

Sources of Stress Among Mathematics Education Students of Niger State
College of Education Minna

By

Gimba, R. W, Hassan, A. A & Abdulrahman, M. A.

Department of Science Education

School of Technology Education

Federal University of Technology Minna, Niger State

E-mail: gimrat09@yahoo.com

Tel: 08032853603, 08036276378 &08036316284

Abstract

This study examined the sources of stress among mathematics education students of College of Education Minna. Questionnaire was used in collecting data for the study. A simple random sampling technique was used in selecting 560 N.C.E I to III mathematics education students as the respondents. The data collected was analyzed using percentages and Bar Chart. The result revealed that inadequate mathematics equipments /accommodation, poor health, emotional problems, socio-economic status, poor time management and inadequate water supply are sources of stress among mathematics education N.C.E students of Niger state College of Education Minna. The findings revealed that poor time management was the highest contributor of stress among mathematics education students of college of education Minna with 94.3% of the respondents agreeing that poor time management was the major contributor of stress. In view of this it was recommended that counseling services should be rendered to the mathematics education students on how to manage the time available to them effectively. More so, conducive atmosphere for learning, adequate mathematics equipments should be provided by the government and college authorities in order to reduce stress among mathematics education students and make them fit for their academic work and challenges in the institution.

Introduction

Mathematics in a layman's language is the science of number, structure, order, space and quantity whose relationship revolves around the elementary practice of counting, measuring and describing the shapes of objects (Mukhtar, 2008). However, mathematics is a systematically organized and exact branch of science that deals with human mind concerned primarily with ideas, processes and reasoning that is why mathematics is regarded as the key and back bone of almost all the subjects. It has been known worldwide as a LIFE science because it is the knowledge that is required in many professions in the day- to-day activities of people (Ojo, 2002). Mathematics education aims at promoting intellectual thinking and calculative skills of the individual and the ability to use such skills, to create and manipulate material resources, to create wealth, promote health and societal development (Alika, 2011). However, when an individual is burdened by stress, these aims may be a mirage. Stress may be unavoidable in human existence since it is part of everyday life. However, it could be managed if certain steps are taken. Stress has to do with day to day events and how an individual reacts to them. Any alteration in an individual's life, whether pleasant, or unpleasant, usually requires some kind of human readjustment. When this readjustment negatively affects the normal psychological or physiological well being of an individual, he or she experiences stress. Stress could arise as a result of physical exhaustion, anxiety, ill health and financial problems.

Stress is a common phenomenal associated with students' life in Nigerian Tertiary Institutions campuses. This problem tends to undermine the educational achievement and have effect on the economic growth and development of the country. The degree of stress students undergo as a result of a change in environment, hostel problem, availability of computers and mathematics equipments, classroom accommodation, missing result, scores, health problems, family problems, and inability to manage the time available to them could be over whelming. Consequently, Maisamari (2002) described stress as a state of discomfort, tension or emotional pain which arises when an individual is faced with situations which present a demand that is important for the individual to meet but for which his capacities and resources are inadequate, he further emphasized that cognitively, stress interferes with thinking, concentration and memory. He went further to identified poor time management as a source of stress. When students fail to manage the time available to them effectively, they may undergo some sort of stress



when it is time for examination, by staying awake all night, reading in order to cover the course outline. This may lead to break down in their health condition prior to or during examination, thereby leading to academic under achievement due to over stresses of the brain.

Behaviorally, stress is characterized by anxiety, anger, depression, intrinsic thoughts/images, obsessions, altered motivation, impaired intellectual activities, aggression, substance abuse, avoidance, lack of concentration and loss of interest in activities that were eagerly sought for (Woolfolk, 1995). UNICEF (2004) reported that countries like Japan, and Malaysia made a tremendous leap into economics and technological advancement because they focused on the development of their human resources, especially in mathematics, science and technology. If Nigeria must borrow a leaf from these nations, mathematics, science and technology education should occupy a position of preeminence in national developmental projects.

