

EFFECTS OF LAUGHTER THERAPY ON THE MANAGEMENT OF ACADEMIC STRESS AMONG STUDENTS IN LAGOS STATE TERTIARY INSTITUTIONS

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Abstract

Students in tertiary institutions are confronted with challenges such as agonising traffic situations, awful electricity supply, inadequate learning environments, dilapidated equipment and other excruciating academic challenges. These challenges could eventually lead to strained relationship, withdrawal and in most cases stress. This study therefore, examined effects of laughter therapy on the management of academic stress among students in Lagos State tertiary institutions. The study adopted a quasi-experimental research design. The sample for this study consisted of 105 students drawn from two Lagos State tertiary institutions using Multistage sampling technique. The instrument for data collection was a self-designed, 20-item questionnaire titled: “Stress Assessment Scale” (SAS). The instrument was validated by three experts in the field of psychometrics and its reliability coefficient obtained through the Cronbach Alpha reliability stood at 0.85. The study was guided by two research questions and two hypotheses. The researcher conducted an eight week treatment sessions for participants in the experimental group and their pretest and posttest scores were obtained. Data obtained from the instrument was analyzed using percentages, mean, standard deviation and ANCOVA. The first hypothesis was rejected while the second was not rejected. Results showed that laughter therapy has significant effect in reducing academic stress among students and that the reduction is not age-based. Therefore, there is need for authorities in tertiary institutions to establish functional counselling centres with qualified counsellors would always use laughter therapy in remediating incidence of academic stress among students.

Keywords: Academic Stress, Laughter Therapy, Management, Students

Introduction

On a daily basis, human beings especially the young people in higher institutions are confronting several issues and challenges. They could be personal, economic, social, psychological, emotional or academic struggles that require appropriate responses. In most cases, these young people are faced with struggling with frustration, poor grades in school, constant conflicts with their peers, pressure to do well in sports, or downhill changes in finances that require readjustment. Most of the time, they face agonising traffic situations, awful electricity supply, rushing to make their next class on time as well as other excruciating academic challenges and needs. As such students feel lost, overwhelmed, frozen, or unable to cope when confronted with so many tasks and busy schedules crammed with studies. When these demands are too much on individual, it could lead to strained relationship, withdrawal, denial and in most cases, stress.

Stress in reference to science refers to external pressure or force applied to a structure, while strain denotes the resulting internal distortion of the object. But in the behavioural sciences, especially in psychology, stress connotes bodily processes created by circumstances that place physical or psychological demands on an individual (Krohnea

2019). It connotes external forces that interrupt and impede on the body. Because stress is one of the most interesting and mysterious subjects we have since the beginning of time, it is not only limited to what happens to the body during a stressful situation, but also to what occurs in the psyche of an individual (Sincero, 2012). Stress is defined as the perception of discrepancy between environmental demands (stressors) and individual capacities to fulfill these demands. Elizabeth (2020), defined stress as “any category of change that results in physical, emotional, or psychological strain”. Stress is the body’s reaction to anything that compels scrutiny or action. The National Association of Mental Health distinguishes stress from pressure by defining pressure as a subjective feeling of tension that is triggered by a potentially stressful situation while stress is when pressure exceeds an individual’s ability to cope.

Mayo Clinic, (2022) stated that stress produces numerous physical and mental symptoms which vary according to each individual's situational factors. These can include a decline in physical health, such as headaches, chest pain, fatigue, and sleep problems as well as depression. Though not all stress are dangerous, it could be acute, severe and chronic depending on its seriousness. Walinga (2015), stated that in order to understand how people learn to cope with stress, it is important to first reflect on the different conceptualizations of stress and how the coping research has emerged alongside distinct approaches to stress. Stress has been viewed as a *response*, a *stimulus*, and a *transaction*. How an individual conceptualizes stress determines his or her response, adaptation, or coping strategies. When faced with a challenge, an individual primarily appraises the challenge as either threatening or non-threatening, and secondarily in terms of whether he or she has the resources to respond to or cope with the challenge effectively. If the individual does not believe he or she has the capacity to respond to the challenge or feels a lack of control, he or she is most likely to turn to an emotion-focused coping response such as wishful thinking

