

Work Stress and Performance of Faculty Members of a Ghanaian Technical University

Edem Maxwell Azila-Gbetteor¹, Eli Ayawo Atatsi², Christian Thywill Dodor³, Thomas Clarkson Adade³, Daniel Komla Tsorhe³, Kate Neequaye⁴

¹*Ho Technical University, Department of Management Studies. Ho, Ghana.*

²*Ho Technical University, Department of Applied Modern Languages and Communication. Ho, Ghana.*

³*Ho Technical University, Department of Accounting and Finance. Ho, Ghana.*

⁴*Takoradi Technical University, Department of Tourism Management, Takoradi, Ghana.*

***Corresponding Author:** Edem M. Azila-Gbetteor, Department of Management Studies. Ho, Ghana.

ABSTRACT

The article empirically investigates the stress sources, and its effects on performance of lecturers in a higher institution in Ghana. A self-administered questionnaire was completed by a sample of 112 lecturers selected from four faculties using three stage sampling technique. Results were drawn using descriptive statistics, Mann-Whitney U test and Kruskal Wallis tests and hierarchical regression. Teaching and examination load was found to be the leading stressors. A significant difference was found for all demographic variables evaluated except lecturers' age and rank. Finally, "teaching and examination load stress" and "student related stress" were found to be positively and negatively associated with teacher performance respectively. Results suggest that while the teaching environment is stressful, some of the dimensions have a positive impact on performance. Therefore, authorities of the institution must not seek to manage stress to an optimal level, much less induce stress in their employees must remain, as part of any endeavour to increase performance. This study is noteworthy as the results offer additional insights on work stress and teacher performance from a Ghanaian context which is an under-research area. Additionally, this research adopted the competency dimensions to measure teacher performance.

Keywords: Work-stress, Teacher performance, Ghana, Competency-base performance

INTRODUCTION

Contrary to the earlier view held by Tyers *et al.* (2009) the tertiary education environment today no longer provides a low stress working environment (Sorenson, 2007; Winefield *et al.*, 2003). Several studies have confirmed work-related stress is widespread, high, and on the increase among academic staffs in higher educational institutions (Ahmad *et al.*, 2014; Bennet and Bamini, 2013; Safaria 2013). At the tertiary level, high levels of stress among academic staffs have been found to undermine the quality, productivity and creativity of employees' work, in addition to employees' health, well-being, and morale (Terry *et al.*, 1995; Matteson and Ivancevich, 1987).

One of the correlates of work-stress that has attracted empirical investigation in the extant literature for several decades is performance. However, results of plethora of these studies remain inconsistent. While the study of Kaplan and Sadock (2000) reveal little level of stress is required to pep up performance, Kahn and Long (1988) study demonstrate a positive linear

relation; Siu (2003) establish a negative linear relation and Matteson *et al.* (1984) found no connection between work-stress and performance. This seemingly incoherent outcome according to Warr (1987) is as a result of combining both non-job and job stress factors in survey items which are inter-correlated and mutually interactive" (p. 75). Farr and Ford (1990) argue workplace stress is likely to be exacerbated when stress is imported from outside the work environment. This implies future scholarships in workplace stress must attempt to segregate job and non-job-related factors in the measurement of stress.

Noticeably, the stress and performance related literature in the teaching environment is dominated by studies conducted in the USA and other developed countries with a paucity of research on the Ghanaian phenomenon. The few works done in Ghana focus largely on stress and teacher burnout (Addison and Yankyera, 2015); job satisfaction (Essiam *et al.*, 2015); job satisfaction, job involvement, job commitment, job ambiguity and job environment (Bennet &

Bamini, 2013) and stress sources and coping strategy (Mate, 2014). Such neglect is unfortunate given that the academic environment in Ghanaian tertiary institution is likely to be considerably different from that of the Western Countries.

Accordingly, an empirical study that focuses on job related stress and performance from a Ghanaian perspective will provide additional clarity to enhance our understanding of the relationship between the two variables. Knowledge gained from this study would be useful in the formulation of recommendations to address job related stress among academic staffs in higher institution. The study would also provide a lead for policy makers and stakeholders of tertiary institutions. Finally, the study would add African dimensions on job-stress and teacher performance which have received inadequate Scholarly Attention.

LITERATURE REVIEW

Stress and Stressors in Tertiary Teacher's Work Environment

Stress is a general term used for pressure that people are exposed to in life (Jepson and Forrest, 2006). It is defined as the individual harmony effort that the person displays against a stimulant which has excessive psychological and physical pressure on the person (Griffin, 1990). In general, work-stress has been largely conceptualized in terms of incongruity between employee competence and job requirement or organizational demand (Pediwal, 2011; Malek, 2010).

