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Stress Level and Academic Performance among Students of Colleges of Health Sciences and Technology in Funtua Senatorial District, Katsina State Nigeria

Abubakar Suleiman ✉, Mustapha Ibrahim, Faisal Sulaiman, Ahmad Aminu Imam
Department of Public and Environmental Health, Muslim Community College of Health Science and Technology, Funtua, Katsina Sate, Nigeria

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Abstract:

The cutting-edge world, which is said to be a world of accomplishment, is additionally a world of stress. One discovers stress all over. As a result of the various inner and external pressures piled on students, stress has become a part of their academic lives in institutions like colleges of health sciences and technology. This study hence explored the sources and level of stress among students at the colleges of health sciences and technology in Katsina State. The relationship between stress and academic performance was also examined in relation to the students' age, gender, and level of study. Based on a cross-sectional study design, 169 male and 136 female students were recruited using stratified random sampling techniques from selected health science and technology colleges. Data was collected using questionnaires that measured presence and stress levels and the different sources of stress in the academic institutions. Academic performance was assessed from the students' examinations results. Inferential and descriptive statistics were used for data analysis. To determine whether the research questions were statistically significant, Chi Square statistics were used. The analyses were done using the Statistical Package for Social Sciences (SPSS) version 20.0 computer program. The average mean and standard deviation of the sources of stress are 2.1357 and 0.7699 respectively and they are worried of examination, too much continuous assessment, among others. Understanding these sources from diverse perspectives will assist the management in tailoring interventions that will combine the most effective strategies for students. As a result, improving the holistic well-being of a student will ultimately be productive not only for the individual student, but for the overall productivity of the institution as well as the academic performance of the institution as assessed by its students.

Keywords: *academic stress, emotional unhappiness, physiological discomfort.*

Introduction

Stress is referred as a condition in which mind responses by some biochemical processes within body, resulted in anxiety and depressed as well as tensed situation due to external and internal factors (Burman & Goswami, 2018). Different researchers have defined stress in different ways. Stress was described as the demands made on people to which they respond and which affect their physical, psychological and behavioural characteristics (Dwyer & Cummings, 2001), while viewed it from a psychological and physiological perspectives (Oniye, 2001).

Stress is an uninvited part of our lives throughout our lives, and it happened when we lacked the resources to meet our body's requirements. We live in a world where stress is prevalent. It has been experienced by all people throughout history, including human history in general (McEwen, 2004).

Stress is therefore the prize one pays for living in a society, given the fact that our traditional mechanisms of handling the stresses and strains of living are fast breaking down because of rapid urban development, increasing corporate regimentation of work life, breakdown of cherished traditional values and social supports, increasing personal and group conflicts, including security threats to life and property and the challenge of adjustment to new technologies. The breakdown of our traditional modes of coping with life changes and the stress they induce simply allow the stress 'virus' to plague life in present day society (Agbu et al., 2020).

In the process of living and the struggle to live, we become confronted with barges and streams of life demands and pressures on our time and attention. It is because we find it difficult to attend and respond to these demands and pressures that we run into frustrations, tensions, and anxieties. These demands on our time and leisure and which call for our reactions and responses are labelled 'stressors'. In ordinary language these stressors are demanding life situations located in our homes, streets, places of work, community and in our interaction with people in the environment (LeBlanc, 2009). The stressors can either be pleasant or unpleasant. For example, if we win a huge sum of money in a lottery draw or passed major and difficult examination, these news items become stressors because they challenge us to respond. As a bodily indication or reaction to the stressors, we experience changes not only in our external behaviours but also in our internal body reactions. Similarly, if we hear news of death of a dear one or loss of property, our body reactions and external behaviours follow nearly the same pattern of response. The stressors are therefore the stimuli that propel us to action and to which we respond in a nonspecific way. It is upon the understanding that human beings do not respond to life situations in nearly identical ways that stress has come to be identified as a non- specific response of the body to demands upon it (Agbu et al., 2020).

Despite the popular perception that higher education in Nigeria is a period of fun and few responsibilities, the reality is that learning in higher institutions can be incredibly stressful. Among students, stress results from the challenge of adjusting to transactions, for instance, resumption and vacation from school and returning to school or staying home after breaks may cause stress as students adapt to changes in routine (Olape, 2017). Also, stress can be as a result series of academic activities such as going for early lectures, tedious assignments and so on. The fact remains that tertiary education students need to adjust to the demands of living more independent without the assistance of parents or families in managing their time (Hayble, 2002).

