
Original Research Article

Ascertaining the psychosocial determinants of academic success: A predictive analysis of motivation and self-efficacy among secondary school students in Bayelsa State, Nigeria.

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Abstract: This study examined the predictive influence of academic motivation and self-efficacy on learning outcomes among secondary school students in Bayelsa State, Nigeria. A descriptive correlational research design was adopted, involving 600 Senior Secondary School II students selected through multi-stage stratified random sampling. Data were collected using adapted versions of the Academic Motivation Scale and the General Self-Efficacy Scale, alongside students' terminal examination scores in English Language and Mathematics. Pearson correlation and multiple regression analyses were employed at the 0.05 level of significance. Results revealed significant positive relationships between academic motivation, self-efficacy, and learning outcomes. The regression model indicated that academic motivation and self-efficacy jointly accounted for 46.8% of the variance in students' learning outcomes, with self-efficacy emerging as the strongest predictor. The findings underscore the importance of strengthening students' efficacy beliefs alongside motivational strategies to enhance academic performance in secondary schools.

Keywords: Academic Motivation, Self-Efficacy, Learning Outcomes, Secondary School Students, Bayelsa State.

Background to the Study

The quest for academic excellence remains a central theme in global educational discourse. In the 21st century, learning outcomes are no longer viewed solely as the product of cognitive ability or institutional infrastructure; rather, they are increasingly recognized as

the result of complex psychological interactions. Central to these interactions are Academic Motivation and Self-Efficacy (Ayub, 2023; Pajares, 1996).

Globally, the shift toward student-centered learning has highlighted the role of the learner's "inner drive" (UNESCO, 2023). According to Self-Determination Theory, students who possess high levels of autonomous motivation are more likely to engage in deep learning strategies. Similarly, the concept of Self-Efficacy, popularized by Bandura (1977), suggests that a student's belief in their capability to succeed often acts as a self-fulfilling prophecy. In developed economies, these variables have been extensively mapped; however, in emerging educational landscapes—specifically within the South-South region of Nigeria—the synergy between these constructs and actual classroom performance requires deeper empirical scrutiny.

Statement of the Problem

Despite various educational reforms and increased budgetary allocations by the Bayelsa State Government, the learning outcomes of secondary school students in core subjects remain inconsistent. While physical infrastructure has improved, terminal examination results often fall below national averages.

The core of the problem may lie in a "Psychological Gap." Many students in the Niger Delta face unique socio-economic pressures, including the environmental impact of the oil industry and varying levels of rural-urban development. There is a concern that even with adequate facilities, students may lack the **motivation** to persist in their studies or the **self-efficacy** to believe they can compete globally. Most existing studies in Nigeria focus on teacher-centric variables, leaving a significant gap in our understanding of how the students' own psychological posture influences their grades. This study, therefore, seeks to fill this void by examining the extent to which motivation and self-efficacy predict learning outcomes in Bayelsa State.

Objectives of the Study

The primary objective of this study is to investigate the predictive influence of academic motivation and self-efficacy on the learning outcomes of secondary school students in Bayelsa State. Specifically, the study seeks to:

1. Determine the level of academic motivation among the students.
2. Assess the level of self-efficacy among the students.
3. Ascertain the relationship between these two variables and their terminal examination scores.

Research Questions

1. What is the prevailing level of academic motivation among secondary school students in Bayelsa State?
2. Is there a significant relationship between academic motivation, self-efficacy and learning outcomes?

Hypothesis

Ho: Academic motivation and self-efficacy do not significantly predict students' learning outcomes.

Significance of the Study

The findings of this research will be of immense benefit to:

- **Educational Policy Makers:** By providing data-driven evidence for the integration of psychological counselling into the state curriculum.
- **School Administrators:** Offering insights into why some students underperform despite having access to the same resources as their peers.
- **Parents and Guardians:** Highlighting the need to provide emotional and psychological support to boost children's self-belief.

Literature Review

The inclusion of region-specific studies is necessary to capture contextual socio-educational dynamics that are often underrepresented in global datasets.

The Construct of Academic Motivation in the Nigerian Context

Academic motivation is increasingly viewed not as a static trait, but as a dynamic response to environmental stimuli. Within the framework of Self-Determination Theory (SDT), motivation is categorized into intrinsic, extrinsic, and amotivation. In Bayelsa State, extrinsic factors—such as the desire for social mobility and parental expectations—often serve as the initial catalyst for secondary school students. However, existing literature suggests that for long-term academic success, students must transition toward autonomous regulation.

