

Stress among Secondary School Teachers in Ebonyi State, Nigeria: Suggested Interventions in the Worksite Milieu

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Abstract

The aim of the study was to determine the level of stress experienced by secondary school teachers in Ebonyi State. The dimensions of stress studied included physical stress, mental stress, emotional stress and social stress. The study adopted the cross-sectional survey design using a sample of 660 (male 259, female 401) teachers randomly drawn from 33 secondary schools in Ebonyi State. The secondary schools were selected from two (Abakaliki and Afikpo) out of three education zones in Ebonyi State. In each school 20 teachers were randomly selected using systematic random sampling technique. A self-developed instrument titled: Teacher Stress Questionnaire (TSQ) was used to collect data for the study. Five experts in Health Education and Psychology were used for validating the TSQ. Data collected from 30 secondary school teachers yielded an overall reliability coefficient of $r = 0.72$. The researchers personally collected the data which were analysed using mean, standard deviation, t-Test, Pearson's correlation and Stepwise Multiple Regression. Six hundred and fourteen copies (male 232, female 382) of the questionnaire, representing about 93% return rate, were used for analysis. The results showed that the secondary school teachers had a high level of stress and the difference in the level of stress reported by male and female teachers was significant with male teachers reporting higher level of stress than female teachers. Each dimension of stress contributed significantly to the overall level of stress experienced by the secondary school teachers. Interventions, such as stress management, can be carried out to reduce stress in the worksite.

Keywords: Stress, Secondary school teachers, Interventions, Worksite milieu

1. Introduction

It is a commonly held belief that teaching can be a highly stressful profession (Jarvis, 2002). This is supported by national survey data from the United Kingdom (Dunham & Varma, 1998; Travers & Cooper, 1996). Travers and Cooper (1996) found that one quarter of the 1,790 teachers surveyed, from a cross-section of schools reported that they regarded their profession as very or extremely stressful. The National Union of Teachers (NUT) reported that stress is one of the biggest problems facing teachers, and that it is the main health and safety concern in four out of five schools studied (NUT, 1999). Compared to other occupational groups (e.g., doctors, dentists, nurses) teachers experience lower job satisfaction and poorer mental health, such as anxiety and depression (Travers & Cooper, 1993)

Stress is the abnormal reaction that the organism displays against threatening environmental elements (Luthans, 1994). Stress, which is a general term used for pressure that people are exposed to in life (Jepson & Forrest, 2006) may be 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). When a person feels insufficient in dealing with demands and challenges faced in life, he or she experiences stress. Being harmed by this situation or taking advantage of it mainly depends on the person because stress may either be a factor threatening the organism physically or psychologically or a power which gives energy in dealing with life (Muthuvelayutham & Mohanasundaram, 2012) giving rise to physical, mental, emotional and social reactions. Sources of stress may be classified as individual, organizational and outside of organization (Gupta, 1981; Kreitner & Kinick, 1992) or it is possible to divide them into two groups as individual and organizational components (Nahavandi & Malekzadeh, 1999; Smith & Milstein, 1984). Organizational stress, which is also called professional stress, is the interaction between working conditions and the working person in environments in which the work demand exceeds the skills of the worker (Ross & Altmaier, 1994). The elements that cause stress in organizations are environmental factors and the behaviour formed as a result of the pressure of these elements on the individual (Amason, Allen, & Holmes, 1999). These factors may be monotony, change of technology, excessive work load, job security, ergonomics, management problems (Cooper and Davidson, 1987; Sutherland & Cooper, 1990), the hindrance of the drive of success, personal ambitions, the lack of harmony between person-role (Yates, 1989) and individual characteristics (Quick & Quick, 1984), the feeling of insufficiency (Ivancevich, Matteson, Freedman, & Philips 1990). Shortly, organizational policies, the structure and the climate of the organization, physical conditions and process are the basic factors of stress in the organization (Luthans, 1994). In addition, cultural and geographical factors such as climate and religion may shape factors of stress (Cooper & Davidson,

1987). Stress in working people results in various feelings such as worry, fear and depression (Margolis, Kroes, & Quinn, 1974). The first symptoms of stress in workers are; laziness, absenteeism at work (Furnham, 1997) and the decrease in performance and production (Atkinson, 1995; Schafer, 1996).

However, a bit of stress is necessary to gain outstanding success. Because of this, successful people are those who convert their stress to creative energy and creative power (Krüger, 1993). Some experts argue that those who work in a moderate level of stress work with a higher performance (Steers, 1981). Besides, a moderate level of stress may have a motivating effect if the individual's comprehension of roles is positive (Hargrove, Quick, Nelson, & Quick, 2011). Each profession causes a specific level of stress. However, teaching is one such profession that causes more stress compared to other professions (Hargreaves, 1999; Pithers, 1995). Stress affects both the teacher and the learners in the teaching process (Forlin, Douglas & Hattie, 1996). Kyriacou (1987) who has carried out varied studies on teacher stress, defined teacher stress as the experiencing of unpleasant feelings such as depression, anger, worry, irritableness and tension which are formed as a result of working as a teacher.