With the complexity of tertiary education, students face a faster pace of learning, therefore stressing out the students. This stress can lead to some health-related problems, such as headache, stomach upset, insomnia, high blood pressure and even stroke (Shields et al., 2017).

Students from a variety of backgrounds have been studied from different theoretical perspectives (Eisenberg et al., 2013); must of these studies were conducted on university students in Europe, Africa, Asia etc.

Stress related behaviours are prevalent among the students of colleges of health science, meaning the schools expose students to stressors that potentially cause stress. This tends to generate negative physical, cognitive, and psychosocial outcomes.

This study therefore sought to find out the different sources and factors associated with academic stress among the students of colleges of health sciences and technology in Katsina state.

Materials and Methods

Research Design

The type of research design used in this study was cross-sectional survey method with stress level as independent variable and academic performance as dependent variable. Age, gender, tribe, the courses in which they were registered, and the levels of study were treated as confounding variables in the relationship between stress and academic performance.

Research Settings

This study was conducted in Funtua senatorial district, which is located in the southern part of Katsina state and has it's headquarters in Funtua. The senatorial district comprises of eleven Local Governments: Bakori, Danja, Dandume, Faskari, Sabuwa, Kankara, Malumfashi, Kafur, Musawa, Matazu and Funtua.

Ethics Approval and Consent

Ethical clearance was obtained from the National Open University of Nigeria Research Ethics Committee and was approved by the Department of Public Health Sciences, Faculty of Health Sciences, National Open University of Nigeria. Official permission was also obtained from the Chairman Research and Innovation Committee, Muslim Community College of Health Science and Technology Funtua. Furthermore, written informed consent was included in the instrument for the data collection to enable the participants to decide to participate or not before the initiation of data collection and all participants were informed about the purpose of the study. The individual results of the investigations remainedconfidential.

Sample Size

The sample size were determined using Taro Yamane formula (Yamane 1973). The following is the formula used to estimate the sample:

$$n = \frac{N}{1+Ne^2} \quad (1)$$

Where n= Sample size

e= Acceptable sampling error which is 0.05 or 5% at 95% reliability level.

N= is the population size which is 1550

$$\text{Thus} \quad n = \frac{N}{1+Ne^2} = \frac{1550}{1+1550(0.05)^2} = \frac{1550}{4.875} = 317.9 \approx 318 \text{ respondents} \quad (2)$$

Instrument for Data Collection

The instrument used for data collection in this study was questionnaire and it was design in such a way that it contains items that will help to answer all the research questions. After it has been design, the instrument was reviewed for clarity and grammatical corrections with the aid of Microsoft Word computer programme which helped to assess the grammar, to ensure that students could easily understand and interpret each item in the instrument.

Method of Data Collection

The data of this work was collected with the help of research assistants trained to participate in this work. The selection of research assistants from the health colleges where the data was gathered is intended to foster rapport with the respondents from those colleges. Each research assistant was directed to distribute questionnaires to the respondents in the selected colleges of health where they were studying. During the data collection, the research assistants introduced themselves to the respondents and explained the nature of the study and why it was important for the respondents to participate by filling the questionnaires The respondents' received assurances of secrecy and were asked to complete and return the surveys to the research assistants on time. The questionnaires then return to the researchers as soon as they were received by the research assistants. To make sure that accurate data collection occurred, the researcher carefully examined all the returned questionnaires. Surveys that were not correctly completed were not used in the data analysis. While those that were correctly completed were regarded as legitimate and utilized in the study.

Data Analysis

Statistical analyses were performed using descriptive statistics for the demographic data, sources and level of stress among students of the selected colleges of health sciences and technology study year of the respondents.

Results

Sociodemographic Characteristics of Respondents

The results of this study are presented in accordance with the research questions. A total of 318 students participated in this study out of which 305 students filled the instrument correctly which were considered valid with a response rate of 96%. Among the 305 students, there were 169 male students (55%) and 136 female students (45%). The participants had an average age of 17.9 years. The mean values of gender, age group, marital status, level of study and academic grades were; 1.4459, 2.8787, 1.2262, 2.4525 and 1.7410, respectively. The standard deviation of gender, age group, marital status, level of study and academic grades are; 0.49788, 0.38265, 0.41908, 1.07232 and 1.02041, respectively. Table 1.