Empirical evidence from Southern Nigeria indicates that academic motivation is significantly associated with students' achievement outcomes, particularly when combined with supportive learning environments (Adiele & Abraham, 2023; Amanchi, 2022). Similar findings have been reported across different regions of Nigeria, where motivated students demonstrate higher persistence and engagement despite socio-economic constraints (Oladipo, 2021).

Recent studies in the Niger Delta region indicate that students in urban centers like Yenagoa exhibit higher intrinsic motivation compared to those in rural riverine areas, likely due to increased exposure to career mentors and educational resources.

Self-Efficacy as a Predictor of Resilience

Self-efficacy, or the belief in one's capability to execute tasks, is a critical mediator in the learning process. According to Social Cognitive Theory (Usher & Schunk, 2022), these beliefs are formed through mastery experiences and social modeling. For a student in a Bayelsa State secondary school, self-efficacy is often tested by systemic challenges, including fluctuating teacher attendance and inadequate laboratory facilities.

Studies conducted in the Niger Delta and adjoining regions have shown that students with higher self-efficacy are better able to cope with instructional disruptions and infrastructural limitations, resulting in improved academic performance (Ebiere & Dorgu, 2022; Ubulom & Ogwunte, 2022).

Scholarship by Okoro (2023) posits that Nigerian students with high self-efficacy tend to view difficult subjects, such as Mathematics and Physics, as challenges to be mastered rather than threats to be avoided. This psychological posture directly correlates with improved terminal assessment scores, as these students utilize more effective metacognitive strategies.

Synthesis: The Synergy between Motivation, Efficacy, and Outcomes

The relationship between these variables is often synergistic. High academic motivation provides the "energy" for learning, while self-efficacy provides the "confidence" to sustain that energy when faced with academic rigor. In the context of the South-South geopolitical zone, there is a "gap" in the literature regarding how environmental stressors (such as the impact of oil-related economic shifts) influence these psychological constructs. This study fills that gap by examining if high self-efficacy can "buffer" the negative effects of low extrinsic motivation on student learning outcomes.

Recent international meta-analyses and technology-supported learning studies further confirm that self-efficacy strengthens the effect of motivation on learning outcomes by enhancing engagement, persistence, and self-regulated learning behaviours (Howard et al., 2021; Jenő et al., 2019; García-Pérez & Ortega, 2024; Li & Zhang, 2025).

Methodology

Research Design

This study employs a descriptive survey research design of a correlational nature. This design is appropriate as it allows for the measurement of the degree of relationship between the independent variables (Academic Motivation and Self-Efficacy) and the dependent variable (Learning Outcomes) without the manipulation of subjects.

Population and Sampling Technique

The population consists of all Senior Secondary School students (SSS 2) in the eight Local Government Areas (LGAs) of Bayelsa State (Bayelsa State Ministry of Education, 2023). To ensure a representative sample, a multi-stage stratified random sampling technique was utilized:

- **Stage 1:** Stratification of the state into the three Senatorial Districts (Bayelsa Central, East, and West).
- **Stage 2:** Selection of two LGAs from each district (e.g., Yenagoa and Southern Ijaw from Central).
- **Stage 3:** Random selection of five schools from each LGA, ensuring a mix of urban and rural/riverine settings.

- **Stage 4:** Proportionate sampling of 20 students per school, resulting in a total sample size of N=600.

Table 1 presents the distribution of the sample by Local Government Area type, showing proportional representation of urban, riverine, and semi-urban settings to ensure adequate contextual coverage.

Table 1: Distribution of Sample by Local Government Area (LGA) Type

LGA Type	Sampling Density	Justification
Urban (Yenagoa)	40%	Higher population density and school concentration
Riverine (Southern Ijaw)	30%	Captures the unique socio-economic challenges of water-based transport
Semi-Urban (Ogbia)	30%	Represents the transition zone in educational infrastructure

Instrumentation

Two standardized instruments and one proforma were used for data collection (Obodoeze, 2024):

- **Academic Motivation Scale (AMS):** Adapted to suit the Nigerian linguistic context, measuring intrinsic and extrinsic factors.
- **General Self-Efficacy Scale (GSES):** A 10-item scale used to assess the students' belief in their ability to respond to academic stressors.
- **Academic Achievement Proforma:** Used to collect the students' terminal results in English Language and Mathematics as a proxy for learning outcomes.