Socio-economic status has been observed to be a form of stress. Sociologists defined socio-economic status (SES), in terms of an individual's income, occupation, education and prestige in society (Thomson & Hickey, 2008). Students from working-class or higher class homes are likely to enter school knowing how to count, name letters, cut with scissors, or name colours, they are bound to perform well in school than students from low class or poor homes. (Natriello, 2002, Sirin, 2005). Egbochuku and Alika, (2008) found that the socio-economic status of an individual exerts a lot of influence on the academic attainment of the individual. This implies that a student whose parental socio-economic status is low will find it difficult to manage stress that he may encounter in tertiary institution due to the handicap posed by his socio-economic background. This is more apparent, as we have so many students on campus who are training themselves academically. Franklin (1998) found that individuals who suffer extreme hunger for a long period of time due to poverty, experience a wide spread effects such as depression, poor concentration, hostile and irritable disposition. Leandro (2005) found that when faced with financial distress, when you do not have money to cover all the expenses in the home it affects once mood.

Students can be stressed as a result of lack of financial backup especially as regards purchase of basic necessities. The lack of money may raise tension and stress within the individual; this may affect academic achievement.

Sources of Stress

The major sources of stress are categorized into physical, psychological and environmental. Ikeotuonye (1993) categorized stress to include physical and health problems, financial and social problem, sexual, psychological, moral, family, environmental and vocational problems. Onyemerekeya (1996) concluded that modern day issues resulting from our life style, tasks and challenges among others are all sources of stress. Above all, the sources of stress are the gate way by which the emotional, cognitive and physiological activity of the individual is disrupted. Understanding these stress sources their possible interference to Mathematics Education students' well-being is important, since it is informative and educative. Excessive stress may cause physical and mental health problem, reduce students self esteem and may affect students' academic achievement.

Among the objectives of the National Policy on Education (FRN 2004) is the inculcation of the right types of values and attitudes for the survival of the individual and the society at large. Irrespective of this noble objective, it appears that the stress which Mathematics Education students face is on the increase. There is the need for Colleges to make adequate preparation at ensuring the provision of adequate mathematics equipments, sufficient computers, conducive atmosphere for the learners, development of a positive self image, self-direction, the acquisition of skills in coping with stress, however if these issues are not well addressed may jeopardize Mathematics Education students' ambitions and goals. The presence of anxiety among Mathematics Education students may lead to despair and fear towards challenges that they may encounter. In colleges and universities stressors may take the form of unaccustomed activities. Sharing a room with a stranger makes demands on the student, a new form of academic activity is demanding, rushing to secure the use of computers and mathematics equipments, financial resources and health issues can be stressful. Mathematics Education students of Niger State College of Education (COE), Minna are faced with a lot of stress, which ranges from academic, physical, emotional, poor management and socio-economic problems among other.

Statement of the Problem

Psychologists asserted that stress is an inevitable aspect of human existence, therefore, there is the need to exercise some sort of control over it, in order to minimize its demanding effects especially as regards its impact on Mathematics Education students. The advancement of any nation has to do with the development of her human resources (UNICEF, 2004). Therefore, it becomes necessary that efforts should be made to reduce stress among Mathematics Education students who may contribute to the future technological growth of the country.

The Mathematics Education students of Niger State College of Education, Minna experience a lot of discomfort ranging from a change of environment, academic pressures, inadequate mathematics laboratory, computers, accommodation, inadequate water supply, poor time management, health issues, poor socio-economic status and transportation. These is the need to ensure that these issues are addressed by the various college authorities which otherwise may jeopardize Mathematics Education students ambition and goals. Without doubt, the problem of inadequate laboratories and accommodation in our campuses is a source of stress not only to students but their parents. Usually in Niger State College of Education Minna, priority is given to N.C.E one students. Chronic stresses on campus expose students to unwanted behavioral tendencies. When stress becomes unbearable it may lead to distress, which may cause some damage to the entire well-being of the individual. Therefore, a study of this nature is imperative in Nigerian colleges in order to determine the sources of stress and strategies that should be adopted to eliminate stress among Mathematics Education students, in order to build a strong, egalitarian and virile nation.

Purpose of the Study

The main purpose of this study was to find out sources of stress among Mathematics Education Students of Niger State College of Education and proffer strategies that could be adopted in order to minimize or eliminate stress on college campus.

Research Questions

The following research questions were posed to guide the study.