Teacher stress is defined as experiences in teachers of unpleasant, negative emotions, such as anger, frustration, anxiety, depression and nervousness, resulting from some aspect of their work as teachers (Kyriacou, 2001). While stress can also be related to apprehension, irritation, agitation, fear, annoyance, mental discomfort, nervous upset, inability to cope, frustration, unhappiness, etc. (Laughlin 1984), Lazarus and Folkman (1984) defined stress as a relationship between the person and the environment within which the person finds it to be taxing or exceeding his or her resources and endangering his or her well-being. The amount of research on teacher stress has increased steadily, and has now become a major research topic in many countries (Vandenbergh & Huberman, 1999; Kyriacou, 2001; Hanizah, 2003). Social, cultural, economic and educational differences between countries mean that one must be cautious in applying research carried out in one country to another country. It is important for research regarding teacher stress to be carried out in individual countries, where local circumstances can be taken into account in the design of the study.

The teaching profession has been categorized as an occupation at high risk for stress (Chan & Hui, 1995; Pithers & Fogarty, 1995). The Health and Safety Executive (2000) in the United Kingdom reported that teaching was the most stressful occupation, compared to other occupations; such nursing and engineering. In a study, Nwimo (2005) reported that secondary school teachers in Enugu State suffered a low level of stress contrary to the belief that teaching was the most stressful occupation. This scenario makes one to be at cross roads, thus a study to clear this confusion, at least, with regard to the level of stress suffered by secondary school teachers in Ebonyi State became pertinent. Measuring teacher stress is important and can play an important role in understanding the processes that lead to teacher burnout. Burnout is described as the inability to perform both functionally and effectively in employment settings due to extensive exposure to job-related stress (Dorman, 2003). The aim of this study was to determine the level of stress among teachers in secondary schools in Ebonyi State. Information generated in this study will be useful to the government in alliance with Ministries of Health and Education in order to plan worksite (school) intervention programmes that might save the teachers from the noxious effects of stress.

2. Theoretical Framework

This study was based on person-environment (PE) Fit theory of stress. This the most widely accepted framework for conducting research on job-stress (Brewer & McMahan, 2004; Edwards, Caplan & Harrison, 1998; Edwards & Cooper, 1990; Kokkinos, 2007; Spielberger & Vagg, 1999). PE Fit theory of stress asserts that the interaction between an individual and his or her environment determines whether or not a situation is stressful for that person. It assumes that human behaviour is a function of the person and the environment, and that a person's vocational satisfaction, stability and achievement depend on the congruence or fit between the person's personality and the environment in which the person works (Herr, Cramer, & Niles, 2004; Kokkinos, 2007; Salami, 2006).

In the context of the worksite, the individual's attributes are interests, transferable skills, career motives and values, personality preferences, career orientations, self-concept and sense of self-efficacy. The work environment includes individual's expectations and perceptions regarding workload, control over one's work, tangible and intrinsic rewards of work, the relationship and sense of community among co-workers, perceptions of fairness in the worksite and the role of personal and organizational values (Herr, Cramer, & Niles, 2004). Stress results if the fit between an individual and environment is incompatible. Similarly, lack of fit between the demands placed on individuals and their abilities to meet those demands can result in stress. Though there are evidences that stress occurs as a result of complex interaction between individual characteristics and issues in the work environment, research has not systematically considered the role of person variables, such as gender, in this direction especially studying the manifestation of stress among secondary school teachers in the area of the present study. Charlie (2001) noted that there is gender based differences in teachers' stress. Ahlberg, Kononen, Rantala, Sarna, Lindholm and Nissinen (2003) also approved to the fact that females are more exposed to stress

than their male counterparts. According to Abosede (2004), female workers are more stressed because they attempt to strike a balance between professional and home responsibilities.

3. Methods

A cross-sectional survey was carried out between February and April 2012, among 660 (male 259, female 401) teachers randomly drawn from 33 secondary schools in Ebonyi State. The secondary schools were selected from two (Abakaliki and Afikpo) out of three education zones in Ebonyi State. In each school 20 teachers were randomly selected using systematic random sampling technique. Compiling two lists one for male and the other for female teachers, facilitated this.

