

EFFECT OF AGE ON THE LEVEL OF STRESS EXPERIENCED AND ACADEMIC PERFORMANCE OF AUTOMOBILE TECHNOLOGY STUDENTS EXPOSED TO MULTIPLE STRESS MANAGEMENT INTERVENTIONS IN UNIVERSITIES IN SOUTHERN NIGERIA

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Abstract

The study sought to determine the effect of age on the level of stress experienced and academic performance of automobile technology students exposed to multiple stress management interventions in universities in Southern Nigeria. 1 purposes with corresponding research questions and 1 hypothesis were generated, answered and tested respectively. The study employed quasi-experimental design. The population for the study was 97 first year Automobile students. The instruments used for data collection were validated by 3 experts and has overall reliability coefficients of 0.77. Data analysis was carried out using mean and standard deviation. MANCOVA was used to test the hypothesis. The findings revealed significant effect of the intervention on student's health status and improved academic performance. It was therefore recommended among others that multiple stress management intervention should be integrated in Automobile technology education and other engineering/technology based programmes to foster effective stress management practices among students. Also, there is the need for stress management training for all levels of Automobile students with involvement of capability within the university.

Keywords: Automobile Technology Education, Academic Performance, Age and Multiple Stress Management Intervention.

Introduction

Helping students to manage stressful academic lives has been a goal of counseling practitioners, the concerns of Psychologists and Automobile Lecturers. Automobile is a self-propelled vehicle used for transportation of goods and passengers on the ground. The goal of Automobile Technology Education in Nigerian universities including South-South Universities is to produce Automobile Technology teachers and technologists with sound theoretical and practical knowledge who can test, diagnose, service and repair faults relating to Automobile assembly main units and systems to the manufacturers specification Poripo, (2023; 2021), (Federal Republic of Nigeria (FRN, 2014). The achievement of this goal requires adequate provision of learning facilities, stress free and conducive learning environment, qualified and skilled Automobile lecturers who will facilitate students learning for academic performance.

Academic performance is the measure of students' success. Students' success implies meeting up with the set academic standard and cut-off demands prescribed by the school. Academic performance points to the extent to which Automobile students have gained from a particular curriculum, subject or task based on relatively standardized experiences, such as a

class test (Akinade, 2001), (Akerstedt, 2006). Effective learning and sound academic performance are said to constitute an integral part of the goal of schooling for students optimal performance (Hassan 2006). Student's academic performance however, have high tendency to be drastically affected or influenced by academic stressors manifestation which include lack of concentration in the classroom, absence from lectures, examination tension, fear of failure and academic grading system, inability to complete multiple assignments, inadequate study equipment, work apparatus, and facilities for practicals, limited time for practical activities among others (Nkem 2015, Bataineh 2013, Awino and Agolla, 2008). This implies that, if the stresses experienced by Automobile Technology Education students are not properly managed, it could affect their academic performance. In this study, academic performance means the total or overall output of an Automobile Technology Education student after assessment for participating in required academic activities at the end of the session. However, if Automobile students are not exposed to stress management treatments especially at this early stage of their university life before adult life, stress may jeopardize their academic ambition, force them to adopt maladaptive behaviours. Thus, it becomes imperative to investigate the effect of multiple stress management intervention on level of stress, motivation, mental health and academic performance of first year Automobile Technology Education students in Universities in South-South Nigeria with active participation in related automobile activities for both students age.

Age seems to also impact on how individual student react or cope with stress. Literature revealed that older students may differ in terms of stress experience and approaches to coping with stress as compared with younger students; and that as individuals mature their coping capacities expand such that they are able to successfully utilize coping strategies that are effective for specific situation (Zimmer-Gembeck & Skinner, 2008; 2011). While examining age differences in perceived stress and coping resources, Hamarat, Thompson, Zabucky, Steele, Matheny and Aysan, (2001) found that students perceived stress decreased with age, and that older students reported more effective coping resources than the younger or adolescent students. However, Heiman (2004) established that older students are not better than the younger ones in coping with stress while examining student's psychosocial resources, perceived stress and coping styles using the sense of coherence model. The age difference among first year Automobile Technology Education students which varies from late teenage years to early adulthood may have considerable contributions to students' level of stress and coping responses as well as mental health and academic performance. Hence, various stressors coupled with varying individual characteristics may facilitate different levels of stress experience among the students (Abdulghani, Alkanhal, Mahmoud, Ponnameruma, and Alfaris, 2011; Mikolajczyk, Ansari & Maxwell, 2009; Waghachavare, Dhumale, Kadam, and Gore, 2013; Yusoff, Rahim, Baba, Ismail, and Esa, 2013).

