The Relationship Between Levels of Stress and Academic Performance Among University of Nairobi Students

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Abstract

The study investigated the relationship between stress and academic performance among government-sponsored undergraduate students from the University of Nairobi in Kenya. The mediating roles of the students' age, gender, locus of control, level and course of study in the relationship between stress and academic performance were also examined. The sample consisted of 319 male and 265 female students selected using stratified random sampling techniques, from all the six colleges of the university. The study was carried using a cross-sectional survey design involving levels one to five of the academic programs. Data was collected using questionnaires that measured stress and locus of control. Academic performance was assessed from the students' academic transcripts. Both descriptive and inferential statistics were used for data analyses. Two-way and three-way chi- square statistics were used to test the statistical significance of the hypothesis.. The analyses were done using the Statistical Package for Social Sciences (SPSS) computer program. Regression analysis was conducted to find out how the confounding variables contributed to the relationship between stress and academic performance. Results showed that most of the students (64.4%)

reported that they experienced between moderate to high levels of stress while just over a third (35.6%) reported low stress levels. The relationship between stress and academic performance was statistically significant (χ^2=9.49, N=584, df=4, p=0.048). The relationship between stress level and academic performance was significant within 19 to 22 years, 23 to 26 years, males, females, College of Humanities and Social Sciences, College of Agriculture and Veterinary Sciences, levels one and four of study, internal locus of control, and external locus of control. Regression analysis showed that the higher the stress level, the poorer is the academic performance. However, only course/college appears to have statistically significant effect on the relationship between stress and academic performance. The cofounding effect on the stress and academic performance is complex and needs further investigation. The findings indicate the need for relevant authorities to institute programs that will lower the experience and effects of stress among university students. Further research is recommended to investigate the areas where the results were not significant.

Keywords: Academic performance, levels of stress, university students

1. Background to the Study

The number of students enrolling in Kenyan public universities has increased tremendously in the last decade (Ng'ang'a, 2016; Njoroge, Wangari, & Gichure, 2016). The rapid increase in student enrolment has, however, taken place during the period of poor economic performance and when the country is implementing cost-sharing policies (Ngolovoi, 2008; Marcucci, Johnstone, & Ngolovoi, 2008). Consequently, difficult learning environments in the public universities have been reported (Gudo, Olel, & Oanda, 2011).

The challenging learning situation has led to a number of negative consequences. Significant dropout rates have been recorded among university students (Njoroge, Wangari, & Gichure, 2016). It has also been observed that suicidal tendencies have increased (Wanyoike, 2015). There is no actual data because most cases of suicide may go unreported. A significant level of alcohol and drug abuse has also been reported among students in Kenyan universities. For example, Njare (2013) reported a prevalent rate of 63.2% of alcohol abuse among a sample of 446 students from the University of Nairobi. Similar reports of alcohol abuse in Kenyan universities have recently been reported by a number of studies (Ndegwa, Munene, & Oladipo, 2017). From the global perspective it has been observed that alcohol and drug abuse is more prevalent among university students than the general population (Tse, 2011; Karama, Kypri, & Salamoune, 2007).

The challenges that university students face may translate into stress (Arnett, 2010). Stress has been defined from several theoretical perspectives. For example, Hans Selye (1956, 1976) proposed the response theory of stress where stress is defined as a physiological response of the body to any demand placed upon it. Lazarus & Folkman (1984) proposed a cognitive theory in which they defined stress as a cognitive process that involves the perception of stressors in relationship to the coping resources available for the individual to use in the management of stress. Melgosa (2004) incorporated Selye's (1976) and Lazarus & Folkman's (1984) proposals and defined stress as physiological and psychosocial responses by individuals to stressors that tax their coping abilities.

For many university students, therefore, university education represents a time of change and new experiences that could lead to serious cognitive and psychosocial challenges (Kagan & Baird, 2004). University students have to operate in a complex mix of physical, psychosocial and socio-cultural environments with different degrees of challenges (L. A. Bressler & M. E. Bressler, 2007; Khan, Saleem & Shahid, 2012; O. H. Ezeh, C. Z. Ezeh, & Okey, 2016). This situation may be exacerbated because university undergraduate students are young, relatively immature and dependent in the way they relate with other people (Ying Shu, Ming & Farn, 2009; Frank & Karyn, 2005).Besides challenges emanating from the internal situation in the university, students also face challenges from outside the university. For instance Kenyan university students reported that they are exposed to potential stressors arising from political and ethnic conflicts in the country (Munene, 2016).

The prevalence of stress-related behaviors among university students may indicate that conditions in the universities present students with stressors which ultimately have the potential to cause stress. This tends to generate negative physical, cognitive and psychosocial outcomes (Rafidah, Azizah, Norzaid, Chang, Salwani, & Noraini, 2009).

On the one hand it has been argued that stressful conditions in the university are likely to lead to deterioration in academic performance as characterized by low grades and inability to complete class assignments (Smith & Renk, 2007; Turner, Bartlet, Andiappan, & Cabot, 2015). On the other hand, there are studies which have failed to confirm the negative relationship between stress and academic performance (Awofodu & Emi, 2011; Jacob & Einstein, 2016).

The inconsistency in the relationship between stress and academic performance seems to indicate that this relationship may be mediated by intrinsic and extrinsic stress risk factors (L. A. Bressler & M. E. Bressler, 2007; Khan, Saleem, & Shahid, 2012; Thawabieh & Qaisy, 2012). The intrinsic factors include age (Monteiro, Bolagun, & Oratile, 2014), gender (Chen, Wong, Ran & Gilson, 2009; Dughters, Gorka, Matuslewicz & Anderson, 2013).) and locus of control (Sarrasin, Mayor & Faniko, 2014; Lecic-Tosevski, Vukovic & Stepanovic (2011). The extrinsic factors may include level of study (Alzahem, Van der Molen, & De Boer, 2013), course of study (Nakalema & Senyonga, 2013; Gokul & Jayalakshmi, 2016) among others.

The extrinsic factors such as level of study and type of course may constitute stress risk factors because they are characterized by stressors such as academic workload, course assignments and examinations, crowded lecture halls and student hostels, inadequate learning facilities and preparing for examinations (Awofode & Emi, 2011). The intrinsic factors may affect stress experience because of their association with stress mediating factors. For instance, women tend to benefit more than men from the release of stress hormones (Daughters, Gorka, Matuslewics & Anderson, 2013) and the buffer effect of social support (Scott, 2009). The age factor in stress has been attributed to the coping strategies used. Older students tend to use more problem-focused and cognitive restructuring coping strategies than their younger colleagues who use emotion-focused coping (Heinman, 2004; Monteiro, Balogun & Oratile, 2014). Locus of control of control seems to play a mediating role in stress experience because of its effect in the coping process (Khan, Saleem & Shahid, 2012) and

self-esteem (Sagone & De Caroli, 2014)

Unfortunately, few studies have included all levels of study and this has undermined the comparative analysis of the effects of course levels on stress (Alzahem, Van der Molen, & De Boer, 2013). Without providing any scientific justification, such studies have largely focused not only on single disciplines but on science-based ones with the assumption that these disciplines have more stressors than the humanities and social sciences (Gade, Chan & Gupta, 2014; Heckman, Lim, & Montelto, 2014; Jacob, & Einstein, 2016; Harris, Millichamp, & Thomson, 2015).