The researchers used literature-based self-developed questionnaire titled: Teacher Stress Questionnaire (TSQ), which consisted of 46 items. Section A, contained one item about the gender of the teachers. Section B, consisted of 45 items on stress symptoms of which 15 items were meant to elicit information of the physical stress of the teachers, 10 items enquired about the mental stress, 11 items sought information on emotional stress and 10 items were meant to gathered information on social stress of the teachers. Five experts in Health Education and Psychology from Ebonyi State University, Abakaliki were used for validating the TSQ. Data collected from 30 secondary school teachers in Onueke education zone of Ebonyi State, not included in the study, were used for test of reliability using Cronbach alpha. The data yielded an overall reliability coefficient of $r = 0.72$. However, the reliability coefficient of each sub-scale of the questionnaire namely; physical stress (PHS $r = 0.76$), mental stress (MTS $r = 0.71$), emotional stress (EMS $r = 0.69$) and social stress (SOS $r = 0.64$) were computed separately. The reliability coefficients were considered high enough for the study based on Ogbazi and Okpala's (1994) suggestion of .60 for good instruments.

Permission was granted from the principal of each secondary school included in the study prior to data collection. A consent note with the explanation for the research purpose, method of response and assurance of anonymity was attached to each copy of the TSQ. The researchers administered the TSQ on the teachers in the staff room. The copies of the TSQ were collected from the teachers immediately on completion.

In analyzing the data collected, the completed copies of the TSQ were examined for completeness of responses and copies that had incomplete responses were discarded. Out of 660 copies of the TSQ administered; 614 (male 232, female 382) representing about 93% return rate, were used for analysis. The response columns of the TSQ were allocated scores as follows: Always (AL) = 4, occasionally (OC) = 3, rarely (RA) = 2 and never (NE) = 1. The criterion mean for the study was obtained by adding all the scores assigned to the response options and dividing the sum by the number of the response options as follows:

$$\frac{4 + 3 + 2 + 1}{4} = \frac{10}{4} = 2.5$$

Thereafter, Olaitan's (1983) criterion adapted from Likert's scaling was applied to categorise the constructs being studied for the purposes of description. A criterion mean of 2.50 and above was adjudged high level of stress. Pearson's correlation coefficient r was employed to establish the relationship that exist among the dimensions of stress of the teachers. In order to describe the relationship between the variables, Wilson's (1989) interpretation of the value of ' r ' was adopted. In the interpretation, a value of 0.01-0.19 was considered 'very low' relationship; 0.20-0.39 'low'; 0.40-0.69 'moderate'; 0.70-0.89 'high'; 0.90-0.99 'very high', and 1.0 'perfect' relationship. A plus (+) or (-) sign indicates whether the correlation is positive or negative. Student t-Test statistic was employed to establish whether any significant difference existed between male and female teachers in the level of stress they suffered, while Stepwise Multiple Regression was employed to check the stress prediction strength of each dimension of teacher's stress at 0.01 and 0.05 levels of significance, respectively. All data analyses were done with Statistical Package for Social Sciences (SPSS) Version 20.0 for Windows.

4. Results

Table 1: Mean, standard deviation and t-test results of stress level between male and female secondary school teachers

Variables	Overall			\bar{x}	SD	t-cal	df	t-crit.
	\bar{x}	SD	N					
Physical Stress (PHS)	3.30	0.41						
Male			232	3.33	0.42			
Female			382	3.28	0.40	1.478	612	1.960
Mental Stress (MTS)	2.92	0.48						
Male			232	2.96	0.51			
Female			382	2.89	0.46	1.862	612	1.960
Emotional Stress (EMS)	3.55	0.39						
Male			232	3.61	0.40			
Female			382	3.51	0.37	2.840*	612	1.960
Social Stress (SOS)	3.14	0.52						
Male			232	3.25	0.51			
Female			382	3.07	0.51	4.253*	612	1.960
Stress	3.22	0.32						
Male			232	3.21	0.28			
Female			382	3.13	0.28	3.397*	612	1.960

* Significant at $p < 0.05$

Table 1 shows that the teachers' mean score for each of the dimensions of stress index namely: PHS ($\bar{x} = 3.30$), MTS ($\bar{x} = 2.92$), EMS ($\bar{x} = 3.55$) and SOS ($\bar{x} = 3.14$) is above the criterion mean ($\bar{x} = 2.50$) set for the study. The table also shows that the respondents' overall stress index ($\bar{x} = 3.12$) is above the criterion mean set for the study, indicating a high level of stress. The standard deviations show that the respondents' responses do not vary so widely. When male and female teachers are compared, it is observed that male teachers have higher stress scores in all the dimensions of stress and overall (male $\bar{x} = 3.21$, female $\bar{x} = 3.13$) than female teachers and the differences are significant except in PHS ($t = 1.478 < 1960$, $p < 0.05$) and MTS ($t = 1.862 < 1960$, $p < 0.05$).

