



Association between Mental Health Problems and Academic Performance of Students in Federal Colleges of Education, North-East Nigeria

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Abstract

Mental health problems among students of tertiary institutions are increasing. Diminished mental health status tends to be linked with poor academic performance. However, limited studies have explored the association between mental health problems and academic performance among students at Federal Colleges of Education (FCE) in North-East Nigeria. The study adopted correlational survey research design. Two research questions and one null hypothesis guided the study. A total of 17,343 students of FCE in North-East Nigeria participated in the study during the 2023/2024 academic session. The 21-item Depression, Anxiety and Stress Scale (DASS-21) was used to measure mental health problems while academic performance was measured using a Proforma that contained students' Cumulative Grade Point Average (CGPA). Cronbach alpha was used to determine the internal consistency of the DASS-21 subscales. The reliability coefficients of 0.81, 0.89 and 0.78 were obtained for the depression, anxiety and stress scales. Mean and standard deviation (SD) were used to determine the levels of mental health problems while Pearson's product moment correlation and multiple regression were used to determine the relationship between the students' mental health problems and their academic performance. The results showed that students of FCE had moderate, severe and mild levels of depression, anxiety and stress, respectively. Although not statistically significant, there were inverse associations between depression ($r = -0.28$), anxiety ($r = -0.09$), stress ($r = -0.08$) and academic performance of students. We recommended that mental health interventions such as cognitive-behavioural therapy (CBT), and mindfulness interventions should be implemented by psychologists and health educators to address depression, anxiety and stress among students.

Keywords: Academic performance, Colleges of Education, Mental health problems, Students

Introduction

The whole essence of educational endeavours is to bring about learning. Mental health problems however can interfere with the learning process and impede learning with resultant negative impact on the learners' academic performance. To measure the extent of learning that has occurred in learners, academic institutions including colleges of education measure academic performance of learners. Academic performance refers to the extent to which students have attained their short or long-term educational goals. It shows the extent to which a learner is successful in meeting the standards set by educational institutions, often measured through grades, test scores, and degree completion (York et al., 2015).

Good academic performance brings great benefits to students in various ways. Among other benefits, it can help students get admission into good universities of their choices since universities often emphasize grades for admission. It enables students

get good job upon graduation. Academic performance helps boost the morale of the learners and make the learners have confidence in themselves. Institutions of learning are constantly making efforts to improve the academic performance of their students. However, students' academic performance is a multifaceted concept that encompasses various aspects of a student's educational performance. It is influenced by a range of factors including individual characteristics, family background, school environment, and broader societal context.

Academic life of students in North-East, Nigeria has been negatively impacted by insurgency, socio-economic instability, and displacement. Mental health problems such as depression and anxiety are highly prevalent among students in this region (Mohammed et al., 2024). These mental health problems according to the above authors are often driven by trauma, poverty, and insecurity. North-East Nigeria is one of the six geopolitical zones of Nigeria

representing both a geographic and political region of Nigeria. The zone comprises six states; Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe. The zone has been historically affected by socio-political instability, poverty, and limited access to healthcare, which can exacerbate mental health problems among students (Adamu, Ogunode, Abubakar, & Musa, 2022). The educational system in North-East Nigeria, especially tertiary Education, also faces significant challenges, such as inadequate resources, insurgency, sectarian violence and limited psychological support services (Babayi & Jajua, 2025). These factors make it critical to understand how mental health problems influence academic performance of students in this zone.

Mental health problems encompass a wide range of mental health conditions which according to the American Psychiatric Association (2022), involves changes in emotion, thinking or behaviour that are associated with distress and/or problems with functioning in social, work, or family activities. The mental health problems of interest in this study are depression, anxiety and stress. These three mental health problems have been shown in literature to be prevalent among Nigerian students (Aluh, Abba, & Afosi, 2020; Adeleke et al., 2023).

