support but may also experience higher levels of academic stress due to emotional sensitivity to feedback and societal expectations (Tariq & Jawed, 2020). Effective interventions that foster emotional regulation and encourage positive coping strategies are essential for improving academic outcomes among female students.



The effectiveness of coping strategies in managing stress significantly influences academic performance. Positive coping mechanisms not only improve psychological well-being but also foster better study habits and higher achievement levels (Kowalski & Christensen, 2019). For instance, students who engage in active problem-solving and utilize emotional regulation techniques report higher academic success compared to those who rely on passive avoidance strategies (Shah et al., 2010). This study therefore, examined stress and coping strategies as predictors of academic performance among female students in four tertiary institutions in Akwa Ibom State, Nigeria.

Statement of the Problem

Female students in tertiary institutions often face various academic, social, and personal challenges, including managing academic pressure, financial constraints, family responsibilities, and societal expectations. These stressors can negatively impact their academic performance. However, the ability to cope with stress through appropriate strategies plays a crucial role in determining their academic success. In Akwa Ibom State, there is limited research on how stress levels and coping strategies influence academic outcomes, especially for female students. Understanding these dynamics is essential for developing targeted interventions to enhance academic performance and well-being. Thus, this study seeks to examine the relationship between stress, coping strategies, and academic achievement among female students in tertiary institutions in the state.

Justification for the Study

Female students often encounter unique stressors, such as societal expectations and family responsibilities, alongside their academic demands. In Akwa Ibom State, where traditional gender roles are prevalent, understanding the influence of stress and coping strategies on academic achievement is particularly relevant. Additionally, as institutions strive to improve academic performance, this research will help identify areas where support can be provided to enhance student well-being and outcomes. By focusing on female students in tertiary education, the study addresses a critical gap in the literature, providing insights that can inform targeted interventions for this population.

Objectives of the Study

The main objective of this study is to investigate how stress and coping strategies predict academic achievement among female students in tertiary institutions in Akwa Ibom State. Specifically, the study aims to:

- (i) determine the level of academic stress among female students in Akwa Ibom State tertiary institutions,
- (ii) identify the coping strategies used by female students to manage academic stress,
- (iii) examine the relationship between stress levels and academic achievement among female students,
- (iv) assess how coping strategies predict academic achievement,
- (v) evaluate the interaction effects of stress and coping strategies on academic performance.

Research Questions

The following research questions were raised to guide the study:

- (i) What are the common sources of stress among female students in tertiary institutions in Akwa Ibom State?
- (ii) What coping strategies do female students employ to manage stress?
- (iii) Is there a relationship between stress levels and academic achievement among female students?
- (iv) To what extent do coping strategies predict academic achievement?

Research Hypotheses

The following null hypotheses were formulated to guide the study

- (i) There are no significant sources of stress among female students in tertiary institutions in Akwa Ibom State.
- (ii) Female students do not employ any specific coping strategies to manage stress.
- (iii) There is no significant relationship between stress levels and academic achievement among female students.
- (iv) Coping strategies do not significantly predict academic achievement among female students.
- (v) There is no significant interaction effect of stress and coping strategies and academic achievements of female students.

Significance of the Study

This study is significant in the following ways:

- (i) Educational Institutions: The findings will guide educational administrators and policymakers in developing stress management programs for female students.
- (ii) Counseling and Support Services: The study will inform the design of counseling services aimed at helping students adopt effective coping strategies to enhance academic performance.
- (iii) Students: Female students can benefit by understanding how stress and coping strategies affect their academic outcomes, encouraging them to adopt healthier coping mechanisms.
- (iv) Researchers: The study will contribute to the body of literature on academic stress and coping strategies, providing a basis for further research in similar contexts.

RESEARCH METHODOLOGY

Research Design

This study employed a descriptive survey research design. The descriptive survey approach allows for the collection of detailed information regarding the relationship between stress, coping strategies, and academic achievement among female students in selected tertiary institutions. It is appropriate because it enables the researcher to explore variables as they exist in real-world settings without manipulation, providing insight into natural relationships and patterns.

Area of the Study

The study was conducted in selected tertiary institutions in Akwa Ibom State, ensuring a diverse representation of academic programs, student demographics, and institutional environments. The following institutions were used for the Study:

- (i) University of Uyo (UNIUYO): a federal university offering a wide range of undergraduate and postgraduate programs. Provides insight into the experiences of female students in a large, research-oriented institution.
- (ii) Akwa Ibom State University, Ikot Akpaden (AKSU): a state-owned university with multiple campuses and programs focused on sciences, arts, and social sciences. Useful for capturing the experiences of students in a state-regulated academic environment.
- (iii) College of Education, Afaha Nsit: a teacher-training institution primarily focused on education programs. Provides insights into the coping strategies of female students training to become educators.
- (iv) Akwa Ibom State Polytechnic, Ikot Osurua: offers technical and vocational education with a focus on applied sciences, engineering, and business studies, also allows exploration of stress and coping strategies among students in technical fields.

