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Workplace Stress: A Comparison of Public and Private School Teachers in Port Harcourt Nigeria

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Abstract

Background: Teachers face demanding tasks which generate workplace stress. This study compared workplace stress among teachers in public and private primary schools in Port Harcourt, Rivers State.

Methodology: Analytical cross-sectional study using a cluster sampling method among public and private school teachers. A semi-structured, self-administered, validated 49-item Teacher Stress Inventory (TSI) grouped into ten subscales with a five-point Likert scale was used. Stress rating was determined by calculating the total stress score and categorizing as stressed or not stressed based on threshold score of three. Mean stress scores across domains were compared using t-test and prevalence of stress was compared using chi-square and odds ratio with alpha value at 0.05.

Results: Public school teachers were significantly older ($t=3.044$; $p=0.002$) than those in private schools. 55 (13.8%) of teachers were stressed with significantly higher numbers of stressed teachers in public schools ($\chi^2=11.15$; $p=0.001$). Public school teachers also had greater odds (OR-2.79, C.I 1.50-5.17) of experiencing workplace stress. There were significant differences in mean scores ($p<0.05$) across all domains for sources and manifestations of stress except for time management and emotional manifestation. Stressed public school teachers were significantly older, had been teaching longer and had larger class sizes compared to stressed private school teachers ($p<0.05$).

Conclusion: Public school teachers experienced more workplace stress with larger class sizes, increasing age and teaching years as underlying risk factors. Re-thinking the education policy in the state, enforcement of policies for class size, employment of more teachers and provision of more public schools are advocated.

Keywords: Workplace, stress, teachers, primary school, public, private, Port Harcourt, Nigeria



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Introduction

All cadre of workers around the world, are facing major changes in terms of work organization and labour relations and are under rapidly increasing pressure to fulfill the demands of the modern working life.¹ Economically active people have been shown to spend about one- third of their lifetime at their workplace. Employment and working conditions have been found to profoundly affect health and health equity.² One of such effects is workplace stress. Workplace or work-related stress is defined as the harmful physical and emotional responses which occur when the requirements of a job do not match the abilities or capabilities, resources, or needs of the worker.³ Workplace stress has been shown to be determined by work organization, work design and labour relations.^{1,3}

Workplace stress has over the past few decades become a public health problem of increasing magnitude and is now widely acknowledged as a global issue affecting all professions and workers in all countries.¹ Workplace stress is one of the most commonly reported cause of illness to workers, affecting approximately 25% of workers across the European Union (EU).¹ In America, the prevalence is even higher with about 40% of American workers reported to have experienced workplace stress.³ In Nigeria, the prevalence of workplace stress varies from 26.2% to 58.4% depending on the occupational group.^{4,5}

A certain level of work pressure, if considered acceptable by a worker (depending on available resources and personal qualities), may keep the worker alert, motivated, and able to work and learn.⁶ However, if the pressure extends over a period of time or becomes excessive or unbearable, it will eventually cause workplace stress resulting in health disorders.⁶ Rapidly accumulating evidence has shown that stress plays a pivotal role in several types of chronic health problems like hypertension and other cardiovascular diseases, musculoskeletal disorders and psychological disorders.^{3,7}

The teaching profession, like all professions requiring mental effort, is a stressful occupation, and the situation has drastically worsened over the past two decades.⁸ Every day at work, teachers face increasing tasks and demands that generate workplace stress. The educational sector is now known as one of the sectors with a high prevalence of workplace stress.^{8,9}

The National Education Policy in Nigeria allows primary schools to be either government-owned (public) or privately-owned and these two groups of primary school teachers legally exist and function.¹⁰ Generally, in both groups of teachers, workplace stress, has both economic and personal implications as

it can lead to employee absenteeism with decreased productivity, burnout, a negative impact on pupil outcomes and several cardiovascular diseases including hypertension.^{1,6} Few studies have compared workplace stress among public and private school teachers, with some researches showing that teachers in private schools experience higher levels of workplace stress than their counterparts in public schools.¹²⁻¹⁴ This study therefore determined and compared the level, sources and manifestations of workplace stress among public and private primary school teachers in Port Harcourt metropolis.

