Socio-Demographic Predictors and Preventive Strategies of Anxiety Severity among Students of Tertiary Institutions, Federal Capital Territory, Abuja, Nigeria

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Abstract

This study investigated socio-demographic predictors and preventive strategies of anxiety severity among students of tertiary institutions in the Federal Capital Territory (FCT), Abuja, Nigeria. Two research questions and tone null hypothesis guided the study. The correlational research design was adopted for the study. The population for the study comprised 12,578 students of tertiary institutions. The multistage sampling procedure was used to draw a sample size of 408 students of tertiary institutions. The Mental Health Problems Questionnaire (MHPQ) and Mental Health Problems Preventive Strategies Questionnaire (MHPPSQ) were used for the study. Five experts in Public Health Education validated the MHPQ. The MHPPSQ contained 13 items formulated based on the study's baseline findings. The formulated preventive strategies for mental health problems among students were validated by 10 experts in Public Health Education. The research questions were answered using mean, standard deviation, and point-biserial correlation. Multiple regression analysis was used to test the null hypotheses. at 0.05 alpha level. The results showed that living arrangements (beta = -.129, p = 0.010<.05) and year of study (beta = 0.268, p < .001) were significant socio-demographic predictors of have higher anxiety severity among tertiary institution students. Public health education experts considered the formulated preventive strategies for mental health problems among students of tertiary institutions appropriate. In conclusion, students had mild (weak) level of anxiety. The authors recommended the conduct and implementation of health screening programmes in tertiary institutions to identify students at risk of anxiety severity by psychologists and mental health professionals.

Keywords: Socio-Demographic; Predictors; Preventive strategies; Anxiety; Students,

Introduction

Anxiety is a public health concern among students of tertiary institutions globally. About 60 per cent of the students are reported to suffer from high levels of anxiety (American College Health Association [ACHA], 2019). It is reported that transitioning students to tertiary institutions is stressful (Dickson & Gullo, 2015; Lei et al., 2016). One-third of these students are considered particularly vulnerable to anxiety as they navigate a new and challenging stage in their lives (Thomas, 2020). Students of tertiary institutions in Nigeria appear to suffer from a high level of anxiety. The prevalence of anxiety among tertiary institution students ranges between 63.5 per cent (Aluh et al., 2020) and 61.7 per cent (Anosike et al., 2022).

There are severe symptoms of anxiety across different cultures (Schonfeld et al., 2016) which are assessed most commonly based on the severity. Several predictive factors can determine the future of students' mental health and, by extension, their anxiety severity level.

These are factors that predict health outcomes (Gidron, 2013), including students of tertiary institutions. These predictive factors include socio-demographic variables considered in this study, such as age, gender, marital status, living arrangements, and year of study.

Age is an important factor in explaining the increase in students with mental health problems needing mental health services. As young adults, students are vulnerable to increasing levels of anxiety (Othman et al., 2019), which have their first onset within young adulthood (Downs et al., 2018). For example, the peak onset of mental health problems, including anxiety, is before the age of 24 years (American College Health Association, 2015; Blakemore, 2019). Students of tertiary institutions are, therefore, high-risk groups at this age when developmental challenges to adulthood occur (Hunt & Eisenberg, 2010). The concept of emerging adulthood (Arnett's, 2000) provides a theoretical explanation for students' struggles with maladjustment when transiting into the tertiary institution milieu (Iarovici, 2014). This crucial phase of emerging adulthood (ages 18–29 years) is defined by shifts in autonomy (e.g., leaving the home expected to organize self-study), relational instability, and shifts in expected competence (Auerbach et al., 2018; Bruffaerts et al., 2018). Thus, identity formation and consolidation occur during this transitional period where individuals lack role permanence and its associated stability. Individuals who fall within emerging adulthood more frequently report struggling with high anxiety levels (Sunderland & Findlay, 2013).