1. Do inadequate Mathematics facilities / accommodation constitute a source of stress to Mathematics Education Students of Niger State C.O.E Minna?
2. To what extent will poor health condition be a source of stress to Mathematics Education students of Niger State C.O.E Minna?
3. Can emotional problem be a source of stress to Students of Mathematics Education in Niger State C.O.E Minna?
4. Would low socio-economic status constitute a stress to Students of Mathematics Education in Niger State C.O.E Minna?
5. To what extent will poor time management constitutes a stress to Students of Mathematics Education in Niger State C.O.E Minna?
6. Can inadequate water supply be a source of stress to Students of Mathematics Education in Niger State C.O.E Minna?

Methodology

The survey method was adopted for this study. 560 N.C.E I to III Mathematics Education Students was used for the study using purposive sampling technique because they understood the system and they are in a better position to express their experiences.

Questionnaire was used as the instrument for this study. Twenty items was constructed based on the research questions posed for the study using 4 point likert scale, ranging from strongly agree, agree, disagree and strongly disagree.

The Instrument was face validated by five specialists in psychology and research methods in both College of Education and Federal University of Technology Minna. Based on the experts' advice some of the questions were dropped while some were reconstructed which reduce the questions to the number used for the study.

A trial test was used to determine the reliability of the instrument using test retest method. The questionnaire was administered to forty students in selected departments. Two weeks test retest reliability method was used on the respondents. The two weeks interval was used in order to ensure a stability.

measure among respondents to show consistency in scores in both tests. The scores obtained were correlated and the reliability co-efficient of 0.78 was obtained, which indicated that the instrument was reliable for the study. The students used in the trial test were not part of the respondents in the main study. The researcher with the aid of three research assistants administered the instrument, so as to ensure a clear and proper completion of the questionnaire. Instruction on how to fill the questionnaire was clearly and well stated for the respondents before the questions. The questionnaires were filled and returned immediately during lecture periods in order to avoid missing questionnaires.

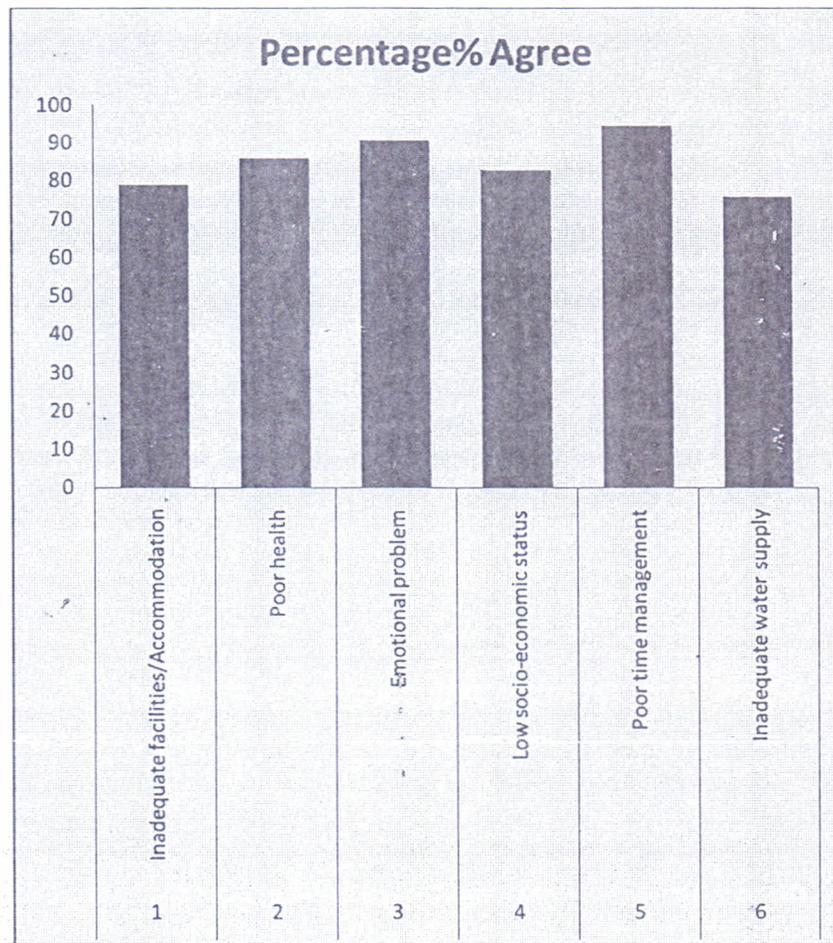
The data collected was analyzed using simple percentage and Bar chart for answering the research questions formulated for the study.