Method

The study was an analytical, cross-sectional study using a cluster sampling method. The study was carried out in Port Harcourt, the capital city of Rivers State; in the oil-rich South-South geopolitical zone, called the Niger Delta region of the country. The state has a total population of 5,198,716 and a population density of 470/km² (2006 census) and is made up of upland and riverine areas with 23 local government areas (LGAs) out of which four are urban while nineteen are rural. There are 890 public and 374 registered private primary schools, 243 secondary schools and six tertiary institutions in Rivers State.⁷

This study was conducted among primary school teachers in public and private primary schools in Port Harcourt metropolis which is made up of two out of the four urban LGAs in the state: namely Obio-Akpor and Port Harcourt City LGAs. Port Harcourt has 123 public and 183 registered private primary schools. Public primary schools in Rivers State especially those in the urban LGAs were remodeled and renovated by the state government between 2009 and 2015 and each school has a total of thirteen classes consisting of two classes per class arm and one nursery class. Each school therefore has an average number of twelve teachers, (excluding the headmistress/headmaster and one nursery teacher). This type of school structure in the re-modelled public primary schools is like what obtains in most private primary schools in the urban LGAs.

All full-time teachers who had been in employment for at least one year within the age range of 18 to 70 years were included in the study, while teachers who also had administrative responsibilities or were pregnant were excluded from the study because of the additional stress from extra responsibilities or pregnancy.

A sample size of 200 private and 200 public primary school teachers was estimated as adequate for the study using the sample size formula for comparison of two proportions.¹⁵ A power of 90% with $u=1.28$, significance level of 5%=1.96, prevalence of workplace stress of 20.9% and of 45.7% among public

and private school teachers respectively was used.¹⁶ Design effect of 2, and adjustment for non-response of 30% were also factored into the calculation.

A list of public and another of private primary schools was obtained from the Rivers State Ministry of Education and used as sampling frame. A total of 17 schools each were selected from public and private schools respectively, through cluster sampling using a computer-generated table of random numbers. Since each school has an average of twelve teachers all eligible teachers in each of the seventeen schools were recruited into the study.

Data was collected with the aid of a semi-structured, self-administered, validated questionnaire called the Teacher Stress Inventory (TSI) is an adapted version originally developed by Fimian but modified and validated for use in Nigeria by Lasebikan.^{17,18} It comprises of a socio-demographic section and a 49-item section that is designed to measure the teachers' stress perceptions with respect to their occupation by identifying the sources and manifestations of stress. The TSI is divided into a total of ten subsections with the first five subsections assessing teacher stress factors (time management, work-related stressors, professional distress, discipline and motivation and professional investment) while the latter sections assess the stress manifestation factors in teachers (emotional manifestations, fatigue manifestations, cardiovascular manifestations, gastronomical manifestations and behavioral manifestations).^{17,18}

The study team comprising of the researchers and six trained research assistants, visited the selected schools prior to the study commencement to explain the nature and importance of the study to them. Research assistants were trained over a 3-day period (for 2 hours per day) on the correct use of the study instruments in order to correctly supervise the use of the self-administered questionnaire. All research assistants were graduates that have finished their one-year mandatory national youth service.

The teacher stress inventory questionnaires were administered to all selected teachers in their respective classes, which were the worksites/environment in which the teachers spent the most time. The questionnaire was however captioned, 'The Teachers Concerns Inventory' in order to minimize the effects of pre-existing beliefs and attitudes about work-related stress on the study results. The questionnaire was filled by each participant without collaboration or interaction with other participants. Completed questionnaires were collected back within 20-30 minutes. The responses in the questionnaire (excluding the demographic section) were graded on a Likert rating ranging from 1(no strength/not noticeable) to 5 (major strength/extremely

noticeable). For each participant, each of the ten factors (called domains) was scored by summing up the responses of each item on the domain and dividing this sum by the number of items in the subscale to get the mean domain score. This process was done for all ten domains. The total stress score was then calculated by summing up all the domain scores and dividing the result by ten. The domain and total stress scores for each participant were interpreted by rating them on the same Likert scale from which they were derived. To determine the proportion of participants with occupational stress, the variable was dichotomized. Any participant with a total stress score equal to or greater than three was stressed while those with scores below three were not stressed.¹⁷

