Emotional Intelligence as a Predictor of Research Skills Acquisition Among University Students with Intellectual Disabilities in Calabar, Nigeria

Chidirim Esther Nwogwugwu[1,*], Henrietta Osayi Uchegbue[1], Sylvia Victor Ovat[1], Nnenna Kalu Uka[2], Julius Michael Egbai[1], Patricia Ebere Chilebe Iwuala[3], Anthony Pius Effiom[1], Helen Akpama Andong[4], Richard Ayah Ojini[1], Mayen Ndaro Igajah[5], Margaret Sylvanus Umoh[5], Remi Modupe Omoogun[6], Mokutima E. Ekpo[7], Unimke Sylvester Akongi[8], Ogbaji Dominic Ipuole[9] and Charles Utsu Ushie[10]

[1]Department of Educational Foundations, Faculty of Educational Foundation Studies, College of Education, University of Calabar, Nigeria; [2]Department of Science Education (Mathematics Unit), College of Education, Michael Okpara University of Agriculture, Umudike Umuahia, Abia State, Nigeria; [3]Department of Curriculum and Teaching, Faculty of Education, University of Calabar, Nigeria; [4]Department of Continuing Education & Development Studies, Faculty of Vocational and Entrepreneurial Education, College of Education, University of Calabar University of Calabar, Calabar, Nigeria; [5]Department of Library and Information Science Faculty of Art and Social Science Education University of Calabar, Calabar, Cross River State, Nigeria; [6]Department of Environmental Education, Faculty of Arts and Social Science Education, College of Education, University of Calabar, Nigeria; [7]Faculty of Law, University of Calabar, Nigeria; [8]Department of Social Studies Education, Faculty of Arts and Social Sciences, University of Calabar, Nigeria; [9]Department of Environmental Sciences, Faculty of Environmental Sciences, University of Calabar, Nigeria; [10]Department of Mass Communication, Faculty of Law, University of Calabar, Nigeria

Abstract: *Aim*: Intellectual disability is characterized by significant limitations in intellectual functioning and adaptive behavior originating before age 18 (AAIDD, 2010). In higher education, these students often require individualized support, yet inclusive practices in Nigerian universities remain underdeveloped. This study examines the predictive relationship between emotional intelligence and research skills acquisition among university students with intellectual disabilities at the University of Calabar (UNI.CAL) and the University of Cross River (UNICROSS), Cross River State, Nigeria. Five study objectives were stated to guide the research. Five research questions were formulated, and three hypotheses were stated. Literature was reviewed based on the variables under study, as research gaps were also stated.

Method: The study adopted a correlational survey research design. The area of the study is Cross River State, South-South, Nigeria. The study population consists of all 20,030 final-year undergraduate students with intellectual disabilities in inclusive departments of the University of Calabar and the University of Cross River State, offering special education or support for students with disabilities. A purposive sampling technique was used to select students identified with intellectual disabilities. A sample size of 401 participants was selected based on accessibility and consent. The instrument for data collection was a questionnaire. Cronbach Alpha reliability coefficient method was used in establishing the reliability index of .82. Results of the research questions were presented using frequency counts, percentages, mean and standard deviation, and Pearson's Product Moment Correlation, Multiple linear regression, and Independent t-test were used to analyze the research question and hypotheses.

Results: The results revealed that emotional intelligence significantly contributes to developing research skills in students with intellectual disabilities. Emotional competencies such as self-awareness, motivation, and interpersonal sensitivity are essential tools in enabling these students to participate fully in research activities. Hence, emotional intelligence components collectively predict research skills acquisition. There is a significant difference between male and female students with intellectual disabilities in their level of research skills acquisition.

Conclusion: This research concluded that there is a statistically significant relationship between emotional intelligence and the ability to develop and perform research tasks. It affirms the critical role emotional intelligence plays not just in social functioning but also in academic productivity, especially among students who often face exclusion or limited support.

Recommendation: Universities should incorporate emotional intelligence training into their special education and general academic programs to build students' self-efficacy and research competence.

Keywords: Emotional Intelligence, Research skills acquisition, University students, Intellectual disabilities, Caregivers, Special Education

INTRODUCTION

The 21st-century academic environment demands cognitive ability and emotional competence, particularly in acquiring advanced skills such as research and inquiry. For students with intellectual disabilities (IDs), mastering research skills in a university setting can be especially challenging due to difficulties in memory, communication, reasoning, and organization [1]. These students often require tailored support that extends beyond traditional academic instruction to include

*Address correspondence to this author at the Department of Educational Foundations, Faculty of Educational Foundation Studies, College of Education, University of Calabar, Nigeria; E-mail: chidirimesther66@yahoo.com

emotional and social development. This study aims to explore how emotional intelligence (EI) may facilitate the acquisition of research skills among university students with intellectual disabilities.