Table 1. Sociodemographic Characteristics of the Students in the Selected Colleges of Health Sciences and Technology

	Gender	Age group	Marital status	Level of study	Academic grade
Valid N	305	305	305	305	305
Missing	0	0	0	0	0
Mean	1.4459	2.8787	1.2262	2.4525	1.7410
Std. Error of Mean	.02851	.02191	.02400	.06140	.05843
Std. Deviation	.49788	.38265	.41908	1.07232	1.02041

Sources and Level of Academic Stress

The findings from this work shows different sources of academic stress as expressed by 305 respondents with an average mean and standard deviation of 2.1357 and 0.7699, respectively. Some of the sources identified and their mean values are worry of examination 2.34, too much continuous assessment 2.27, short examination time 2.22, difficult examination questions 2.18, difficulty in remembering 2.15, group assignments 2.09, course too demanding 2.06, other are high school fees 1.77, missing of lectures by the lecturers 2.06, poor library materials 2.07, poor interest in some courses 2.07, not accepting students contributions 2.13, inadequate relaxation time 2.15, early morning lectures 2.18, and struggle to obtain high grade 2.27.

Factors Associated with Stress Among the Students

These are factors that are associated with stress causing agents, they may not lead to the stress, but may influence the main agent that can course the stress. The average mean and standard deviation of these factors are; 2.229 and 0.868, respectively. The mean values of the different factors are; Dirty school environment 1.8230, doing things well in all my courses 1.9803, too much responsibility 2.115, relationship with lecturers outside classroom 2.1148, high cost of living 2.1475, unrealistic parents expectation 2.167, my classmate think i am not a good student 2.2033, poor electricity and water supply 2.2033, poor network to communicate home 2.2131 and poor security system in the school 2.2262.

Discussion

The main aim of this research work is to find out the presence and level of stress and its relationship with academic performance among students of colleges of health sciences and technology. Data was collected from two Colleges of Health Sciences and Technology namely, Muslim Community College of Health Science and Technology Funtua and Halima

Adamu Community College of Health Science and Technology Malumfashi. The participants who responded to the questionnaire were found to be in all the academic levels of study in the colleges and studying different programmes. The data obtained was subjected to appropriate statistical analysis.

A total number of 318 instruments were administered to the participants across the selected colleges of health science and technology. From the administered questionnaires, 13 number were wrongly filled and therefore considered invalid for this project, the remaining 305 number of the questionnaire were considered valid as they were filled correctly by the participants. The valid instruments were subjected to statistical analysis.

From the Socio-demographic characteristics, majority of the students that participated in the survey were male (55%) while the female account for (45%). Also, majority of the students are above 18 years (89.83%) whereas the least number of the students are below 16 years (1.97%). Also, most of the students were single (86.2%) and the married students were (13.8%). The students were mostly in 300L (34.74%), the least participants were from 200L (20.34%) of 200L. Academically, distinction students participated more (54.10%) and the least of the participants were merit students.

Another objective was to find sources of academic stress among the students. The data obtained shows that the students encounter different sources of academic stress identified by 305 respondents with an average mean and standard deviation of 2.1357 and 0.7699, respectively. Some of the sources identified and their mean values are worry of examination 2.34, too much continuous assessment 2.27, short examination time 2.22, difficult examination questions 2.18, difficulty in remembering 2.15, group assignments 2.09, course too demanding 2.06, other are high school fees 1.77, missing of lectures by the lecturers 2.06, poor library materials 2.07, poor interest in some courses 2.07, not accepting students contributions 2.13, inadequate relaxation time 2.15, early morning lectures 2.18, and struggle to obtain high grade 2.27 as presented in table 7.0

This research also revealed that there are other factors that may lead to subjecting the student into stress condition. The average mean and standard deviation of these factors are; 2.229 and 0.868, respectively. The mean values of the different factors are; Dirty school environment 1.8230, doing things well in all my courses 1.9803, too much responsibility 2.115, relationship with lecturers outside classroom 2.1148, high cost of living 2.1475, unrealistic parents expectation 2.167, my classmate think i am not a good student 2.2033, poor electricity and water supply 2.2033, poor network to communicate home 2.2131 and poor security system in the school 2.2262 as shown in table 11.0

Despite being a world of successes, the modern world is also one that causes stress. Stress can be found in any academic or social activity, whether it be a family, commercial organization, academic institution, or operation, or any other. Stress is a topic that is difficult to avoid. Since stress has become inevitable, the students adopted strategies to dealt with stress situation. Findings from this research shows some of the ways the students adopt to handle stress conditions. The average means and standard deviations of the coping strategies are 1.4353 and 0.5765, respectively. The mean and standard deviation values of the coping strategies are; restrain 1.0919 and 0.2894, support to handle stress situation 1.2610 and 0.4400, method considered in removing the stressor 1.3750 and 0.6919, what was done when under stress 1.4853 and 0.8546, were to get support from when under stress 1.9632 and 0.6063 as presented in table 12.0.