After collection, data was entered on an MS Excel template, checked for data entry errors and transferred to International Business Machine (IBM) Statistical Package for the Social Sciences (SPSS) version 23 for data analysis. Socio-demographic characteristics, professional characteristics and prevalence of workplace stress were presented as frequency tables with comparisons made between public and private school teachers using chi-square test of significance or fisher's exact and odds ratio (95% C.I) as appropriate. The variables in the TSI which were measured on the ordinal scale, summarized with means and standard deviation and compared across public and private schools using t-test. The level of significance was set at α -value of 0.05.

Ethical approval for the study was obtained from the University of Port-Harcourt Teaching Hospital Ethics and Research Committee. Written permission was obtained from the Rivers State Primary Schools Management Board, and a copy of this was presented to the head of each school selected for the study.

In addition, a signed informed consent was obtained from each of the participants before commencement of the study and only those who gave informed consent were included in the study. The purpose and intent of the study including an assurance of the confidentiality of the information provided was provided to study participants. In order to preserve confidentiality, the questionnaires were anonymous and data entry was done on a pass-worded computer device.

The questionnaire used involved a lot of self-reporting of subjective feelings which can be over-reported or under-reported but the structured nature of the TSI section of the questionnaire minimized this limitation. The study is further limited by its cross-sectional approach as this does not support temporal association. However, this was the most feasible design available to the researcher.

Results

A total of 400 eligible teachers; 200 each from public and private schools in two urban local government

areas in Port Harcourt were given self-administered questionnaires which were all completed and returned.

Table 1: Socio-demographic characteristics of teachers in public and private schools

Socio-demographic characteristics	Type of school		Total n =400 n (%)	Chi Square/ Fisher's exact	p-value
	Public n = 200 n (%)	Private n =200 n (%)			
Age category					
18 – 29 years	20 (10.0)	43 (21.5)	63 (15.8)	19.77	0.001*
30 – 39 years	106 (53.0)	97 (48.5)	203 (50.8)		
40 – 49 years	36 (18.0)	45 (22.5)	81 (20.2)		
50 --70 years	38 (19.0)	15 (7.5)	53 (13.2)		
Mean age (years)	39.29±9.25	6.54±8.43		t=3.04	0.002*
Sex					
Male	27 (13.5)	41 (20.5)	68 (17.0)	3.47	0.062
Female	173 (86.5)	159 (79.5)	332 (83.0)		
Marital status					
Single	44 (22.0)	61 (30.5)	105 (26.2)	5.66**	0.129
Married	144 (72.0)	133 (66.5)	277 (69.2)		
Separated	1 (0.5)	0 (0.0)	1 (0.3)		
Widowed	11 (5.5)	6 (30.0)	17 (4.3)		
Highest Education					
Secondary	6 (3.0)	11 (5.5)	17 (4.3)	2.05	0.360
Tertiary	178 (89.0)	177 (88.5)	355 (88.7)		
Post-Tertiary	16 (8.0)	12 (6.0)	28 (6.0)		
Religion					
Christianity	196 (98.0)	199 (99.5)	395 (98.7)	2.02**	0.372
Islam	3 (1.5)	1 (0.5)	4 (1.0)		
Others	1 (0.5)	0 (0.0)	1 (0.3)		

*Statistically significant $p < 0.05$

**Fisher's exact

The socio-demographic characteristics in Table 1 shows that teachers in public primary schools were significantly older ($t=3.044$; $p=0.002$). Both school types had higher proportions of female teachers than male teachers with male: female ratio of 1: 6 and 1: 4 for public and private schools respectively.