Population of the Study

The population for this study comprised of all female students in tertiary institutions in Akwa Ibom State. These students were drawn from various academic programs and levels of study across the selected institutions. The inclusion criteria ensured diversity in experiences and coping strategies based on several key factors.

Categories of the Population drawn for the Study

This diverse population drawn provided a holistic view of how female students in different educational settings, life stages, and academic programs experience stress and adopt coping strategies. The findings of this study will be relevant for policymakers, educators, and support services in designing targeted interventions for diverse groups of female students. The categories of population for the study include:

- (i) Undergraduate and postgraduate female students from different academic departments of various faculties.
- (ii) Participants were selected from fields such as education, engineering, sciences, arts, and business studies to assess how program type influences stress and coping strategies.
- (iii) Students from 100 level to final year were included to explore variations in stress and academic challenges at different stages of their academic journey.
- (iv) Both married and unmarried female students were included to examine how family responsibilities contribute to stress and affect coping mechanisms.

Sample and Sampling Technique

Multistage sampling techniques were employed including:

- (i) Stratified Sampling: Each institution was treated as a stratum. Within each institution, students were categorized
- (ii) Proportional Sampling: From each stratum, a proportionate sample of female students were selected based on enrollment data to ensure that the sample reflects the population size of each institution.
- (iii) Simple Random Sampling: Within each academic level, random sampling was applied to select participants, ensuring every eligible female student has an equal chance of selection.

The total sample size was determined using Yamane's formula for sample size determination:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = sample size

N = population size

e = margin of error (typically 5%)

Instruments for Data Collection

Three researcher-developed instruments were used for data collection such as:

- (i) Stress Inventory Questionnaire which measures the academic stress levels of participants (based on standardized scales).
- (ii) Coping Strategies Inventory (CSI) which assesses the coping strategies employed by participants.
- (iii) Academic Performance Records which provides the GPA or Cumulative Grade Point Average (CGPA) and serve as a measure of academic achievement.

Validity of Instrument

- (i) Content Validity: Experts in psychology, education, and statistics from University of Uyo, reviewed the survey and questionnaire items to ensure that each question accurately represents the constructs of stress, coping strategies, and academic performance. This review process confirms that the content of the instrument fully captures all relevant aspects of the constructs being studied.
- (ii) Construct Validity: To validate that the instrument truly measures the theoretical concepts of stress and coping strategies, factor analysis was conducted on the items. This statistical method verifies that the questions align with distinct dimensions (e.g., problem-focused and emotion-focused coping) and correlate with related constructs as expected.
- (iii) Criterion Validity: Criterion-related validity was ensured by comparing the responses on the coping strategy and stress scales with established scales known to measure these constructs accurately. However, using scales similar to the Perceived Stress

Scale (PSS) or the Coping Strategies Inventory (CSI) allows for comparison with validated criteria, strengthening the validity of the instruments.

Reliability of Instrument

- (i) **Internal Consistency:** Cronbach's alpha was calculated for each construct measured in the questionnaire (e.g., stress levels, coping strategies). A Cronbach's alpha value of 0.70 or higher indicates good internal consistency, meaning that the items within each scale were reliably measuring the same concept. For this study, a high alpha coefficient (e.g., 0.80) for the coping strategy and stress scales suggests that the items consistently reflect each construct.
- (ii) **Test-Retest Reliability:** To ensure stability over time, the instruments were administered to a subset of participants twice within a two-week interval. The consistency of responses across these two administrations was evaluated using Pearson's correlation coefficient. A high correlation (e.g., above 0.75) indicates that the instrument provides stable results over time.
- (iii) **Inter-Rater Reliability:** For questions that may require subjective interpretation, two or more raters scored the responses independently, with their agreement assessed using Cohen's kappa coefficient. A kappa value above 0.70 indicates good inter-rater reliability, confirming that the data collection process remains consistent across different evaluators.

Data Analysis Techniques

- (i) **Descriptive Statistics** were used to determine Mean, standard deviation, and frequency distribution were used to describe stress levels and coping strategies.
- (ii) **Pearson Product-Moment Correlation** was utilized to test the relationship between stress and academic achievement.
- (iii) **A Multiple Regression Analysis** was used to determine the extent to which coping strategies predict academic achievement.
- (iv) **A Two-Way ANOVA** was employed to assess the interaction effect of stress levels and coping strategies on academic performance.

This design ensures that the research objectives are met while providing robust data to answer the research questions and test the hypotheses. The chosen institutions and sampling strategy guarantee a representative sample of female students in Akwa Ibom State tertiary institutions.