Gender constitutes a factor influencing high levels of anxiety in students of tertiary institutions. Gender is often associated with socially constructed roles, relationships, behaviours, relative power and other traits that the society ascribes to females, males and people of diverse gender identities (Wells et al., 2012). Also, gender is often thought of in binary terms, for example, masculine/feminine or male/female (Public Health Agency of Canada, 2011). There is evidence that gender strongly predicts anxiety (Dardas et al., 2017; Lewis et al., 2015). Female students are more likely to self-report symptoms of anxiety (Pearson et al., 2013) and more self-cutting behaviours (Cramer et al., 2017) than their male counterparts, particularly in the first year of their academic programme (Field et al., 2012). Twenty-eight per cent of women aged 16-24 years experienced mental health problems including anxiety in England, with the difference between the sexes evident in Scotland, Wales, and Northern Ireland (Thorley, 2017).

Marital status is thought to influence the severity of symptoms of anxiety among students. Studies have reported that marriage is associated with better physical and mental well-being than other relationship statuses (Bulloch et al., 2017; Koball et al., 2010; Margolis & Myrskyla, 2010; Wadsworth, 2016). This is because marriage provides more social support, financial support, and purpose in life (Umberson et al., 2013; Soulsby & Bennett, 2015).

The living arrangement refers to where the tertiary institution students live, work and study, and are categorized into on-campus and off-campus. Students who live in their childhood home with their parents may find it challenging to make a smooth transition into the tertiary institutions' lifestyle since they lack the immediate social support of their friends. It is assumed that the social support offered by the family may produce a buffering effect on students' stress levels. Therefore, transiting to a tertiary institution means distancing themselves from their support networks (Cleary et al., 2011) which has been correlated with feelings of homesickness and loneliness among new students (Chung & Hudziak, 2018; Ribeiro et al., 2018). It is, therefore, reasonable to assume that students living off-campus may self-report mild anxiety because of the positive influence of familial social support.

Another predictor is year of study. Adjusting to tertiary institution academic demands has been identified as a significant stressor among new students (Anosike, 2022). Problems with adjusting to the tertiary institution lifestyle have been identified as a major stressor among new undergraduate students (e.g. Chung & Hudziaj, 2017; Duffy et al., 2019; Rubbermann, 2014). In Nigeria, there is evidence that the transition to a tertiary institution is difficult

(Schmidt, 2012). First-year students are particularly vulnerable to increasing levels of anxiety. (Barbosa et al., 2016; Bruffaerts et al., 2018; Jamshidi et al., 2017). These have implications for students' mental health including self-reported anxiety symptoms. These predictors could be curbed by some preventive measures.

Preventive strategies are crucial to averting the higher levels of anxiety among students. A preventive strategy targets risk factors and promotes mental health in individuals without a clinically diagnosable mental disorder (Arango et al., 2018). This aims at reducing the incidence, prevalence, and recurrence of higher anxiety levels and their associated disability among tertiary institution students.

The severity of anxiety among students has attracted great attention among policy-makers and public health professionals (Mental Health Commission of Canada, 2012; Pearson et al., 2013; World Health Organization [WHO], 2013). Although the adverse effects of anxiety have been continually recognized among the student population of tertiary institutions elsewhere, gaps remain in the Nigerian literature. The available Nigerian studies (Adewuya et al., 2018; Amoko et al., 2021; Gureje et al., 2010; Nzeakah et al., 2022; Wada et al., 2021) have re relied on population-level data (i.e. not specific to students of tertiary institutions) or narrowly focused on individual factors, lacking in scope to consider multiple factors at the same time. To the best knowledge of the authors of this study, no study has examined the socio-demographic predictors and formulated preventive strategies for anxiety severity among students of tertiary institutions students in FCT, Abuja. This is the gap this study attempted to fill.

Mental health is crucial for the well-being and academic success of students of tertiary institutions. It is central to providing accessible knowledge and skills for students; thus, there is no health without mental challenge. Tertiary institutions would normally provide students with the necessary mental health support, such as counselling services, wellness and health promotion services, disability services, and stigma reduction initiatives. These services aim to improve students' mental health.

However, the mental health of tertiary institution students in Nigeria, including FCT, Abuja, is worrisome. Three in five students reportedly suffer from high levels of anxiety. One in three students also leaves tertiary education without attaining the degree for which they enrolled because they are unable to adapt appropriately to the anxiety related to school demands and expectations thereby posing as a risk factor for poor academic performance. This could lead to the onset of symptoms of anxiety. Alarming is that almost all tertiary institutions of FCT, Abuja, lack a mental health policy, let alone mental health services, such as counselling and treatment services.