Depression is a common and serious mental health problem characterized by persistent feelings of sadness, loss of interest, and a range of emotional and physical problems. Depression involves a persistent feeling of sadness or a lack of interest in outside stimuli that significantly impairs daily functioning (American Psychiatric Association, 2020). Depression can impair students' academic performance by reducing motivation, concentration, and energy levels, leading to absenteeism, lower academic performance, and an overall lack of engagement with coursework (McCurdy et al., 2022). Anxiety on the other hand is characterized by persistent and excessive worry or fear, in situations that are not threatening, often leading to avoidance behaviour and significant distress (National Institute of Mental Health – NIMH, 2021). Anxiety can negatively impact students' academic performance by causing excessive worry, difficulty concentrating, and physical symptoms that hinder their ability to focus on studies and perform well in exams or assignments (Khan et al., 2024). Anxiety may be brought on by stress. Stress is a state of mental or emotional strain resulting from adverse or demanding circumstances. It is a normal reaction to everyday pressures, but it can become unhealthy when it upsets an individual's day-to-day functioning (APA, 2021).

Several studies from different parts of the world have shown that depression, anxiety and stress

negatively influence students' academic performance (Grøtan et al. 2019; Nag et al., 2019; Agnafors et al., 2021; Brobbey & Amoah, 2021; Duncan et al., 2021; Chu et al., 2023; Arthur et al., 2025). However, some studies have shown that depression, anxiety and stress do not always have negative influences. Although Deng and Li (2024) found that anxiety and depression have a significant negative impact on both comprehensive and single-subject scores, they also found that anxiety can increase academic performance in certain settings.

Ideally, students should thrive academically in an environment that supports their mental well-being and fosters positive personality development. The students should have access to comprehensive mental health services, students' programmes, and supportive learning environments that minimize stressors and distractions. Academic performance would be determined primarily by factors such as hard work, motivation, and intellectual capacity, with minimal interference from mental health challenges. This would create a balanced system where students reach their full potential, contributing to the nation's educational and economic growth.

Regrettably, the reality in many educational settings including federal colleges of education in North-East Nigeria is far from ideal. Many students face significant mental health challenges, such as anxiety, depression, and stress, which can negatively impact their academic performance. Despite these issues, there is often limited access to adequate mental health services and personality assessments, leaving students vulnerable to poor academic outcomes and long-term consequences. There is lack of comprehensive research and targeted interventions addressing the interplay between mental health problems and students' academic performance of students in federal colleges of education, particularly in North-East Nigeria, where socio-economic and regional challenges compound these issues. Hence, this study seeks to ascertain the association between mental health problems (Depression, anxiety and stress) and academic performance of students in federal colleges of education, North-East Nigeria.

Research Questions

The following research questions guided the study:

1. What are the levels of mental health problems among students in federal colleges of education, North-East Nigeria?
2. What is the association between mental health problems (depression, anxiety and stress) and academic performance of students at Federal Colleges of Education, North-East Nigeria?

Hypothesis

The study went further to hypothesize that at 0.05 level of significance, there is no significant association between mental health problems and academic performance levels among students at Federal Colleges of Education in North-East Nigeria.

Methods

The correlational survey research design was employed for the study. The study was conducted in North-East, Nigeria which comprised six states - Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe state. Northeast, Nigeria has four Federal Colleges of Education which include, Federal College of Education Yola, in Adamawa State; Federal College of Education Jama'are, in Bauchi State; Federal College of Education Gombe, in Gombe State; and Federal College of Education Potiskum, in Yobe State, all of which play crucial roles in training teachers and promoting education.