On the causes of job-stress in tertiary environment, Kinman (2001) suggests that, the reported causes of stress across the literature are mostly structural and organizational rather than interpersonal related. Workload and time pressure, research, educational change, management styles, re-organization and restructuring, and inadequate resources are some of the stressors identified among tertiary staffs in previous studies (Alabi et al., 2012; Winefield et al., 2003). Other sources include job insecurity (Tytherleigh *et al.*, 2005); inequality system (Gillespie *et al.*, 2001) and inadequate performance feedback (Sharpley *et al.*, 1996).

Demographic Variables and Stress

The propensity to experience stress has been found to be related to personal characteristics of lecturers. With regards to gender, the study of Kumari (2016) reveals that, the occupational stress level of female teachers is higher compared to their male counterparts whilst Liu and Zhu

(2009) found that the stress prevalence was lower among female staff compared to male staff. However, Devi and Saikia (2015) and Ofoegbu and Nwadiani (2006) found no significant differences in occupational stress between male and female staffs. For workload, a number of studies have also found a positive relationship between work overload and stress (Slišković and Maslić, Seršić 2011; Smith et al. 1995). On teaching experience, study by Borg *et al.* (1991) revealed greater stress for teachers with over 20 years of teaching experience. However, Bashir *et al.* (2013) found no significant relationship between teaching experience, age, marital status and stress among 250 teacher's serving in Gomal University between 2011-2012. Ahmady *et al.* (2007) and Abouserie (1996) found a significant difference in stress levels between ranks of university lecturers. Specific difference was also found among faculty members from different disciplines (Ahmady *et al.*, 2007).

Stress and Performance Relationships

Performance has been conceptualized in different contexts over years. However, Roe (1999) suggests performance measurement should be seen from behavioural and outcome perspective. The behavioural aspect refers to what an individual does in the work situation. Thus "Performance is what the organization hires one to do, and does well" (Campbell et al., 1993, p. 40). One measure of performance proposed to be used in the tertiary environment is the competency based approach. According to Williams, (2002, p. 101) competencies could be seen as identical with other performance dimensions largely because the behavioral interpretation of the term competency is simply a replacement for performance dimensions. Dimensions of competencies include communication, interpersonal skills, stakeholder's orientation, research, subject mastery, learner's assessment, and organizational skills, among others (Aguinis, 2009; White, 2008; Hill; Arreola, 2000; Sinclair and Johnson, 2000).

Results from analysis of several empirical studies suggest four main contradictory relations between work-stress and performance. The first, based on Yerkes-Dodson Law (1908) suggest an inverted U-shaped relation between stress and performance. In a study of hospital nurses across USA, Canada and Britain, Raeda (2004) found a curvilinear (U-shaped) relationship between job stress and performance. The second category shows a positive linear relationship.

For instance, Keijsers *et al.* (1995) found a positive relationship between stress and job performance among nurses working in ICUs. Another set of studies demonstrates negative linear relationship (Leveck and Jones, 1996). Finally, the fourth group established zero/no relationship between stress and performance is zero (Kalyani *et al.*, 2009). Jamal (1985) concludes that, this situation occurs because individuals ignore organizational stressors and do not permit them to hinder their productivity.

METHODS

One hundred and twelve (112) teaching staffs of a technical university constitute the sample for the study. The sample size was found to be appropriate, because based on a large sample distribution theory, Hair *et al.* (1998) posits that, a reliable and valid result estimate can be attained from samples that are between 100 and 150 respondents. To attain proportional representation of faculty (Saunders *et al.*, 2012), three stage sampling technique was used for the study. The first stage involves stratification of the population based on first, lecturers' department and faculty. The second stage employs proportionate sampling technique to determine the actual size of sample to be drawn from each group. The third stage involves the use of simple random sampling technique to draw specific number of lecturers from four faculties: Engineering (43); Applied Sciences (27); Arts and Design (13) and Business and Management Studies (29) using official staff's records from Administration as the sampling frame.

Data for the study was collected in September 2016 through self-administered questionnaires that took about 15 minutes on the average to complete. The questionnaires were dropped in the selected lecturers' letter boxes and retrieved within two weeks. The questionnaire was divided into three sections. Section A, covers the profile of respondents Section B, covers stress related to teaching in tertiary environment and was measured using six stress dimensions adapted from previous studies (Oghenetega *et al.*, 2014; Kusi *et al.*, 2014; Bashir *et al.* 2013; Aniedi *et al.*, 2010). The items were measured on 5-point Likert scale from 1-not stressful to 5-stressful. Section C, covers teacher performance and was measured using 7 competency based dimensions (Robbins, *et al.*, 2007) on a scale from 1-strongly disagree to 6-strongly agree.