Table 2: Characteristics of teachers and pupils in public and private primary schools

Variables	Public school n = 200 n (%)	Private school n = 200 n (%)	Total N =400 n (%)	Chi Square/ Fisher's exact	p-value
Number of years in teaching profession					
1 – 5 years	41 (20.5)	12 (6.0)	53 (13.3)	61.99	0.001*
5 – 10 years	41 (20.5)	80 (40.0)	121 (30.3)		
10 – 15 years	22 (11.0)	51 (25.5)	73 (18.2)		
15 – 20 years	19 (9.5)	27 (13.5)	46 (11.5)		
>20 years	77 (38.5)	30 (15.0)	107 (26.7)		
Class level of pupils					
Primary one	34 (17.0)	66 (33.0)	100 (25.0)	13.96	0.007*
Primary two	28 (14.0)	25 (12.5)	53 (13.3)		
Primary three	28 (14.0)	24 (12.0)	52 (13.0)		
Primary four	35 (17.5)	26 (13.0)	61 (15.2)		
Primary five/six	75 (37.5)	59 (29.5)	134 (33.5)		
Number of pupils per class					
0 – 10	1 (0.5)	28 (14.0)	29 (7.2)	198.93	0.001*
11 – 20	21 (10.5)	127 (63.5)	148 (37.0)		
21 –30	83 (41.5)	41 (20.5)	124 (31.0)		
>30	95 (47.5)	4 (2.0)	99 (24.8)		

*Statistically significant $p < 0.05$

**Fisher's exact

Table 2 shows that the difference in proportions for the duration of teaching experience between the teachers in public and private schools was significant ($\chi^2=61.995$; $p=0.0001$). The number of teachers assigned to teach various classes was highest in primary five/six in public schools (75;37.5%) while it was highest in primary one in private schools

(66;33.0%) and this difference was significant ($\chi^2=13.956$; $p=0.007$). A greater number of public schools had more than 30 pupils per class in contrast to private schools where majority of them had only 11-20 pupils per class and this difference in proportion was significant ($\chi^2=198.93$; $p=0.001$).

Table 3: Comparison of the proportions of teachers experiencing workplace stress between public and private primary schools

Type of school	Stressed (stress score ≥ 3) n (%)	Not stressed (stress score < 3) n (%)	Odds ratio (95% CI)	Chi Square	p-value
Public (N=200)	39 (19.5)	161 (80.5)	2.79 (1.50 – 5.17)	11.15	0.001*
Private (N=200)	16 (8.0)	184 (92.0)			
Total=N (%)	55(13.8)	345(86.2)			

*Statistically significant $p < 0.05$

Table 3 shows that the prevalence of workplace stress among all 400 participants was 55 (13.8%). The proportion of teachers in public schools who experience workplace stress was significantly higher than that of teachers in the private schools ($\chi^2=11.15$; $p=0.001$). Teachers in public primary schools were almost three times more likely to experience workplace stress than those in private primary schools (OR-2.79, C.I 1.50-5.17).

Table 4: Comparison of the sources and manifestations of workplace stress between teachers in public and private primary schools

Factors	Public Mean \pm SD	Private Mean \pm SD	T	p-value
Stress sources				
Time management	2.99 \pm 0.64	2.98 \pm 0.64	0.117	0.907
Work stressors	2.81 \pm 0.31	2.43 \pm 0.83	4.554	0.0001*
Professional distress	3.35 \pm 0.91	2.64 \pm 0.91	7.774	0.0001*
Discipline and motivation	2.66 \pm 0.94	2.23 \pm 0.85	4.760	0.0001*
Professional investment	2.31 \pm 0.86	2.05 \pm 0.87	2.988	0.003*
Stress Manifestations				
Emotional manifestation	2.32 \pm 1.00	2.19 \pm 1.02	1.167	0.244
Fatigue manifestation	2.45 \pm 0.97	2.26 \pm 0.86	2.073	0.039*
Cardiovascular manifestation	2.25 \pm 1.09	1.89 \pm 0.97	3.487	0.001*
Gastronomical manifestation	1.87 \pm 1.09	1.58 \pm 0.92	2.875	0.004*
Behavioral manifestation	1.64 \pm 0.88	1.30 \pm 0.63	4.383	0.0001*
Total Stress Score	2.47 \pm 0.58	2.16 \pm 0.57	5.375	0.0001*