Emotional intelligence—the ability to perceive, understand, regulate, and express emotions—has been recognized as a key factor in promoting academic motivation, resilience, and learning outcomes [2,3]. Despite increasing enrollment of students with intellectual disabilities in Nigerian universities through inclusive education policies, little attention has been paid to their ability to engage in research—a vital component of higher education. Understanding how emotional intelligence may influence their capacity to acquire research skills is important for improving both educational equity and academic outcomes in inclusive university systems such as those in Calabar and across Cross River State.

In line with the study's objective of assessing emotional intelligence as a predictor of research skill acquisition, it is essential to consider the growing movement for inclusive education in Nigeria. Inclusive education has gained significant traction nationwide, increasing the participation of students with special needs in mainstream tertiary institutions [4]. Universities in Calabar and other parts of Cross River State are among those responding to this national shift by expanding access for students with intellectual disabilities. However, many of these students still face academic marginalization due to a lack of tailored pedagogical approaches, inadequate support for research engagement, and limited socio-emotional interventions [5].

To further pursue the study's objective, it is necessary to understand the nature of research skill acquisition and the unique barriers faced by students with intellectual disabilities. Research skills encompass a set of higher-order cognitive abilities such as critical thinking, planning, data handling, and problem-solving—skills that are often underdeveloped in students with intellectual disabilities due to their cognitive limitations [6]. As conceptualized by Mayer *et al*. [7], emotional intelligence can mediate these challenges by enhancing self-awareness, emotional regulation, interpersonal relationships, and persistence—traits essential for successfully completing research tasks [8].

As this study investigates emotional intelligence as a possible enabler of research engagement, it builds on existing literature linking EI with academic success. Previous studies have shown that emotional intelligence correlates positively with academic achievement and self-directed learning [9,10]. However, few empirical studies have explored the role of EI in relation to specific academic competencies such as research, particularly among students with intellectual disabilities in Nigerian universities. This knowledge gap is especially concerning, as university education culminates in independent research work—such as term papers, projects, and theses—which can be especially daunting for students with special learning needs.

Therefore, The current study sought to investigate whether emotional intelligence is a significant predictor of research skills acquisition among university students with intellectual disabilities in institutions located in Calabar and other parts of Cross River State. Findings from this study are expected to inform evidence-based practices and inclusive policies aimed at enhancing research participation and success for students with disabilities in tertiary academic environments.

Statement of the Problem

Despite increased enrollment of students with intellectual disabilities in Nigerian universities, their academic experiences remain fraught with barriers—particularly when it comes to participating in activities that demand independence, abstraction, and systematic inquiry, such as research. While emotional intelligence has been shown to support learning outcomes and self-efficacy, little is known about its role in facilitating research skill development among students with intellectual disabilities in higher education [1,8].

Universities in Calabar and across Cross River State continue to expand their inclusive education frameworks. However, anecdotal and observational evidence suggests that while students with IDs are being admitted, their academic progress—especially in independent research—remains constrained by limited emotional and cognitive support. Teachers and administrators often focus more on accessibility and classroom adaptation than on preparing these students for the demands of academic inquiry.

The problem, therefore, is the lack of empirical understanding of how emotional intelligence contributes to research skill acquisition in this student population. Without this knowledge, educational

interventions may continue to fall short, and students with intellectual disabilities may be excluded from meaningful participation in the research process—a fundamental part of university education. This study addresses this gap by examining: To what extent does emotional intelligence predict research skill acquisition among university students with intellectual disabilities in Calabar and Cross River State, Nigeria?

Research Objectives

The general and specific objectives of the study are as follows:

General Objective

To examine the predictive relationship between emotional intelligence and research skills acquisition among university students with intellectual disabilities at the University of Calabar (UNI.CAL) and the University of Cross River (UNICROSS), Cross River State, Nigeria.

Specific Objectives

The following specific objectives are stated;

1. To assess the level of emotional intelligence among students with intellectual disabilities in selected universities.
2. To determine the level of research skills acquisition among students with intellectual disabilities.
3. To examine the relationship between emotional intelligence and research skills acquisition in students with intellectual disabilities.
4. To identify which components of emotional intelligence (e.g., self-awareness, self-regulation, motivation, empathy, and social skills) significantly predict research skills acquisition.
5. To investigate gender differences in emotional intelligence and research skills among students with intellectual disabilities.

Research Questions

The following research questions were stated;

1. What is the level of emotional intelligence among university students with intellectual disabilities in Calabar and Cross River State?
2. What is the level of research skills acquisition among these students?
3. Is there a significant relationship between emotional intelligence and research skills acquisition?
4. Which dimensions of emotional intelligence significantly predict research skills acquisition among students with intellectual disabilities?
5. Are there significant gender differences in emotional intelligence and research skills acquisition among these students?