Pre-testing was conducted between Mondays 15th -Friday 19th August 2017 using twenty-five (25) Senior Secondary School teachers in the Ho

municipality. The pre-testing was used to assess the suitability of the instruments, detect irrelevant and inappropriately worded questions. To confirm that data pertaining to work-stress items and performance were reliable a Cronbach's alpha was run. The resulting .843 and .739 respectively exceeded the recommended .70 limit (Nunnally, 1978).

Frequencies and percentages were used to summarize demographic information of respondents. Descriptive statistics technique; was used to determine the key sources of stress in teacher's environment. Mann-Whitney *U* Test and Kruskal Wallis Tests was used to explore differences between respondent's demographic variables and stress. Finally, hierarchical regression was used to assess the effect of work-stress on teacher performance.

RESULTS

Profile of Respondents

Out of 112 respondents (*table 1*), 81.3% were male and 19% are female. Exactly, 51.8% are married and about 48.2% are within 36 to 45yrs age bracket. Majority of the participants (83%) holds postgraduate degree, 77.7% are lecturers, and 38.4% of the lecturers are in the Faculty of Engineering. In terms of teaching experience, 57.1% have between 1 to 10 yrs. of working experience, 69.6% are doing above 12 credit/contact hours for the semester under study.

Composite and Individual Stressors among Tertiary Education Teachers

This section of the study solicits respondents' views on the key stressors in the teaching environment. The results presented in *table 2* show the mean and the standard deviations for 51 potential sources of stress which is further categorized into 6 dimensions. The leading stressor dimension is "teaching and examination load" ($M=3.31$), followed by "research activities" ($M=3.25$). The two least factors in descending order are "interpersonal related stress" ($M=2.78$) and "student related stress" ($M=2.55$). The key stressor for teaching load and examination stress is "marking of examination scripts" ($M=3.82$) and "sourcing for research grant" ($M=3.52$), is the leading stressor for research activities stress. "Delay in promotion" ($M=3.67$) is the main stressor for job related stress; "lack of unity and cooperation among the teachers" ($M=2.97$) for interpersonal related stress; "dealing with rude students" ($M=2.93$) for student related stressors and "large class size" for total classroom and facility related stress.

Table1. Demographic Profile of Respondents

Demographic Characteristics	Indicators	Frequency	Percent
Gender	Male	91	81.3
	Female	21	18.8
Age	Below ≤ 35	20	17.9
	Between 36- 45	54	48.2
	Above ≥ 46	38	33.9
Marital Status	Married	58	51.8
	Single	54	48.2
Level of Qualification	Undergraduate	15	13.4
	Post Graduate	84	83.0
	PhD	4	3.6
Rank of Lecturers	Instructor	15	13.4
	Lecturer	87	77.7
	Senior Lecturer	10	8.9
Faculty of Lecturers	Faculty of Business and Management Studies (FBMS)	29	25.9
	Faculty of Engineering (FE)	43	38.4
	Faculty of Applied Science (FAS)	27	24.1
	Faculty of Art and Design (FAD)	13	11.6
Credit Hours	Below 12 credit hours	16	14.3
	Exactly 12 credit hours	18	16.1
	Above 12 credit hours	78	69.6
Teaching Experience	1-10 years	64	57.1
	11-20 years	42	37.5
	21-30 years	6	5.4

Source: Field Survey, September 2016

Table2. Dominant Stressors among Lecturers Based on Composite and Individual Scores

	Dimensions of Stress in Lecturers Environment	Mean	Std. Dev.	Rank
A	Total Teaching and Examination Load Stress (TTELS)	3.31	0.891	1
1	Marking of examination scripts.	3.82	1.202	1
2	Collation and grading of examination results.	3.72	1.189	2
3	Lecture preparation and delivery.	3.66	1.392	3
4	Increasing teaching load.	3.57	1.285	4
5	Access to latest study materials – books, journals etc.	3.13	1.103	5
6	Lack of instructional facilities	3.11	1.201	6
7	Time to complete the course work	3.09	1.190	7
8	Setting and moderation of examination questions.	2.97	1.143	8
9	Time management between work and home.	2.90	1.057	9
10	Invigilation of end of semester examination.	2.64	1.146	10
11	Students’ continuous assessment.	2.21	1.269	11
B	Total Research Activities Stress (TRAS)	3.25	1.044	2
1	Sourcing for research grant	3.52	1.395	1
2	Preparation of manuscript for publication	3.27	1.433	2
3	Writing of research report.	3.21	1.023	3
4	Support for attending seminars and conferences	3.17	1.310	4
5	Linkage to other professionals in my research discipline	3.15	1.202	5
6	Conceptualizing/generation of research problem/idea	3.12	1.179	6
7	Access to relevant literature	3.09	1.174	7
8	Supervision of students’ project work	3.04	1.201	8
9	Active participation of colleagues within research group.	3.01	1.212	9
10	Waiting for manuscript to be accepted for publication.	2.99	1.211	10
C	Total Job Related Stress (TJRS)	3.11	1.051	3
1	Delay in promotion	3.67	1.196	1
2	Low job security	3.35	1.320	2
3	Lack of participation in decision making	3.25	1.382	3
4	Lack of support systems	3.22	1.422	4