Although, few studies in Nigeria explained that irrespective of university student's age group, stress appears to limit academic performance. In order to prevent severe psychological effects of stress and its implications among the Automobile Technology Education students, effective stress management intervention is needed which could help or assist the students in handling stressful academic events appropriately, thereby reducing its harmful effects which

could affect or jeopardize student's academic performance and future working ambitions (Lee, Ahmed, Pathirana & Papier, 2016) (Adewuya, Ola, Olutayo, Mapayi&Oginni, 2006).

Statement of the Problem

The Automobile graduates in South-South Nigeria have the prospect of either being employed in industries and government establishment or setting-up their own business and become self-employed. However, these graduates of Automobile Technology Education in universities in South-South Nigeria prove to be ill equipped and lack interest in Automobile activities, as most companies and industries spend money in training and retraining the graduates of Automobile Technology in South-South Nigeria, in other to meet the standard required by the companies and industries, instead of starting work immediately. South-South Nigeria is also characterized with high level unemployment, making majority of graduates including graduates of automobile technology to roam about and get involved in various restive activities.

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Purpose of the Study

The general purpose of this study is to determine the effect of age on the level of stress experienced and academic performance of automobile technology students exposed to multiple stress management interventions in universities in Southern Nigeria.

Research Questions

The following research questions were answered in the study:

1. What is the influence of age on the level of stress experience, motivation and academic performance of Automobile Technology Education students exposed to multiple stress management interventions?

Hypothesis

1. There is no significant influence of age on the level of stress experience, level of motivation and academic performance of Automobile Technology Education students exposed to multiple stress management interventions.

Methodology

Quasi-experimental design was adopted for this study. The study was conducted in South-South, Nigeria. The population for this study consists of 97 students of Automobile Technology in South-South, Nigeria. A structured questionnaire was used as instrument for data collection. The instrument was validated by three experts from the University of Nigeria, Nsukka. Statistical Package for Social Sciences (SPSS) version 20.0 was used to analyzed the data collected from the respondents. Cronbach alpha reliability coefficient index was used to determine the internal consistency of the instruments. The overall reliability index for the

instruments was 0.77. The data collected from the administration of both pre-test and post-test, were analyzed and interpreted using mean (X) and standard deviation (SD).

Presentation of Results

Research Question 1

What is the influence of age on the level of stress experienced, motivation, mental health status and academic performance of automobile technology education students exposed to multiple stress management interventions?

Table 1: Mean difference between the pretest and posttest responses based on age of students on the level of stress experienced, motivation, mental health status and academic performance

Age Group	Level of Stress (Mean)			Motivation (Mean)			Mental health (Mean)		Academic Performance (Mean)		
	pre	post	MD	pre	post	MD	pre	post	post	MD	
							MDpre				
20 and Below	130.05	50.43	-79.61	99.55	118.27	19.71	97.01	39.10	-47.88	34.27	73.60
39.32											
21-25	133.22	49.82	-83.40	99.80	116.72	17.82	94.66	40.01	-44.66	33.32	73.42
50.11											
26 and Above	135.24	53.91	-81.33	98.74	116.96	19.21	97.07	37.66	-49.40	34.52	74.46
49.88											

Note: Pre= Pretest, Post= Posttest MD= Mean Difference (Posttest-Pretest), 20 Below= Students Below 20 years, 21-25= Students Between 21-25 years, 26 and Above= Students Between 26 years and Above.

Table 1 presents the mean differences between the pretest and posttest responses of students of 20 years and below, between 21 to 25 years as well as those from 26 years and above on the level of stress experienced and academic performance. This revealed that a structured stress management practices could influence any age group with age disparity. However, the result presented shows that when students are exposed to effective stress management practices, its application may not be based on age factor. This revealed that those students from 26 years and above experience greater decrease in mental health problems and challenges, followed by those students that are under 20 years and below and students between the age 21 to 25 years. This implies that Automobile Technology Education students in Universities in South-South age may not necessarily influence the height or degree of performance with exposure to multiple stress management intervention. The result show that age positively influences student's motivation and academic performance, while it negatively influences level of stress experience and mental health status of Automobile Technology Education Students in Universities in South-South Nigeria.