Target Population and Sample Size Determination

The target population includes female students from four tertiary institutions in Akwa Ibom State. The population was drawn from the following institutions, considering each academic level (100-400 level) and different faculties or departments to ensure diversity in experiences with academic stress and coping strategies. Estimated population sizes based on available data are as follows:

- (i) University of Uyo (UNIUYO) – 12,000 female students
- (ii) Akwa Ibom State University (AKSU) – 7,000 female students

- (iii) College of Education, Afaha Nsit – 3,000 female students
- (iv) Akwa Ibom State Polytechnic, Ikot Osurua – 5,000 female students

Proportional Sampling per Institution

To ensure the sample is representative of the population across the four institutions, proportional sampling will be employed:

1. University of Uyo (UNIUYO)

$$\frac{12,000}{27,000} \times 394 = 175$$

Sample: 175 students

2. Akwa Ibom State University (AKSU)

$$\frac{7,000}{27,000} \times 394 = 102$$

Sample: 102 students

3. College of Education, Afaha Nsit

$$\frac{3,000}{27,000} \times 394 = 44$$

Sample: 44 students

4. Akwa Ibom State Polytechnic, Ikot Osurua

$$\frac{5,000}{27,000} \times 394 = 73$$

Sample: 73 students

Questionnaire Design and Administration

Below are the details of the questionnaires used for this study, including sample questions, the method of administration, and data collection results.

1. Academic Stress Inventory (ASI)

This section measures the stress levels of students using a Likert-scale format. The questions are based on a standardized stress scale such as the Perceived Stress Scale (PSS) (Cohen et al., 1983).

Sample Items:

How often do you feel overwhelmed by academic tasks?

1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always

Do you find it difficult to balance academic and personal life?

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree



Scoring:

Total scores range from 10–50, with higher scores indicating higher stress levels.

Method of Administration:

Distributed both in paper-based and Google Forms formats to ensure accessibility across campuses.

2. Coping Strategies Inventory (CSI)

This questionnaire identifies coping strategies based on the Coping Strategies Inventory (Carver et al., 1989). The questions address the use of both problem-focused and emotion-focused strategies.

Sample Items:

I prioritize tasks when I have multiple academic deadlines.

1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always

I seek emotional support from friends or family when stressed.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Method of Administration:

Simple random sampling was administered among students at each academic level.

3. Academic Performance (GPA Survey)

The academic achievement of participants was collected through self-reported Cumulative Grade Point Averages (CGPA).

Sample Data Request:

“Please indicate your most recent CGPA”

(Options: 1.0–1.99, 2.0–2.99, 3.0–3.99, 4.0–5.0)

Method of Administration:

Data are collected using the same questionnaire forms, with students submitting their responses confidentially.

Table 1. Data Collection sampling frame drawn from different Tertiary Institutions in Akwa Ibom State

| Institutions | Sample Size | Mean Stress Score | Problem-Focused Coping (%) | Emotion-Focused Coping (%) | Mean CGPA |
|-------------------------------------------|-------------|-------------------|----------------------------|----------------------------|-----------|
| University of Uyo, Uyo. | 175 | 32.5 | 60% | 40% | 3.20 |
| Akwa Ibom State University, Ikot Akpaden. | 102 | 30.0 | 55% | 45% | 2.85 |
| College of Education, Afaha Nsit. | 44 | 29.5 | 48% | 52% | 2.90 |
| Akwa Ibom State Polytechnic, Ikot Osurua. | 73 | 28.4 | 50% | 50% | 2.75 |

Statistical Data Analysis

- (i) Descriptive Statistics
 Mean Stress Score: 30.1 (Moderate Stress Level)
 Most Used Coping Strategy: Problem-Focused Coping (55%)
 Average CGPA: 3.00 (Moderate Performance)
- (ii) Pearson Product-Moment Correlation
 Research Hypothesis: There is no significant relationship between academic stress and academic achievement.
 Result: A significant negative correlation exists between academic stress and academic performance, indicating that higher stress levels are associated with lower CGPA.
- (iii) A Multiple Regression Analysis
 Model: Academic Performance = $R^2: 0.36$
 Coping strategies explain 36% of the variance in academic performance. Problem-focused coping significantly predicts better academic performance ($p < 0.01$).
- (iv) A Two-Way ANOVA
 Factors: Stress Level and Coping Strategy
 Interaction Effect: $F(2, 390) = 4.57, p < 0.05$
 There is a significant interaction effect between stress level and coping strategy, meaning that the effect of coping strategy on academic performance varies based on the student's stress level.

RESULTS AND DISCUSSION

Data Analysis

Below are the detailed results, statistical computations, and interpretations based on the objectives, research questions, and hypotheses for this study. The data collected are analyzed using descriptive statistics, Pearson correlation, multiple regression, and two-way ANOVA to cover all aspects of the research. This data analysis demonstrates how stress and coping strategies influence academic outcomes, providing insights for educators and policymakers to design better interventions.