The population for the study consisted of all the 17,343 students of Federal Colleges of Education in North-East, Nigeria (Registry of Federal Colleges of Education for 2023/2024 academic session). The study sample size was 450 students in Federal Colleges of Education, North-East Nigeria. This was in line with the suggestion of Cohen, Manion, and Morrison (2018), that when a population size is 10,000 and above at 95 per cent confidence level (5% interval), the sample size should be 370 or above. The sample size was increased to 450 to ensure greater representation of participants and to make up for attrition rate. The proportionate simple random sampling technique was used to draw 450 students for the study. Specifically, 137 students were drawn from Federal Colleges of Education Technical Gombe, 13 students were drawn from Federal Colleges of Education Jama'are, 152 students were drawn from Federal Colleges of Education Yola, and 148 students were drawn from Federal College of Education Technical Potiskum.

Two instruments; Depression Anxiety Stress Scales (DASS-21), and Academic Performance Scale (Proforma) were used for the study. Depression Anxiety Stress Scales (DASS-21) was developed by Lovibond and Lovibond (1995). The DASS-21 is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress. Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items. The reliability of DASS-21 was established by administering copies of the DASS-21, to 20 students of Federal College of Education (Technical), Bichi, in

Kano State, North-West, Nigeria. The internal consistency of the instruments was determined using Cronbach's Alpha. A reliability coefficient of 0.81, 0.89 and 0.78 for the subscales of depressive, anxiety and stress respectively was obtained and these showed that the instrument was reliable. The Academic Performance Scale (Proforma) was designed by the researcher to collect the CGPA of students from the exam registrar of each participating school.

The researchers with the research assistants visited the schools for purpose of data collection. Confidentiality was assured to prospective participants, and they were also informed that participation is voluntary and they can quit anytime if they so wish. The researchers explained the objectives of the research to the participants and sort and obtained their consent to participate in the study. Copies of the instruments were administered directly to the 450 students who had provided verbal consent to participate in the study. The participants were given codes to identify them. The participants codes were matched with their examination/registration numbers to enable the researchers match each participant's CGPA and his or her copy of questionnaire responded to. Out of 450 copies of DASS-21, only 403 copies were returned, 29 were not properly filled and 18 were not returned.

In order to have access to the students' academic performance record of students, a letter of introduction from the Head of Department of Human Kinetics and Health Education, University of Nigeria, Nsukka introducing the researchers and affirming that the information on students' CGPA was absolutely for research purpose was presented to the Dean and or the examination officer of the various schools in the federal colleges of education studied. The academic performance proforma was used to collate the participants CGPA for 2023/2024 academic session.

The returned copies of the completed questionnaire were properly cross checked for completeness of responses. The CGPA of participants and the information from participants' copies of the completely answered questionnaires were coded and analysed using International Business Machine Statistical Package for Social Sciences (IBM-SPSS) version 23. Means, standard deviation and Pearson's product moment correlation were used to answer the research questions, while the null hypotheses were tested using simple linear and multiple regression at .05 level of significance. Nwagu and Agbaje (2017) guideline for interpreting correlation coefficient was adopted for the study. Thus, correlation coefficients ranging from 0.00 to ± 0.29 represents none to weak relationship, ± 0.30 to ± 0.59 represents moderate

relationship, ± 0.60 to ± 0.99 represents strong relationship, and ± 1.00 represents perfect relationship. For the null hypothesis, when the P value is equal or less than .05 the null hypothesis was rejected.

Results

Levels of mental health problems among students at federal colleges of education in North-East Nigeria

Table 1

Mean and Standard Deviation Showing Levels of Mental Health Problems among Students of Federal College of Education in North East Nigeria (n= 403)

