



Comparative Assessment of Achievement Motivation, Emotional Intelligence and Academic Performance on Gender among Secondary School Students in Gusau Local Government Area, Zamfara State, Nigeria

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Abstract

This study investigated gender differences in achievement motivation, emotional intelligence and academic performance among Senior Secondary School (SSS II) students in Gusau Local Government Area, Zamfara State, Nigeria. Anchored in McClelland's (1953) Achievement Motivation Theory and Goleman's (1995) Performance-Based Model of Emotional Intelligence, a descriptive survey design was employed with a proportionate stratified random sample of 378 students (217 male, 161 female). The Achievement Motivation Scale (AMS) and Emotional Intelligence Scale (EIS), both validated on a four-point Likert format, were used alongside the Students' Academic Performance Proforma (SAPP). Independent-samples t-tests were conducted at $\alpha = 0.05$ using SPSS version 23. Results revealed statistically significant gender differences in achievement motivation ($t(376) = 1.266, p = .010$), emotional intelligence ($t(376) = -7.645, p = .001$) and academic performance ($t(376) = -9.272, p = .009$), with male students recording higher mean scores on achievement motivation ($M = 51.10$ vs. 46.31), emotional intelligence ($M = 68.84$ vs. 60.73) and academic performance ($M = 62.73$ vs. 58.84). Regression analysis yielded $R^2 = .791$, $RMSE = 3.025$, $MAE = 2.341$ and $F = 14.489$ ($p < .05$). The paper discusses implications for gender-responsive educational policy and school counselling practice in conflict-affected contexts.

Keywords: gender differences, achievement motivation, emotional intelligence, academic performance, Students

Introduction

Gender equity in education remains a persistent concern in sub-Saharan Africa, where socio-cultural norms, economic constraints and security challenges shape differential educational trajectories for male and female students (UNESCO, 2014; Bichi, Ibrahim & Hassan, 2019). In Zamfara State, Nigeria — characterised by persistent banditry, insurgency and socio-economic deprivation — understanding how gender intersects with psychological variables is critical for designing effective educational interventions (WAEC, 2022; Bizimana, Mutangana & Mwesigye, 2022). Achievement motivation and emotional intelligence are well-established psychological constructs associated with academic success, yet the evidence on whether and how these constructs differ by gender remains inconsistent across educational contexts (Gaurav, 2020; Firouzeh, 2013; Ahmad, Bangash & Khan, 2019; Halimi, Al Shahrani & Madhavan, 2021).

Statement of the Problem

Despite growing recognition of the importance of psychological variables in shaping academic outcomes, gender-differentiated analyses of achievement motivation and emotional intelligence in North-Western Nigeria remain remarkably scarce. The persistent academic underperformance of Zamfara State students (WAEC, 2022) may partly reflect unmeasured gender differences in the psychological resources' students bring to their studies. Without systematic, locally grounded evidence, educational interventions risk being poorly targeted.

Aim and Objectives

The aim of this study was to ascertain gender differences in achievement motivation, emotional intelligence and academic performance among Senior Secondary School students in Gusau LGA, Zamfara State. Specifically, the study sought to:

- (1) Find out the difference in achievement motivation of male and female senior secondary students in Gusau LGA, Zamfara State.
- (2) Ascertain the difference in emotional intelligence of male and female senior secondary students in Gusau LGA, Zamfara State.
- (3) Ascertain the difference in academic performance of male and female senior secondary students in Gusau LGA, Zamfara State.



Research Questions

1. Is there a significant gender difference on achievement motivation among Secondary School Students in Gusau LGA?
2. Is there a significant gender difference on emotional intelligence among Secondary School Students in Gusau LGA?
3. Is there a significant gender difference on academic performance among Secondary School Students in Gusau LGA?

Null Hypotheses

H₀₁: There is no significant gender difference on achievement motivation among Secondary School Students in Gusau LGA.

H₀₂: There is no significant gender difference on emotional intelligence among Secondary School Students in Gusau LGA.

H₀₃: There is no significant gender difference on academic performance among Secondary School Students in Gusau LGA.