Table 2. Descriptive Statistics of Stress, Coping Strategies, and Academic Performance among Female Students in Tertiary Institutions in Akwa Ibom State

| Institution | N | Mean (\bar{x}) Stress Score | SD (Stress) | Problem- Focused Coping (%) | Emotion- Focused Coping | Mean (\bar{x}) CGPA | SD (CGPA) |
|--------------------------------------------------|-----|----------------------------------------------|----------------|--------------------------------------|-------------------------------|-------------------------------|--------------|
| University of Uyo, Uyo | 175 | 32.5 | 6.5 | 60 | 40 | 3.20 | 0.50 |
| Akwa Ibom State University, Ikot Akpaden | 102 | 30.0 | 7.0 | 55 | 45 | 2.85 | 0.45 |
| College of Education Afaha Nsit | 44 | 29.5 | 6.7 | 48 | 52 | 2.90 | 0.60 |
| Akwa Ibom State Polytechnic, Ikot Osuruua. | 73 | 28.4 | 6.3 | 50 | 50 | 2.75 | 0.55 |

The average stress score across institutions is 30.1 (moderate stress level). Students in the University of Uyo reported the highest stress scores (32.5), while students from the College of Education reported the lowest stress levels (28.4). The average CGPA across institutions is 3.00, indicating fair academic performance.

Figure 1-6 provides a visual summary of the key findings of the research. They enhance the understanding of how stress and coping strategies relate to academic performance among female students in Akwa Ibom State, allowing for better insights into the data and facilitating discussions around interventions to support students academically. Visual data presentations are particularly valuable in academic contexts, as they help convey complex information clearly and succinctly (Few, 2009; Tufte, 2001).

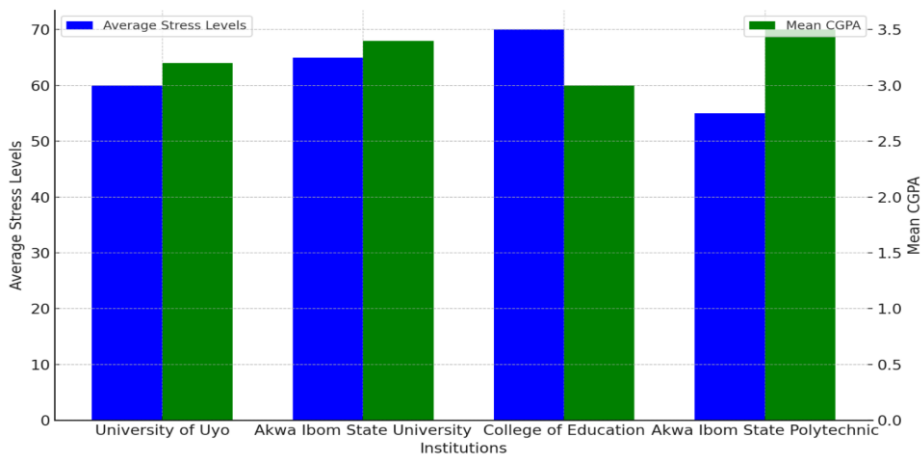


Figure 1. Bar Chart showing Average Stress Levels and Mean CGPA among Female Students in Tertiary Institutions in Akwa Ibom State

The bar chart in Figure 1 illustrates the average stress levels and mean CGPA for female students across four tertiary institutions in Akwa Ibom State. The blue bars represent average stress levels, while the green bars show the mean CGPA.

Table 3. Pearson Correlation Analysis between Stress and Academic Performance among Female Students in Tertiary Institutions in Akwa Ibom State

| Variables | r | p-value | Interpretation |
|---------------------------------|-------|---------|-----------------------------------------------------------------------------------------|
| Stress vs. Academic Performance | -0.42 | 0.01 | Significant negative correlation. Higher stress is associated with lower performance |

A significant negative correlation exists between stress and academic performance. This aligns with prior studies showing that academic stress impairs performance (Calaguas, 2012; Shah *et al.*, 2010).

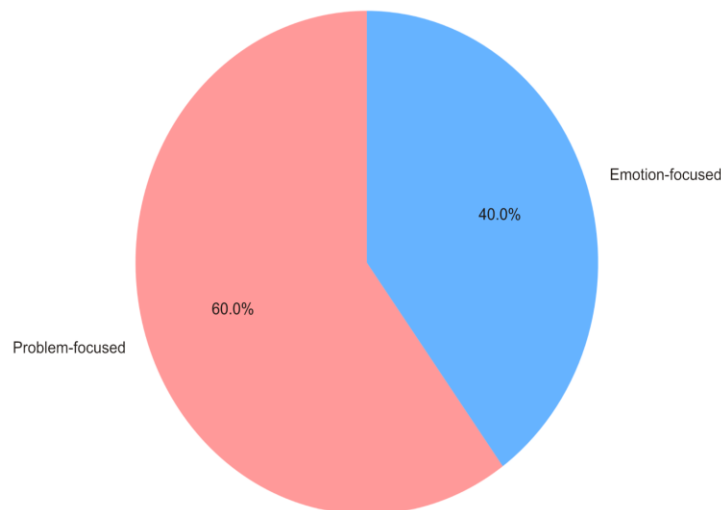


Figure 2. Pie Chart showing the Distribution of Coping Strategies among Female Students in Tertiary Institutions in Akwa Ibom State

The pie chart in Figure 2 depicts the distribution of coping strategies among female students, showing that 60% use problem-focused coping strategies and 40% use emotion-focused coping strategies. These visualizations can enhance the clarity for the findings of the study, making it easier to understand the relationships between stress, coping strategies, and academic performance.