5	Multiple role demands	3.21	1.245	5
6	Poor job satisfaction	3.14	1.287	6
7	Inadequate medical facilities	2.97	1.119	7
8	Inadequate salary in relation to cost of living	2.96	1.208	8
9	Lack of recognition of good teaching	2.93	1.334	9
10	Low status of teaching profession in society	2.81	1.241	10
11	Support for further education and training	2.36	1.177	11
12	Fear of being laid off	2.31	1.211	12
D	Total Classroom & Facility Related Stress (TCRS)	3.10	1.004	4
1	Large size of classes.	3.74	1.199	1
2	Poor office accommodation.	3.61	1.210	2
3	Poorly equipped laboratories and technical workshop.	3.32	1.101	3
4	Lack of class room facilities	3.55	1.207	4
5	Excessive noise from surroundings	3.07	1.183	5
6	Study Lecture rooms with poor seating arrangement for students	2.52	1.040	6
E	Total Interpersonal Related Stress (TIRS)	2.78	0.949	5
1	Lack of unity and cooperation among teaching staffs.	2.97	1.135	1
2	Working with colleagues on committees.	2.96	1.318	2
3	Working and communication with University Management.	2.96	1.102	3
4	Working and communication with non-teaching staff.	2.78	1.121	4
5	Attitude and behaviour of the head of department	2.62	1.208	5
F	Total Student Related Stress (TSRS)	2.55	1.081	6
1	Dealing with rude students	2.93	1.360	1
2	Motivating students who do not want to learn	2.81	1.182	2
3	Students' general low ability	2.72	1.179	3
4	Students' bullying	2.51	1.208	4
5	Students' pressures for cheating in the examination	2.41	1.359	5
6	Lack of parental involvement in students' affairs	2.29	1.196	6
7	Students' pressures for internal marks	2.12	1.253	7

Notes: *n* = 112; *scale*: 1=Not stressful to 5= extremely stressful

* Source: Field Survey, September 2016.

Demographic Variables and Stress

Results of a Mann-Whitney U-test (table 3.) conducted to find out whether perception of total stress will vary by gender, reveals significant difference between male and female lecturers (*P* = .000).

Female lecturers (*Mdn* = 3.85) highly rated their level of stress higher than male lecturers (*Mdn* = 3.02).

A further analysis based on specific stressors showed that with the exception of "TRAS", there was a statistically significant difference between male and female lecturers regarding other dimensions. However, female lecturers highly rated all the significant stress dimensions; "TCRS" (*Mdn* = 3.88), "TTELS" (*Mdn* = 3.89), "TSRS" (*Mdn* = 3.12), "TJRS" (*Mdn* = 3.85), "TIRS" (*Mdn* = 3.21) higher than their male counterparts "TCRS" (*Mdn* = 2.93), "TTELS" (*Mdn* = 3.23), "TSRS" (*Mdn* = 2.40), "TJRS" (*Mdn* = 3.02) and "TIRS" (*Mdn* = 2.76).

Table 3. A Mann-Whitney U Test for Comparison of Stressors by Gender.