Walinga (2015), opined that stress has been conceived of in different ways: as a response, as a stimulus, and as a transaction. There are a variety of stress management techniques deriving from a multitude of theoretical derivations and philosophies. Coping with stress can be a trait or state-based process — an inherent quality or ability or a learned skill or capacity. How people appraise a stressor determines how they will attempt to cope with the stressor. Appraisal hinges on multiple human, social, and environmental factors.

For students in tertiary institutions, both academic and extracurricular activities can take a toll on student’s physical and mental health, especially if they are not eating or sleeping properly. These stressors can compound over time, leading to even greater levels of stress if not properly addressed. Although, stress appears to remain an inevitable part of student-life; as it takes a toll on their physical health, emotional wellbeing, and academic performance. The University of New York (2016) discovered that, extreme levels of stress can hinder studies effectiveness leading to poor academic performance and attrition, confirming that, students who experienced stressful life events also reported worse health outcomes and reduced quality of life.

Academic stress has been extensively researched and different stressors have been identified in Literature, also the effects of stress on academic achievement, physical and psychological wellbeing of students were identified too. Dhull & Kumari,(2015), says academic stress is

mental distress with respect to some anticipated frustration associated with academic failure or even the awareness of the possibility of such. Dhull & Kumari further hold that academic stress can arise due to educational expectations of parents, teachers, burden of homework and assignments, examination systems among others. Students may experience academic stress from both their own expectations to excel as well as the expectations of their parents and teachers. In line with the above assertion Mishra (2018) says every parent wants his or her child to perform well academically and if possible be the best among the peers. Sometimes these expectations do not put into consideration the capabilities of the child. Parents thus burden their children with higher expectations which may lead to stress. In the same vein, Essel & Owusu (2017) opined that unrealistic parental expectation is a dominant stressor for students.

The educational system may also play roles that lead to increased stress levels. Some of the sources of stress in the educational system include overcrowded lecture halls, inadequate resources and facilities long hours and expectations of rote learning (Deb, Strodl & Sun 2015). Agolla and Ongori (as cited in Mishra, 2018) found that students reported experiencing high stress at University especially in preparation for examinations, competitions and mastering the syllabus within a short time. Batainesh, (2013) and Chemornas & Shapiro, (2013) asserts that other sources of academic stress include excessive workload unhealthy competition, time pressure, lack of finance and financial management, difficulties managing personal and academic life. Carveth, Gesse and Mosse reported that Students complain of feeling stressed academically when it comes to facing examinations, grade competition and having too much information to study, yet insufficient time to master the knowledge (as cited in Elias, Ping & Abdullahi, 2011). Excessive workload and homework make students tense and this may lead to inability to give proper time to different study related activities. (Mishra, 2018).

Academic stress seems to have negative impacts on academic achievement, physical and psychological wellbeing of students. Symptoms of stress include loss of energy, increased blood pressure, depressed mood, difficulty in concentration, impatience and nervousness. Stressed students are more likely to be poorly motivated, less productive, less safe at work and vulnerable to social vices like drug abuse and violence (Kio, Omeonu & Agbede, 2015). Winter and Yaffe (as cited in Mishra, 2018) opined that high levels of stress during students' first year of study can make them susceptible to many social and psychological problems leading to low grades. Ekpeyong, Daniel and Aribi (2013) suggested that individual variables that can influence one's response to stress include age, sex, physical ability, status, lifestyle, ethnicity among others. Some factors such as sex, age, year of study and course of study have been found to influence expressed level of stress among students. Jia and Loa (2018) reported that first year undergraduates expressed higher academic stress than other students. This may be as a result of their being new in the school environment which they have to adjust to. They may therefore experience some degree of loneliness, anxiety, depression and even disorientation in the attempt to establish new social relationships, and at the same time trying to cope with the increasing academic demands. However, Elias, Ping and Abdullah (2011) found that final year students expressed higher levels of stress than other students.