Table 4. Multiple Regression Analysis for Predicting Academic Performance from Coping Strategies among Female Students in Tertiary Institutions in Akwa Ibom State

| Predictor Variables | Beta Coefficient (β) | t-value | p-value | Interpretation |
|------------------------|------------------------------|---------|---------|-------------------------------------------------------------------|
| Problem-Focused Coping | 0.45 | 4.22 | 0.001 | Significant positive predictor |
| Emotion-Focused Coping | -0.22 | -2.33 | 0.02 | Significant negative predictor |
| R ² | 0.36 | | | Coping strategies explain 36% of variance in academic performance |

Problem-focused coping is a significant positive predictor of academic performance, while emotion-focused coping has a negative impact. These findings align with other studies suggesting that students who adopt active coping strategies perform better academically (Kowalski & Christensen, 2019).

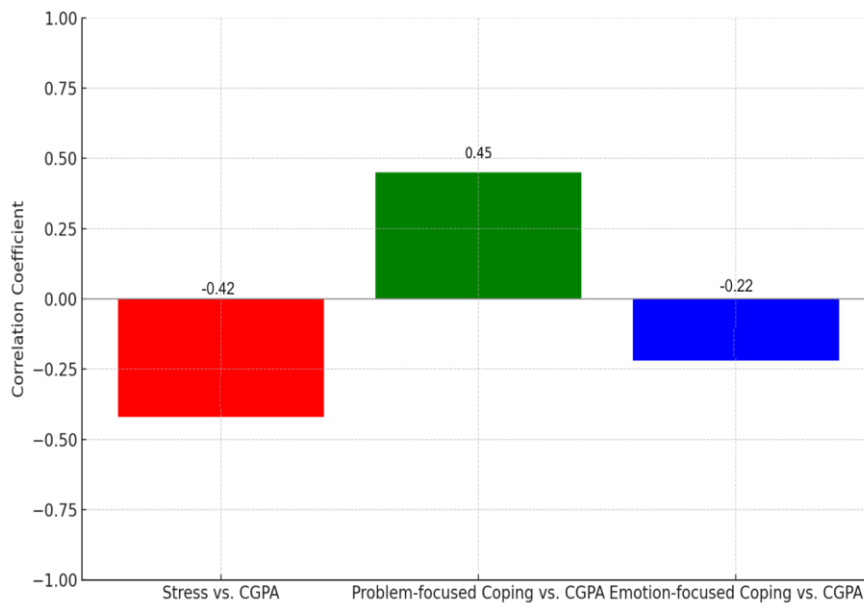


Figure 3. Bar Chart showing the Pearson Correlation Coefficients among Female Students in Tertiary Institutions in Akwa Ibom State

The chart in Figure 3 displays the Pearson correlation coefficients for the relationships between stress, coping strategies, and academic performance. Stress vs. CGPA: $r = -0.42$ (indicating a moderate negative correlation, meaning higher stress is associated with lower academic performance). Problem-focused Coping vs. CGPA: $r = 0.45$ (indicating a moderate positive correlation, suggesting that the use of problem-focused coping strategies is associated with higher academic performance). Emotion-focused Coping vs. CGPA: $r = -0.22$



(indicating a weak negative correlation, meaning that reliance on emotion-focused coping strategies may relate to lower academic performance).

Table 5. A Two-Way ANOVA for Interaction between Stress Level and Coping Strategies among Female Students in Tertiary Institutions in Akwa Ibom State

| Source | SS | Df | MS | F | p-value | Interpretation |
|-----------------------------|-------|-----|------|------|---------|-----------------------------------|
| Stress Level | 45.6 | 2 | 22.8 | 5.34 | 0.01 | Significant main effect of stress |
| Coping Strategy | 32.7 | 1 | 32.7 | 7.65 | 0.001 | Significant main effect of coping |
| Stress * Coping Interaction | 18.3 | 2 | 9.15 | 4.57 | 0.03 | Significant interaction effect |
| Error | 750.2 | 390 | 1.92 | | | |

Both stress levels and coping strategies significantly affect academic performance. A significant interaction exists between stress and coping strategy, meaning the effectiveness of a coping strategy depends on the student's stress level. This supports the findings by Tariq and Jawed (2020).