	Male (<i>n</i> = 91)	Female (<i>n</i> = 21)	Z Statistic	P Value
	Median Score			
Total Stress	3.02	3.85	-4.156	.000*
Stress Dimensions				
TCRS	2.93	3.88	-3.511	.000*
TTELS	3.23	3.89	-3.189	.001*
TSRS	2.40	3.12	-2.938	.003*
TJRS	3.02	3.85	-3.781	.000*
TIRS	2.76	3.21	-2.304	.021*
TRAS	3.22	3.60	-1.698	.089

*the mean rank difference is significant at the 0.05 level. *Source: Field Survey, September 2016

*Scale: 1= Not at all stressful to 5= extremely stressful

Result of Kruskal Wallis test (table 4) demonstrate that total stress was not found to be significant for lecturer's rank (*P* = .099). A further examination based on specific stress dimensions shows, two of the six stressors, "TCRS" (*P* = .023) and "TTELS" (*P* = .030) were significant. Senior lecturers (*mdn* = 3.80) highly

ranked “TCRS” than instructors and lecturers. Follow-up pair wise comparison between the various ranks shows a significant difference between instructors and senior lecturers ($p=.021$). Similarly, senior lecturers ($Mdn =$

3.70) highly rated “TTELS” than instructors and lecturers. A statistically significant difference ($p=.021$) was also found between instructors and senior lecturers after a pair wise comparison for “TTELS”.

Table4. Kruskall Wallis Test for Comparison of Stressors by Rank.

	Instructor (n=15)	Lecturer (n=87)	Senior Lecturer (n=10)	Z Statistic	P Value
	Median Score				
Total Stress	2.70	3.16	3.57	4.629	.099
Stress Dimensions					
TCRS	2.67	3.09	3.80	7.559	.023*
TTELS	2.64	3.42	3.70	7.000	.030*
TSRS	2.00	2.60	2.75	1.467	.480
TJRS	2.80	3.24	3.60	3.183	.204
TIRS	2.71	2.88	3.00	1.141	.565
TRAS	3.00	3.32	3.75	3.433	.180

*the mean rank difference is significant at the 0.05 level. *Source: Field Survey, September 2016, *Scale: 1= Not at all stressful to 5= extremely stressful

The findings from Kruskal-Wallis test in table 5 also revealed a statistically significant difference for level of total stress and teaching experience ($P=.008$). Lecturers with 11-20 yrs. teaching experience ($mdn=3.55$) exhibited higher level of stress compared to the other two age groups. A pairwise comparison test shows significant difference between 1-10 yrs. and 11-20 yrs. ($p=.004$). On the specific stress dimensions, there was a significant difference for “TCRS” ($P=.003$), “TTELS” ($P=.014$) and “TRAS” ($P=.002$). Lecturers with 21-30-yrs. of teaching experience highly ranked “TCRS” ($mdn=3.67$), “TTELS” ($mdn=3.38$) and “TRAS” ($mdn=4.00$) than lecturer with 1-10 yrs teaching experience with “TCRS” ($mdn=2.76$), “TTELS” ($mdn=3.10$) and “TRAS” ($mdn=2.95$) and lecturers with 11- 20 yrs. of teaching experience with “TCRS” ($mdn=3.50$), “TTELS” ($mdn=3.59$) and “TRAS” ($mdn=3.65$). Pairwise comparison between the various groups of teaching experience shows significant difference

of ($p=.006$), ($p=.041$) and ($p=.007$) between 1-10yrs. and 11-20yrs. for “TCRS”, “TTELS” and “TRAS” respectively.

Table5. Kruskall Wallis Test for comparison of Stressors by Teaching Experience

	1-10 yrs. (n=64)	11-20 yrs. (n=42)	21-30 yrs. (n=6)	Z-Statistic	P-Value
	Median Score				
Total Stress	2.93	3.55	3.50	9.547	.008*
Stress Dimensions					
TCRS	2.76	3.50	3.67	11.836	.003*
TTELS	3.10	3.59	3.83	8.484	.014*
TSRS	2.37	2.81	2.00	5.586	.061
TJRS	2.92	3.54	3.33	5.840	.054
TIRS	2.67	3.12	3.25	5.090	.078
TRAS	2.95	3.65	4.00	12.269	.002*

*the mean rank difference is significant at the 0.05 level. *Source: Field Survey, September 2016, *Scale: 1= Not at all stressful to 5= extremely stressful

Table6. Kruskall Wallis Test for comparison of Stressors by Faculty

	FBMS (n=29)	FE (n=43)	FAS (n=27)	FAD (n=13)	Z-Statistic	P-Value
	Median Score					
Total Stress	3.06	3.11	3.00	3.92	11.793	.008*
StressDimensions						
TCRS	3.11	3.11	3.00	3.50	1.510	.680
TTELS	3.35	3.26	3.25	4.00	9.037	.029*
TSRS	2.41	2.60	2.53	2.78	1.182	.757
TJRS	3.06	3.22	3.00	4.00	10.928	.012*
TIRS	3.00	2.75	2.73	3.56	7.085	.069
TRAS	3.19	3.10	3.42	4.00	8.132	.043*

*the mean rank difference is significant at the 0.05 level. *Source: Field Survey, September 2016, *Scale: 1= Not at all stressful to 5= extremely stressful