Another factor that has been found to influence expressed level of stress among students is the sex of the student. Reports on sex/gender differences in level of expressed academic stress have been equivocal. Researchers such as Ebrahim (2016); Dhull and Kumari (2015); and Calvarcse (2015) found females reporting higher levels of academic stress than males, while Mishra (2018) reported higher academic stress among males (Mishra, 2018). However, in the researches of Yikaelo, Yemane and Karvinen, 2018 Gonmei and Devendiran, 2017; Farhan and Khan, 2015; Prabu, 2015; Khan, Altaf & Kauser, 2013, sex was found to have no significant influence on expressed level of academic stress. On the influence of course of study on expressed level of academic stress, Deepa (2016) found that students from sciences experience more stress than students from the Humanities and Commerce. On the other hand, Reddy, Menon and Thattil (2018) in their study with undergraduate students found that students in Commerce had the highest level of academic stress and while those in Humanities were the lowest. On the influence of age on academic stress of students, Khan, Altaf and Kausar (2016) found that younger students expressed higher academic stress than older students. Academic stress can be a risk factor that influences the quality of life of university students and can lead to poor academic achievement and dropping out of School.

In view of the effects of stress, there is need to stem the tide of stress among students of tertiary institutions using counselling interventions such as laughter and self-control therapies. Yim (2016) propound that Laughter is a physical reaction seen in humans and some other species of primates, consisting typically of rhythmic, often audible, contractions of the diaphragm and other parts of the respiratory system. It is a response to certain external or internal stimuli. He further said that Laughter can be a result of being tickled, or humorous stories or thoughts. Most commonly, it is considered the expression of a number of positive emotional states, such as joy, mirth, happiness, relief, and it can also be caused by contrary emotional states such as embarrassment, apology, or confusion, for example, nervous laughter, age, gender, education, language, and culture are all factors as to whether a person will experience laughter in a given situation. According to National Cancer Institute Dictionary, Laughter therapy is defined as a therapy that uses humour to help people relieve pain and stress and to improve a person's sense of well-being. It may be used to help people cope with a serious disease such as cancer. Laughter therapy may include laughter exercises, clowns and comedy, movies, books, games and puzzles. It is a type of complementary therapy also called humor therapy. Pezeshki (2012) asserts that laughter is laughing pleasantly, briskly, and loudly, and it is a natural phenomenon that happens in reaction to one's senses or heart, or to a word or behaviour that makes another laugh. Laughter is a positive sensation, and seems to be a useful and healthy way to overcome stress. Laughter therapy is a kind of cognitive-behavioural therapies that could make physical, psychological, and social relationships healthy, ultimately improving the quality of life.

Research across the globe has proven that laughter has a positive effect on the body and is involved in strengthening the immune system. Kataria (2019) asserts that it has a preventive and therapeutic value. Pezeshki (2012) says people who are regularly practicing laughter exercises have experienced improvements in their health, mental outlook and energy level. Kataria (2019) also asserts that when someone pretends to laugh or be happy the body produces chemicals (e.g. dopamine, serotonin, etc) that induce a state of happiness. Further-more Kataria says that laughter is powerful at inducing physiological

changes in the body. According to the principle of “motion creates emotion”, if one puts his/her body in state of happiness, it will dovetail to a happy state. Jongeun (2016) assert that laughter therapy physiologically reduces the level of stress hormones, increases the level of health promoting- hormones such as endorphins, and strengthens the immune system by increasing the number of T-Lymphocytes through activation of natural killer cells, which multiplies white blood cells in the body, and Ig A, G, and M, which raises immunity in the body. In addition, Jongeun (2016) holds that laughter therapy has effect of reducing blood pressure by controlling vasoconstriction by lowering the degradation of the vasorelaxant substance, nitric oxide and reducing cortisol thus raising the blood sugar.