Moreover, researchers have studied student stress from different theoretical perspectives, using samples from a variety of different backgrounds (Eisenberg, Hunt, & Spear, 2013; Banu, Deb, Vardhan, & Rao, 2015). The study settings are therefore diverse with their own unique and socio-cultural characteristics (Ibrahim, Kelly, Adams, & Glazebrook, 2013). From the cognitive perspective, therefore, the socio cultural diversity which characterizes past studies implies that findings of a study in one setting may not be representative of other settings that comprise populations with different socio-cultural backgrounds (Jan & Popescu, 2014). This may make the findings from such studies not be generalizable because peoples cognitions are influenced by their socio-cultural backgrounds (Sheppard, 2014; Thomson, Kirby & Smith, 2016); Posner & Rothbart, 2017).The implication is that findings from stress researches done among university students in Europe, Asia or the United States may not represent the stress experience of students in Kenyan universities.

1.1 The Purpose of the Study

The purpose of this study was to investigate the relationship between the students' stress level and academic performance

2. Methodology

2.1 Research Design

The study used a cross-sectional survey method with stress level as independent variable and academic performance as dependent variable. Age, gender, locus of control, 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.

2.2 The Sample and Sampling Procedure

The sample consisted of 319(54.62%) male and 265(45.38%) female students aged between 19 to 30 years selected using stratified random sampling procedures. The students were distributed according to the levels of study as follows: 80 (13.7%) from level one, 212(36.3%) from level two, 191(32.7%) from level three, 83(14.2%) from level four and 18(3.1%) from level five. The sample was made up of government- sponsored undergraduate students registered in the following academic programs: 187(32.0%) from Humanities and Social Sciences, 94(16.1%) from Education, 100(17.1%) from Biological and Physical Sciences, 74(12.7%) from Medical/Health Sciences, 58(9.9%) from Agriculture and Veterinary Sciences, 71(12.2%) from Architecture and Engineering The majority of the students were

residents in the students' halls of residence, sharing university facilities for the time they were in session.

2.3 Research Instruments

All the research instruments had Part A which sought the participants' biographical data on age, gender, level and course of study. The following research instruments were used to collect data:

1) A 50-item likert-type 5-point Stress and Coping Strategies Questionnaire was developed and piloted by the researcher. In addition, the Questionnaire had two open-ended items which did not restrict the respondents on the details of their responses   .

2) Locus of Control was measured by the Locus of Control Questionnaire adapted from Rotter's (1990) Locus of Control Scale. It consists of 23 pairs of items measuring either internal or external locus of control. In addition, it has six pairs of items that do not measure locus of control but act as fillers to help disguise the dimensions of the personality being measured. Although this research tool is standardized it was piloted to customize it to the Kenyan population.

3) Academic performance was assessed using the grades derived from the students' academic transcripts for the two semesters preceding data collection. It was assumed that the performance in the two semesters may have been influenced by the conditions that the students experienced at that time which included the time when data was collected.

2.4 Validity and Reliability of the Research Instruments

The researcher ensured content validity of the research instruments by including relevant items for each of the instruments used in the study. The questionnaires and interview schedules were reviewed by two members of the department who teach courses in stress management to establish their face and content validity. The Cronbach's coefficient alpha for the research instruments was 0.920 for the Students Stress and Coping Questionnaire and 0.84 for Locus of Control Questionnaire

2.5 Data Collection Procedure

Data was collected by two research assistants trained in research methodology course The choice of research assistants from the college where data were collected was to facilitate rapport with the respondents from their respective colleges. Each research assistant distributed questionnaires to the respondents in the colleges where they were studying.

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 were assured of confidentiality and requested to fill and return the questionnaires to the research assistants within two days. The questionnaires were then

returned to the researchers as soon as they were received by the research assistants. The researchers scrutinized all the questionnaires when returned to ensure that proper data collection took place. Questionnaires that were not filled properly were not included in the data analysis. The students were requested to provide copies of their academic transcripts for the two semesters. They were assured of confidentiality in handling their academic documents to encourage them cooperate in the release of the documents.

2.6 Data Analysis

With regards to the stress questionnaire, respondents were to choose from each item one of the following options: 1=Not stressful at all, 2= Slightly stressful, 3=Stressful, 4=Very stressful and 5=Extremely stressful. The score for each respondent ranged from 50 (Not stressful at all) to 250 (Extremely stressful).. The stress level was divided into three categories as follows: low stress level (50 -125), moderate stress level (126 - 190) and high stress level (191-250).

For each of the 23 pairs of items on locus of control, internal locus of control was scored 1 while external locus of control was scored 2. The score for each respondent on the locus of control instrument therefore ranged from 23 to 46 on the internal-external locus of control continuum

Academic performance was graded as follows: 70% - 100% (A), 60% - 69% (B), 50% -59% (C), 40% - 49% (D) and below 40% (E). However, for purposes of this study the grades were coded as follows: A=5, B=4, C=3, D=2, E=1.Each students' performance therefore ranged from an aggregate score of 1 to 5.The codes were then divided into three categories as follows: A(Good performance)=4 -5 points, B(Moderate performance)=3 points and C(Poor performance) between 1- 2 points

Data was analyzed using SSPS 16 program. Descriptive analyses using frequencies and percentages were conducted to assess the levels and causes of stress. A two-way and three-way chi-square statistics was conducted to test the null hypothesis. Regression analysis to find how the confounding variables contributed to the relationship between stress and academic performance was done using STATA Version 14.0.

3. Results

3.1 Levels of Stress Among Students

The results show that 208(35.6%) students had low stress levels, 160(27.6%) students had moderate stress levels, and 216(37.0%) students had high stress levels, Among male students, 100(31.3%) students had low stress levels, 95(29.8%) students had moderate stress   levels while 124(38.9%) students reported high stress levels. Among female students 108(40.8%) experienced low stress levels, 65(24.5%) students had moderate stress level while 92(34,7%) reported high stress level.

3.2 Causes of Stress among the Students

Table 1 and Figure 1 show the most common causes of stress reported by the students.