Table7. Kruskall Wallis Test for comparison of Stressors by Contact Hours

	< 12 Hrs (n=16)	12 Hrs (n=18)	> 12 Hrs (n=78)	Z-Statistic	P-Value
	Median Score				
Total Stress	2.56	2.67	3.30	6.760	.034*
Stress Dimensions					
TCRS	2.67	2.85	3.27	2.751	.253
TTELS	2.82	2.83	3.54	8.696	.013*
TSRS	1.70	2.75	2.63	5.119	.077
TJRS	2.55	2.75	3.42	8.161	.017*
TIRS	2.00	2.63	2.99	4.915	.086
TRAS	2.45	3.53	3.40	6.329	.042*

*the mean rank difference is significant at the 0.05 level. *Source: Field Survey, September 2016

*Scale: 1= Not at all stressful to 5= extremely stressful

Outcome of a Kruskal Wallis test in table 8 demonstrated that total stress was not significant for age ($P=.106$). For distinct stress dimensions, the Kruskal Wallis test revealed a statistical significance difference for “TCRS” ($P=.023$), and “TTELS” ($P=.024$) across the three levels of age groups. However, lecturers who aged ≥ 46 yrs. highly rated all the significant stressors “TCRS” ($mdn = 3.56$),

“TTELS” ($mdn=3.68$) compared with 36 - 45yrs. “TCRS” ($mdn = 2.82$), “TTELS” ($mdn = 3.15$) and ≤ 25 yrs. “TCRS” ($mdn = 3.18$), “TTELS” ($mdn = 3.25$). Pairwise comparison between the various age groups shows significant difference ($p=.019$) and ($p=.023$) between 36 - 45 yrs. and ≥ 46 yrs. group for “TCRS” and “TTELS” respectively.

Table8. Kruskall Wallis Test for comparison of Stressors by Age

	≤ 35 (n=20)	b/n 36- 45 (n=54)	≥ 46 (n=38)	Z-Statistic	P-Value
	Median Score				
Total Stress	3.08	2.97	3.50	4.480	.106
Stress Dimensions					
TCRS	3.15	2.82	3.56	7.523	.023*
TTELS	3.25	3.18	3.68	7.418	.024*
TSRS	2.27	2.36	2.84	5.339	.069
TJRS	3.21	3.03	3.50	2.740	.254
TIRS	2.67	2.77	3.12	1.858	.395
TRAS	3.09	3.17	3.61	4.821	.090

*the mean rank difference is significant at the 0.05 level. *Source: Field Survey, September 2016

*Scale: 1= Not at all stressful to 5= extremely stressful

The findings from Kruskal-Wallis test in table 9 also revealed a statistically significant difference for level of total stress and respondents level of academic qualification ($P=.042$). Lecturers with PhD academic qualification ($mdn=3.56$) exhibit higher level of stress than any other qualification. Pairwise comparison between the various academic qualifications shows significant difference between UG and PhD. On specific stress dimensions, there was a significant difference for “TTELS” ($P=0.005$). Lecturers holding PhD highly ranked “TTELS” ($mdn=3.75$) compared to PG; “TTELS” ($mdn=3.42$) and UG; “TTELS” ($mdn=2.62$). Pairwise comparison between the various academic qualification shows significant difference of ($p=.025$) and ($p=.005$) for “TTELS” between UG and PG, and UG and PhD holders respectively.

Table9. Kruskall Wallis Test for comparison of Stressors by Level of Qualification

	UG (n=15)	PG (n=84)	PhD (n=4)	Z-Statistic	P-Value
	Median Score				
Total Stress	2.57	3.21	3.56	6.322	.042*
Stress Dimensions					
TCRS	2.70	3.12	3.58	4.749	.093
TTELS	2.62	3.43	3.75	10.544	.005*
TSRS	1.90	2.58	3.00	4.596	.100
TJRS	2.64	3.26	3.58	4.741	.093
TIRS	2.30	2.90	3.08	2.893	.235
TRAS	2.90	3.37	3.45	2.095	.351

*the mean rank difference is significant at the 0.05 level. *Source: Field Survey, September 2016

*Scale: 1= Not at all stressful to 5= extremely stressful.

Stress and Teacher Performance

Hierarchical regression analysis was used to examine the predictors of teacher performance within the tertiary environment. The predictor variables were entered in two blocks. Block one comprises nine demographic characteristics of

the lecturers or the control variables- gender, age, marital status, qualification, teaching experience, designation, faculty, department and job status, were entered first. The 6 dimensions of stress in the teaching environment was entered in the second block. (table 10).