Statement of the Problem

Stress has become an important issue in the global society and many scholars in the field of behavioural science have carried out extensive researches on stress and its consequences and concluded that the issue needed more attention. Stress in academic institutions can have negative consequences if not well managed. Consequences of stress can also involve depression, poor academic performance, suicide (American College Health Association statistics published in Psychology Today, 2016), drug abuse and attrition (Angolla, 2009; Stevenson & Harper, 2006).

Despite the debilitating effects of stress on academic progress and mental health of University students, there exists little or no behavioural intervention in this direction. It is worthy to note that most of the available documentation on alleviating stress were done among foreign students. There is therefore the need for the use of effective psychological treatments such as laughter to alleviate the resultant effect of this psychological challenge among students of Lagos State tertiary institutions.

To aid this research, the study was guided by two research questions and two hypotheses tested at 0.05 level of significance.

Research Questions

1. Does treatment (Laughter therapy) have any effect on the management of academic stress among students in Lagos State tertiary institutions?
2. How do age groups affect management of academic stress among students in Lagos State tertiary institutions?

Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significant

1. There is no significant effect of treatment (Laughter therapy) on the management of academic stress among students in Lagos State tertiary institutions.
2. There is no significant effect of age group on the management of academic stress among students in Lagos State tertiary institutions.

Methodology

This study adopted a pre-test posttest quasi-experimental research design with 2x3 factorial matrix. The sample for this study consisted of 105 students, drawn from two out

of six Lagos State tertiary institutions. Multistage sampling technique was used in selecting the sample used for the study. The first stage involved the use of simple random technique to select two out of the six Lagos State tertiary institutions. The selected tertiary institutions are: Lagos State University- LASU, Ojo and Lagos State University of Education- LASUED, Naforija, Epe. The second stage involved the use of balloting to select a department/school from each of the two selected tertiary institutions. They are Department of Biochemistry from LASU and School of Arts and Social Science from LASUED -Epe.

The third stage involved administration of the instrument designed by the researcher and named Stress Assessment Scale (SAS) on all year 2 students in each of the two selected departments to obtain their stress information level. After analyzing the data, anyone who scores above 40 marks out of the total obtainable marks of 80 from the questionnaire was adjudged to have high stress level and was selected for the training. The total number of participants selected for the training were 114, comprising of 61 students from LASU and 53 students from LASUED. However, due to absenteeism and attrition at the training sessions, those that completed the training were 105 and they eventually formed the sample.

The research instrument named “Stress Assessment Scale” (SAS) used for this study was a self- constructed instrument. It was designed by the researcher to evaluate and gauge the level of stress among young people. It consisted of two sections, namely Sections A & B. Section A contains demographic data of the respondents such as name of institution, course, level, sex, age group, family type, while Section B consists of 20 items that measure stress levels based on four central constructs of stress assessment. The items were measured on a four-point Likert scale which ranges from 1 = Not true of me at all, 2 = Somewhat true of me, 3 = Quite true of me and 4 = Very true of me. The minimum score in SAS was 20 while the maximum score was 80.

The instrument was presented to three experts in psychometrics for scrutiny and necessary corrections to ascertain face, construct and content validity; necessary correction were effected to produce final version of the instruments. The reliability of the instruments was determined using Cronbach Alpha reliability coefficient through pilot study in order to determine the internal consistency of the instruments. The instrument was administered on 45 students randomly selected from the University of Lagos. A reliability index of 0.85 was obtained for the instrument. This was an indication that the instrument is very reliable and suitable for the study.