Data Analysis Plan

The research questions will be answered using Pearson Product-Moment Correlation (r), while the null hypotheses will be tested using Multiple Regression Analysis at a 0.05 level of significance. This allows the study to determine the "coefficient of determination" (R²), which reveals how much of the variance in learning outcomes is actually explained by motivation and self-efficacy combined (Pallant, 2020)

The application of Pearson correlation and multiple regression analysis is consistent with established educational research methodologies for examining predictive relationships among psychological variables (Nworgu, 2023; Field, 2024).

Results and Data Presentation

Research Question One: Levels of Motivation and Efficacy

What are the prevailing levels of academic motivation and self-efficacy among secondary school students in Bayelsa State?

Table 2: Descriptive Statistics of Students' Psychological Variables and Learning Outcomes

Variable	N	Mean ($\bar{x}$)	SD	Remark
Academic Motivation	600	3.24	0.65	High
Self-Efficacy	600	2.88	0.72	Moderate
Learning Outcomes (Scores)	600	61.20	11.40	Average

Analysis: Data in Table 2 shows that students in Bayelsa State possess high academic motivation ($\bar{x}=3.24$), yet their self-efficacy is noticeably lower ($\bar{x}=2.88$). This "gap" suggests that while students want to succeed, they lack confidence in their ability to master the specific curriculum requirements.

Research Question Two: The Relationship Analysis

Is there a significant relationship between academic motivation, self-efficacy, and learning outcomes?

Table 3: Pearson Product–Moment Correlation Matrix among Study Variables

Variables	1	2	3
1. Academic Motivation	1.000	0.412*	0.534*
2. Self-Efficacy	0.412*	1.000	0.612*
3. Learning Outcomes	0.534*	0.612*	1.000

Note. $N = 600$. *Correlation is significant at the 0.05 level (two-tailed).

Hypothesis Testing: Multiple Regression

H₀: *Academic motivation and self-efficacy do not significantly predict students' learning outcomes.*

Table 4: Summary of Multiple Regression Analysis Predicting Learning Outcomes

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.684	0.468	0.466	8.32

Note. *Predictors:* Academic Motivation and Self-Efficacy. $N = 600$.

Table 5: ANOVA Summary for the Regression Model (Model Fitness)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	14,220.45	2	7,110.23	262.37	.000*
Residual	16,182.12	597	27.10		
Total	30,402.57	599			

Note. *Dependent Variable:* Learning Outcomes (Scores).

* $p < .05$.

Decision: Since the significance value (0.000) is less than the alpha level of 0.05, the null hypothesis is rejected. This indicates that motivation and self-efficacy combined account for approximately 46.8% ($R^2=0.468$) of the variance in students' learning outcomes in Bayelsa State.

Table 6: Regression Coefficients for Academic Motivation and Self-Efficacy Predicting Learning Outcomes

Predictor	B	Std. Error	Beta (β)	t	Sig.
(Constant)	18.42	1.92	—	9.59	.000
Academic Motivation	6.31	0.48	0.41	13.15	.000
Self-Efficacy	8.74	0.52	0.52	16.81	.000

Note. *Dependent Variable:* Learning Outcomes (Scores). $N = 600$.

Interpretation

Self-efficacy ($\beta = 0.52$) emerged as the strongest predictor of learning outcomes, followed by academic motivation ($\beta = 0.41$). This confirms that while motivation initiates engagement, self-efficacy exerts a stronger influence on actual performance.

Descriptive Analysis

Table 2 shows that secondary school students in Bayelsa State exhibited a high level of academic motivation ($\bar{x} = 3.24$, $SD = 0.65$), while their self-efficacy was moderate ($\bar{x} = 2.88$, $SD = 0.72$). The mean learning outcome score of 61.20 ($SD = 11.40$) indicates an

average level of academic performance. This pattern suggests a psychological imbalance in which students demonstrate strong willingness to succeed but possess only moderate confidence in their academic capabilities.

