



Influence of Emotional Intelligence on Academic Achievement among ... Gurjiya, A. U. & Danladi, I. I. (2026)

Influence of Emotional Intelligence on Academic Achievement among Geography Pre-Service Teachers in Colleges of Education, North-West, Nigeria

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Abstract

This study investigated the predictive influence of emotional intelligence on the academic achievement of Geography pre-service teachers in Colleges of Education in Northwestern Nigeria. The study was motivated by concerns over the low academic achievement of Geography pre-service teachers and the need to identify factors that could enhance their academic achievement. Guided by one research objective, one research question, and one null hypothesis, the study adopted a correlational research design. A sample of 285 Geography pre-service teachers was selected from a population of 1,089 using a multistage sampling technique. Data were collected using the Geography Pre-service Teacher Emotional Intelligence Questionnaire (GPTEI-Q) and the NCE II Geography Academic Proforma (NCE-GAP). The GPTEI-Q demonstrated satisfactory validity and reliability, with a Cronbach's Alpha coefficient of 0.85, a face validity index of 91%, a content validity index of 89%, and construct validity was confirmed through Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) for the questionnaire. While the NCE-GAP was reviewed by five validators, with face validity indices of 100%. Data were analyzed using mean, standard deviation, Pearson correlation, scatterplot, and linear regression. The findings revealed that emotional intelligence had a positive relationship with academic achievement ($r = 0.27$) and significantly predicted academic achievement ($p = 0.001 < 0.05$). The study recommends integrating emotional intelligence training into Geography teacher education programmes to enhance academic achievement and professional development.

Key words: Emotional intelligence, academic achievement and geography pre-service teachers

Introduction

Geography is a uniquely integrative discipline that bridges the natural sciences, social sciences, and technical applications. As Dempsey (2023) explains, physical geography represents science, GIS is a technological application, land surveying belongs to civil engineering, human geography encompasses arts and social sciences, and geodesy is a branch of mathematics. Geography systematically studies humanity, human activities, places, and the physical environment. Pallathadka & Pallathadka (2021) emphasize that geography complements science by examining broader relationships and combining scientific knowledge with social science contributions. The discipline's five themes; location, place, region, movement, and human-environment interaction, operationalize this integration in geography education. The importance of geography education is multifaceted. Olaniyi & Oladokun (2021) affirm its role in security, economic, political, social, environmental, and human capital development. Hagge (2023) adds that geography enables students to understand policy connections, make educated resource decisions, comprehend environmental problems, and appreciate places and natural phenomena. With good academic achievement in Geography, career opportunities are available in defense, foreign-service, urban planning, tourism, environmental management, spatial technology, teaching, geology, conservation, demography, remote sensing, cartography, surveying, and meteorology. Academic achievement, defined by Davis (2019) as demonstrated mastery of content and competencies, is typically measured through grades and test scores. Mahajan & Sarjit Singh (2017) describe it as claims about student abilities following learning. Ghosh (2022) cautions that standard measures cannot fully represent dynamic student learning. Nevertheless, Baber (2020) affirms that academic achievement assesses both teaching and learning. Jang (2018) advocates discipline-based research to study variables affecting academic achievement, including emotional intelligence. Emotional Intelligence (EI) is defined by Gonzalez, Peña & Arboleda (2019) as understanding, managing, and utilizing one's own and others' emotions. Carthy & Jameson (2016) describe it as the capacity to determine and understand emotions to control behavior and relationships. Serrat (2017) notes that high-EI individuals are friendly, strong, and optimistic. Tripathy (2018) concludes that managing emotions is key to performance and life satisfaction, essential for building relationships and attaining goals.