Data collection procedure involved the administration of the Stress Assessment Scale (SAS) on all year 2 students in the selected departments in order to obtain their pre-test scores. After analyzing the Stress Assessment Scale (SAS), anyone who scored above 40 in the scale which serves as the baseline was adjudged to be of high stress level and was selected for the training. The sample was divided into 2 groups: experimental group (LASU) with laughter therapy while the control group (LASUED) was on the waiting list. The training session for the experimental group lasted eight weeks. The initial score obtained from the SAS was used as pre-test score while after the training session; SAS was also administered on all selected students in the two departments to obtain their post test scores. Data obtained

from pre-test and post test scores were analysed using descriptive statistics of percentages, mean and standard deviation as well as inferential statistics of ANCOVA.

Result

Research Question 1. Does treatment (Laughter therapy) have any effect on the management of academic stress among students in Lagos State tertiary institutions?

Table 1 :Descriptive Statistics of effects of treatment on Management of students' academic stress

Group	N	Mean	Std. Deviation
Laughter Therapy	54	57.98	11.573
Control Group	51	89.86	10.429
Total	105	73.47	19.414

Table 1 shows that the posttest mean and standard deviation of participants in the laughter therapy group are 57.98 and 11.573 respectively while the post test mean score and standard deviation of participants in the control group are 89.86 and 10.429 respectively. This shows that posttest mean score of participants in the laughter therapy group which is 57.98 is lower than that of their counterparts in the control group which is 89.86. Hence, the treatment (laughter therapy) had effect on the management of academic stress among participants.

Research Question 2: How do age groups affect management of academic stress among students in Lagos State tertiary institutions?

Table 2 :Descriptive Statistics of effects of age groups on Management of students' academic stress

Age	N	Mean	Std. Deviation
16-18 years	40	72.93	21.629
19-21 years	36	74.39	18.498
Above 21 years	29	73.07	17.856
Total	105	73.47	19.414

From Table 2, the post test mean score and standard deviation of participants aged 16-18 years are 72.93 and 21.626, those aged 19-21 years are 74.39 and 18.498 while those above 21 years of age are 73.07 and 17.856 respectively. This shows that posttest mean score of participants in all the age groups are very close. Therefore, age groups had no effect on the management of academic stress among participants.

Hypothesis 1. There is no significant effect of treatment (Laughter therapy) on the management of academic stress among students in Lagos State tertiary institutions.

Table 3: ANCOVA of effect of treatment (laughter therapy) on the management of academic stress among students in Lagos State tertiary institutions

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	27912.654 ^a	2	13956.327	126.162	.000	.712
Intercept	1741.927	1	1741.927	15.747	.000	.134
Pretest	1253.541	1	1253.541	11.332	.001	.100
Group	27909.059	1	27909.059	252.291	.000	.712
Error	11283.479	102	110.622			
Total	605918.000	105				
Corrected Total	39196.133	104				

a. R Squared = .712 (Adjusted R Squared = .706)

Table 3 shows that the effect of treatment ((laughter therapy), $F_{(1, 102)} = 252.291, p = 0.000$, $\eta_p^2 = 0.712$, was significant at 0.05. Since the p-value of the F-ratio which is 0.000, is less than 0 .05, then the null hypothesis was rejected. This implies that there was a significant effect of treatment on the management of academic stress among students in Lagos State tertiary institutions. Also, the value of partial eta squared (η_p^2) which is 0.712 indicates that treatment - laughter therapy accounted for 71.2 % of the variance on the management of academic stress among students in Lagos State tertiary institutions. Figure 1 shows where the effects lie.

Hypothesis 2: There is no significant effect of age groups on the management of academic stress among students in Lagos State tertiary institutions.