Literature Review

Gender and Achievement Motivation

Research on gender differences in achievement motivation has produced mixed findings. Adewusi (2023) found that female students in Oyo State demonstrated higher career aspirations and achievement motivation than male peers. Aijaz, Zahoor and Hitesh (2023) noted that environmental stressors differentially suppress achievement motivation across gender groups. Acquah (2017) highlighted that institutional recognition of achievement-oriented behaviour is critical for sustaining motivational engagement. Conversely, Firouzeh (2013) and Gaurav (2020) found no statistically significant gender difference, suggesting that the gender–motivation relationship is context-dependent.

Gender and Emotional Intelligence

Gender differences in emotional intelligence have been more consistently documented, with females typically outperforming males on empathy and interpersonal sensitivity dimensions (Ahmad et al., 2019; Halimi et al., 2021). Owan (2022) found a significant gender-based difference in EI among Nigerian SSS II students. Manimozhi and Srinivasan (2018) demonstrated that both positive and negative emotional states are differentially expressed by male and female students. However, Maizatul, Zubaidah and Nordin (2013) and Meher, Sabat and Das (2021) found no significant gender difference, confirming the context-dependence of these effects.

Gender and Academic Performance

Bada, Jimoh and Ibrahim (2022) established that gender significantly influences academic performance in Nigerian secondary schools. Abdullahi, Sabo and Yakubu (2022) found that male students tended to outperform female counterparts in mathematics in Katsina State. Bizimana et al. (2022) highlighted that gender-based barriers constrain the academic performance of female students in conflict-affected environments. Bichi et al. (2019) similarly identified gender as a significant determinant of academic outcomes at the secondary level.

Research Gap

Whilst gender differences in achievement motivation, emotional intelligence and academic performance have been examined in various contexts, no study has simultaneously investigated all three constructs with gender as the primary differentiating variable in Gusau LGA, Zamfara State. This integrated, gender-focused analysis in a conflict-affected North-Western Nigerian setting constitutes the specific contribution of the present study.

Research Methodology

A descriptive survey design was employed (Creswell & Creswell, 2018), appropriate for studies that seek to describe and compare characteristics of groups without experimental manipulation. A proportionate stratified random sample of 378 students (217 male, 161 female) was drawn from six schools in Gusau LGA using Yamane's (1967) formula and stratified by gender composition (Fraenkel, Wallen & Hyun, 2012). The Achievement Motivation Scale (AMS) — 20 items, four-point Likert format ($\alpha = .83$) — and the Emotional Intelligence Scale (EIS) — 20 items across four constructs ($\alpha = .78$) — were used alongside the SAPP (Nunnally & Bernstein, 1994; WAEC, 2022). Independent-samples t-tests were used to test the three null hypotheses at $\alpha = 0.05$ using SPSS version 23 (Field, 2018). Descriptive statistics were computed for all variables by gender.

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Presentation of Results

Descriptive Statistics by Gender

Table 1 presents descriptive statistics for achievement motivation and emotional intelligence by gender. Figure 1 provides a visual comparison of mean scores across all three study variables by gender.

Table 1 Descriptive Statistics of Achievement Motivation and Emotional Intelligence by Gender

Variable	Gender	N	Mean	SD	Decision
Achievement Motivation	Male	217	51.10	10.03	High
	Female	161	46.31	9.19	High
Emotional Intelligence	Male	217	68.84	8.73	High
	Female	161	60.73	7.53	Moderate

Note. Source: Researcher's fieldwork (2025).