Table 1. Causes of Stress Reported by the Respondents

Causes	Males	Males Percentage	Females	Females percentage	Total	Total Percentage
High cost of living	280	87.8	160	60.4	440	75.3
Issues with room mates	245	76.8	200	75.5	445	76.2
Cost of tuition	241	75.5	190	71.7	431	73.8
Dirty halls of residence	236	74.0	210	79.3	446	76.4
Fear of failing	224	70.2	110	41.5	334	57.2
Course is too demanding	211	66.1	206	77.7	417	71.4
No job prospects	150	47.0	200	75.5	350	59.9
Relationship issues	111	34.8	180	67.9	291	49.8
Ethnic conflicts	106	33.2	51	19.3	157	26.9
Uncooperative lecturers	105	32.9	100	37.7	205	35.1
Finding accommodation	101	31.7	60	22.6	161	27.6
Lack of reading materials	76	23.8	60	22.6	136	23.3
Security	73	22.9	41	15.5	114	19.5
Poor facilities	70	21.9	21	7.9	91	15.6
Poor health services	60	18.8	60	22.6	120	20.6
Fear of STI	40	12.6	41	15.5	81	13.9
Demand for sex by lecturers	20	6.3	150	56.6	170	29.1
Drugs	20	6.3	6	2.3	26	4.5
Peer pressure	19	6.0	50	18.9	69	11.8
Noise in hostels	10	3.1	21	7.9	31	5.3

The most reported causes of stress for all students are dirty halls of residence (76.4%), issues with roommates (76.2%), high cost of living (75.3%), cost of tuition (73.8%), the course is too demanding (71.2%), no job prospects (59.9%), fear of failing (57.2%), relationship issues (49.8%), uncooperative lecturers (35.1%), demand for sex from lecturers (29.1%), finding accommodation (27.6%), ethnic conflicts (26.9%), lack of reading materials (23.3%), poor health services (20.6%) and security (19.5%). socioeconomic and socio-cultural environments in which these students live and study.
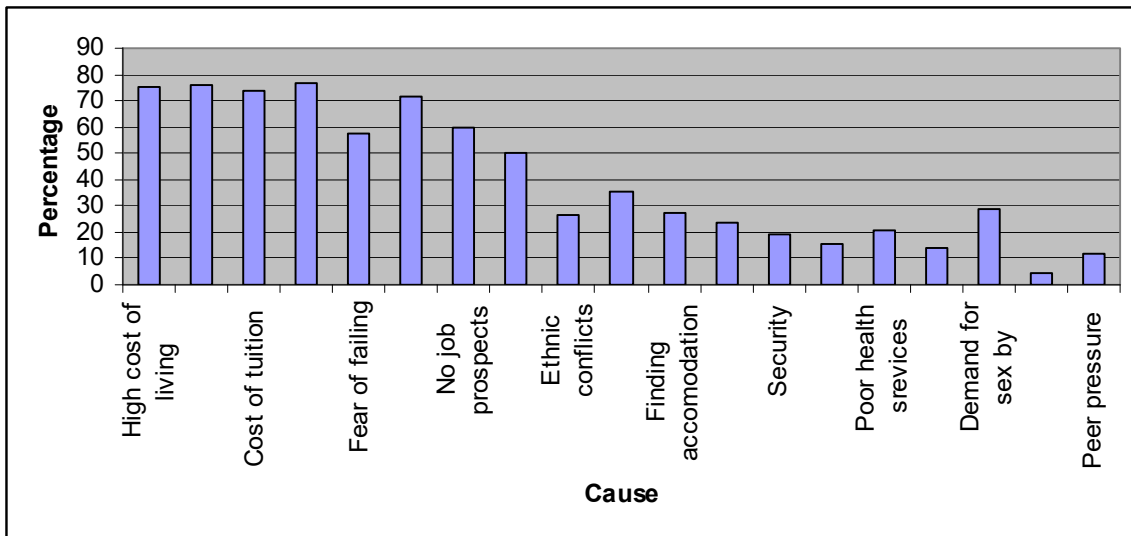
Figure 1. Causes of Stress Reported by all the Students

The pattern, however, changes when male and female students are treated separately. Figure 2 presents causes of stress reported by male students. The most common sources of stress are high cost of living (87.8%), issues with roommates (76.8%), cost of tuition (75.5%), dirty halls of residence (74.0%), fear of failing (70.2%), course is too demanding (66.1%), no job prospects (47.0%), relationship issues (34.8(%), ethnic conflicts (33.2%), uncooperative lecturers (32.9%), finding accommodation (31.7%), lack of reading materials (23.8%), security (22.9%) and poor facilities (21.9%).
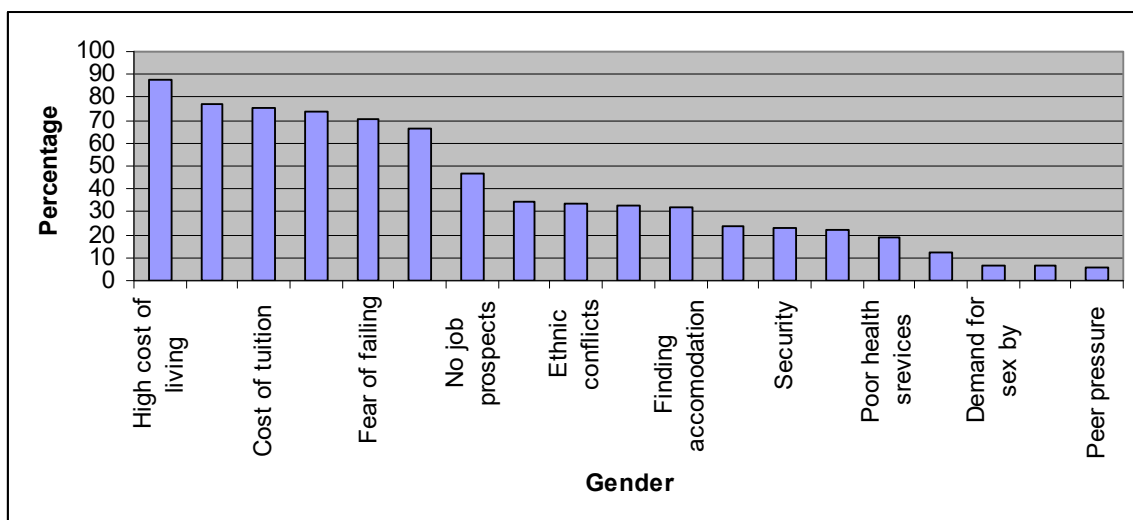

Figure 2. Causes of Stress Reported by Male Respondents

Among female students, the main causes of stress were dirty halls of residence (79.3%),

course is too demanding (77.7%), issues with roommates (75.5%), no job prospects (75.5%), cost of tuition (71.7%), relationship issues (67.9%), high cost of living (60.4%), demand for sex by lecturers (50.6%), fear of failing (41.5%), uncooperative lecturers (37.7%), finding accommodation (22.6%), lack of reading materials (22.6%), poor health services and ethnic conflicts (19.3%).
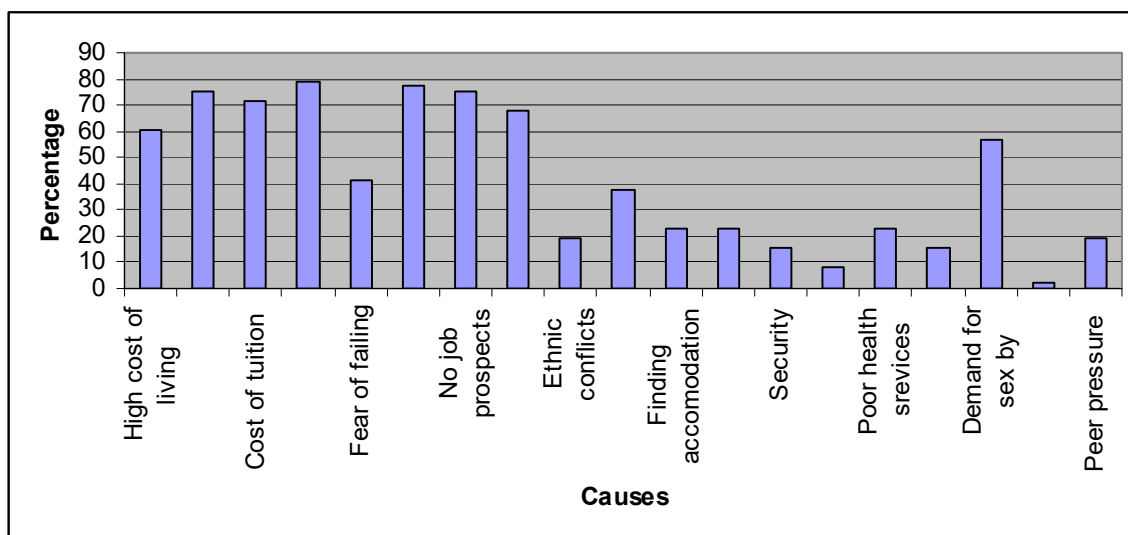