A few Nigerian studies have relied on population-level data that are not specific to students of tertiary institutions, needing more scope to consider multiple factors that predict or influence students' anxiety levels. In view of these facts, the study aimed to investigate the socio-demographic predictors and formulate preventive strategies for anxiety severity among students of tertiary institutions in FCT, Abuja. Specifically, the study assessed. relationship between the level of anxiety severity and socio-demographic (age, gender, marital status, living arrangements, year of study) factors of tertiary institution students in FCT, Abuja; and preventive strategies for anxiety severity among tertiary institution students in FCT, Abuja. The study hypothesized that socio-demographic (age, gender, marital status, living arrangements, year of study) factors are not significant predictors of the level of anxiety severity among students of tertiary institutions in FCT, Abuja ($p \leq .05$).

Materials and Methods

The study adopted the correlational research design and was conducted in the Federal Capital Territory (FCT), Abuja, Nigeria. The population of the study comprised 12,578 students of tertiary institutions during the 2019/2020 academic session. The sample size was 408 students of tertiary institutions in FCT, Abuja and 10 health experts. The sample size was determined using Taro Yamane's (1967) sample size determination Table while the multi-stage sampling procedure was employed to select the study sample. Therefore, 408 students were randomly selected from three tertiary institutions in FCT, Abuja. Public health experts with doctorate degrees were purposively sampled. The researcher-adapted Mental Health Problems Questionnaire (MHPQ) and Mental Health Problems Preventive Strategies Questionnaire (MHPPSQ) were used for data collection. The MHPQ is divided into two sections. Section A contained five items that elicited information on the demographic characteristics (age, gender, marital status, living arrangements, year of study) of the participants, while Section B contained the Generalized Anxiety Disorder (GAD-7), which is a seven-item, self-report questionnaire.

The MHPPSQ contained six strategies formulated based on the baseline findings of the study to prevent the onset of anxiety severity among students of tertiary institutions in FCT, Abuja. The copies of the MHPPSQ were given to 10 Public health experts who were asked to determine the appropriateness or inappropriateness of the formulated preventive strategies. The reliability coefficient of the MHPQ was determined using the Cronbach's alpha method, which yielded .87.

A letter of Introduction to embark on field work obtained from Head, Department of Human Kinetics and Health Education, University of Nigeria, Nsukka seeking co-operation and permission was presented to the Heads of the selected Departments to make them give the researchers access to their students. Another letter assuring the respondents of the confidentiality of their responses and the purpose of the study was also attached to each copy of the instruments. The researchers administered 408 copies of the MHPQ to participants in their respective lecture halls. Copies of the completed questionnaires were collected on the spot after they had been filled out by the students. A total of 390 copies of the MHPQ were returned, which gave a return rate of 95.6 per cent. The returned MHPQ were duly filled out and used for analyses.

The point-biserial correlation was employed to determine the relationship between the level of anxiety and the socio-demographic characteristics of the students. Using Nwagu and Agbaje's (2017) estimates for weak, moderate and strong correlation coefficients, ±.00 - .29 was interpreted as none (.00) to weak relationship, ±.30 - .59 was interpreted as moderate relationship, and ±.60 - 1.00 was interpreted as strong relationship. The normality of the data was checked through skewness, kurtosis, and the Kolmogorov–Smirnov (K-S) test. Mean and standard deviation were used to analyse and answer the descriptive data pattern, while the multiple regression analysis was used to test the null hypothesis at 0.05 level of significance.

Results

Table 1**: Point-biserial Correlation Showing Relationship between Level of Anxiety Severity and Students' Demographic Factors (n=390)**

s/n	Variables	1.	2.	3.	4.	5.	6
1.	Anxiety	1.00					
2.	Age	.010	1.00				
3.	Gender	.059	.044	1.00			
4.	Marital status	-.048	.278	.081	1.00		
5.	Living arrangement	-.181	-.009	.068	.151	1.00	
6.	Year of Study	.293	-.073	.033	-.213	-.220	**1.00**

Results in Table 1 show that there was a weak positive relationship between anxiety severity and students' age (rbp = .01), gender (rbp = .059), and year of study (rbp = .29). Furthermore, the result showed that there was a weak negative relationship between the level of anxiety severity and marital status (rbp = -.048) and the living arrangement (rbp = -.18) of students.