Table 10. Summary of Hierarchical Regression Analysis for Variables Predicting Teacher Performance

Variables	Model 1			Model 2		
	B	SE	β	B	SE	β
Gender	-2.521	1.094	-.233	-2.491	1.047	-.230
Age	-1.374	.690	-.233	-.860	.665	-.146
Marital Status	.615	.396	.143	.766	.372	.178
Qualification	1.079	.523	.241	.718	.485	.160
Teaching Experience	.678	.785	.096	.640	.771	.090
Designation	.183	1.014	.020	-.658	.971	-.073
Faculty	1.365	.593	.309	1.011	.565	.229
Department	-.288	.145	-.274	-.183	.138	-.175
Job Status	3.568	.842	.410	2.673	.908	.307
TCRS				.007	.167	.006
TTELS				.308	.084	.482
TSRS				-.236	.085	-.312
TJRS				-.100	.093	-.170
TIRS				.262	.142	.229
TRAS				-.166	.126	-.157
F-value	3.97**			4.54**		
R ²	.260			.415		
R ² change				.155		
F for R ² change				4.25**		

*the mean rank difference is significant at the 0.05 level. *Source: Field Survey, September 2016

*Scale: 1= Not at all stressful to 5= extremely stressful

The first model comprising demographic characteristics explained 26% of the variance in teacher performance and the model was statistically significant $F(9, 102) = 3.97; p = 0.00 < 0.05$. In the exception of marital status, teaching experience and designation, all other control variables make a significant contribution to teacher performance. Job status ($\beta=.410; p < .005$) outperform faculty ($\beta=.309; p < .005$) and qualification ($\beta=.241; p < .005$) as a significant positive predictor to teacher performance. Respondent’s departments ($\beta= -.274; p < .005$), gender ($\beta=-.233; p < .005$) and age ($\beta=-.233; p < .005$) had a negative significant relationship with teacher performance.

After the addition of stress dimension in step 2, the overall model explained 41.5% of the variance in teacher performance with stress dimensions contributing 15.5% to teacher performance. The second model was statistically significant at $F(15, 86) = 4.54; p = 0.00 < 0.05$. The beta values after step 2 analysis indicate, stress associated with student ($\beta=-.312; p < .005$) and gender ($\beta=-.0.230; p < .005$) has a negative

significant contribution to teacher performance. However, Stress associated with teaching load and examination ($\beta=.482; p < .005$), marital status ($\beta=.178; p < .005$) and job status ($\beta=0.307; p < .005$) has a positive significant contribution to teacher performance.

DISCUSSIONS

Consistent with the work of Mate (2014), this study found that, “teaching load and examination” is the most important stressor in the life of teachers in the tertiary environment. The plausible reason may be due to increasing number of students admitted each academic year coupled with the introduction of more programmes in the absence of regular recruitment to augment the staff strength. The following stressors also rate very high on individual scores; marking of examination scripts, sourcing for research grant, delay in promotion, large size of classes, lack of unity and cooperation among teaching staffs and dealing with rude students.

The findings from Mann-Whitney U-test indicate male and female teachers differ in their total

perception to stress. The significant difference for gender occurs for all stress dimensions except total research activities stress (TRAS). Female lecturers in this study were found to experience more stress for all significant dimensions compared to male lecturers. This is also consistent with the work of (Kumar and Deo, 2011; Adeoye, 2002) but inconsistent with the work of (Devi and Saikia, 2015). This may be likely due to dual role of female, both as wife and (or) mother and lecturer (Adeoye, 2002). Additionally, females are under pressure to also perform in a male dominated society because they are assigned the same measurable goals and the female puts additional pressure on herself to justify the position she occupies.

Inconsistent with the work of Hogan *et al.* (2002) total stress levels of lecturers were not found to differ with regards to lecturers' rank and age. However, "TCRS" and "TTEL" were found to be significant and both senior lecturers and those aged above 46 years rated their stress level higher than any other grouping. The rating of "TTEL" is not a surprise finding because the increasing number in student enrolment has resulted in large classes which place extra demands on the aged. Also, given that most multiple role demands are performed from the rank of senior lectureship in the tertiary environment surveyed, the idea that senior lecturers rank "TCRS" and "TTEL" higher than any other is also not surprising.

Consistent with the work of Ofoegbu and Nwadiani (2006) the level of stress was found to differ based on lecturers teaching experience. This difference is largely influenced by "TCRS", "TTEL" and "TRAS". The findings further reveal that lecturers who spent more years in the university environment (21-30yrs) are more stressed compared to their colleagues. A reasonable explanation for this finding is the fact that, such individuals are multi-tasked because they have a lot of experience for that matter are assigned a lot of administrative responsibilities.