Result

Table 1: Analysis of the Respondents Based on the Items.

Item	Variable	No of respondents	Strongly Agree	Agree	Disagree	Strongly disagree	Percentage % Agree
1	Inadequate facilities/Accommodation	560	186	256	88	30	78.9
2	Poor health	560	296	186	54	24	86.1
3	Emotional problem	560	336	171	18	23	90.5
4	Low socio-economic status	560	212	252	72	24	82.8
5	Poor time management	560	324	204	20	12	94.3
6	Inadequate water supply	560	304	121	98	37	75.8

TABLE OF BAR CHART ON RESPONDENTS AGREED



Research Question 1

Data on item 1, table 1 showed that out of 560 respondents, 186 and 256 students responded to strongly agree and agree respectively while 88 and 30 responded to disagree and strongly disagree. 78.9% was calculated in favor of strongly agreed and agreed this was also represented on a bar chart. This implied that inadequate mathematics facilities/accommodation is a source of stress to mathematics education students of Niger State College of Education Minna.

Research Question 2

Item 2, table 1 showed that 296 and 186 respondents strongly agreed and agreed respectively that poor health is a source of stress among Niger State College of Education students which amount to 86.1% of the respondents this was also presented on bar chart. This implied that poor health is a source of stress among Mathematics Education students of Niger State College of Education Minna.

Research Question 3

Item 3 on table 1 showed that 304 and 121 respondents strongly agreed and agreed respectively that emotional problem is a source of stress among Niger State College of Education Minna Students. From the table and the bar chart 90.5% of the students agreed that emotional stress is a problem among Mathematics Education students of Niger State C.O.E Minna.

Research Question 4

Item 4 on table 1 showed that 212 and 252 respondents strongly agreed and agreed respectively that low socio-economic status is among the sources of stress in Niger State College of Education Minna students. From the table and the bar chart the percentage was found to be 82.8% which implied that family low socio-economic status is a source of stress among Mathematics Education Students

Research Question 5

Item 5 on table 1 showed that 324 and 204 respondents strongly agreed and agreed respectively that poor time management constituted a source of stress to Mathematics Education Students when the percentage was computed, it was found to be 94.3%. This implied that poor time management to a great extent is a source of stress among Mathematics Education students of Niger State C. O. E Minna.

Research Question 6

Item 6 on table 1 showed that 304 and 121 respondents strongly agreed and agreed respectively that inadequate water supply constituted source of stress to Mathematics Education Students when the percentage was computed, it was found to be 75.8%. This implied that inadequate water supply is a source of stress among Mathematics Education students of Niger State C.O.E Minna.

Discussion

From the analysis and interpretation of data, it was found that inadequate mathematics facilities /accommodation are source of stress to mathematics education students. This finding is in line with Onyemerekaya (1996) who found that modern day challenges, inadequate computers and accommodation constitutes stress on our campuses. When mathematics education students are faced with challenges such as inadequate mathematics facilities insufficient computers and accommodation, their academic performance may be affected. When this happens the observation of Maisamari (2002) comes into play, he concluded that cognitively, stress interferes with thinking, concentration and memory; this may lead to academic underachievement.

The study showed that poor health condition and inadequate water supply are sources of stress to mathematics education students. This finding is in agreement with the observation of Ikeotuonye (1993) who noted that physical and health problems and inadequate water supply constitute sources of stress among individuals because water is a source of good health. This study also showed that socio-economic status could be a source of stress among mathematics education students, this findings is in line with the observation of Maisamari (2002) when he described stress as a state of discomfort, tension or emotional pain, which arises when an individual is faced with situations that is important for the individual to accomplished but for which his capacities and resources are inadequate. It is also in line with the findings of Franklin (1998) who found that individual who suffer extreme hunger as a result of poverty for a long period of time experience a wide spread effect such as depression, poor concentration, hostile and irritable

disposition, which may affect academic achievement. The study also showed that emotional problems to an extent are source of stress among mathematics education students. This finding is in line with Woolfolk (1995) who noted that behaviorally, stress is characterized by anxiety, anger, depression, obsessions, altered motivation, impaired intellectual activities, lack of concentration and loss of interest among others. Moreover, the study showed that poor time management is the highest contributor of stress among mathematics education students. This finding is in line with that of Maisamari (2002) who identified poor time management as a source of stress. This is because students who fail to manage their time effectively may experience some form of stress especially when it comes to test and examination, they find themselves reading all night in order to meet up, this could lead to over stressing of the brain and may lead to the student falling sick and rushed to the hospital or college health centre which at the end may lead to academic underachievement.