Figure 3. Causes of Stress Reported by Female Respondents

Among students who experienced low stress levels, 52 (25%) had grade C, 113 (54.33%) had grade B while 43 (20.67%) had grade A. 49(30.6%) of the students who experienced moderate stress levels had grade C, 83(51.9%) had grade B and 28 (17.5%) had grade A. 81 (37.5%) of the students who experienced high stress levels had grade C, 105(48.6%) had grade B while 30 (13.9%) had grade A. Results from the Pearson chi-square show that stress has a statistically significant relationship with academic performance (χ^2=9.49, n=584, df=4 p=0.048). The relationship between stress and academic performance was tested further using Cramer's V(Φ_c). Cramer's V adjusts the χ^2 significance to factor out sample size because χ^2 coefficient depends on the strength of the relationship and the sample size. Cramer's V analysis was done and the results (Φ_c =0.228, p=0.048) indicate that stress has a moderate but significant association with academic performance. The results show that higher levels of stress were associated with poor academic performance.

Age as a factor in how stress relates to academic performance

Table 2 below presents a χ^2 analysis of the role of age in the relationship between stress and academic performance. Within 19-22 years, 42 (35.9%) students who experienced low stress levels had grade C, 60 (51.3%) had grade B while 15(12.8%) had grade A. 21(29.2%) of the students who experienced moderate stress levels had grade C, 41(56.9%) had -grade B, while 10(13.9%) had grade A. Among the students who experienced high stress levels, 38(31.9%) had grade C, 56 (47.1%) had grade B and 25 (21.0%) had grade A. The results indicate that

stress and academic performance are significantly related within 19-22 years (χ^2=8.34, n= 308, df=4, p=0.049; Φ_c =0.216, *p*=0.049).

When considered within 23-26 years, 19(24.4%) students who experienced low stress levels had grade C, 47(60.3%) had grade B while 12 (15.4%) had grade A. Among students who experienced moderate stress levels, 27(33.75%) had grade C, 39 (48.75%) had B and 14(17.5%) had grade A. 33(35.87%) students who experienced high stress levels had grade C, 45 (48.91%) had grade B while 14(15.22%) had grade A.

Table 2. Effect of Age on the relationship between the Students' Stress Level and Academic Performance

Stress Level * Academic Performance * Age Category Cross tabulation				Academic Performance			Total	χ^2 (p-value)	Cramer's V (p- value)
Age Category				C	B	A			
19-22years	Stress Level	Low Stress Level	Count	42	60	15	117		
			% within Academic Performance	35.9%	51.3%	12.8%	100%	8.34 (p=0.049)	0.216 (p=0.049)
		Moderate Stress Level	Count	21	41	10	72		
			% within Academic Performance	29.2%	56.9%	13.9%	100%		
		High Stress Level	Count	38	56	25	119		
			% within Academic Performance	31.9%	47.1%	21.0%	100%		
23-26years	Stress Level	Low Stress Level	Count	19	47	12	78		
			% within Academic Performance	24.3%	60.3%	15.4%	100%		
		Moderate Stress Level	Count	27	39	14	80	9.72 (p=0.041)	0.319 (p=0.041)
			% within Academic Performance	33.75%	48.75%	17.5%	100%		
		High Stress Level	Count	33	45	14	92		
			% within Academic Performance	35.87%	48.91%	15.22%	100%		
27+	Stress Level	Low Stress Level	Count	0	6	6	12		
			% within Academic Performance	0.0%	50.0%	50.0%	100.0%		
		Moderate Stress Level	Count	1	3	3	7	4.014 (p=0.41)	0.289 (p=0.41)
			% within Academic Performance	14.28%	42.86%	42.86%	100.0%		
		High Stress Level	Count	0	4	1	5		
			% within Academic Performance	0.0%	80.0%	20.0%	100.0%		

The results suggest that the relationship between stress and academic performance is statistically significant within this age group (χ^2=9.72, n=250, df=4, p=0.041; Φ_c =0.319, p=0.041). The results for both age groups indicate that age mediates the relationship between stress and academic performance. Older students appear to be better at dealing with their problems and consequently minimize the effects of stress on their academic work.

Gender As a Factor in How Stress Relates to Academic Performance

Table 3 shows χ^2 analysis of the role of gender in the relationship between stress and academic performance. 26 (26%) of the male students who experienced low stress levels had grade C compared to 59(59%) who had grade B and 15(15%) who had grade A. 27 (28.42%) of the male students who reported moderate stress levels had grade C compared to 51(53.68%) who had grade B and 17(17.89%) who had grade A. 38(30.65%) of the male students who experienced high stress levels had grade C while 67 (54.03%) had grade B and 19 (15.32%) had grade A.

Among the female students, 36 (33.33%) who experienced low stress levels had grade C while 54 (50%) had grade B and 18 (16.67%) had grade A. 22(33.84%) female students who had moderate stress levels had grade C while 32(49.23%) had grade B and 11 (16.92%) had grade A. 33 (35.87%) female students who experienced high stress levels had grade C while 38 (41.30%) had grade B and 21 (22.82%) had grade A. A Across the categories, the relationship between stress and academic performance are statistically significant among both male (χ^2 =12.18, n= 319, df=4, p =0.025) and female (χ^2 =9.74, n=265, df=4, p =0.049) respondents. Cramer's V among both males (Φ_c =0.221, p=0.025) and female (Φ_c =0.35, p=0.049) respondents show that the relationship between stress and academic performance have statistically significant moderate and strong association respectively.