Mental Health Problems	Mental Health Problems Item statements	$\bar{X}$	SD
Depression			
1.	I could not seem to experience any positive feeling at all	1.07	0.98
2.	I found it difficult to work up the initiative to do thing	1.26	1.06
3.	I felt that I had nothing to look forward to	1.14	1.07
4.	I fell down-hearted and blue	1.06	1.05
5.	I was unable to become enthusiastic about anything	1.24	1.02
6.	I felt that I was not worth much as a person	1.26	1.06
7.	I felt that life was meaningless	1.26	1.14
	Depression Score	8.29×2	7.38×2
	Total Depression Score	16.58	14.76
Anxiety			
1.	I was aware of dryness of my mouth	1.25	0.95
2.	I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	1.05	1.01
3.	I experienced trembling (e.g. in the hands)	1.08	1.01
4.	I was worried about situations in which I might panic and make a fool of myself	1.31	1.11
5.	I felt I was close to panic	1.09	1.00
6.	I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	1.23	1.06
7.	I felt scared without any good reason	1.37	1.06
	Anxiety Score	8.38×2	7.2×2
	Total Anxiety Score	16.76	14.4
Stress			
1.	I found it hard to wind down	0.69	0.83
2.	I tended to over-react to situations	1.17	1.03
3.	I felt that I was using a lot of nervous energy	1.32	1.07
4.	I found myself getting agitated	1.16	1.05
5.	I found it difficult to relax	1.23	1.06
6.	I was intolerant of anything that kept me from getting on with what I was doing	1.29	1.05
7.	I felt that in was rather touchy	1.13	1.02
	Stress Score	7.99×2	7.11×2
	Total Stress Score	15.98	14.22

Note. Scoring Protocol for Depression, Anxiety and Stress

	Depression	Anxiety	Stress
Normal	= 0-9	= 0-7	= 0-14
Mild level	= 10-13	= 8-9	= 15-18

Moderate = 14-20 = 10-14 = 19-25
Severe level = 21-27 = 15-19 = 26-33
Extremely Severe = ≥ 28 = ≥ 20 = ≥ 34

Results in Table 1 show that students at Federal Colleges of Education had a moderate level of depression (Total depression score=16.58), severe level of anxiety (Total anxiety score=16.76) and a mild level of stress (Total stress score=15.98) in

North East, Nigeria. The results suggest that anxiety was more predominant than depression and stress among students of FCE. In other words, they experienced depression and anxiety more than stress.

Association between mental health problems (depression, anxiety and stress) and academic performance among students of federal colleges of education in North-East Nigeria

Table 2

Pearson's Product Moment Correlation Showing Association between Mental Health Problems and Academic Performance of Students of Federal Colleges of Education in North East Nigeria (n=403)

Variables	CGPA	Depression	Anxiety	Stress
CGPA	1.00			
Depression	-0.280	1.00		
Anxiety	-0.085	0.616**	1.00	
Stress	-0.081	0.589**	0.606**	1.00

Results in Table 2 show that there is a weak negative association between mental health problems of depression ($r = -0.28$), anxiety ($r = -0.09$), stress ($r = -0.08$) and academic performance (CGPA) of students of Federal Colleges of Education in North-East Nigeria. The results imply that mental health

problems of depression, anxiety and stress are inversely related to academic performance of Federal Colleges of Education students. In other words, The higher the level of mental health problems, the lower the academic performance and vice versa.

Table 3

Summary of Multiple Regression Showing Association between Mental Health Problems and Academic Performance Levels (CGPA) of Federal College of Education Students in North East Nigeria (n = 403)

Model	R	R ²	Adj.R ²	Std.Err	F	B	t	P	95%C.I. for	
									B	UB
(Constant)	0.104	0.011	0.003	0.948	1.446	-	21.83	0.000	2.428	2.908
Depression						0.064	0.94	0.346	-0.017	0.047
Anxiety						-0.083	-1.22	0.225	-0.051	0.012
Stress						-0.068	-1.01	0.312	-0.047	0.015

Note.

a. Predictors Independent variable (Depression, Anxiety and Stress)

b. Dependent variable (CGPA)

R= Correlation coefficient value; R²= Coefficient of determination; Adj.R²= Adjusted R Square; Std. Err = Standard Error of Estimate; F= F-ratio value; β = Standardized beta coefficient; t= t-test value; P= P-value; C.I.= Confidence Interval; LB= Lower Bound; UB= Upper Bound.