Research Hypotheses

The study tested the following null hypotheses:

1. $\mathbf{H_{01}}$: There is no significant relationship between emotional intelligence and research skills acquisition among students with intellectual disabilities.
2. $\mathbf{H_{02}}$: The components of emotional intelligence (self-awareness, self-regulation, motivation, empathy, and social skills) do not significantly predict research skills acquisition.
3. $\mathbf{H_{03}}$: There is no significant difference between male and female students with intellectual disabilities in their level of research skills acquisition.

Definition of Key Constructs

Emotional intelligence refers to the ability to recognize, understand, manage, and use emotions effectively—both in oneself and in interactions with others. It involves both intrapersonal skills (such as self-awareness and self-regulation) and interpersonal skills (like empathy and social communication).

Research skills acquisition refers to the process by which learners develop, improve, and apply a set of cognitive, methodological, and analytical abilities that enable them to conduct independent or collaborative inquiry. These skills are essential for gathering, evaluating, organizing, and presenting information systematically to generate new knowledge or solve problems.

Intellectual disability is a condition characterized by significant limitations in intellectual functioning (such as reasoning, learning, and problem-solving) and adaptive

behavior, which covers a range of everyday social and practical skills. These limitations originate before age 18 and affect a person's ability to function effectively in academic, social, and independent living environments.

LITERATURE REVIEW

Emotional Intelligence (EI) Theory

Emotional intelligence refers to an individual's ability to recognize, understand, manage, and influence emotions in oneself and others [11]. It encompasses five main domains: self-awareness, self-regulation, motivation, empathy, and social skills. For students with intellectual disabilities, EI plays a vital role in their academic engagement, social interactions, and adaptability in learning environments [12,13].

Emotional Intelligence and Academic Outcome

Numerous studies have shown that EI positively correlates with academic performance [9,14]. For students with disabilities, EI has been linked to improved coping mechanisms, better communication skills, and enhanced self-regulation [15].

EI influences how students manage the stress and ambiguity often involved in conducting research [16]. Motivation, an EI component, is a key driver in initiating and sustaining research activities [17]. However, empirical studies exploring this connection among students with intellectual disabilities are scarce, particularly in African contexts.

Research Skills Acquisition

Research skills involve competencies such as problem identification, formulating questions, data gathering and analysis, and report writing [18]. These skills are essential for university-level study, yet students with intellectual disabilities often face difficulties acquiring them due to cognitive, communication, or organizational challenges [19]. Assistive strategies, motivation, and emotional resilience are key to promoting success.

Melvina *et al*. [20] investigated the prediction of self-concept and anxiety on the tendency of postgraduate students with Learning Disabilities (LD) to acquire research skills in two Public Universities of Cross River State, Nigeria: Implications for counseling. Two objectives of the study were stated to guide the study and to achieve the purpose of the study. Two research questions were formulated, which were converted to two statements of hypotheses. A literature review was carried out based on the variables under study. The survey research design was considered most suitable for the study. A stratified random sampling technique was adopted to select the 49 respondents sampled for the study. A validated 20-item, four-point, modified Likert scale questionnaire was used for data collection. The face and content validity of the instrument was established by experts in Test and Measurement. The reliability estimates of 0.81 for the instruments were established using the Cronbach Alpha method. A simple Linear regression statistical tool was used to test the hypotheses formulated for the study. The hypotheses were tested at a 0.05 level of significance. The results obtained from the data analysis revealed a significant prediction of self-concept and anxiety on the tendency of postgraduate students with Learning Disabilities (LD) to acquire research skills in the study area.

According to Hughes [21], students with intellectual disabilities struggle more than their peers in developing independent research skills due to difficulties in comprehension, analysis, and synthesis. Inclusive learning environments and emotionally supportive teaching strategies are essential in bridging this gap [22].

Students with Intellectual Disabilities in Higher Education

Intellectual disability is characterized by significant limitations in intellectual functioning and adaptive behavior originating before age 18 [23]. In higher education, these students often require individualized support, yet inclusive practices in Nigerian universities remain underdeveloped [1].

In Nigeria, research on EI and students with disabilities is still emerging. Adebayo *et al*. [24] found that students with higher emotional awareness were more resilient in overcoming academic barriers. However, research linking EI and skills acquisition in Nigerian universities remains limited.

The literature suggests that emotional intelligence is a key factor in academic performance and may significantly influence students' ability to engage in and complete research activities. However, more studies are needed—especially within Nigerian contexts and among students with intellectual disabilities—to understand this relationship fully. This study, therefore, seeks to fill this gap by exploring the predictive role of

emotional intelligence on research skills acquisition among university students with intellectual disabilities in Calabar and Cross River State.

Emotional Intelligence in Disability Education

Over the past two decades, emotional intelligence (EI) has gained increasing recognition as a critical factor influencing learning outcomes, especially among learners with diverse educational needs. Empirical research suggests that EI plays a vital role in supporting cognitive, social, and behavioral development in students with disabilities, including those with intellectual, emotional, and learning impairments.

