Relationship between Perceived Academic Stress and Academic Performance among Students in Primary Teacher Training Colleges in Central Region, Kenya

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Abstract
This study was designed to determine the relationship between Perceived Academic Stress and Academic Performance among students in teacher training colleges in central region in Kenya. It was guided by Transactional theory and adopted descriptive survey design. The study targeted all second year students in Public Primary Teacher Training Colleges in central region in 2019. Purposive sampling was used to select central region, second years' students and deans of curriculum. Simple random sampling was used to select 197 students and 20 lecturers and stratified sampling to select gender. The instrument used to collect was perceived academic stress scale. Academic Performance was inferred from the students mean grade obtained from the Mid-course examinations Means and standard deviations were used to describe the data while. quantitative data was analyzed using SPSS version 26. The relationships among the variables was examined using Pearson Product Moment Correlation Coefficient and regression analysis was used to measure the strength of the relationship. On the overall perceived academic stress was found to have significant negative effect on academic performance ($r=0.-68$, $p< 0.01$), $n=197$) Academic performance was found to negatively correlated to specific measures of perceived academic stress as follows, academic stressors ($r =-0.71, p<,0.01$),intrapersonal stressors ($r =-0.61, p,<0.001$),Social stressors($r=-0.55, p<,0.01$), Environmental stressors($r=-0.29, p,<0.01$)with the subscales having significant negative correlations. Perceived academic stress had a significant predictive weight on academic performance (F, $4,192$) $=58.5, p$, <0.05) with only academic stressors predicting academic performance. From the findings it was recommended that educators and administrators should ensure that Students support services like guidance and counselling are strengthened, and is important for the colleges to develop intervention programs to buffer the negative impact of stressful environments and enhance positive coping strategies which enhance academic performance.
Key words. Stress, Academic stress, Academic stressors, environmental stressors, social stressors, intrapersonal stressors Performance, Primary Teacher training colleges
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I. INTRODUCTION

Academic performance is significant in evaluation and measurement of success of learners in all educational programmes. The performance is mainly determined by the outcomes in examinations undertaken in schools. The outcome in examinations may not show the actual knowledge of the students, but it is currently the most feasible means of inference on cognitive ability of students especially in tertiary institutions where tests are carried out repeatedly for a number of terms or semesters culminating in the final national examination. Studies in the developed countries have been carried out to explore and examine the factors that affect student's academic performance. As reported by Hanson (2000) student performance is affected by learning abilities, gender and race and also by Simmons, Musoba and Choong (2005) that attending full time, family income level, receiving grant aid and completing advanced level classes in high school have statistically significant effects on college persistence. This led to the first generation college students to performing well. The significance attached to academic grades has prompted educational researchers and stakeholders to take interest in examination performance trends at various levels as well as in factors influencing students' performance.

Teacher education is considered a very crucial component of education as teachers are considered as mentors of the learners and society at large Teacher education is designed to develop and administer to produce school teachers for the countries' established system of education (Kafu,2003). In Kenya research indicates that a variety of factors affect students" academic achievement like personal and psychological factors. These include: academic self-concept (Kwena, 2007); self-regulated learning (Mutweleli, 2014); academic resilience (Mwangi, 2015); self-esteem (Mburung"a, 2016) academic mind-set (Mutua 2018).

Academic stress in school or college setting refers to school/college related challenges faced by students and their ability to overcome those challenges (Halamandaris, and Power 1999), It occurs when an individual or student has inadequate resources to adapt or cope with academic related demands. These demands usually include examinations course workload, inadequate time for revision, high expectation which do not much with individual ability, lack of interest in academic activities or some subjects and punishment Yusoff & Lin (2013). Hence, these academic related stressors may contribute to an increase in academic stress and poor psychological health among students. It is therefore important to explore this phenomenon and examine the extent to which these stressors influence the academic performance of the students in Primary Teacher Training colleges.

The purpose of the study was to examine the relationship between perceived academic stress and academic performance. The objective of the study was to

1. examine the relationship between perceived academic stress and academic performance and it was hypothesized that there was no relationship between perceived academic stress and academic performance

Theoretical framework

The research adopted the transactional theory of stress by Lazarus & Folkman 1984.Stress was said to be a transaction between the individual and his environment. It is defined as a psychological state which comes from the relationship with the environment that the person experiencing it appraises it as significant for well-being or survival. The demands may be within or exceeds the available resources of coping (Lazarus and Folkman 1984) The theory is relevant to the study since it focuses on explaining the role the students' cognition play in their daily experience with stress. In a learning environment students are exposed to the same stressors like conflicts, workload, relationships and examinations, but their experience are likely to some extent influenced by how each of the student appraise the stressor and the ability to manage or alleviate the ensuring stress.