SD – Standard deviation

* Statistically significant $p < 0.05$

Among public school teachers, professional distress (mean score 3.35 \pm 0.91) ranked highest among the source of stress domains followed by time management (mean score 2.99 \pm 0.64) with professional investment (mean score 2.31 \pm 0.86) ranking lowest. In private schools, time management (mean score 2.98 \pm 0.64) was the highest source of stress, followed by professional distress with professional investment ranking lowest (mean score 2.31 \pm 0.86). These differences in mean scores were significant except for time management.

The distribution of the stress manifestations was the same in public and private schools with fatigue manifestations having the highest mean scores and behavioral manifestations having the least mean scores. The means for all the manifestations differed significantly except in emotional manifestations.

The level of stress experienced by teachers in both schools was average as total stress scores (TSS) for both school types was between 1.91 and 3.28 values, however, the level of stress experienced by public school teachers was significantly higher than that of private school teachers ($t=5.375$, $p=0.0001$).

Table 5: Comparison of the demographic and teaching related factors among teachers with workplace stress in public and private primary schools

Variables	Public (n = 39)	Private (n=16)	Fisher's exact
Age group			
18 –29years	0 (0.0)	3 (18.7)	0.012
30– 39years	16 (41.0)	9 (56.3)	
40 – 49 years	7 (18.0)	2 (12.5)	
50 --70 years	16 (41.0)	2 (12.5)	
Sex			
Male	6 (15.3)	3 (7.7)	0.76
Female	33 (84.7)	13 (92.3)	
Marital status			
Single	4 (10.3)	5 (31.2)	0.16
Married	31 (79.4)	10 (62.5)	
Separated	0 (0.0)		
Widowed	4 (10.3)	1 (6.3)	
Educational level			
Secondary	1 (2.6)	1 (6.2)	0.16
Tertiary	35 (89.7)	15 (93.8)	
Post-tertiary	3 (7.7)	0 (0.0)	
Years of teaching practice			
1–5 years	2 (5.1)	2 (12.5)	0.010
5–10 years	6 (15.4)	7 (43.7)	
10–15 years	4 (10.3)	4 (25.0)	
15–20 years	1 (2.5)	1 (6.3)	
>20 years	26 (66.7)	2 (12.5)	
Class level			
Pry one	5 (12.8)	4 (25.0)	0.27
Pry two	5 (12.8)	1 (6.2)	
Pry three	7 (17.9)	4 (25.0)	
Pry four	8 (20.6)	0 (0.0)	
Pry five/six	14 (35.9)	7 (43.8)	
Number of pupils per class			
0 – 10	1 (2.5)	4 (25.0)	0.001
11 – 20	2 (5.1)	11 (68.7)	
21 – 30	18 (46.2)	0 (0.0)	
> 30	18 (46.2)	1 (6.3)	

Table 5 shows that among teachers who were stressed those teaching in public schools were significantly older, had spent a longer time teaching, and had significantly larger class sizes than those teaching in private schools. (*p-value* < 0.05)

Discussion

The findings from this study showed that about one tenth of the teachers studied were classified by the TSI as stressed. However, there were significantly higher numbers of stressed teachers in public schools compared to private schools. Public school teachers

were almost three times more likely to be stressed than private school teachers. Professional distress, time management, and work stressors ranked highest as sources of stress among public and private school teachers with significant differences between stress scores in all stress source categories aside from time

management. Emotional manifestations, fatigue and cardiovascular manifestations had the highest stress manifestations scores in both public and private teachers. There were significant differences in the scores for all categories of manifestations aside from emotional manifestations. Public school teachers who were classified as stressed were significantly older, had been teaching longer and had larger class sizes compared to private school teachers.