Table 3. Effect of Gender on the Relationship between the Students' Stress level and Academic Performance

Stress Level * Academic Performance * Sex Cross tabulation							χ^2 (p-value)	Cramer's V (p-value)
Sex			**Academic Performance**				Total		
			C	B	A				
Male	Stress Level	Low Stress Level	Count	26	59	15	100		
			% within Academic Performance	26.0%	59.0%	15.0%	100.0%		
		Moderate Stress Level	Count	27	51	17	95	12.18 (p=0.025)	0.066 (p=0.025)
			% within Academic Performance	28.42%	53.68%	17.89%	100.0%		
		High Stress Level	Count	38	67	19	124		
			% within Academic Performance	30.65%	54.03%	15.32%	100%		

				Count	36	54	18	108			
Female	Stress Level		Low Stress Level	% within Academic Performance	33.33%	50.0%	16.67%	100.0%		9.74 P=0.049	0.096 p=0.049
		Moderate Stress Level		Count	22	32	11	65			
				% within Academic Performance	33.84%	49.23%	16.92%	100.0%			
		High Stress Level		Count	33	38	21	92			
				% within Academic Performance	35.87%	41.3%	22.82%	100.0%			

Course As a Factor in How Stress Relates to Academic Performance

Table 4 shows χ^2 analysis of course factor in the relationship between stress and academic performance. Among students from College of Health Sciences who reported experiencing low stress levels 10 (45.46%) had grade C, 11(50.0%) had grade B while only 1 (4.54%) had A grade. 8 (55.33%) of the students who experienced moderate stress levels had grade C and 7 (46.67%) had grade B. 2O (50.05%) of the students who experienced high stress levels had grade C and 17 (45.95%) had grade B grade. The relationship between stress and academic performance within this course category is, however, not statistically significant (χ^2=6.59, n=74, df=4, p=0.247; Φ_c=0.211, p=0.247).

Within College of Humanities and Social Sciences, 25 (33.33%) students who experienced low stress levels had grade C, 31 (41.33%) had grade B while 19 (25.33%) had grade A. 11 (18.97%) students who experienced moderate stress levels had grade C, 34 (58.62%) had grade B while 13 (22.41%) had grade A. Among the students who experienced high stress levels 23 (42.59%) had grade C, 18 (33.33%) had grade B while 13 (24.07%) had grade A. The relationship between stress and academic performance is significant (χ^2=10.97, n=187, df=4, p=0.036; Φ_c =0.271, p=0.046)

Within the College of Architecture and Engineering, 4 (20.0%) students who experienced low stress levels had grade C, 13(65.0%) had grade B while 3 (15.0%) had grade A. 10(41.67%) students who experienced moderate stress levels had grade C, 9 (37.5%) had grade B while 5 (20.83%) had grade A. Among the students who experienced high stress levels 11 (40.74%) had grade C, 10 (37.04%) had grade B while 6 (22.22%) had grade A. The relationship between stress and academic performance is not significant (χ^2=6.216, n=71, df=4, p=0.216; Φ_c =0.207, p=0.216)

Within the College of Biological and Physical Sciences, 5 (21.74%) students who experienced low stress levels had grade C, 14 (60.87%) had grade B while 4 (17.39%) had A. Among the students who experienced moderate stress levels, 7 (33.33%) had grade C, 8 (38.09%) had grade B while 6 (28.57%) had grade A. 12(21.43%) students who experienced high stress levels had grade C, 28(50.0%) had grade B while 16(28.57%) had grade A The

relationship between stress level and academic performance is not significant (χ^2=3.818, n=100, df=4, p=0.701; Φ_c =0.0.138, p=0.701).

Within the College of Agriculture and Veterinary Sciences, 3(14.29%) students who experienced low stress levels had grade C and 18 (85.71%) had grade B. 9 (42.86%) students who experienced moderate stress levels had grade C, 10 (47.62%) had grade B while 2 (9.52%) had grade A. Among the students who experienced high stress levels, 1 (6.25%) student had grade A, 12 (75.0%) had grade B while 3(18.75%) had grade A. The relationship between stress level and academic performance is highly significant (χ^2=12.46, n=58, df=4, p=0.014; Φ_c =0.328, p=0.014)

Within the College of Education and External Studies, 15 (31.91%) students who experienced low stress levels had grade C, 26 (55.32%) had grade B while 6 (12.77%) had grade A. 4 (19.05%) students who experienced moderate stress levels had grade C, 15 (71.43%) had grade B while 2 (9.52%) had grade A. Among the students who experienced high stress levels, 4 (15.38%) had grade C, 20(76.92%) had grade B while 2 (7.69%) had grade A

Table 4. Effect of Course on the Relationship between the Students' Stress Levels and Academic Performance

Stress Level * Academic Performance * Course Cross tabulation								X^2 (p-value)	Cramer's V (p- value)
Course				Academic Performance			Total		
				C	B	A		6.592 (p=0.247)	0.211 (p=0.247)
College of Health Sciences	Stress Level	Low Stress Level	Count	10	11	1	22		
			% within Academic Performance	45.46%	50.0%	4.54%	100%		
		Moderate Stress Level	Count	8	7	0	15		
			% within Academic Performance	53.33%	46.67%	0.0%	100%		
		High Stress Level	Count	20	17	0	37		
			% within Academic Performance	50.05%	45.95%	0.0%	100.0%		
College of Humanities and Social Sciences	Stress Level	Low Stress Level	Count	25	31	19	75	10.968 (p=0.046)	0.271 (p=0.046)
			% within Academic Performance	33.33%	41.33%	25.33%	100.0%		
		Moderate Stress Level	Count	11	34	13	58		
			% within Academic Performance	18.97%	58.62%	22.41%	100.0%		

		High Stress Level	Count	23	18	13	54		
			% within Academic Performance	42.59%	33.33%	24.07%	100.0%		
College of Architecture and Engineering	Stress Level	Low Stress Level	Count	4	13	3	20	6.061 (p=0.216)	0.207 (p=0.216)
			% within Academic Performance	20.0%	65.0%	15.0%	100.0%		
		Moderate Stress Level	Count	10	9	5	24		
			% within Academic Performance	41.67%	37.5%	20.83%	100.0%		
		High Stress Level	Count	11	10	6	27		
			% within Academic Performance	40.74%	37.06%	22.22%	100.0%		
College of Biological and Physical Sciences	Stress Level	Low Stress Level	Count	5	14	4	23	3.818 (p=0.701)	0.138 (p=0.701)
			% within Academic Performance	21.74%	60.87%	17.39%	100.0%		
		Moderate Stress Level	Count	7	8	6	21		
			% within Academic Performance	33.33%	38.09%	28.57%	100.0%		
		High Stress Level	Count	12	28	16	56		
			% within Academic Performance	21.43%	50.0%	28.57%	100.0%		
College of Agriculture and Veterinary Sciences	Stress Level	Low Stress Level	Count	3	18	0	21	12.46 (p=0.014)	0.328 (p=0.014)
			% within Academic Performance	14.29%	85.71%	0.0%	36.2%		
		Moderate Stress Level	Count	9	10	2	21		
			% within Academic Performance	42.56%	47.62%	9.52%	100.0%		
		High Stress Level	Count	1	12	3	16		
			% within Academic Performance	6.25%	75.0%	18.75%	100.0%		
College of Education and External Studies	Stress Level	Low Stress Level	Count	15	26	6	47	8.21 (p=0.223)	0.209 (p=0.223)
			% within Academic Performance	31.91%	55.32%	12.77%	100.0%		
		Moderate	Count	4	15	2	21		

	Stress Level	% within Academic Performance	19.05%	71.43%	9.52%	100.0%		
High Stress Level		Count	4	20	2	26		
		% within Academic Performance	15.38%	76.92%	7.69%	100.0%		

The results of the chi-square analysis show that the relationship between stress and academic performance are statistically significant among students taking humanities and social sciences (χ^2 =10.97, df=4, p =0.046) and those taking agriculture and veterinary sciences (χ^2 =12.46, df=4, p=0.014). The Cramer's V for the humanities and social sciences is 0.271(p=0.04The relationship between stress and academic performance is not significant (χ^2=8.21, n=94 df=4, p=8.21; Φ_c =0.209, p=0.223).