II. REVIEW OF RELATED LITERATURE REVIEW

Prevalence of academic stress and examinations anxiety study was carried out by(Sibnath Deb, Esben Strodl and Jiandong Sun 2012) and its association with socio-economic factors among private secondary schools' students in India. The results revealed that 35% of grade 10 and 37% of grade 12 experienced very high levels of academic stress and examination anxiety, and those with lower grades reported higher levels of stress than those with lower grades. This was supported by Alam and Kumar (2018) who established that there was a relationship between academic stress and academic performance, it was estimated that 10 to 30 % of the students in colleges experienced academic stress and that stress ended up affecting their academic performance Sinha, Sharma, & Nepal, (2001). Academic stress was seen to interfere with the students' way of life, cognitive processes, and adaptive behaviors.

Another study was carried out by (Rafidah, Azizah, Norzaid, Chong, Salwani, and Norainii, (2009) students experienced moderate levels of stress and there was no significant effect on academic performance. Slaven and Windle (1999) examined the effects of academic stress on the performance of different cognitive tasks,in which the results predicted that mathematics stress would interfere with study memory leading to disconnect in mathematical and related performance.

In astudy by Dahlin, Joneborg, and Runeson (2005), among undergraduate students showed that students experienced the highest form of stress due to pressure related to academic. Other studies have specifically noted that course load in colleges and universities in relation to time available was cited as a stressful factorZeidner (1992). In their study, Talib and Zai-ur-Rehman (2012) found out that majority of the students 53% reported that course load led to stress which in turn affected academic performance.

Ang & Huan (2006), stated that students were more sensitive to remarks from significant others like teachers and parents in their lives and this could result to stress if whatever was said came out negatively or was out to demean the student or to down play their work. In addition, the students own academic expectations and performance were also found to correlate with high levels of academic stress. Zeidner (1992) highlighted that a supportive environment is very crucial for a student when studying from teachers' friends and parents. On the other hand, Shaikh et al. (2004) found that senior students experienced higher levels of stress that is 95% and 98% for fourth and final year

studentsHowever, female students performed better than the male students and had better GPAs than male students even in case of significant stress (Talib & Zia-ur-Rehman, 2012).

Studies carried out by Auerbach & Gramling (2000) agreed with the conclusion that increased stress is linked to poor academic performance. Babar, Nawaz, Khan & Khan (2004) evaluated the level of stress among medical college students. Females report more symptoms. Academics and exams are the most powerful stressors, sports, music, hanging out with friends,sleeping or going into isolation are various coping mechanisms.

Relationship between Stress and academic performance among government-sponsored undergraduate students from the University of Nairobi in Kenya was carried out by Oketch & Odiemo (2018) who found the relationship between stress level and academic performance was significant within 19 to 22 years and 23 to 26 years. Weerasinghe, Batagod, Chandrika, Siriwardans, (2012) in a study they carried among undergraduate students in Sri Lankan public universities in Colombo region proved that heavy academic workload tended to be the most prominent factor affecting the students in which it dominated 90% of the presented stressors. Test and examinations were found to be the leading stressors contributing to stress among students showing that exam stress had the highest percentage reason of stress which was 63% compared to psychological problems (50%).

In the academic workload, this stress presented itself before and after the examination Although many students reported experiencing stress it did not necessarily mean that it always affected their academic performance negatively some Studies have failed to conform to the negative relationship between stress and academic performance like one done by Rahim, Saat, Aishah, Arshad and Suhaimi (2016) investigated the relationship between academic workload and stress level among biomedical science students in Kuala Lampur University. The researcher found a weak not significant correlation between stress and credit hours. In another study researched by Siraj & Salan (2014) found that stressors at times may not necessarily lead to poor academic performance, Researchers Jacob and Einstein (2016) investigated the relationship between stress and academic performance, the results reported that there was no significant relationship between perceived stress and students' academic performance.

From institution to another these causes, symptoms and results can be different as stated by Elfering (2005) which supports further research in this area. In many of the forgoing reviewed studies stress is seen to negatively relate with academic performance and this made it necessary to find out the study would come out with similar or different results, It is of significance to do further research so that different challenges faced by students in relation to stress and academic performance can be unravelled. From the reviewed literature above indicates that not much have been done in Kenya on stress and academic performance.