Influence of Emotional Intelligence on Academic Achievement among ... Gurjiya, A. U. & Danladi, I. I. (2026)

The study is constructed around and hosted under the shades of Emotional Intelligence Theory of Goleman (1995). The theory has a lot of support in the literature and has been applied successfully in education (Rahman et al., 2024; Shengyao et al., 2024; Gosim, Abebe, & Negasi, 2025). Emotional intelligence (EI), the ability to recognize, evaluate, and control one's own and others' emotions, significantly influences academic success. The five EI domains include self-awareness, self-regulation, self-motivation, social awareness, and social skills. Self-awareness enables effective study strategies; self-regulation supports focus and stress management; self-motivation drives goal achievement; empathy enhances collaborative learning; and social skills promote classroom participation. Additionally, EI aids test anxiety management, positive teacher-student relationships, and conflict resolution in group work. Collectively, these mechanisms demonstrate that emotional intelligence is a foundational competency that directly facilitates improved academic achievement across educational contexts. This theory of EI is relevant to this study because it explains how emotion recognition, stress management, motivation, positive relationships, and adaptability influence learning approaches and academic achievement. Higher emotional intelligence enables persistence through challenges, resource limitations, and setbacks, ultimately supporting consistent academic success. Therefore, this theory was found as the bedrock of this study.

Statement of the Problem

Ideal geography education requires emotionally and physically prepared pre-service teachers. However, CGPA data collected by the researcher from three Northwest Nigerian Colleges of Education across five sessions revealed very low achievement: only 0.4% earned distinction and 7.3% credit, while the majority attained merit, pass, low pass, or fail. This deficit threatens secondary geography education and reduces candidates for university degrees and higher programmes. Although academic achievement is influenced by learning styles, teaching strategies, cognitive abilities, and environments, emotional intelligence remains underexplored in geography education. Emotional intelligence significantly affects stress management, peer interaction, and motivation. Limited studies have investigated this variable, yet addressing it is essential for improving geography teacher education and its multiplier effect across Nigeria.

Objective of the Study

To find out whether emotional intelligence has predictive influence on academic achievement of geography pre-service teachers in Northwest colleges of education.

Research Question

What is the relationship between emotional intelligence and academic achievement of geography pre-service teachers in Northwest Colleges of Education?

Research Hypothesis

Emotional intelligence is not a significant predictor of academic achievement of geography pre-service teachers in Northwest colleges of education.

Methodology

This study adopted a correlational research design to examine the predictive relationship between emotional intelligence and academic achievement among geography pre-service teachers. A multistage sampling technique selected 285 participants from a population of 1,089. Two instruments were used: the Geography Pre-service Teacher Emotional Intelligence Questionnaire (GPTEI-Q) and the NCE II Geography Academic Proforma (NCE-GAP). The GPTEI-Q was validated by nine experts, achieving a face validity index of 91% and a content validity index of 89%. Construct validity was confirmed through Exploratory Factor Analysis (EFA), where all factor loadings exceeded 0.50 with no cross-loadings, indicating convergent and discriminant validity. Confirmatory Factor Analysis (CFA) supported these findings, with composite reliability (CR) exceeding 0.70 and average variance extracted (AVE) surpassing 0.50. Inter-factor correlations were smaller than the square root of AVE, confirming construct validity. Reliability, measured by Cronbach's Alpha for GPTEI-Q, was 0.85. The NCE-GAP was reviewed by five validators, achieving a perfect face validity index of 100%. These rigorous psychometric properties establish both instruments as valid and reliable for the study. The researcher obtained institutional permission, then administered questionnaires and academic proformas to 285 pre-service teachers confidentially. Data were analyzed using mean, SD, correlation, scatterplot, simple and multiple regression at 0.05 significance via SPSS.

Influence of Emotional Intelligence on Academic Achievement among ... Gurjiya, A. U. & Danladi, I. I. (2026)

Presentation of Results

Data were analyzed using mean, SD, correlation, scatterplot and simple regression at 0.05 significance. The decision rules include; mean is considered positive if ≥ 2.5 and negative if < 2.5 . Standard deviation (SD) shows low variability (0.00–0.49), moderate (0.50–0.99), and high (≥ 1.00).

Research Question

What is the relationship between emotional intelligence and academic achievement of geography pre-service teachers in Northwest Colleges of Education?