Table 4: ANCOVA of effect of age groups on the management of academic stress among students in Lagos State tertiary institutions

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	47.730 ^a	3	15.910	.041	.989	.001
Intercept	5791.497	1	5791.497	14.942	.000	.129
Pretest	.789	1	.789	.002	.964	.000
Age Groups	44.134	2	22.067	.057	.945	.001
Error	39148.404	101	387.608			
Total	605918.000	105				
Corrected Total	39196.133	104				

a. R Squared = .001 (Adjusted R Squared = -.028)

Table 4 reveals that the effect of age groups, $F_{(2, 101)} = 0.057, p = 0.945$, $\eta_p^2 = 0.001$, was not significant at 0.05. Since the p-value of the F-ratio which is 0.945, is greater than 0 .05, then the null hypothesis was not rejected. This implies that there was no significant effect of age groups on the management of academic stress among students in Lagos State tertiary institutions. Also, the value of partial eta squared (η_p^2) which is 0.001 indicates that age groups accounted for a mere 0.1 % of the variance on the management of academic stress

among students in Lagos State tertiary institutions. Hence, management of students' academic stress is not age specific.

Discussion

This study examined effects of laughter therapy on the management of academic stress among students in Lagos State tertiary institutions. Findings from the study revealed that the treatment (laughter therapy) had effect on the management of academic stress among participants and that these effects are not dependent on their age groups. This is in agreement with the position of Pezeshki (2012) who opined that people who are regularly practicing laughter exercises have experienced improvements in their health, mental outlook and energy level. In addition, Kataria (2019) stated that laughter is powerful in inducing physiological changes in the body. It has a preventive and therapeutic value and that when someone pretends to laugh or be happy the body produces chemicals (e.g. dopamine, serotonin, etc) that induce a state of happiness.

The first hypothesis which stated that there is no significant effect of treatment (Laughter therapy) on the management of academic stress among students in Lagos State tertiary institutions was rejected. In other words, there was a significant effect of laughter therapy as a counselling intervention on the management of academic stress among students. This finding agreed with the position of Jongeun (2016) who stated laughter has a positive effect on the body and very effective in strengthening the immune system. He added that laughter therapy physiologically reduces the level of stress hormones, increases the level of health promoting- hormones such as endorphins, and strengthens the immune system by increasing the number of T-Lymphocytes which multiplies white blood cells in the body, In a nutshell, laughter as a therapy could help in reducing incidence of academic stress among students, thereby enhancing their academic performance at all times.

The second hypothesis which stated that there is no significant effect of age groups on the management of academic stress among students in Lagos State tertiary institutions was not rejected. That is, there was no significant effect of age groups on the management of academic stress among students. This finding is at variance with the position of Ekpeyong, Daniel and Aribi (2013) who opined that individual variables that can influence one's response to stress include age, sex, physical ability, status, lifestyle, ethnicity among others. Some factors such as sex, age, year of study and course of study have been found to influence level of stress among students. Also Khan, Altaf and Kausar (2016) discovered that younger students expressed higher academic stress than older students. However, findings from this study revealed that management of stress among students in tertiary institutions does depend on their age groups.

Conclusion

This study systematically and empirically examined the effect of treatment (Laughter therapy) on the management of academic stress among students in Lagos State tertiary institutions. In all, it was discovered that laughter was very effective as therapeutic intervention in the management of academic stress among students. When students of any groups are exposed to this therapy, their stress level will reduce drastically and their academic performance could be enhanced. With this therapy, students would also be fully

prepared to navigate the complex and rapidly changing landscape of academic life successfully.

Recommendations

Findings from this study therefore, present the following as some recommendations to all stakeholders in the management of academic stress among students in tertiary institutions. They are:

1. There is an urgent need for all institutions of higher learning to establish functional counselling centres in their schools. This will be a referral centres for students experiencing one form of stress or the other.
2. Tertiary institutions should employ more trained and qualified counsellors.
3. Counsellors in various schools should be given opportunity for training and re-training
4. These counsellors should be encouraged to make use of Laughter therapy in managing academic stress
5. In conjunction with others, they can organize lectures, workshops seminars and research on the management of stress among students
6. There is a need for tertiary institutions in the country to incorporate individual laughter therapy in their General Studies (GNS) curriculum and make it compulsory for all students to participate in.

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