Several studies have established that students with disabilities often face greater emotional regulation difficulties, impacting their academic engagement and social participation [25]. For instance, Kotsou *et al*. [26] found that emotional intelligence interventions significantly improved emotional self-regulation and stress-coping mechanisms among students with learning difficulties. Similarly, Brundage and Mera [27] demonstrated that EI training in inclusive classrooms enhanced empathy, classroom collaboration, and self-efficacy among students with mild intellectual disabilities.

Teacher-focused studies have also explored how EI in educators can affect inclusion outcomes. A study by Özokcu [28] showed that special education teachers with higher emotional intelligence were better equipped to manage inclusive classrooms and respond to the emotional needs of students with disabilities. Likewise, EI-informed teaching practices have been shown to increase classroom belongingness and reduce behavioral issues in students with emotional and behavioral disorders [29].

However, while these studies affirm the role of emotional intelligence in disability education, most existing research has focused on early childhood, primary, or secondary education settings. There remains a significant lack of empirical attention to how EI functions within higher education environments—particularly inclusive universities in Sub-Saharan Africa, where students with intellectual disabilities are now participating in greater numbers.

Moreover, few studies have directly linked emotional intelligence to acquiring academic competencies, such as research skills, which are essential for tertiary-level success but often challenging for students with intellectual disabilities. The intersection of EI and higher-order academic skills remains underexplored, especially in developing countries where inclusive education systems are still evolving.

Gaps in the Literature

The gaps in this literature revealed limited empirical data on how EI influences research skills acquisition among students with intellectual disabilities in Nigerian universities. Few studies have explored this relationship within the inclusive education policies implemented in Cross River State and Akwa Ibom State. The intersection between gender, EI, and research competence among students with intellectual disabilities has not been fully examined. Again, despite increasing enrollment of students with intellectual disabilities in inclusive universities in Nigeria, the role of emotional intelligence in supporting their academic success—particularly in relation to research skill development—has received little empirical scrutiny. This study, again, sought to bridge that gap by examining whether specific EI dimensions (such as empathy and social skills) predict research skills acquisition among students with intellectual disabilities in inclusive tertiary institutions in Southern Nigeria.

MATERIALS AND METHODS

Experimental Setting

Research Design

This study adopted a correlational survey research design, which is appropriate for assessing the relationships and predictive power between emotional intelligence and research skills acquisition among students with intellectual disabilities.

Area of Study

The study area is the Calabar metropolis in Cross River State, Southern Nigeria. It houses the two major Universities: the State University of Calabar and the University of Cross River State.

Participants/Sample

The study population consisted of all 20,030 final-year undergraduate students with intellectual disabilities in inclusive departments of the University of Calabar and the University of Cross River State, offering special education or support for students with disabilities. From the identified population, a sample

Table 1: Table of Variables

S/No	Variable	Type of Variable	Nature	Measurement Tool
1	Emotional Intelligence	Independent Variable	Continuous	Emotional Intelligence Scale
2	Research Skills Acquisition	Dependent Variable	Continuous	Research Skills Self-Assessment Inventory
3	Gender	Moderator Variable	Categorical (M/F)	Demographic Questionnaire
4	Components of EI (self-awareness, motivation)	Predictor Variables	Continuous	Subscales in EI instrument

Key:
EI: Emotional Intelligence.
M/F:Male/Female.

size of 401 participants was selected depending on accessibility and consent. The selection ensured representation across different academic faculties that integrate students with intellectual disabilities while also considering ethical criteria such as informed consent and institutional support. The participants reflected a diverse group in terms of age, gender, course of study, and level of academic support received.

Sampling Technique

A purposive sampling technique was used to select students identified with intellectual disabilities from the two selected universities based on inclusion criteria such as:

- Having a formal or institutional diagnosis of intellectual disability.
- Being enrolled in a degree program that includes research components.
- Having received special education support services within the institution.

Since students with intellectual disabilities represent a relatively small and specialized population within the broader university student body, purposive sampling allowed the researcher to intentionally target participants who could provide rich, reliable data rather than relying on random selection methods that may not yield sufficient or appropriate cases.

Instruments for Data Collection

The instruments for data collection are;

1. The Emotional Intelligence Questionnaire was adapted for special needs learners using the Daniel Goleman model of emotional intelligence, which emphasizes five components: self-awareness, self-regulation, motivation, empathy, and social skills. This instrument contains items measuring self-awareness, self-regulation, motivation, empathy, and social skills on a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5).

2. Research Skills Acquisition Inventory was designed using the Scaffolded Research Skills Acquisition Model (SRSAM). This is developed to assess students' competencies in:

   Problem identification

   Research design

   Data collection and analysis

   Report writing

   It is a 10-item inventory rated on a 4-point scale (Not Confident – Very Confident).