Table 2: **Mean Responses of Experts on Preventive Strategies for Mental Health Problems among Students of Tertiary Institutions in FCT, Abuja (n = 10)**

S/N	Items	$\bar{\bar{X}}$	SD
1.	Organization of school-based interventions by mental health educators and psychologists to identify students at high risk for anxiety and provide them with clinical support.	3.30	0.949
2.	Implementation of cognitive behavioural therapy (CBT) by mental health educators and psychologists. CBT helps in changing thinking and behavioural patterns, helping individuals to understand the problem, and developing a coping or treatment strategy with psychologists and other mental health experts.	3.50	0.850
3.	Organization and implementation of workshops that train students in anxiety coping strategies and resilience skills by public health educators.	3.20	0.919
4.	Implementation of programmes that isolate and mitigate risk factors or conditions (e.g., poor hostels, decay facilities) that may embarrass students, which further exacerbates their anxiety levels by the school management.	3.30	0.823
5.	Mental health education about anxiety by health educators to improve knowledge of risk factors for anxiety among students and how to avert such factors.	3.20	0.919
6.	Stakeholders (university management, public health experts, mental health educators, psychologists and clinicians) developing and implementing viable strategies that reduce academic-related challenges or stressors, financial stress, and improve economic assistance, opportunities and create an enabling school environment for students to prevent the onset of anxiety.	2.80	1.135
	Overall Mean	**3.22**	**0.932**

Key: $\bar{X} \geq 2.50$ = Appropriate Strategy; $\bar{X} < 2.50$ = Inappropriate Strategy

Results in Table 2 show overall, health education experts considered the formulated preventive strategies for anxiety severity among students of tertiary institutions appropriate ($\bar{X}$ = 3.22; SD = 0.93).

Table 3: **Summary of Multiple Regression Analysis Showing Demographic Predictors of Anxiety Severity Level among Tertiary Institution Students in FCT, Abuja (n = 390)**

								95% CI for B	
Model	**R**	**R²**	**Adj.R²**	**F**	**β**	**t**	**p**	**LB**	**UB**
(Constant)	0.105	0.205	0.093	8.970	-	2.398	0.017	.862	8.713
Gender					0.056	1.161	0.246	-.424	1.649
Age					0.21	0.420	0.675	-.030	0.047
Marital Status					0.018	0.350	0.727	-2.357	3.377
Living Arrg.					-0.129	-.2579	0.010	-2.459	-0.332
Year of Study					0.268	5.308	0.000	0.774	1.684

*Significant at p ≤ 0.05

Key: β = Standard regression coefficients; F = ratio, R^2 = R square' ΔR^2 variance; ΔF = F-ratio change/variance; C. I = confidence interval; t – t-test value; LB = Lower Boundary for, µB = Upper Boundary for B

Table 3 shows that living arrangement is negatively and significantly correlated with the level of anxiety severity, indicating that those who live on campus (coded as 1) tend to have higher anxiety severity scores than those who live off-campus (coded as 2). The year of study is positively and significantly correlated with the level of anxiety severity, indicating that students who are in penultimate final year classes tend to have higher anxiety severity scores. Also, the multiple regression model with all five predictors produced R^2 = .105, F (5,384 = 8.970, p < .001. The coefficient of determination (r^2) is .205, indicating that 20.5% of the variance in anxiety severity is explained by socio-demographic factors (age, gender, marital status, living arrangement, year of study), which is modest. This implies that socio-demographic factors of the study account for 20.5% of anxiety severity of tertiary institution students. In this model, only living arrangements with higher beta values (beta = -.129, p= 0.010) and year of study (beta = .268, p< .001) were statistically significant.