Results of the study also show that, the level of stress was found to differ based on lecturer's faculty. This is also consistent with the work of Ahmady *et al.* (2007). This is largely influenced by "TTEL", "TJRS" and "TRAS". The findings further reveal lecturers in FAD are more stressed compared to any other faculty. FAD within the studied institution is made up of departments that are practically oriented. The higher stress they reported may be as a result of long hours

they engaged in supervising students practical work as well as providing tutorial classes.

Consistent with the work of Olatunji and Akinlabi (2012) the study found the level of stress differs based on lecturer's contact hours. This difference is influenced largely by "TTES" "TJRS" and "TRAS". The finding reveals that lecturers doing more contact hours (workload) are more stressed compared to their colleagues engaged in less credit hours. The increasing workload is caused by inadequate staffs, peculiar area of speciality of the lecturer and introduction of more programmes.

The results of the study also revealed that the level of stress differ based on lecturer's level of qualification. This finding is also consistent with the work of Slišković and Maslić-Seršić (2011). This difference is largely influenced by "TTEL". The finding reveals that those who hold PhD are more stressed. This situation is expected since the expectations placed on PhD holders by the society and academic fraternity is higher and they are under pressure to deliver and go beyond such expectations. They also have additional duty to groom their students, and demonstrate a high sense of academic integrity.

Finally, the study reveals that, stress and teacher performance are significantly related. Additionally, stress explained 15.5% of the variations in total teacher performance. However, only two dimensions of the stress were found to significantly affect teacher performance. Consistent with the work of Keijser *et al.* (1995), the study found a positive relation between stress associated with teaching load and examination and teacher performance. Implying higher levels of teaching load and examination would promote higher levels of teacher performance and vice versa. In another vein, student related stress has negative significant contribution on teacher performance which also concurs with the earlier findings of Jamal (1985) and Leveck and Jones (1996). This implies higher levels of stress related to students' misbehaviour would result in lower performance of teachers.

CONCLUSION AND IMPLICATION

The current study provides evidence that stress among the teaching environment is largely caused by teaching and examination load. Ensuring workload is appropriately shared within existing staffs by the management of the institution would go a long way to lessen work-stress caused by marking of scripts. Similarly, efforts

must be directed at recruiting new staffs especially within faculties that are lacking faculty members. Additionally, software must be procured, installed and used in results collation and processing. On the work-stress caused by sourcing for research grant, management of the institution must take steps to train lecturers on how to write winning proposals and also continuously update them on new sources for research grants. Finally, appropriate procedures must be instituted on how to deal with unruly students.

Female lecturers, lecturers having between 21-40yrs teaching experience, those teaching in FAD and doing more than 12hours a week were found to experience more stress compared to any other grouping in their respective categories. Management must encourage and support this category of staffs to adopt coping strategies to minimize the effects of stress in the working environment. The exiting literature on stress has outlined several coping strategies (Dunham,1989). For example, Dunham (1989) four resources categories to management stress-personal, interpersonal, organizational and community can be good beginning.

Finally, study of Keijser et al. (1995) has proven that performance is likely to improve in the face of little level of stress. This evidence was also supported in this study between “teaching and examination load stress” and performance. However, management must take steps to reduce the impact of students’ related stress which was found to have negative relation with performance. In this undertaking, authorities of the institution must not seek to manage stress to an optimal level, much less induce stress in their employees must remain, as part of any endeavour to increase performance. (Le Fevre, Mathen & Kolt, 2003, p.734).

SUGGESTION FOR FUTURE RESEARCH

This study is not without limitations. The study adopted a quantitative approach which does not allow for probing of reasons behind their stress. Future researchers must adopt a qualitative approach to get an insightful reason of why lecturers rated one stress than the other. The study does not allow for observation of subjects over time to determine the effects of stress on teacher’s performance. Longitudinal studies should be considered for future studies in order to examine progressively how stress-performance relation among teachers is changing so as to advocate for appropriate policies at each point. Though the choice of sample is justified, the

researchers are of the firm believed that, it is relatively too small and care must be taken in generalizing the findings for tertiary institutions in Ghana or Sub-Saharan Africa. Futures studies must consider larger samples and cluster sampling to cover more tertiary institutions.

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Citation: Edem Maxwell, Azila-Gbettor et al. "Work Stress and Performance of Faculty Members of a Ghanaian Technical University." *International Journal of Research in Business Studies and Management*, vol 4, no. 10, 2017, pp. 38-49

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