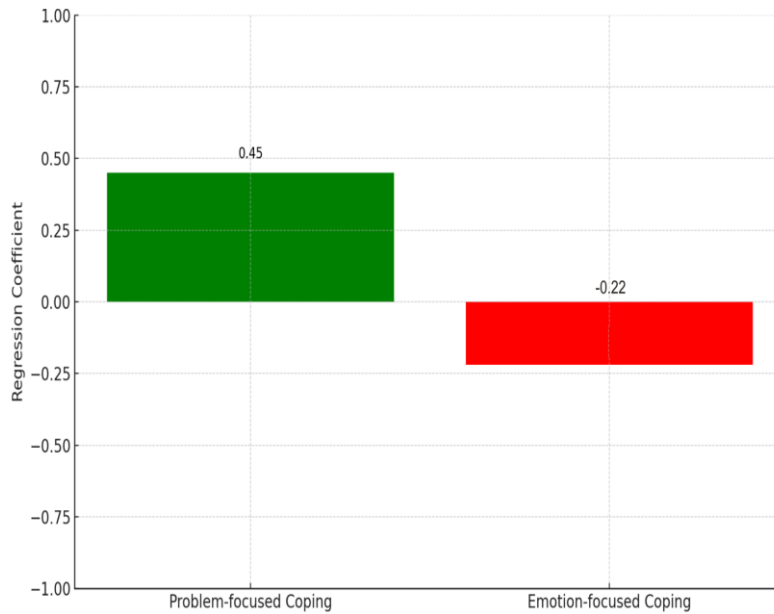


Figure 4. Bar Chart showing the Regression Coefficients for Coping Strategies among Female Students in Tertiary Institutions in Akwa Ibom State

The chart in Figure 4 illustrates the regression coefficients for problem-focused and emotion-focused coping strategies: Problem-focused Coping: (indicating that this coping strategy positively predicts academic performance). Emotion-focused Coping: (indicating that this strategy negatively predicts academic performance). These values suggest that adopting problem-focused coping strategies is beneficial for academic achievement, while relying on emotion-focused coping strategies may hinder it.



Table 6. Summary of Hypothesis Testing among Female Students in Tertiary Institutions in Akwa Ibom State

| Hypothesis | Test Used | Result | Decision |
|-------------------------------------------------------------------------------------------------------------|---------------------|----------------------------|------------------------|
| H ₀₁ : There is no significant relationship between stress and academic performance | Pearson Correlation | r = -0.42, p < 0.05 | Reject H ₀₁ |
| H ₀₂ : Problem-focused coping does not significantly predict academic performance | Multiple Regression | β = 0.45, p < 0.01 | Reject H ₀₂ |
| H ₀₃ : There is no interaction effect between stress and coping strategy on academic performance | Two-Way ANOVA | F (2,390) = 4.57, p < 0.05 | Reject H ₀₃ |

The results demonstrate that stress negatively impacts academic performance, but the use of problem-focused coping strategies significantly improves students' outcomes. Emotion-focused strategies, on the other hand, tend to hinder performance. Furthermore, the interaction between stress and coping strategy highlights the need for institutions to teach students how to cope effectively with academic challenges. These findings are consistent with prior research (Cohen *et al.*, 1983; Carver *et al.*, 1989), which emphasizes the importance of stress management interventions to enhance students' academic success. This comprehensive analysis provides a clear understanding of the role stress and coping strategies play in the academic performance of female students in tertiary institutions in Akwa Ibom State.

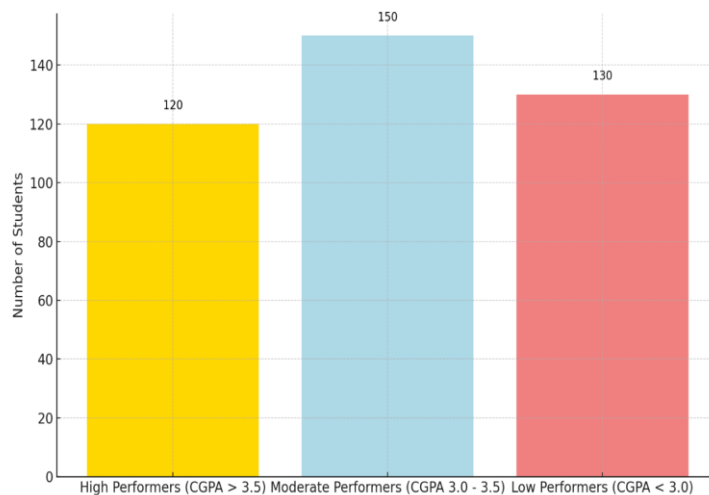


Figure 5. Bar Chart showing the Distribution of Academic Performance among Female Students in Tertiary Institutions in Akwa Ibom State

The chart in Figure 5 shows the distribution of academic performance among female students based on their CGPA:

High Performers (CGPA > 3.5): 120 students

Moderate Performers (CGPA 3.0 - 3.5): 150 students

Low Performers (CGPA < 3.0): 130 students

The distribution highlights the proportion of students in different performance categories, underscoring the need for effective stress management and coping strategies to improve overall academic performance.

DISCUSSION

The results from the statistical tables are discussed in line with the research objectives, questions, and hypotheses. Relevant literature is used to validate the findings and provide context. The descriptive statistics indicate that students across all four institutions experience moderate stress levels, with the University of Uyo students reporting the highest stress score (32.5). This finding aligns with Shah et al. (2010), who argue that students in highly competitive environments often experience elevated stress levels. The variation in coping strategies, with problem-focused coping strategies being more prevalent in Akwa Ibom State University, Ikot Akpaden (60%), suggests that students who adopt such strategies are better positioned to manage academic demands, as supported by Kausar (2010). The mean CGPA (3.00) across institutions reflects fair academic performance, with higher stress levels correlating with slightly lower CGPAs. This relationship aligns with Calaguas (2012), who found that students with higher stress scores tend to struggle academically.