III. RESEARCH METHODOLOGY

The study adopted a descriptive survey design to investigate coping strategies and how they relate with academic performance. Descriptive survey design is used to describe the characteristics of the sample population through observation, description and analysis of the population and Survey research and design is used to get opinions of the respondents

Perceived academic stress was measured using perceived academic stress instrument (McCartyet et al 2007 and Agolla (2009) which has 14 item that measured four types of stressors, academic stress, environmental stress, social stress, and intrapersonal stress). The score was based on five point summated rating scores from 5 (strongly agree to 1(strongly disagree).

An interview schedule provided the qualitative data whose purpose was to build on the quantitative data collected. It was collected from 20 lecturers randomly chosen to represent each of the five academic departments in the teacher colleges and 4 deans of curriculum. The students' academic performance was measured using mid- course results.

IV. RESULTS OF THE STUDY

The frequency distribution was expressed in the form of a proportion of the participants who responded to each points of the five Likert scale of (strongly disagree, disagree, not sure, agree and strongly disagree)

Table 1: Frequency Distribution of Participant's Responses on Perceived Academic Stress

Frequencies and Percentages

Sub Scale	Strongly disagree (1)	Disagree (2)	Not sure (3)	Agree (4)	Strongly agree (5)
Academic stressors	0 (0.0%)	12 (6.1%)	47 (23.9%)	74 (37.6%)	64 (32.5%)
Social stressors	1 (0.5%)	26 (13.2%)	50 (25.4%)	74 (37.6%)	46 (23.4%)
Environmental stressors	0 (0.0%)	7 (3.6%)	38 (19.3%)	63 (32.0%)	89 (45.2%)
Intrapersonal stressors	2 (1.0%)	17 (8.6%)	51 (25.9%)	72 (36.5%)	55 (27.9%)
Summation	0 (0.0%)	7 (3.6%)	53 (26.9%)	88 (44.7%)	49 (24.9%)

The student's responses on academic related issues as source of stress was 0.0% strongly disagreed, 6.15% disagreed, 23.9% were not sure,37.6% agreed and 32.5% strongly agreed. On social related stressors 0.5% strongly disagreed,13.3% disagreed 25.4% were not sure while 37.6% agreed with 23.4% strongly agreeing. On environmental sources of stress 0.0% rated strongly disagree, 3.6% disagree 19.3% were not sure while 32,0% agreed with 45.2 % strongly agreeing that environmental related issues cause them stress. Lastly intrapersonal stressors were rated as 1.0% strongly disagree,8.6% agree while 25.9% were not sure with 36.55 agreeing and 27.95 strongly agreeing. The total ratings for the perceived academic stress was, strongly disagree 0.0%, disagree 3.6% not sure 26.9%, agree 44.7% and strongly agree 24.9%. The level of perceived academic stress was calculated and presented in table 2

Table 2: Descriptive Analysis of level of Perceived Academic Stress and Academic Performance

Levels	N	Mean Academic Performance T-Score
Low (<42)	92	56.95
Average (43-56)	69	45.22
High (57-70)	36	41.40
Total	197	50.00

The results presented showed that participants categorized as having low level of perceived academic stress had the highest mean of 56.95, average level with 45.22 and high level with 41.40 mean.

Hypothesis testing

The hypothesis, was tested using Pearson's Product Moment Correlation Coefficient. The results showed that there was a significant negative relationship between perceived academic stress and academic performance a (r = -0.68 p, <0.01). as shown in table 3 Therefore, the null hypothesis was rejected. This clearly implied that perceived academic stress led to low academic performance.

Table 3: Hypothesis testing on the Relationship between Perceived Academic Stress and Academic Performance

		Academic Performance
Perceived Academic stress	Pearson correlation	-0.68.
	Sig (2tailed)	0.000
	N	197

From the results four supplementary null hypothesis based on the subscales were formulated and (a) Ho_1 There is no relationship between academic stressors and academic performance.   (b) Ho_2 There is no relationship between environmental stressors and academic performance. (c) Ho_3 There is no relationship between social stressors and academic performance and (d)Ho_4 There is no relationship between intrapersonal stressors and academic performance. The results shown in table 4

Table 4: Hypothesis testing between the subscales of perceived academic stress and the relationship with Academic Performance

Sub-scales		Academic Sig	Performance
Academic	Pearson correlation	-.711	
	2 tailed		.000
Environmental	Pearson correlation	-.294	
	2 tailed		.000
Social	Pearson correlation	-557	
	2 tailed		.000
Intrapersonal	Pearson correlation	-.618	
	2tailed		.000

Results in table 3 showed that there was a significant negative relationship between academic stress and academic performance, (r = -71, p < 0.01), There was a significant low negative relationship between environmental stress and academic performance (r = -29, < 0.01), there was also significant negative relationship between social stress and academic performance (r = -55, p.< 0.01). Lastly there was a significant negative relationship between intrapersonal stress and academic performance (r= -61, p< 0.01). All the null hypotheses were rejected and a conclusion made that there was a significant negative relationship between the subscales and students' academic performance.