The statistical tools used: Mean, standard deviation, Pearson's correlation and scatterplot.

Table 1: Relationship between Emotional Intelligence and Academic achievement

Variables	n	Mean	SD	R
Emotional Intelligence	285	2.15	0.55	0.27
Academic Achievement	285	1.99	0.98	

Table 1 shows that the relationship between the emotional intelligence and academic achievement of the geography pre-service teachers $r = 0.27$, is weak but positive, although the pre-service teachers have negative mean with moderate standard deviation. Figure 1 showed the nature of the relationship.

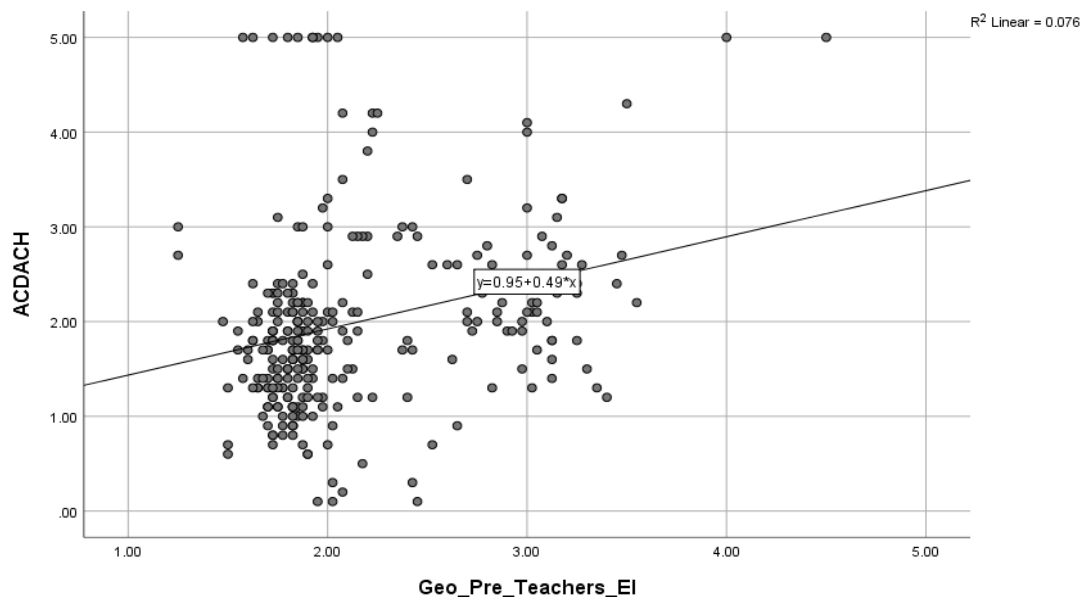


Figure 1: Scatterplot of Emotional Intelligence and Academic Achievement

Figure 1 shows the scatterplot of the relationship between geography pre-service teachers' emotional intelligence and academic achievement having gradient of 0.49 as the direction of the line indicated. This means that the emotional intelligence and academic achievement are in the same directions, meaning that the emotional intelligence increases with increases in the academic achievement (ACDACH). The gradient 0.49 shows how the academic achievement increase with unit increases in the emotional intelligence.

Null Hypothesis One

Emotional intelligence is not a significant predictor of academic achievement of geography pre-service teachers in Northwest colleges of education.

The statistical tools used: Linear regression

Table 2: Regression Model Emotional Intelligence and Academic achievement

Model	r	r ²	Adjusted R Square	Std. Error of the Estimate
1	0.275 ^a	0.076	0.072	0.94464

a. Predictors: (Constant), Geo_Pre_Teachers_EI

Influence of Emotional Intelligence on Academic Achievement among ... Gurjiya, A. U. & Danladi, I. I. (2026)

Table 2 shows the regression model of emotional intelligence and academic achievement of Geography pre-service teachers. The table revealed that the relationship of emotional intelligence and academic achievement, $r = 0.275$ and $r^2 = 0.076$ indicated that 7.6% of the academic achievement of the geography pre-service teacher is explained by their emotional intelligence. By implication, the emotional intelligence of the geography pre-service teachers has little influence (7.6%) of their academic achievement.