The prevalence of stress identified in this study was lower than that found in similar studies in the Philippines, Ibadan (Nigeria) and Malaysia.^{18,19,20,21} This may be as a result of the higher mean stress score used as cutoff for identifying stress used in this study compared to the other studies. It may however allude to a stronger stress coping attitude in Port Harcourt which is a fast-paced town compared to Ibadan which has a slower pace. The significantly higher prevalence of stress observed in private school compared to public school teachers in this study was corroborated by the two studies done in Ibadan.^{19,20} However, three similar studies among public and private primary school teachers in India, found private school teachers to have higher proportions of severe and moderate stress compared to public school teachers.^{8,22,23} This observed difference could be due to variations in the educational system and sources of stress among public and private school teachers in India compared with Nigeria.²⁴

Professional distress was identified as the highest source of stress among public school teachers. The professional distress domain in the TSI covers the issues of job status and respect, remuneration, reward/recognition for effort and career advancement. This exposes poor remuneration of teachers coupled with delayed payment of salaries and lack of promotion among teachers in the public sector as a high stressor. The second highest ranking stress domain for public teachers was time management. This is a domain that covers such issues as over-commitment, feeling of discomfort with time wastage, multi-tasking on the job, lack of leisure time, impatience with others, loss of attention, communication difficulties under pressure and general time pressures. The third highest stress domain was work related stress referring to preparation of lessons, administrative workload, pace of work, caseload/class size, school structure and organization. Work overload along with interpersonal conflict and organizational constraints has been shown to result in depression through increasing job burnout.²⁵ All these stressors occurred more frequently and to a higher degree of severity in public schools compared to private schools. This infers a failure by government to implement best practices in administration of their schools with absence of an enabling environment for teaching and learning.

The dynamics of having older teachers in public school, who have taught longer and have larger classes sizes than private school teachers may explain the higher stress levels among public school teachers compared to primary school teachers. A large class size means more work needs to be done to keep the class under control, teach and mark assessments and exams. Younger teachers would have more stamina to go through these rigors without having significant stress manifestations than older teachers. Study findings about large class sizes in public school also alludes to a non-enforcement of policies to ensure recommended/optimum class size in order to avoid work overload. Private schools often have active Parent Teachers Association who hold the school management accountable to implement best practices in teaching and administration of the schools.

Workplace stress and its manifestations have negative effects on work satisfaction, teaching effectiveness and productivity among teachers in primary schools. Students in public schools are often unsupervised and poorly taught. It also has negative impact on the health of teachers with a possibility for increased prevalence in stress-related diseases such as hypertension. A recent study in China showed that workplace stress negatively predicted the wellbeing of teachers in primary and secondary schools and caused family-work conflicts while a study in Indonesia showed that workplace stress and job performance in teachers are negatively correlated.^{26,27} The findings of this present study have several implications for schoolteachers, school authorities, and policy makers in the educational and health sector. Teaching is a stressful job with negative health implications as seen in this study. Teaching in public schools is particularly more stressful. This can result in increasing sickness absences and, loss of productivity with negative effects on teacher effectiveness and the quality of education. There is therefore need for interventions at the level of enforcement of policy about optimum class sizes, employment of more teachers and building more government schools to cater for the teeming populace of school aged children. The policy of free public education in Rivers State may also need to be reviewed as it is evident that government is unable to adequately provide the kind of quality education that portends minimal stress for its teachers.

Conclusion

This study showed that teachers employed by the government are experiencing more workplace stress than their private school counterparts and exposes the main sources of workplace stress among teachers as professional distress, time management and workplace distress. It also implicates large class sizes, increasing age

and teaching years as underlying risk factors for greater stress among public school teachers compared to private school teachers. Rethinking the free education policy in the state, enforcement of policy for class size, employment of more teachers and provision of more public schools is advocated.

Declarations

Ethical Consideration: Ethical approval for the study was obtained from the University of Port-Harcourt Teaching Hospital Ethics and Research Committee. Written permission was obtained from the Rivers State Primary Schools Management Board, and a copy of this was presented to the head of each school selected for the study.

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