Levels of Study as a factor in how stress relates to academic performance

Table 5 shows a χ^2 analysis of the role of level of study in the relationship between stress and academic performance. In level 1, 6(31.58%) students who experienced low stress levels had grade C, 8 (42.11%) had grade B while 5 (26.32%) had grade A. Among the students who experienced moderate stress levels, 5(16.13%) had grade C, 18 (58.06%) had grade B while 8 (25.81%) got grade A. 13 (43.33%) students who experienced high stress level had grade C, 8(26.67%) had grade B while 9 (30.0%) had grade A. The relationship between stress and academic performance is significant (χ^2=9.56, n=80, df=4, p=0.048; Φ_c =0.224, p=0.048)

Within level 2, 29(30.21%) students who experienced low stress levels had grade C, 53 (55.21%) had grade B while 14 (14.58%) had grade A. Among the students who experienced moderate stress levels, 9(21.43%) had grade C, 27 (64.29%) had grade B while 6(14.29%) had grade A.21 (28.39%) students who experienced high stress levels had grade C, 41 (55.41%) students had grade B while 12(16.22%) had grade A. The relationship between stress and academic performance was not significant (χ^2=5.78, n=212, df=4, p=0.27; Φ_c =0.177, p=0.27).

Within level 3, 17 (26.15%) students who experienced low stress levels had grade C, 39 (60.0%) had grade B while 9 (13.85%) had grade A. 22 (39.93%) students who experienced moderate stress levels had grade C, 26(44.83%) students had grade B while 10(17.24%) had grade A. Among the students who experienced high stress levels, 25 (36.76%) had grade C, 31 (45.59%) students had grade B while 12 (17.65%) had grade A. The relationship between stress and academic performance is not significant (χ^2=3.944, n=191, df=4, p=0.48; Φ_c =O.102, p=0.48).

Within level 4 8(40.0%) students who experienced low stress levels had grade C, 7 (35.0%) had grade B while 5 (25.0%) had grade A. Among the students who experienced moderate stress levels, 12 (44.44%) had grade C, 11(40.74%) had grade B while 4(14.81%) had grade A. 12 (33.33%) students who experienced high stress levels had grade C, 17(47.22%) had grade B while 7(19.44%) had grade A. The relationship between stress and academic

performance is highly significant (χ^2=13.44, n=83, df=4, p= 0.015; Φ_c =0.244. p=0.015).

Within level 5, 2 (25.0%) students who experienced low stress levels had grade C, 6(75.0%) had grade B. Among students who experienced moderate stress levels, 1 (50.0%) student had grade C while another 1 (50.0%) had grade B. All the 8 students who experienced high stress level got grade B. The relationship between stress and academic performance is not significant (χ^2=3.6, n=18,df=2, p=0.46; Φ_c =0.447, p=0.46).

Table 5. Effect of Levels of Study on the Relationship between the Students' Stress Level and Academic Performance

Stress Level * Academic Performance * Year of study Cross tabulation							χ^2(p-value)	Cramer's V (p- value)
Year of study			**Academic Performance**			Total		
			C	B	A			
1 Stress Level	Low Stress Level	Count	6	8	5	19	9.56 (p=0.048)	0.224 (p=0.048)
		% within Academic Performance	31.58%	42.11%	26.32%	100.0%		
	Moderate Stress Level	Count	5	18	8	31		
		% within Academic Performance	16.13%	58.08%	25.81%	100.0%		
	High Stress Level	Count	13	8	9	30		
		% within Academic Performance	43.33%	26.67%	30.0%	100.0%		
2 Stress Level	Low Stress Level	Count	29	53	14	96	5.78 (p=0.27)	0.177 (p=0.27)
		% within Academic Performance	30.21%	55.21%	14.58%	100.0%		
	Moderate Stress Level	Count	9	27	6	42		
		% within Academic Performance	21.43%	64.29%	14.29%	100.0%		
	High Stress Level	Count	21	41	12	74		
		% within Academic Performance	28.39%	55.41%	16.22%	100.0%		
3 Stress Level	Low Stress Level	Count	17	39	9	65		
		% within Academic Performance	26.15%	60.0%	13.85%	100.0%		
	Moderate Stress Level	Count	22	26	10	58		
		% within Academic Performance	39.93%	44.83%	17.24%	100.0%		

	High Stress Level	Count	25	31	12	68		3.944 (p=0.48)	0.102 (p=0.48)
		% within Academic Performance	36.76%	45.59%	17.65%	100.0%			
4	Stress Level	Low Stress Level	Count	8	7	5	20		
			% within Academic Performance	40.0%	35.0%	25.0%	100.0%		
		Moderate Stress Level	Count	12	11	4	27	13.44 (p=0.015)	0.244 (p=0.015)
			% within Academic Performance	44.44%	40.74%	14.81%	100.0%		
		High Stress Level	Count	12	17	7	36		
			% within Academic Performance	33.33%	47.22%	19.44%	100.0%		
	Total		Count	32	35	16	83		
			% within Academic Performance	100.0%	100.0%	100.0%	100.0%		
5	Stress Level	Low Stress Level	Count	2	6	0	8		
			% within Academic Performance	25.0%	75.0%	0.0	100/0%		
		Moderate Stress Level	Count	1	1	0	2	3.6 (p=0.46)	0.447 (p=0.46)
			% within Academic Performance	50.0%	50.0%	0.0	100.0%		
		High Stress Level	Count	0	8		8		
			% within Academic Performance	0.0%	100.0%		100.0%		

Locus of Control as a factor in how stress relates to academic performance

The χ^2 analysis of the role of locus of control in the relationship between stress and academic performance presented in Table 6.. Among students with internal locus of control, 21(23.08%) students who experienced low stress levels had grade C, 44(48.35%) had grade B while 26(28.57%) had grade A. 15 (22.06%) students who experienced moderate stress levels had grade C, 43 (67.65%) had grade B while 10 (14.71%) had grade A. Among students who experienced high stress level, 40(41.24%) had grade C, 49(50.52%) had grade B while 8(8.25%) had grade A. The relationship between stress and academic performance is highly significant within internal locus of control ($\chi^2 = 21.74$, n= 256, df=4, $p = 0.001$; $\Phi_c = 0.329$, $p = 0.001$)

Within external locus of control, 51(43.59%) students who experienced low stress got grade

C, 49(41.88%) got grade B while 17(14.53%) got grade A. Among students who experienced moderate stress 24(26.09%) got grade C, 50(54.35%) got grade B while 18 (19.57%) students got grade A. 51 (39.53%) students who experienced high stress levels got grade C, 56(43.41%) got grade B while 22(17.05%) got grade A. The relationship between stress and academic performance is significant (χ^2 =10.57, n= 328, df=4, p =0.047; Φ_c = 0.372, p=0.047).