Table 3: Regression Coefficient for Emotional Intelligence and Academic achievement

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Remark
		B	Std. Error	Beta			
1	(Constant)	0.949	0.224		4.228	0.00	S
	El of Geo Pre Teachers	0.487	0.101	0.275	4.809	0.00	S

a. Dependent Variable: ACDACH Significant at $P \leq 0.05$

Table 3 shows the regression coefficient of emotional intelligence and academic achievement of Geography pre-service teachers. The regression equation $y = 0.949 + 0.487x$, this means that in every 1 unit increase in academic achievement (y) there is corresponding 0.487 increase in emotional intelligence (x) of the Geography pre-service teachers. The constant (0.949) indicate unit increase of other factors that may influence the academic achievement of the Geography pre-service teachers. The table revealed that the hypothesis is rejected having (Sig. 0.001). This means emotional intelligence significantly predicted the academic achievement of Geography pre-service teachers. In addition, the Beta sign (0.275) again indicated that the relationship between the emotional intelligence and academic achievement is positive.

Discussion of Findings

The study found a positive yet weak relationship between emotional intelligence and academic achievement among geography pre-service teachers in Northwest zone Nigeria. This finding partially supports Goleman's (1995) emotional intelligence theory, though the modest effect size indicates that emotional intelligence functions within a broader ecosystem of multiple factors rather than operating as a dominant predictor. Supporting evidence from the literature includes a comprehensive meta-analysis by MacCann et al. (2020), which examined 158 studies involving 42,529 students and reported an overall correlation of $\rho = .20$ between emotional intelligence and academic achievement. Within Nigeria, Oyewunmi et al. (2016) confirmed that emotional intelligence goes in the same direction with academic achievement among undergraduates. Similarly, El Seifi et al. (2023) documented a positive relationship and recommended interventions to enhance students' emotional intelligence for improved academic achievement. However, contradictory evidence exists. Miller (2024) found no significant relationship whatsoever, concluding that emotional intelligence has no influence on students' academic achievement. Regarding hypothesis testing, the null hypothesis was rejected, as emotional intelligence did demonstrate a statistically significant predictive influence on academic achievement. This aligns with Sánchez-Álvarez et al. (2020), who reported an influence of emotional intelligence on academic achievement. Synthesizing these findings, several conclusions emerge. First, while a positive relationship between emotional intelligence and academic achievement is frequently reported, the strength and significance of this relationship vary considerably across studies. Second, key moderating factors include the type of emotional intelligence assessment employed (ability-based measures versus self-report questionnaires), the academic discipline under investigation, the educational context (secondary, tertiary, or postgraduate), and cultural or geographical settings. Third, the weak-to-modest effect sizes suggest that emotional intelligence is neither necessary nor sufficient for academic success but rather operates as one contributing factor among many. Consequently, while emotional intelligence appears to play a meaningful role in academic achievement, its influence is modest and contingent upon various moderating factors. Geography educators should therefore foster emotional intelligence alongside cognitive abilities, effective study habits, high-quality teaching strategies, and adequate resource provision to optimize pre-service teachers' academic outcomes.

Conclusion

The study concluded that in Northwest Colleges of Education, emotional intelligence had a positive relationship with the academic achievement of geography pre-service teachers, and emotional intelligence is a significant predictor of academic achievement.

Influence of Emotional Intelligence on Academic Achievement among ... Gurjiya, A. U. & Danladi, I. I. (2026)

Recommendation

Teacher education programs should integrate emotional intelligence training into the curriculum to help pre-service teachers better manage stress, develop and maintain positive relationships, thereby enhancing their academic achievement.

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Influence of Emotional Intelligence on Academic Achievement among ... Gurjiya, A. U. & Danladi, I. I. (2026)

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