Hypothesis 1

There is no significant influence of age on the level of stress experienced, level of motivation and academic performance of automobile technology education students exposed to multiple stress management intervention.

Table 13: Multivariate analysis of co-variance (MANCOVA) of the influence of age on the level of stress experienced, level of motivation and academic performance of automobile technology education students exposed to multiple stress management intervention.

Age		Sum of squares	Df	Mean square	F	Sig.	Partial eta squared	Dec.
Level of stress Exp.	Contrast	8.921	2	75.924	.806	.443	.02	NS
	error	5728.463	98	82.751				
Motivation	Contrast	.065	2	.147	.020	.875	.011	NS
	error	4014.278	98	49.162				
Academic performance	Contrast	13.233	2	12.231	.310	.751	.006	NS
	Error	4753.132	98	64.664				
GROUPING (Wilks' Lambda)	Hypothesized	900.621	6		.547 ^b	.871	.042	NS
	error	-	62	-				

Note: NS = Not Significant, Df = Degree of Freedom, Dec = Decision

The result in Table 2 shows the MANCOVA result of the influence of age on the level of stress experienced, motivation and academic performance of Automobile Technology Education Students in Universities in South-South Nigeria. The result indicates that in level of stress experienced, an F-ratio of 0.806 with associated probability value of 0.443 was obtained, while in motivation an F-ratio of 0.020 with associated probability value of 0.875 was obtained, in academic performance an F-ratio of 0.310 with associated probability value of 0.751 was obtained and Wilks' Lambda combined effect of multiple stress management interventions on the level of stress experience among students shows an F-ratio of 0.47 with associated probability value of 0.871. Since the associated probability values are greater than 0.05 set as criterion level of significance, the null hypothesis which states that there is no significant influence of age on the level of stress experienced, motivation and academic performance of Automobile Technology Education students is accepted. Thus, the inference drawn is that there is no significant influence in the mean performance scores of students on the influence of age on both the level of stress experienced, motivation and academic performance of Automobile Technology Education Students in Universities in South-South Nigeria.

Discussion of Findings

The study found that multiple stress management intervention is effective in influencing stress among automobile students. In essence, MSMI was found to improved academic performance of first year Automobile Technology Education students in South-South

Nigeria by reducing stress and promoting positive changes in their coping skills. The findings of this study is in line with study of Chinaveh, (2013), (Chinaveh, Ishak&Salleh, 2010), and (Sharoff, 2004; Vesser& Blakemore, 2006) who stated that the multiple stress management intervention has significant positive influence on students level of stress and motivation, as well as academic performance.

Based on the influence of age on the level of stress experienced, and academic performance, this study found that age do interplay in the effectiveness of the outcomes of the multiple stress management intervention. The findings of this study is in agreement with the findings of Hamarat, Thompson, Zabrucky, Steele, Matheny and Aysan (2001) who linked perceived stress decrease with age, and that older students would report more effective coping resources than younger or adolescent students. In the same vein, Zimmer-Gembeck& Skinner (2008; 2011) solely link stress management to individual age and maturity. The age difference among first year Automobile Technology Education students which varies from late teenage years to early adulthood may have considerable contributions to students' level of stress and motivation as well as mental health and academic performance. Hence, various stressors coupled with varying individual characteristics may facilitate different levels of stress experienced among the students. Heiman (2004) agrees that older students may not necessarily be better than the younger ones in motivation and coping with stress they both faced most especially when a model or intervention is applied.

Conclusion

Based on the findings, this study concludes that MSMI will be effective in training Automobile students in stress management thereby limiting and reducing the detrimental effects of stress among students most especially those in the first year visa-vi, level of stress, mental health and their academic performance. Also, based on the influence of age on the level of stress experienced, motivation, mental health status and academic performance, this study found that age do interplay in the effectiveness of the outcomes of the multiple stress management intervention. This means that older students would report more effective coping resources than younger or adolescent students.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Multiple stress management intervention should be integrated in Automobile Technology Education and other engineering/technology based programmes to foster effective stress management practices among students.
2. There should be stress management training for all levels of Automobile Technology Education students with involvement of professional therapists and educational stakeholders to improve students stress management capability within the university education.

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