Table 6. Effect of Locus of Control on the Students' Stress Level and Academic Performance

Stress Level * Academic Performance * Locus of Control Cross tabulation							Total	χ^2 (p-value)	Cramer's V (p-value)
Locus of Control				**Academic Performance**					
				C	B	A		21.74 p=0.001	**0.329 (p=0.001)**
Internal Locus of Control	Stress Level	Low Stress Level	Count	21	44	26	91		
			% within Academic Performance	23.08%	48.35%	28.57%	100.%		
		Moderate Stress Level	Count	15	43	10	68		
			% within Academic Performance	22.06%	63.24%	14.70%	100%		
		High Stress Level	Count	40	49	8	97		
			% within Academic Performance	41.24%	50.52%	8.25%	100%		
External Level of Control	Stress Level	Low Stress Level	Count	51	49	17	117	10.566 p=0.047	0.372 (p=0.047)
			% within Academic Performance	43.59%	41.88%	14.53%	100%		
		Moderate Stress Level	Count	24	50	18	92		
			% within Academic Performance	26.09%	54.35%	19.57%	28.0%		
		High Stress Level	Count	51	56	22	129		
			% within Academic Performance	39.53%	43.41%	17.05%	100%		

In order to carry out a regression analysis, academic performance was measured as a dummy variable with 1 standing for excellent and 0 standing for poor academic performance. Stress level was measured as a categorical variable with 1, 2, and 3 representing *"Low", "Moderate",* and *"High"* stress levels respectively. The *"Low"* stress level was used as the reference point. The level of study was measured in years with, 1, 2, 3, 4, and 5 representing the *"First", "Second",* *"Third", "Fourth"* and *"Fifth"* year respectively. Gender was

measured as a dummy with 1 standing for males and 0 standing for females. College was measured as a categorical variable with 1, 2, 3, 4, 5, and 6 representing *"CHSS", "CBPS", "CEES", "CHS", "CAE",* and *"CAVs"* respectively.

Table 7. Regression results for the effect of stress level on academic performance

Academic performance	β	SE β	t-statistic	P-Value	95% CI
Constant	.2104	.1099	1.91	.0560	[-.00511, .42596]
Stress level					
Moderate	-.2037	.1435	-1.42	.1560	[-.4849,.0775]
High	-.2285**	.1332	-1.72	.0860	[-.4895,.0326]

R^2.0038; No. of observations : 584.

Note. **means statistically significant at the 10% level of significance.

Table 7 shows the regression results for the effect of stress level on academic performance. The estimated model had a small R^2=.0038. Since the data has cross-sectional properties, small R^2 is not a major concern as it could have been if the data was time series. The small R^2 means that there are very many other variables that influence academic performance that were not included in the simple regression model that was estimated. Identifying and including those variables could increase the size of the R^2 reported.

The results indicate that the students experiencing the *"Moderate"* and *"High"* stress levels are less likely to have excellent academic performance compared to students with *"Low"* stress level as indicated by the negative signs respectively. The negative effect of the *"Moderate"* stress level on academic performance was, however, not statistically significant (t=-1.42, p=.1560). The negative effect of the "*High"* stress level on academic performance was statistically significant at the 10% level of significance (t=-1.72, p=0.0860). The inference that can be drawn from this observation is that the higher the stress level, the poorer is the academic performance. Stress can thus be said to influence academic performance.

Table 8. Marginal effects of stress level on academic performance

Academic performance	β	SE β	t-statistic	P-Value	95% CI
Stress level					
Moderate	-.0806	.0565	-1.43	.1540	[-.1914, .0301]
High	-.0905**	.0523	-1.73	.0840	[-.1931, .0121]

Notes. ** means statistically significant at the 10% level of significance.

Table 8 presents the marginal effects of stress level on academic performance. Specifically, students experiencing the *"Moderate"* stress level are 8.06% less likely to attain excellent academic performance compared to those experiencing the *"Low"* stress level. The marginal effect is however, not statistically significant (t=-1.43, p=.1540). Students experiencing the *"High"* stress level, on the other hand, are 9.05% less likely to attain excellent academic

performance compared to those experiencing the *"Low"* stress level.

Table 9. Pearson correlation

Variable	Academic performance
Stress level	-0.0650

Table 9 presents the Pearson correlation coefficient. It measures the linear relationship between two variables by looking at the sign and strength of the coefficient. The correlation coefficient between academic performance and stress level was -0.0650. It implies negative and weak linear relationship between the two variables. This is the case because the variables are not linear. Academic performance is binary while stress level is categorical.

Table 10. Effect of the confounding variables on the interaction between academic performance and stress level

Interaction	β	SE β	t-statistic	P- Value	95% CI
Constant	.5612	.2177	2.58	.0100	[.1335, .9889]
Gender	.1154	.1002	1.15	.2500	[-.0815, .3122]
Level of study					
Second year	.0885	.1592	0. 56	0.578	[-.2243, .4013]
Third year	-.1211	.1603	-0.76	0.450	[-.4359, .1938]
Fourth year	.1027	.1882	0.55	0.585	[-.2669, .4723]
Fifth year	.3181	.3191	1.00	0.319	[-.3086, .9448]
Locus of control	.0013	.0099	0.14	0.892	[-.0182, .0209]
College					
CBPS	.0309*	.1482	6.96	0.000	[.7398,1.3219]
CEES	.7385*	.1550	4.76	0.000	[.4339, 1.0429]
CHS	.3041**	.1688	1.80	0.072	[-.0275, .6357]
CAE	.6961*	.1453	4.79	0.000	[.4108, .9815]
CAVs	-.5689	1.1875	-0.48	0.632	[-2.9015, 1.7635]

R2.1136; No. of observations: 584.

Note. * and ** mean significant at the 5% and 10* level of significant respectively.

In Table 10, the influence of gender, level of study, locus of control, and college on the relationship between academic performance and stress level was determined. Some categories of college were found to have statistically significant influence on the interaction between academic performance and stress level. Specifically, the results indicate that students in the *"CBPS", "CEES", "CHS"*, and *"CAE"* had statistically significant influence on the relationship between academic performance and stress level at the 5%   and 10% levels of significance (t=6.96, p=0.000), (t=4.76, p=0.0000), (t=1.80, p=0.072), and (t=4.79, p=0.0000)

respectively. Gender, level of study, and locus of control had no statistically significant influence on the interaction between academic performance and stress level (t=1.15, p=0.2500), (t=0.56, p=0.5780), (t=-0.76, p=0.4500), (t=0.55, p=0.585), (t=1.00, 0.319) for level of study, and (t=0.14, p=0.892) respectively.