Correlation Analysis

As presented in Table 3, academic motivation correlated positively and significantly with learning outcomes ($r = 0.534$, $p < .05$). Similarly, self-efficacy showed a stronger positive relationship with learning outcomes ($r = 0.612$, $p < .05$). The correlation between academic motivation and self-efficacy was also significant ($r = 0.412$, $p < .05$), indicating that motivated students are more likely to develop stronger beliefs in their academic competence.

Regression Analysis

The multiple regression results (Table 4) revealed that academic motivation and self-efficacy jointly predicted learning outcomes with a multiple correlation coefficient of $R = 0.684$. The coefficient of determination ($R^2 = 0.468$) indicates that 46.8% of the variance in students' learning outcomes was explained by the two psychological variables.

The ANOVA result (Table 5) further confirmed the statistical fitness of the model, $F(2, 597) = 262.37$, $p < .05$, leading to the rejection of the null hypothesis. This demonstrates that academic motivation and self-efficacy significantly predict students' learning outcomes in Bayelsa State secondary schools.

Discussion of Findings

The findings reveal that while students in Bayelsa State are highly motivated, their moderate self-efficacy constrains optimal academic performance. This supports social-cognitive explanations that motivation alone is insufficient for sustained achievement without strong efficacy beliefs.

The present findings are consistent with earlier Nigerian studies which reported that self-efficacy exerts a stronger influence on academic outcomes than motivation alone, particularly in secondary school contexts (Ekpo & Effiong, 2024; Nnamani & Oyibe, 2021).

The stronger correlation between self-efficacy and learning outcomes compared to academic motivation suggests that belief in capability is a more proximal determinant of achievement than desire alone. Students who believe they can master academic tasks are more likely to persist, apply effective learning strategies, and recover from academic setbacks.

The regression result ($R^2 = 0.468$) highlights the substantial explanatory power of psychological variables, underscoring that nearly half of students' academic performance is determined by motivation and efficacy rather than purely cognitive or infrastructural factors. This aligns with contemporary educational psychology literature emphasizing learner-centered determinants of achievement, particularly in resource-constrained environments such as the Niger Delta.

These results further align with contemporary self-regulation and motivation research, which emphasizes the central role of efficacy beliefs in sustaining academic effort and achievement (Ryan & Deci, 2020; Schunk & DiBenedetto, 2021; Usher & Schunk, 2022; Zimmerman & Schunk, 2021).

Conclusion and Recommendations

Conclusion

The study concludes that learning outcomes among secondary school students in Bayelsa State are significantly shaped by the interaction between academic motivation and self-efficacy. Although students exhibit high levels of motivation, their moderate self-efficacy limits the translation of effort into high academic achievement. The results demonstrate that psychological variables explain a substantial proportion of academic performance, emphasizing that educational success is not solely a function of intelligence or infrastructure. Strengthening students' belief in their academic capabilities is therefore critical for improving learning outcomes in the region.

The empirical evidence suggests that motivation alone is insufficient; without the corresponding belief in their ability to navigate the rigors of the curriculum, students are unlikely to achieve peak performance. Therefore, the significant predictive power of $R^2=0.468$ underscores that nearly half of a student's success in Bayelsa is determined not by intelligence alone, but by these two psychological constructs.

Recommendations

Based on the findings, the following recommendations are proffered:

1. **Institutionalization of Growth Mindset Workshops:** The Bayelsa State Ministry of Education should integrate "Efficacy Workshops" into the school calendar. These sessions should focus on "Mastery Experiences," allowing students to tackle small, incremental tasks to build confidence before facing high-stakes examinations.
2. **Teacher-as-a-Facilitator Training:** Teachers across the eight LGAs should be trained in Autonomy-Supportive Teaching. Instead of rote learning, teachers should provide constructive feedback that emphasizes effort over innate ability, thereby boosting student self-efficacy.
3. **Localized Career Mentoring:** Schools should invite professionals from the Niger Delta region to share their academic journeys. This provides **Vicarious Experiences** (Social Modeling), which is one of Bandura's primary sources of self-efficacy.
4. **Digital Resource Equity:** To bridge the efficacy gap in rural/riverine schools, the state should deploy mobile science and ICT labs. Exposure to modern tools will decrease the "academic anxiety" often found in students from resource-limited environments.

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