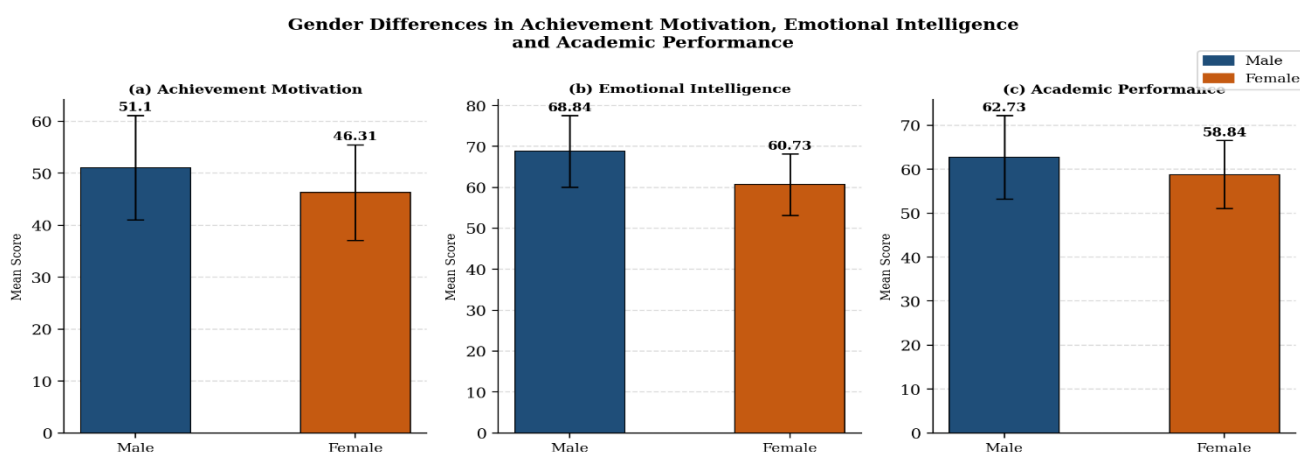


Figure 1. Grouped bar charts comparing mean scores of male and female students on (a) achievement motivation (male $M = 51.10$ vs. female $M = 46.31$), (b) emotional intelligence (male $M = 68.84$ vs. female $M = 60.73$) and (c) academic performance (male $M = 62.73$ vs. female $M = 58.84$). All gender differences were statistically significant ($p < .05$).

Figure 1 presents a clear visual summary of the gender differences across all three key variables. As shown in panel (a), male students consistently scored higher on achievement motivation; panel (b) shows an even more pronounced gap in emotional intelligence; and panel (c) shows that male students also outperformed females on academic performance. In all three panels, the differences are visually substantial and, as confirmed by the t-tests presented below, statistically significant.

Gender Difference in Achievement Motivation (H01)

Table 2 presents the t-test results for gender differences in achievement motivation.

Table 2 t-Test Analysis of Gender Difference in Achievement Motivation

Variable	Gender	N	Mean	SD	df	t-Cal.	p-value	Decision
Achievement Motivation	Male	217	51.10	10.03	376	1.266	.010	Significant
	Female	161	46.31	9.19				

Note. Significant at $\alpha = 0.05$. Source: Researcher's fieldwork (2025).

Table 2 shows that $t(376) = 1.266$, $p = .010 < \alpha = 0.05$. H01 is rejected. There is a statistically significant gender difference in achievement motivation, with male students ($M = 51.10$) recording higher mean scores than female students ($M = 46.31$).



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Gender Difference in Emotional Intelligence (H02)

Table 3 presents the t-test results for gender differences in emotional intelligence.

Table 3 *t-Test Analysis of Gender Difference in Emotional Intelligence*

Variable	Gender	N	Mean	SD	df	t-Cal.	p-value	Decision
Emotional Intelligence	Male	217	68.84	8.73	376	-7.645	.001	Significant
	Female	161	60.73	7.53				

Note. Significant at $\alpha = 0.05$. Source: Researcher's fieldwork (2025).

Table 3 reveals that $t(376) = -7.645$, $p = .001 < \alpha = 0.05$. H02 is rejected. There is a statistically significant gender difference in emotional intelligence, with male students ($M = 68.84$, $SD = 8.73$) recording higher mean EI scores than female students ($M = 60.73$, $SD = 7.53$).

Gender Difference in Academic Performance (H03)

Table 4 presents the t-test results for gender differences in academic performance. Figure 2 provides a graphical summary of all three t-test results.