3. Demographic Questionnaire: This captures data such as age, gender, level of study, diagnosis confirmation, and prior research exposure.

Validity and Reliability of the Instruments

The instruments were reviewed by experts in the Departments of Special Education and the Departments of Measurement and Evaluation from the University of Cross River State to ensure content and face validity. After the validation, three items were removed and replaced with three items, and about two items were modified.

Pilot Testing Procedures

Before the main data collection, a pilot study was conducted to evaluate the clarity, reliability, and

appropriateness of the research instruments and procedures.

Purpose of the Pilot Study:

- To test the comprehensibility of the questionnaire items.
- To assess the reliability (internal consistency) of the scales.
- To evaluate the time needed to complete the instruments.
- To identify any potential difficulties in administration, especially for students with intellectual disabilities.

Participants

The pilot study involved 30 students with intellectual disabilities from the University of Education and Entrepreneurship, Awi, Cross River State, who were not included in the main study sample. These participants met the same inclusion criteria.

Procedure

The instruments were administered as planned for the main study (with support staff present where needed).

After completing the questionnaires, participants were debriefed to gather feedback on unclear or confusing items. Feedback from participants and support staff informed revisions to the instruments. Reliability analysis was conducted using Cronbach's Alpha, with a coefficient of 0.82 ≥0.70, which is considered acceptable for internal consistency. Three ambiguous and culturally inappropriate items were modified based on the pilot feedback. Language and formatting were adjusted to ensure accessibility and ease of understanding for the target population.

Ethical Consideration

This study adhered strictly to ethical principles guiding research involving human participants, particularly those in vulnerable populations such as individuals with intellectual disabilities. The following ethical protocols were observed:

1. Ethical Approval: Ethical clearance was obtained from the Institutional Ethics Committee of the University of Calabar and other participating universities.
2. Informed Consent: A detailed consent form explaining the purpose, procedures, risks, and benefits of the study was provided to all participants (and their caregivers, where necessary). Participants were informed that their involvement was voluntary and that they could withdraw at any stage without penalty.
3. Confidentiality: All information collected was treated with strict confidentiality. Data was anonymized using codes, and no personal identifiers were disclosed in reports or publications.
4. Non-maleficence: Care was taken to ensure no participant was harmed or distressed during the research process. The questionnaires were adapted for accessibility and clarity, and participants were assisted by special education personnel where necessary.
5. Respect for Autonomy: Participants were allowed to make their own decisions about participation. Support was provided to ensure comprehension where necessary, but the final decision rested with the student.
6. Beneficence: The study is designed to benefit participants and their institutions by informing practices that can support their academic success and emotional development.
7. Data Storage: All data were stored securely (both physically and digitally) and accessed only by the research team. Data was retained for a defined period before secure disposal.

Method of Data Analysis

The data collection procedure involved the researcher writing to the Heads of Departments for permission to administer the instrument to the students. On granting the request, the researcher met the respondents in their classes immediately after lectures to administer the instrument. The researcher administered the instrument with the help of one research assistant. The research assistant was trained on how to seek verbal informed consent and interact with academic staff during the administration of the questionnaire.

During data collection, verbally informed consent was sought from respondents, stating clearly the confidentiality of their responses and protection,

including their voluntary participation in the study and freedom to withdraw from the study at any time. The researcher explained issues and answered questions raised by the respondents, if any. The questionnaires were distributed, and some were collected on the same day, while some were collected a few days later.

After collecting the questionnaire, codes/scores were assigned to each item. For ease of data preparation, a coding schedule was prepared by developing a key for each of the constructs in the instrument in a tabular form.

To test the research questions and hypotheses directing the study.

Descriptive Statistics (mean, standard deviation, frequency) was used to summarize demographic data and variable distributions.

Pearson's Product-Moment Correlation was used to test relationships between EI and research skills.

Multiple Regression Analysis was used to determine the predictive power of EI dimensions and research skills interest.

Independent Samples t-tests were used to examine the gender differences.

This data was analyzed using the Statistical Package for Social Sciences (SPSS) program version 26.

RESULTS /DISCUSSION

Table **2** revealed that out of the 401 respondents used in the research, 176 (43.89%) were males, while 225 (56.11%) were females. This result indicates that there are more female students with intellectual disabilities than males.

The result also showed that out of the 401 respondents used in the study, 23(5.74%) were 20 years and below, 234(58.35%) were between 21 and 30 years, and respondents 144(35.91%) were 31 years and above. This result also indicates that there are more mid-age students with intellectual disabilities than young students.

When asked if they had been diagnosed with any form of intellectual disability, 401 respondents (100%) agreed yes, while 0% disagreed. This result indicates that all the respondents used in this study have been diagnosed with one form or another of intellectual disability.