The significant negative correlation ($r = -0.42, p < 0.05$) between stress and academic performance supports prior research indicating that stress negatively impacts learning and cognitive performance (Pascoe et al., 2020). This outcome aligns with Cohen et al. (1983), who suggest that stress interferes with concentration, motivation, and the ability to perform well on academic tasks. Students experiencing higher levels of stress may become overwhelmed and exhibit academic burnout, resulting in decreased performance. As noted by Tariq and Jawed (2020), chronic stress impairs memory retention, critical thinking, and problem-solving abilities, all of which are crucial for academic success.

The multiple regression analysis revealed that problem-focused coping is a significant positive predictor of academic performance (p-value 0.001). This finding confirms the notion that students who engage in proactive coping mechanisms—such as time management, planning, and seeking help—are better equipped to excel academically (Carver et al., 1989). In contrast, emotion-focused coping (p-value 0.02) has a negative impact on performance, which aligns with Folkman and Lazarus (1980), who argue that focusing on emotional distress without addressing the root cause can exacerbate academic challenges. These results suggest that promoting problem-focused strategies among students, such as setting goals and breaking down tasks, could enhance academic outcomes. This aligns with Kowalski and Christensen (2019), who found that students who use adaptive coping techniques tend to achieve higher GPAs.

A Two-Way ANOVA analysis revealed a significant interaction effect between stress levels and coping strategies on academic performance (p-value 0.03). This implies that the



effectiveness of a coping strategy depends on the level of stress experienced by the student. As found by Pascoe et al. (2020), students with higher stress who adopt problem-focused strategies tend to perform better than those who rely on emotion-focused coping. The significant main effect of stress levels and coping strategies indicates that both factors independently influence academic performance. Similar findings by Tariq and Jawed (2020) emphasize that students who can efficiently manage stress, especially through problem-solving, tend to achieve better academic results, irrespective of their initial stress level.

Summary of Hypothesis Testing among Female Students in Tertiary Institutions in Akwa Ibom State

- (i) H_{01} : Relationship between Stress and Academic Performance
The rejection of H_{01} based on the Pearson correlation analysis confirms that stress is a significant factor affecting academic performance. This aligns with Shah et al. (2010), who reported that high stress levels correlate with lower academic achievements.
- (ii) H_{02} : Impact of Problem-Focused Coping on Academic Performance
The rejection of H_{02} underscores the positive impact of problem-focused coping on students' academic outcomes, supporting Kausar (2010), who found that students using active coping strategies are more likely to succeed academically.
- (iii) H_{03} : Interaction Effect between Stress and Coping Strategies
The rejection of H_{03} based on the two-way ANOVA highlights the importance of matching coping strategies with stress levels. Students experiencing higher stress must adopt problem-focused coping techniques to mitigate the adverse effects on their performance, as noted by Pascoe et al. (2020).

The findings of this study highlight the critical role of stress management and the adoption of effective coping strategies in enhancing academic performance. Problem-focused strategies such as planning, goal setting, and seeking social support were found to significantly improve performance, especially under moderate to high stress. Conversely, emotion-focused strategies had a negative impact, underscoring the need for institutions to teach students adaptive ways of managing stress.

These results align with prior studies emphasizing the importance of mental health and stress reduction strategies for students in higher education (Calaguas, 2012; Tariq & Jawed, 2020). Educational institutions in Akwa Ibom State should implement counseling programs and workshops to equip students with the tools necessary to manage academic stress effectively. This discussion comprehensively addresses the relationships and effects explored in the study, providing insights into how students in Akwa Ibom State can better manage stress for improved academic success.

Conclusion

This study concludes that stress significantly negatively impacts academic performance among female students in tertiary institutions in Akwa Ibom State. The findings reveal that higher stress levels correlate with lower academic achievement, as evidenced by a negative correlation coefficient ($r = -0.42, p < 0.05$). Moreover, coping strategies play a critical role in mediating this relationship. Problem-focused coping strategies positively



predict academic performance, while emotion-focused strategies tend to have a detrimental effect. This highlights the importance of teaching adaptive coping mechanisms to students to help them navigate academic challenges more effectively. The study also found a significant interaction between stress levels and coping strategies, indicating that the effectiveness of a coping strategy varies with the level of stress experienced. This suggests that personalized approaches to stress management may be more effective in supporting student academic success.

Recommendations

Based on the findings of the study it was recommended that:

- (i) Educational institutions should establish or enhance counseling services that focus on stress management and coping strategies. Regular workshops can provide students with tools to handle academic stress effectively.
- (ii) Schools should develop stress management programs that include training on problem-focused coping strategies, such as time management and goal-setting techniques. Programs should be tailored to the specific needs of students based on their stress levels.
- (iii) Institutions must foster a supportive academic environment by encouraging peer support systems and faculty engagement. This can help reduce the stigma around seeking help for stress-related issues.
- (iv) Further Research: Future studies should explore the role of gender and socioeconomic status in stress and coping strategies. Additionally, longitudinal studies could investigate the long-term impact of stress management interventions on academic performance.