Table 4 *t-Test Analysis of Gender Difference in Academic Performance*

Variable	Gender	N	Mean	SD	df	t-Cal.	p-value	Decision
Academic Performance	Male	217	62.73	9.53	376	-9.272	.009	Significant
	Female	161	58.84	7.73				

Note. Significant at $\alpha = 0.05$. Source: Researcher's fieldwork (2025).

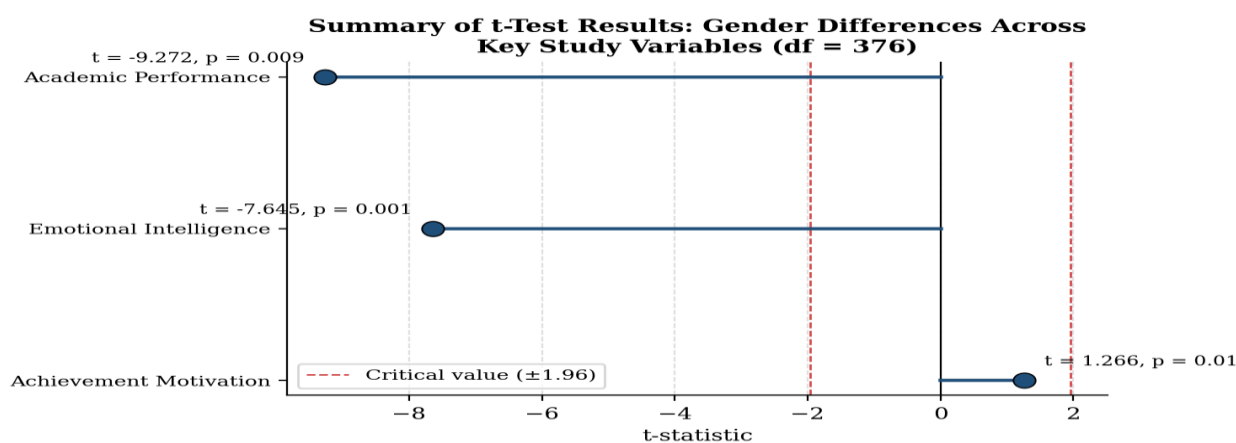


Figure 2. Lollipop chart summarising t-test statistics for gender differences across achievement motivation ($t = 1.266$, $p = .010$), emotional intelligence ($t = -7.645$, $p = .001$) and academic performance ($t = -9.272$, $p = .009$). The red dashed lines indicate the critical t-value (± 1.96) at $\alpha = 0.05$. All three t-statistics exceed the critical value in absolute terms.

Table 4 shows that $t(376) = -9.272$, $p = .009 < \alpha = 0.05$. H03 is rejected. Male students ($M = 62.73$, $SD = 9.53$) significantly outperformed female students ($M = 58.84$, $SD = 7.73$). As shown in Figure 2, all three t-statistics exceed the critical value of ± 1.96 , confirming that the observed gender differences across achievement motivation, emotional intelligence and academic performance are all statistically robust.

Discussion of Findings

The significant gender difference in achievement motivation — with male students outperforming female peers — contrasts with Adewusi (2023), who found higher motivation among female students in Oyo State, but may reflect gendered socialisation processes specific to North-Western Nigeria. The significant gender difference in EI, with male students recording higher scores, contradicts the dominant international finding (Ahmad et al., 2019; Halimi et al., 2021) but is consistent with Owan (2022) for Nigerian secondary students. The significant gender difference in academic performance,



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with male students outperforming females despite females' comparatively lower motivation and EI, may reflect structural advantages — greater family investment in boys' education, reduced domestic burdens — that translate psychological advantages into superior outcomes (Bizimana et al., 2022; Bichi et al., 2019).

Conclusion

Statistically significant gender differences exist in achievement motivation, emotional intelligence and academic performance among Senior Secondary School students in Gusau LGA, Zamfara State, with male students recording higher mean scores on all three variables. Educational planners should develop gender-responsive motivational and EI programmes targeting female students. School counsellors should implement differentiated interventions for female students. Government and NGOs should address structural barriers — insecurity, early marriage, domestic responsibilities — that prevent female students from realising their academic potential.

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