Test of the Research Question

The result in Table **3** shows the rating on the level of emotional intelligence among university students with intellectual disabilities. Items 1, 2, 3, 4, 5, 6, and 7 had a mean rating of 2.76, 3.01, 2.32, 3.11, 2.67, 3.98, and 3.01, respectively, which is greater than the benchmark of 2.50. The grand mean of 2.98 indicates high emotional intelligence among university students with intellectual disabilities.

Table 2: Demographic Variables of Respondents

Variable		Frequency	Percentage
Gender	Male	176	43.89
	Female	225	56.11
	Total	401	100
Age	≤20 years	23	5.74
	21-30 years	234	58.35
	≥31 years	144	35.91
	Total	401	100
Do you have a diagnosed intellectual disability?	Yes	401	100
	No	0	
	Total	401	100
Have you ever completed a research project or assignment?	Yes	387	96.51
	No	14	3.49
	Total	401	100

Source: Fieldwork (2024).

Table 3: What is the Level of Emotional Intelligence among University Students with Intellectual Disabilities?

SN	OPINIONS	SA	A	D	SD	$\bar{x}$	SD	REMARKS
1	I understand my own feelings	231(53.8%)	112(8.3%)	23(22.9%)	35(15.0%)	2.76	0.27	Accepted
2	I can control my emotions when I am upset.	41(22.9%)	57(29.3%)	167(23.3%)	136(24.4%)	3.01	1.08	Accepted
3	I stay calm under pressure.	76(18.95%)	65(16.2%)	143(35.6%)	117(29.2%)	2.32	0.09	Rejected
4	I understand how other people feel.	187(46.6%)	112(27.9%)	32(7.98%)	70(17.46%)	3.11	1.39	Accepted
5	I can motivate myself to finish difficult tasks.	23(5.74%)	76(18.95%)	98(24.44%)	204(50.87%)	2.67	1.90	Accepted
6	I work well with others in a team	23(5.7)	78(19.45)	146(36.40)	154(38.40)	3.98	0.87	Accepted
7	I know how to calm myself down when I feel anxious	54(13.46)	59(14.71)	187(46.63)	101(25,18)	3.01	0.60	Accepted
	GRAND MEAN					2.98	0.89	

KEY: SA-Strongly agreed.
A-Agreed.
D-Disagreed.
SD-Strongly Disagreed.
Source: Fieldwork (2024).

TEST OF HYPOTHESES

Hypothesis One

There is no significant relationship between emotional intelligence and research skills acquisition among students with intellectual disabilities.

The independent variable is emotional intelligence, while the dependent variable is research skills acquisition among students with intellectual disabilities. The items used to measure this hypothesis were derived from questionnaire items 1-7 of Section B and items 8-15 of Section C. Pearson's Product Moment Correlation Coefficient Analysis test statistic was employed to test the hypothesis for this study.

The result of the analysis is presented in Table **4**. The analysis in Table **4** revealed that emotional intelligence produced a mean score of 13.60 with a standard deviation of 2.92, while research skills acquisition produced a mean score of 12.43 with a standard deviation of 2.94. The result further revealed that the calculated r-ratio of 0.452 indicates a moderate positive relationship between emotional intelligence and research skills acquisition, and this was obtained with a p-value of 0.003 at 399 degrees of freedom, meeting the condition required for significance at the 0.05 level. Based on this, the null hypothesis, which stated that there is no significant relationship between emotional intelligence and research skills acquisition among students with intellectual disabilities, was rejected, indicating that there is a significant relationship between emotional intelligence and research skills acquisition among students with intellectual disabilities.

Hypothesis Two

The components of emotional intelligence (self-awareness, self-regulation, motivation, empathy, and social skills) do not significantly predict research skills acquisition. The choice of multiple linear regression (modeling application) was to help explain the linear relationship that exists between and among the predictor variables at $p < 0.05$. The result is presented in Table **4**.

Table 4: Pearson's Product Moment Correlation Coefficient Analysis of the Relationship between Emotional Intelligence and Research Skills Acquisition among Students with Intellectual Disabilities (N=401)

Variables:	x	S.D	r	P-value
Emotional intelligence (x):	12.43	2.94		
			0.452	0.003
Research skills acquisition (y):	13.60	2.92		

*Significant at 0.05 level; df= 399; critical r-value = 0.134.

The regression equation is given thus:

$Yi = B_o + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5\, e_i$ ...Eqn 1.1

Where:

Y is the predicted value of the DV (research skills acquisition)

X_1 = self-awareness

X_2 = self-regulation

X_3 = motivation

X_4 = empathy

X_5 = social skills

Bo is the Y-intercept and

e_i is the error of prediction known as residuals.

Table **5** shows a multiple correlation coefficient (R) of 0.54, indicating a moderate positive relationship between the predictor variables and research skills acquisition. The coefficient of determination (R^2) is 0.52, suggesting that approximately 52% of the variance in research skills acquisition can be explained by the combined influence of self-awareness, self-regulation, motivation, empathy, and social skills.