Conclusion

Academic stress is one of the important educational challenges that might have impact on student's academic performance. (O'Neill et al., 2019; Paralkar & Knutson, 2021). This study brought into light that academic stress continues to be a devastating problem affecting a student's

mental health and well-being. Stream wise differences in the experience of stress were also highlighted. Among the causes of stress identified are; worry of examination, too much continuous assessment, short examination time, difficult examination questions, difficulty in remembering, group assignments, course too demanding, other are high school fees, missing of lectures by the lecturers, poor library materials, poor interest in some courses, not accepting students contributions, inadequate relaxation time, early morning lectures, and struggle to obtain high grade. Understanding these sources from the different perspectives will enable the management to tailor-make intervention for students combining the most effective strategies. Improving the holistic well-being of the student would eventually be productive not only the individual but, for the overall productivity of the institutions as well as overall academic performance of an institution and asses through their students' performance.

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Conflict of Interests

There is no conflict of interest.

References

Agbu, J.-F., Ogwo, A.O. & Okoro, C. (2020). I*ntroduction to Stress and coping measures in Public Health*. National Open University of Nigeria Study Module.

Burman, R. & Goswami, T.G. (2018). A Systematic Literature Review of Work Stress. *International Journal of Management Studies, 3*(9), 112. https://doi.org/10.18843/ijms/v5i3(9)/15

Dwyer, A. L., & Cummings, A. L. (2001). Stress, self-efficacy, social support, and coping strategies in university students. *Canadian Journal of Counselling, 35*(3), 208–220.

Eisenberg, D., Hunt, J., & Spear, N. (2013). Mental Health in American Colleges and Universities: Variation across Student Subgroups and Across Campuses. *Journal of Nervous and Mental Diseases, 201*(1), 60-67. https://doi.org/10.1097/NMD.0b013e31827ab077.

Hayble, T.S.M. (2002). The school administrator's role in promoting teachers effectiveness in the implementation of the Universal Basic Education Scheme. In T. Ajayi, J.O. Fadipe, P.K Ojedele and E.E Oluchukwu (Eds.), *Planning and Administration of UBE in Nigeria*. NIEPA Ondo.

LeBlanc, V.R. (2009). The Effects of Acute Stress on Performance: Implications for Health Professions Education. *Academic Medicine, 84*, 25-33. https://doi.org/10.1097/ACM.0b013e3181b37b8f

McEwen, B.S. (2004). Protection and damage from acute and chronic stress: Allostasis and alloastatic overload and relevance to the pathophysiology of psychiatric disorders. *Annual Journal of New York Academy of Sciences, 1032*, 1-7. https://doi.org/10.1196/annals.1314.001

O'Neill, M., Yoder Slater, G., & Batt, D. (2019). Social work student self-care and academic stress. *Journal of Social Work Education, 55*(1), 141-152. https://doi.org/10.1080/10437797.2018.1491359

Olape, O.R. (2017). Stress Level and Academic Performance of University Students in Kwara State, Nigeria. Makerere Journal of Higher Education, 9(1), 103-112. http://dx.doi.org/10.4314/majohe.v9i1.9

Oniye, D.A. (2001). A cross-ethnic study of stress levels, support system and adjustment strategies among widows in Nigeria. Network of Psychological. Retrieved from https://uilspace.unilorin.edu.ng/handle/20.500.12484/8310

Paralkar., U, & Knutson, D (2021). Coping with academic stress: Ambiguity and uncertainty tolerance in college students. *Journal of American College Health, 8*, 1-9. https://doi.org/10.1080/07448481.2021.1965148

Shields, G.S., Sazma, M.A., McCullough, A.M. & Yonelinas, A.P. (2017). The effects of acute stress on episodic memory: A meta-analysis and integrative review. *Psychological Bulletin, 143*(6), 636–75. https://doi.org/10.1037/bul0000100