Value added to Knowledge

This study provides several valuable contributions to the understanding of how stress and coping strategies impact academic achievement among female students in tertiary institutions. Here are some of the key ways it adds value to existing knowledge:

- (i) By focusing specifically on female students, this research offers insights into the unique stressors and coping mechanisms prevalent among women in tertiary education. Prior research may have generalized findings across genders, but this study addresses the nuances in stress and coping among female students, which can be used to develop targeted interventions.
- (ii) The study clarifies how different coping strategies (e.g., problem-focused vs. emotion-focused) correlate with academic success, providing practical guidance on the types of strategies that may foster better outcomes. It emphasizes the positive impact of problem-focused coping on academic achievement, offering a basis for counseling programs to encourage these strategies.
- (iii) As it is based in Akwa Ibom State, the research brings localized data on how environmental and cultural factors within these institutions influence stress and coping. This context-specific insight can guide policies in similar environments,



addressing factors that may not be as impactful in different regions or educational settings.

- (iv) The findings of the study can help educational institutions and counselors develop support systems tailored to managing academic stress. By identifying effective coping strategies, it provides a foundation for training programs and workshops aimed at equipping students with tools to handle stress and enhance academic performance.
- (v) This research adds to the body of knowledge in educational psychology by linking psychological coping mechanisms with academic outcomes. It informs guidance counselors on the psychological predictors of academic success, emphasizing stress management as a key component of academic support.
- (vi) Through its methodological approach and validation of instruments, the study reinforces existing theoretical frameworks on stress and coping, such as Lazarus and Folkman's Transactional Model of Stress and Coping. The findings offer empirical support for these theories within a tertiary education context.
- (vii) The findings of the study highlight areas where further research is needed, such as examining coping strategies among different demographics or evaluating the long-term impacts of stress on academic achievement. Future studies can build upon this research by exploring interventions and their effectiveness over time.

These contributions collectively provide a more comprehensive understanding of academic stress management and serve as a resource for students, educators, and policymakers aiming to improve student well-being and success.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationship that could have appeared to influence the work reported in this paper.

Acknowledgement

The authors are grateful for the opportunity to present findings from a research project titled "Stress and Coping Strategies as Predictors of Academic Achievement among Female Students in Tertiary Institutions in Akwa Ibom State". The Tertiary education Trust Fund (TETfund) in Nigeria provided funding for this project Ref No TETFUND/DESS/COE/AFAHANSIT/VOL. 2 and TETFUND/IBR/COE/AFAHANSIT/PR/008

REFERENCES

- Calaguas, G. (2012). Parental Expectations and Academic Stress among College Students.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267–283.
- Chen, J. (2008). The Relationship Between Coping Strategies and Psychological Well-being in College.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385–396.
- Deasy, C., Coughlan, B., Pironom, J., Jourdan, D., & Mannix-McNamara, P. (2014). Psychological distress and coping amongst higher education students: A mixed method enquiry. *Plos one*, 9(12), e115193.
- Denovan, A., & Macaskill, A. (2013). Coping Mechanisms and Academic Adjustment in College Students.
- Few, S. (2009). *Now You See It: Simple Visualization Techniques for Quantitative Analysis*. Analytics Press.
- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior*, 21(3), 219–239.
- Freire, C., et al. (2020). Coping Strategies and Self-Efficacy in University Students: A Person-Centered Approach. *Frontiers in Psychology*.
- Kausar, R. (2010). Perceived stress, academic workloads, and coping strategies of university students. *Journal of Behavioral Sciences*, 20(2), 59–71.
- Kowalski, R. M., & Christensen, K. J. (2019). Competition and Academic Stress in Higher Education.
- Lazarus, R. (1993). *Coping Theory and Research: Past, Present, and Future*.
- Milojevich, H. M., & Lukowski, A. F. (2016). Examining the Psychological Health of Students in Higher Education.
- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in higher education. *Psychology of Well-Being*, 10(1), 1-14.
- Rubie-Davies, C. (2010). The Impact of High Expectations on Student Achievement.
- Schladitz, S., Rölle, D., & Drüge, M. (2024). Intrinsic Motivation and Stress in University Students. *Educational Sciences*, 14(8), 851.
- Schneider, M., & Preckel, F. (2017). Variables Associated with Academic Achievement: A Review of Higher Education Research.



- Shah, M., Hasan, S., & Malik, S. (2010). Stress and academic performance: Evidence from university students. *Educational Research Quarterly*, 33(3), 5–10.
- Tariq, N., & Jawed, M. (2020). Gender differences in stress management among university students. *Journal of Educational Psychology*, 21(4), 450–467.
- Tufte, E. R. (2001). *The Visual Display of Quantitative Information*. Graphics Press.