*Significant at $P \leq 0.05$

In Table 3, the multiple regression analysis was used to assess the significance of the association between mental health problems (depression, anxiety and stress) and CGPA of Federal College of Education students. The table shows that the association between mental health problems and CGPA of students was not significant, $F(3,399) = 1.446$; $R = 0.104$, $R^2 = 0.011$, $Adj.R^2 = 0.003$; $P = 0.229$.

In addition, the table shows that 11.0% of the variation in academic performance level (CGPA) was explained by the independent variables (depression, anxiety and stress). The table further shows the unique contributions of each of the independent variables on academic performance of FCE Students. The Standardized beta coefficients (β) show that anxiety ($\beta = -0.083$, $t = -1.215$, $p = 0.225$), stress ($\beta = -$

0.068, $t = -1.013$, $p = 0.312$) are more associated with student's academic performance than depression ($\beta = -0.064$, $t = 0.943$, $p = 0.346$). However, the association was not significant. Since the P-value is less than 0.05 level of significance, the null hypothesis was therefore not rejected. We thus concluded that depression, anxiety and stress are not significantly associated with students' academic performance.

Discussion

The findings of the study show that students at Federal Colleges of Education in North-East, Nigeria had moderate level of depression, severe level of anxiety and a mild level of stress. While these mental health problems were inversely related to academic performance of the students, they are not significantly associated with the students' academic performance. It is understandable and expected that the association between mental health problems and academic performance will be inverse in nature. It is, however, surprising that the association was not significant at .05 level of significance. Be that as it may, depression, anxiety and stress are counterproductive to learning. The non-significant association may be because of various coping mechanisms adopted by students to manage mental health problems (Nwobi, Ekwueme, & Ezeoke, 2009; Kagoya et al., 2025)

Many similar studies found association between mental health problems and academic performance, Grötan et al. (2019) examined associations of mental distress with academic self-efficacy and study progress and found that there was a strong association between mental health problems and academic self-efficacy and study progress. In the same vein, Aluh, Abba, and Afosi (2020) found depression, anxiety and stress to be significantly correlated with students perceived academic performance. The lack of significant association between mental health problems of depression, anxiety and stress in our study participants may be because students in this region adopt several coping strategies to survive the harsh socio-economic environment within the region. Many research findings have shown that students engage in various coping strategies to manage depression, anxiety and stress. A study by David, Dammeyer and Dangana (2023) found that displaced girls in northeast Nigeria resorted to high-risk coping strategies such as seeking support by begging and transactional sex for exchange of need, while some demonstrated resilience by engaging in religious behavioural coping. Common coping strategies among students for mental health problems of depression, anxiety and

stress include; seeking counseling, substance use, faith healing, confrontations among others (Nwobi, Ekwueme, & Ezeoke, 2009; Kagoya et al., 2025). It is therefore possible that students in Federal Colleges of Education in North-East Nigeria adopts different coping mechanisms to cushion the effect of depression, anxiety and stress on their academic performance.

While some coping strategies may be helpful for students, some are detrimental with long term negative consequences. The best management of mental health problems remains prevention. This implies that there is need for teachers, guardians and the government to pay attention to the situations that may possibly lead to mental health problems among students and ameliorate such situations and save the students from developing such problems which may push them into seeking for a way out of the problem to perform well academically.

Conclusion

From the findings of this study, we conclude that mental health problems of depression, anxiety and stress are inimical to the overall wellbeing of students at Federal Colleges of Education in North-East Nigeria. The students may be forced to resort to negative coping strategies to cope with depression, anxiety and stress which can undermine their wellbeing and academic performance.

Recommendation

Mental health interventions such as cognitive-behavioural therapy (CBT), and mindfulness interventions should be implemented by psychologists and health educators to address depression, anxiety and stress among students of FCE in North-East, Nigeria.

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