Regression Analysis of Perceived Academic Stress and Academic Performance
Regression analysis of the students' individual scales of perceived academic stress was performed in order to find out to what extent the students perceived academic stress predicted academic performance.

Table:4 Regression Analysis of the Subscales Perceived Academic Stress and Academic Performance

Model	Sum of squares	df	Mean square	AdjR^2	F	Sig
1 Regression	10757.281	4	2691.82	.540	58.5	.000
Residual	88327.20	192	46,004			
Total	196000.001	196				

N=197

The subscales of perceived academic stress were significant predictors of academic performance (F, 4,192) =58.5, p, <0.05. The coefficient of determination R^2 = 0.54 means that the subscales of students perceived academic stress explained 54% of the variation in academic performance. The predictive power individual subscales on academic performance was shown in table 5

Table 5: Prediction of Students Perceived Academic Stress subscales on Academic Performance

Model	Unstandardized coefficient B		Standardized coefficient		
		Std error	Beta	T	Sig
Constant	82.561	2.672		30.896	0.000
Academic	-2.150	.298	-.509	-7.215	0.000
Social	-.419	.171	-.160	-2.433	.015
Environmental	-187	.229	.044	.817	.415
Intrapersonal	-.511	.211	-.180	-2.422	.016

The findings in table 5 showed that the best significant predictor of academic performance was academic stressors (β=0 -.50, p <0.05). while the others had insignificant prediction on academic performance therefore the prediction model is illustrated as
The prediction model was ÿ=82.5-.50(AS)-18(IS)-16(SS)+.04 (ES) R^2=.54, p<0.05
Results from the interview confirmed and agreed with the quantitative results that there was a relationship between perceived academic stress and academic performance among students in primary teacher training colleges.

V. DISCUSSION

Based on the findings it was concluded that students perceived academic stress had a significant negative relationship with academic performance and all the subscales that is, academic stressors. environmental stressors, social stressors and intrapersonal stressors had a significant negative relationship with academic performance. Perceived academic stress had significant prediction on academic performance, and among the subscales only academic stressors predicted academic performance significantly. The findings are supported by Zeidner (1993) where course load and time available were cited to be stressful factors within the academic environment. Mani (2010) where course load had significant prediction on academic performance also Talib and Zai-ur-Rehman (2012), who found out that majority of the students (53%) claimed that course load was the source of their stress which in turn affected their General Point Average. Oketch and Odiemo (2018) studies on 'the relationship between Stress and academic performance among government-sponsored undergraduate students from the University of Nairobi in Kenya 'showed that most students (64.4%) had moderate to high levels of stresss while (35.6%) had low levels of stress. The findings were supported by Alam and Kumar (2018) whose results showed that there was moderate and statistically significant relationship between academic stress and academic performance (r = -363, p < 0.001). The findings were strengthened by another study by Mohamed S. and Kaleem R. (2018) on the impact of stress on academic performance among secondary students. The (F773) =.75, p<0.05) value was significant. The findings showed that majority of the students perceived education related issues as more stressful. There is need for the colleges to come up with programs to help the students to deal with stress issues.

VI. CONCLUSION

The research has generally revealed and generated a significant relationship among the variables of study in predicting the students' academic performance. The researcher beliefs that the study will call attention from the college policy makers in assisting the college students as they pursue their academic pursuits successfully within the stipulated time frame.

Policy Recommendation

College institutions should work on improving the quality of the learning environment by ensuring that students have sufficient support services like Guidance and counselling to assist them to learn how to live and face stressful environments and events.

Teacher Training colleges should make deliberate effort to reduce students stress for proper mental health and ability to perform well academically without any stress related hindrances. Programs should be put in place to enhance the students' ability to face and manage academic stress. There is need for students be provided with the opportunities to manage their time privately instead of the control imposed by the colleges on time managed so that they can take responsibility for their studies.

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