Conclusion

The conclusion drawn from this study is that inadequate mathematics facilities, computer, students' hostels and lecture hall accommodation, poor health condition, emotional problems/low socio-economic status and poor time management and inadequate water supply constitute stress to mathematics education students of Niger State College of Education Minna. However, the study showed that poor time management is the highest contributor of stress among mathematics education students, because 94.3% of the respondents indicated that poor time management is a major source of stress among mathematics education students.

Recommendation

1. The federal government, agencies of the government such as the Education Trust Fund (ETF) and the college authorities should ensure that adequate mathematics facilities /accommodation are provided for students on campuses.
2. Health workers should visit the colleges' campuses from time to time so as to ensure that adequate healthy conditions prevail on campuses. College health centre should be well funded and equipped for better health services.
3. Guidance and counseling services should be provided in order to help counsel students with emotional problems and also help in providing guidance and counseling services on effective time management to our young students, especially those in mathematics education department in Niger State College of Education Minna.
4. Non- government agencies, Ministry of education agencies should collaborate among themselves in providing income-generating ventures, factories and industries that would serve as a boost to availability of jobs in order to improve the socio-economic status of the students who need money to meet their social and educational needs while in the tertiary institutions.

References

- Alika, I. H. (2011). Sources of Stressor among Science Education Undergraduates of University of Benin: The Role of Counseling for Enhanced Academic Achievement in Science. *African Journal of Science Technology and Mathematics Education (AJSTMED)*, 1(1) 17-38.
- Edstrom, M.S. (1993). *Conquering Stress*; New York: Baron's Educational Services Incorporated. Pp 146-166.
- Egbochuku, E. O. and Alika, H. I (2008). *Benin Journal of Gender Studies* 1(1) 31-36
- Federal Republic of Nigeria (2004). National Policy on Education, Lagos: NERDC Press.
- Franklin, D. (1998). *Roles of Schools in Mental Health*: Basic Book Inc. Publishers New York.
- Ikeotuonye, A. I. (1993). *Stress Management Kit*. Abuja: Gwagwalada; Corporate Concepts.
- Leandro, R. (2005). *Managing Financial Stress*: Awake Publication, April Edition 26-27.
- Maisamari, J. Y. (2002). *Stress and Stress Management Strategies*: Joyce Printers and Publishers Co. 7-19. Abuja, Nigeria.



- Mukhtar, A. U (2008). *The Effect of Geometrical Model as Instructional Material in Teaching Geometrical Plane Shapes in Junior Secondary Schools in Mokwa Local Government Area, Niger State*. Unpublished B.Tech. Project Minna: Federal University of Technology.
- Natriello, G. (2002). At-risk students. In D. L. Levinson, P. W. Cookson, Jr., & A. R. Sadovnik (Eds), *Education and Sociology: An Encyclopedia* 49-54, New York; Routledge Falmer.
- Ojo, C.O. (2002). *Courses of Mass Failure in Mathematics in Senior Secondary School Certificate Examination*: Unpublished B. SC Project Ado Ekiti: University of Ado Ekiti.
- Onyemerekeya, N. P. (1996). "A Review of Some Common Methods of Stress management": The Counselor: *The Journal of the Counseling Association of Nigeria*, 14 (2).
- Sirin, S. (2005). *Socio-economic status and Academic Achievement: A Meta-analytic Review of Research*. *Review of Educational Research*, 75 (3), 417-453.
- Thomson, W., & Hickey, J. (2008). *Society in focus*, Boston: Pearson.
- UNICEF (2004). *The State of the War Children: Girls Education and Development*, 4, 34-35.
- Woolfolk, E. (1995). *Educational Psychology*, Boston: Allyn and Bacon.