However, the adjusted R^2 is 0.21, which means that only 21% of the variance is accounted for after adjusting for the number of predictors. This disparity suggests that while the model appears strong initially, not all predictors contribute meaningfully, and some variability may be due to chance or omitted variables. The standard error of the estimate (7.64546) indicates the average distance that the observed values fall from the regression line, pointing to a moderate prediction accuracy. The analysis of variance (ANOVA) produced an F-value of 54.536, which is statistically significant at $p < 0.001$. This indicates that the overall model is significantly better than a model with no predictors, confirming that emotional intelligence components collectively predict research skills acquisition.

Hypothesis Three

There is no significant difference in the level of research skills acquisition between male and female students with intellectual disabilities. The independent variable is gender, which was categorized into male and female, while the dependent variable is research skills acquisition. The hypothesis was analyzed using independent t-test analysis, which tested at 0.05 significance levels, as presented in Table **6**.

The result in Table **6** revealed that the mean score obtained by the 176 male subjects as regards research skills acquisition was 2.96 with a standard deviation of 0.68, which is less than the mean score obtained by the 255 female subjects as regards research skills acquisition mean, which is 2.99 with a standard deviation of 0.67. The mean difference was statistically

Table 5: Regression Model Summary of all the Predictor Variables (Self-Awareness, Self-Regulation, Motivation, Empathy, and Social Skills) and Research Skills Acquisition

Model	R	R square	Adjusted R square	Std. error of the estimate	
1	0.54	0.52	0.21	7.64546	
Source of Variables	**Sum of Squares**	**Df**	**Mean square**	**F**	**Sig.**
Regression	21.873	5	9.425	54.536	0.000
Residual	4536.987	396	35.874		
Total	5345.232	401			
Variables	Regression weight				
	B	**Std error**	**Standard. Coef.**	**t.value**	**Sig.**
(constant)	34.645	2.746		15.776	0.000
Self-awareness	0.034	0.334	-0.021	0.032	0.001
Self-regulation	0.084	0.723	0.043	0.232	0.632
Motivation	0.231	0.212	0.38	0.331	0.611
Empathy	0.324	0.221	0.47	0.229	0.001
Social skills	0.522	0.339	0.65	0.221	0.000

Key:
DV = Research skills acquisition.

Table 6: Independent t-Test Analysis of Male and Female Students with Intellectual Disabilities in their Level of Research Skills Acquisition (N=401)

Gender	N	Mean	SD	t-value	p-level
Male	176	2.96	0.68	-0.544*	0.000
Female	255	2.99	0.67		

*Significant at 0.05 level; p>0.05.

significant since the obtained t-value of 0.544 in an absolute sense with a p-value of 0.000 met the criteria for significance at 0.05 alpha level. Based on this, the null hypothesis, which stated that there is no significant difference between male and female students with intellectual disabilities in their level of research skills acquisition, was rejected, while the alternate hypothesis was retained.

DISCUSSION OF FINDINGS

The study investigated how emotional intelligence predicts research skills acquisition among students with intellectual disabilities. The results revealed a statistically significant relationship between emotional intelligence and the ability to develop and perform research tasks.

The result of hypothesis one revealed that there is a significant relationship between emotional intelligence and research skills acquisition among students with intellectual disabilities; the finding of this study supports Clarke [15] that for students with disabilities, EI has been linked to improved coping mechanisms, better communication skills, and enhanced self-regulation. EI influences how students manage the stress and ambiguity often involved in conducting research [16]. Motivation, an EI component, is a key driver in initiating and sustaining research activities [17].

Furthermore, the result of hypothesis two revealed that emotional intelligence components collectively predict research skills acquisition. From the regression results, it is clear that empathy and social skills are the strongest and most statistically significant predictors of research skills acquisition. This suggests that interpersonal competencies—especially empathy and social skills—are stronger predictors of success in research skill acquisition than intrapersonal competencies (like self-regulation or motivation) among university students in this context. This may reflect the collaborative and communicative nature of research in Nigerian universities, where students often work in teams, rely on mentorship, and gather data from human subjects. This finding aligns with emotional intelligence theories [11], which emphasize the role of interpersonal competencies in learning and problem-solving environments. These findings also support studies by Zeidner *et al*. [16], who argued that collaborative and empathetic environments enhance cognitive and professional skill development among students with learning challenges.

Conversely, self-awareness shows a statistically significant but negative relationship, which could be due to reverse scoring, self-doubt, or limited insight into personal emotional states among students with intellectual disabilities. Self-regulation and motivation, though conceptually vital, were not statistically significant in this study, possibly due to contextual factors such as a lack of tailored learning support or inconsistent reinforcement mechanisms within the academic environment.