Table 11. Marginal contribution of each confounding variable on the relationship between academic performance and stress

Interaction	β	SE β	t-statistic	P-Value	95% CI
Gender	.1154	.1002	1.15	0.250	[-.0815, .3122]
Level of study					
Second year	.0885	.1592	0.56	0.578	[-.2243, .4013]
Third year	-.1211	.1603	-0.76	0.450	[-.4359, .1938]
Fourth year	.1027	.1882	0.55	0.585	[-.2669, .4723]
Fifth year	.3181	.3191	1.00	0.319	[-.3086, .9448]
Locus of control					
College	.0013	.0099	0.14	0.892	[-.01818, .02087]
CBPS	.0309*	.1482	6.96	0.000	[.7398, 1.3219]
CEES	.7385*	.1550	4.76	0.000	[.4339, 1.0429]
CHS	.3041**	.1688	1.80	0.072	[-.0275, .6357]
CAE	.6961*	.1454	4.79	0.000	[.4108, .9815]
CAVs	-.56891	.1875	-0.48	0.632	[-2.9015, 1.7635]

Note. * and ** mean significant at the 5% and 10% level of significance.

Table 11 shows the marginal contributions of each confounding variable on relationship between academic performance and stress level. Regarding gender, the relationship between academic performance and stress level was found to be 11.54% more for males compared to females. The effect was however, not significant (t=1.15, p=0.250). On the level of study, the relationship between stress level and academic performance of students in second, fourth, and fifth years of study were 8.85%, 10.27%, and 31.81% more compared to those in first year. However, the effect was not statistically significant (t=0.56,p=0.578), (t=0.55, p=0.585), and (t=1.00, 0.319) respectively. The relationship between academic performance and stress level of students in third year was found to be 12.11% less compared to students in first year. The effect was not statistically significant (t=-0.76, p=0.450). Locus of control had the least marginal contribution to the relationship between stress level and academic performance at 0.13% and it was statistically insignificant (t=0.14, p=0.892).

The relationship between stress level and academic performance of students in the College of Biological and Physical Sciences (CBPS), College of Education and External Studies (CEES), College of Health Sciences (CHS), and College of Architecture and Engineering (CAE) were found to be 3.1%, 73.85%, 30.41%, and 69.61% higher compared to that of students in the College of Humanities and Social Sciences (CHSS). The marginal contribution was

statistically significant at the 5% level of significance for CBPS, CEES, and CAE (t=6.96, p=0.0000), (t=4.75, p=0.0000), and (t=4.79, p=0.0000) respectively. The marginal contribution for CHS was statistically significant at the 10% level of significance (t=1.80, p=0.072). The relationship between stress level and academic performance of students in the College of Agriculture and Veterinary Sciences (CAVs) was found to be 56.89 less than that of students in CHSS. It was not statistically significant (t=-0.48, p=0.632).

4. Discussion

The findings of this study showed that stress has a moderate but significant association with academic performance (χ^2=9.49, n=584, df=4, p=0.048).   Higher levels of stress resulted in poor academic performance. This finding concurs with similar findings in other studies (Raffidah, Azizah, Norzaid, Salwani, & Noraini, 2009) but not others which have not confirmed this relationship (Womble, 2003; Awofodu & Emi, 2011).This finding fits in line with Selye' (1976) proposal that long term exposure to stress may undermine the individual's biological and cognitive abilities to operate. The students' exposure to stressors may create intrinsic experiences such as negative physical and mental health outcomes that could interfere with their academic performance.

The confounding effects of several intrinsic and extrinsic variables were investigated. Stress and academic performance are significantly related within age groups 19-22 years (χ^2=8.34, n=101, df=4, p=0.049) and 23-26 years (χ^2=9.72, n=79, df=4, p=0.041). The association between stress and academic performance is strong and statistically significant in the two age categories. The results indicate that age mediates the relationship between stress and academic performance. Older students appear to be better at dealing with their problems and consequently minimize the effects of stress on their academic work. According to researchers, people are able to manage stress better as they get older (Monteiro et al, 2014, Hara et al, 2014).   The students in this study are not only getting older but also becoming more adept at dealing with issues they face in campus.

Gender variable was of interest in this research because it has been found to influence stress experience (Scott, 2009). Across the gender categories, the relationship between stress and academic performance was found to be statistically significant among both male (χ^2=12.18, n=319, df=4, p=0.025) and female χ^2=9.74, n=265, df=4, p=0.049) respondents. The results therefore suggest that the relationship between stress and academic performance is significant for both male and female students. This implies that stress will affect academic performance in both male and female students. The findings concur with some studies (Talib & Zia-ur-Rehman, 2012 but not others (Kania, 2014).

  Several studies indicate that stress may be caused by the type of course that students are doing due to the demands of the course (Fairbrother & Warn, 2003; Byran and Bigel, 2008; Lawrence, Williams & Eiland, 2009; Britz & Pappas, 2012). Six categories of courses were used in this study. A three way chi-square analysis was done to test the significance of the influence of type of course on the relationship between stress and academic performance. The results do not support studies that suggest that stress is an issue in science and medical courses only (Harris, Millichamp & Thomson, 2015). For instance the relationship between

stress and academic performance was significant among students in Agriculture and Veterinary Sciences(χ^2=12.46, n=58,df=4, p=0.014) Humanities and Social Sciences(χ^2=10.968, n=187, df=4, p=0.046) only but not others

Some researchers have found that stress experience may depend on the students' level of study (Raffidah, Azizah, Norzaidi, Chong, Salwani & Noraini, 2009).The extent to which the level of study influences the relationship between stress and academic performance has received limited attention. The researchers addressed this shortcoming in the current study. Though this study covers five years of study, some programs such as Arts and Education are for four years. Others such as Engineering and Veterinary Sciences go for five years. The study looked at whether these courses mediate the relationship between stress and academic performance. Stress and academic performance therefore have moderate but significant association with each other within the first year (χ^2=9.56, n=80, df=4, p=0.048) and fourth year (χ^2=13.44, n=83, df=4, p=0.015) of study only. This is probably because during the first year of study, students may be faced with several challenges associated with adapting to new social and academic environment. As the students move towards the end of their programs a wide range of stressors may set in interfering with the students learning process including fear about the future (Thawabieh & Qaisy, 2012).

Locus of control has been associated with stress experience (Zotovic, 2004; Sarrasin. Mayor & Faniko, 2014). The interest in this study is to find out the mediating role of locus of control in the relationship between stress and academic performance. Stress and academic performance has strong and statistically significant association within both internal locus of control (χ^2=21.74, n=256, df=4, p=0.001) and external locus of control (χ^2=10.566, n=328,df=4, p=0.047). In both cases stress has significant effect in academic performance but in different but at different levels of significance. This finding confirms the influence of mediating role of locus of control in the effect of stress on academic performance (Lecic-Tosevski & Stepanovic, 2011). Locus of Control may empower individuals to handle their crisis (Stewart & De George-Walker (2014) This implies that students with internal locus of control, unlike their colleagues with external locus of control, were likely to deal with stress more successfully and consequently reduce the effect of stress on academic performance

5. Conclusions

This study has identified several causes of stress among University of Nairobi students. Most of the students report experiencing between moderate to high stress levels. A higher proportion of male participants than female participants reported moderate to high levels of stress. The study revealed that stress was related to academic performance. The relationship between stress and academic performance was confounded by gender and locus of control. However this relationship was confounded by only certain categories of age, level and course of study. The university should institute programs that can help identify and reduce causes and effects of stress. The counseling programs of the university should be strengthened. Finally further research should be undertaken to investigate the coping strategies employed by the students.

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