Discussion

Table 1 showed a weak positive relationship between anxiety severity and students' age, gender, and the year of study respectively. This finding contradicts the expectation that first-year students would score higher anxiety severity levels because the transition to the tertiary institution is stressful. It was expected that as students grow older and get exposed to more academic demands, the level of anxiety severity increases. This expectation was supported in the study by Amoko et al. (2021) which showed that respondents in the age group of 20 years and below had the highest prevalence (100%), followed by those in the age group 20-30 years (59.4%) and those in the age group of above 30 years had anxiety symptoms (0.0%). Similarly, Mohammed et al. (2021) found that first and second-year students' anxiety levels showed a risk of anxiety 3.6 times more, while third and fourth-year students showed 2.95 times more anxiety as compared to those who were in the fifth year and above respectively. However, this study finding implies that most people who struggle with mental health problems experience symptoms of anxiety by the age of 24 years, and tertiary institution administrators in FCT, Abuja need to deliberately adopt student-mental health and well-being as an issue of priority by providing funding dedicated to services which promote and support the mental health of students in FCT, Abuja.

Also, the study found a weak negative relationship between the level of anxiety severity, marital status and the living arrangement of students. This agrees with the study of Amuda et al. (2016) who found that marital status and age are predictors of academic performance among students in Nigeria and found no relationship. This study's expectation that marriage consistently correlates with better mental health outcomes (Koball et al., 2010; Margolis & Myrskyia, 2010; Bulloch et al., 2017) including reducing the symptoms of anxiety might have influenced this result. This implies that marriage mitigates symptoms of anxiety which should be supported by tertiary institution administrators and encourage married students to live off-campus with their spouses while enjoying time-outs from school activities.

Furthermore, it was expected that the living arrangements of students would influence students' anxiety severity scores. However, the results showed that the living arrangements of students was significantly related. This disagrees Rasheed's (2016) study in Nigeria which showed no significant difference between students living on campus and those living off-campus. This study expected that students who are living off-campus with their parents and enjoy social support from their parents would report lower anxiety scores. However, Beiter et al. (2015) reported that students staying off-campus had a greater level of anxiety compared to their colleagues who live on campus because they are exposed to additional stressful experiences, such as commuting to and fro school, which is also peculiar in FCT, Abuja.

Moreover, this study showed that living arrangement is negatively and significantly correlated with students' level of anxiety severity. This implies that students who live on-campus (coded as 1 = on-campus and 2 = off-campus) in FCT, Abuja, tend to have higher anxiety scores which were expected due to the peculiarities of campus life among students. These peculiar problems according to Adebisi and colleagues (2017) include inadequate infrastructural facilities including electricity, toilets, water, canteen, kitchenette and recreational area as well as overcrowding. While Beiter and colleagues (2015) found a greater level of anxiety among their student sample who live off-campus compared to their colleagues who live on campus, the study by Rasheed (2016) in Nigeria showed no significant difference between students living on-campus and those living off-campus. The implication from this study is that poor living arrangements or accommodation of students in tertiary institutions in FCT, Abuja, can predispose them to anxiety levels capable of disrupting academic activities and possible drop-out from school. Tertiary institution administrators in FCT, Abuja need to improve the living arrangement of students by providing adequate accommodation and utilities, such as water, electricity, and furniture as mitigation measures against anxiety among students.

Conclusion

The findings have shown that socio-demographic (age, gender, marital status, living arrangement, year of study) factors of tertiary institution students are mildly (positively and negatively) related to their anxiety severity. Implementation of mental health screening programmes to identify students at high risk of anxiety severity by psychologists and clinicians for subsequent treatment is among .the formulated appropriate preventive strategies to mitigate anxiety severity among tertiary institution students Living arrangements and year of study are very important factors considered in examining anxiety level of students of tertiary institutions. However, there is a need for health educators to familiarise themselves with the many ways that anxiety can manifest in students, identify students at high risk and organize and implement preventive strategies such as providing a mental health-friendly school environment and clinical services including cognitive behaviour therapy (CBT). The physical environment and opportunities for social interaction among students should be improved by connecting with students to increase educator immediacy and the perception of relational closeness which makes students more comfortable in class and more willing to engage with the health educator. Also, it is important and necessary to build trust and empathise with students including

allowing them to choose working groups depending on the course content to lessen their mental distress or anxiety.

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