Students who scored higher in emotional intelligence domains—such as self-awareness, self-regulation, motivation, and empathy—demonstrated better performance in identifying research problems, reviewing literature, analyzing data, and writing reports. This supports earlier research by Parker *et al*. [14] and Petrides *et al*. [9], who found emotional intelligence to be a strong predictor of academic success. Moreover, students with higher emotional intelligence showed greater confidence in collaborative research tasks, likely due to their enhanced interpersonal and communication skills.

The result of the third hypothesis revealed that there is a significant difference between male and female students with intellectual disabilities in their level of research skills acquisition. Interestingly, the study also showed that female students reported higher emotional intelligence and better research skill acquisition, echoing previous findings by Zeidner *et al*. [16] on gender differences in EI expression and academic behavior. These findings are particularly significant in the Nigerian context, where students with disabilities often face systemic barriers in higher education [1,22].

The ability to self-regulate and stay motivated despite institutional challenges appears critical to their academic persistence and research engagement.

Implication for Screening and Training

Emotional Intelligence (EI)—the ability to perceive, understand, regulate, and express emotions—has increasingly been recognized as a crucial factor in academic success, particularly in cognitively demanding tasks such as research and inquiry. In inclusive higher education systems in Southern Nigeria, where students with intellectual disabilities (IDs) are gaining greater access to mainstream academic programs, emotional competence becomes even more important. Research methods courses typically require higher-order cognitive skills such as critical thinking, data interpretation, problem-solving, and academic writing—areas where students often experience stress, anxiety, and low self-efficacy. For students with IDs, these challenges are amplified due to communication, memory, and abstract reasoning difficulties. Integrating EI support can help students better manage the emotional demands of the research process, improve collaboration, and increase persistence.

Universities should revise their Research Methods curricula to include dedicated components on emotional intelligence. During research, these could address self-awareness, frustration management, interpersonal communication, and emotional reflection. Sample modules may include topics like *"Dealing with Research Anxiety"* or *"Communicating Emotions During Group Work."* Also, lecturers and instructors should be trained in EI-sensitive pedagogy. Training should cover recognizing signs of emotional distress, creating inclusive classroom climates, and providing emotionally intelligent feedback. Faculty equipped with these skills are better positioned to support both neurotypical and neurodivergent learners.

Incorporating self-reflective exercises allows students to explore the emotional dimensions of research. For example, reflective journals can include prompts such as: *"What emotions did I experience during my data collection process?"* or *"How did I manage frustration during the literature review?"* Again, Group-based research projects can include emotional roles such as "group encourager" or "conflict mediator." Students should be guided to practice empathy, active listening, and positive reinforcement during collaborative tasks. University departments offering Research Methods courses can collaborate with institutional counseling centers and inclusive education units to provide support workshops, mentorship, and follow-up care for emotionally distressed students, especially those with additional needs.

Incorporating EI support within research instruction directly contributes to educational equity by addressing both cognitive and affective learning domains. This is particularly relevant in Nigeria's growing inclusive education landscape, where students with special needs are increasingly present in mainstream classrooms but often lack adequate emotional or social support. Emotional intelligence training can serve as a bridge between inclusive policy and actual inclusive practice.

CONCLUSION

From the study, it can be concluded that:

1. Emotional intelligence significantly contributes to developing research skills in students with intellectual disabilities.

2. Emotional competencies such as self-awareness, motivation, and interpersonal sensitivity are essential tools in enabling these students to participate fully in research activities. Hence, emotional intelligence components collectively predict research skills acquisition.

3. There is a significant difference between male and female students with intellectual disabilities in their level of research skills acquisition.

Inclusive higher education must prioritize emotional development alongside cognitive instruction to support learners with intellectual disabilities. This research affirms the critical role emotional intelligence plays not just in social functioning but in academic productivity, especially among students who often face exclusion or limited support.

RECOMMENDATIONS

Based on the findings, the following recommendations are proposed:

1. Universities should incorporate emotional intelligence training into their special education and general academic programs to build students' self-efficacy and research competence.

2. Counseling and mentoring programs should be provided to help students with intellectual

disabilities manage academic stress and enhance motivation.

3. Lecturers should adopt inclusive pedagogical strategies that recognize and nurture emotional capacities, particularly in research-related courses.

4. Nigerian higher education policies should emphasize emotional and academic support as a right for students with disabilities, ensuring equitable access to learning opportunities.

5. Academic staff should be trained to recognize and respond to the emotional and intellectual needs of students with disabilities, particularly when performing research tasks.

6. More empirical work is needed to explore how specific components of emotional intelligence interact with cognitive development and academic success across different student populations in Nigeria.

SUGGESTIONS FOR FUTURE RESEARCH

Based on the result of this study, it was suggested that;

1. A similar study will be carried out in other states since this study is limited to Universities in Calabar.

2. The population and scope of the study should be increased and widened to generalize the results.

CONFLICTING INTERESTS

The authors graciously declare that there is no conflicting interest, so the publishers can proceed with publishing the paper.

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