Table 2: Correlation matrix among components of stress

Components of Stress	PHS	MTS	EMS	SOS
PHS	1			
MTS	0.345**	1		
EMS	0.301**	0.414**	1	
SOS	0.248**	0.339**	0.416**	1

** Significant at $p < 0.01$

Table 2 shows that the teachers' PHS relates to MTS ($r = .345$), EMS ($r = 0.301$), and SOS ($r = 0.248$); and MTS relates to EMS ($r = 0.414$); SOS ($r = 0.339$) and SOS relates to EMS ($r = 0.416$). The above results suggest that positive relationship exists among the various components of stress, that is, increase in one leads to increase in another.

Table 3: Summary of stepwise regression analysis of no significant relationship between stress and dimensions of stress

Variables	Stress						
	R	R ²	β	95% CI	F-cal.	df	F-crit.
PHS	0.595	0.355	0.414	0.370-0.458	336.259*	1	
MTS	0.323	0.105	0.105	0.146-0.234	71.491*	&	3.840
EMS	0.539	0.290	0.396	0.347-0.445	250.149*	612	
SOS	0.782	0.611	0.428	0.401-0.455	962.364*		

Significant at $p < 0.05$

Table 3 shows that the R-value for PHS is 0.595, while the F-cal. = 336.259 > 3.840, $p < 0.05$. The F-cal. is greater than the critical F-value of 3.840 at 0.05 alpha. This is an indication that there is a significant relationship between PHS and stress of the secondary school teachers. The value of regression weight $\beta = .414$

(95% CI = 0.370-0.458), which accounts for 41.4% of the variance, indicating a positive relationship and a moderate predictive value of stress of the teachers. The table also shows that the R-value for MTS is 0.323, while the $F\text{-cal.} = 71.491 > 3.840$, $p < 0.05$. Therefore there is a significant relationship between MTS and stress of the teachers. The value of R weight $\beta = 0.105$ (95% CI = 0.146-0.234), which tends to account for 10.5% of the variance indicates a positive relationship and very low predictive value of stress of the teachers. The table further shows that the R value for EMS is 0.539, and the $F\text{-cal.} = 250.149 > 3.840$, $p < 0.05$. Therefore there is a significant relationship between EMS and stress of the secondary school teachers. The value of regression weight $\beta = 0.396$ (95% CI = 0.347-0.445) accounting for 39.6% of the variance indicates a positive relationship and a low predictive value of stress of the teachers. Finally the table shows that the R value for SOS is 0.782, and the $F\text{-cal.} = 962.364 > 3.840$, $p < 0.05$. Therefore there is a significant relationship between SOS and stress of the secondary school teachers. The value of regression weight $\beta = 0.428$ (95% CI = 0.401-0.455) accounting for 42.8% of the variance indicates a positive relationship and a moderate predictive value of stress of the teachers.

5. Discussion

The present study examined the level of stress among secondary school teachers in Ebonyi State. Data in Table 1 showed that the teachers reported a high level of stress in all the dimensions (range $\bar{x} = 2.92\text{-}3.55$) and overall stress ($\bar{x} = 3.22$, $SD = 0.32$). These findings are at variance to those reported in previous studies (Mokhtar, 1998; Nwimo, 2005) among secondary school teachers. For instance, a group of teachers Nwimo (2005) studied in a neighboring Enugu State had a low level of stress. Though this revelation was made many years ago, it was not surprising that the teachers in the present study reported a high level of stress for obvious reasons. One may rightly suspect that the present day economic insecurity and, may be, inadequate teaching facilities could have played a role on the findings of the present study. This suspicion corroborates those of Hanizah (2003) who concluded that the high level of stress among secondary school teachers he studied was due to the working environment of the teachers, where all the teachers in neighboring countries and communities around were using information technology to execute their job, the teachers he studied were still using make shift approaches. The level of job stress is expected to correspond closely to the country's economic development. Higher job stress is observed in subjects from countries with a lower degree of economic development (Hanizah, 2003), such as in Nigeria.

When the level of stress was compared between male and female teachers, differences found in the overall stress [$t(612) = 3.397 > 1.960$, $p < 0.05$] and EMS [$t(612) = 2.840 > 1.960$, $p < 0.05$] and SOS [$t(612) = 4.253 > 1.960$, $p < 0.05$] were significant. These findings are in line with those of Philips, Sen and McNamee (2007) and Hanif, Tariq and Nadeem (2011) who found significant differences in the level of stress reported by male and female teachers they studied. However, the findings are at variance to those of Chan, Chen and Chong (2010) who revealed no significant differences between their male and female respondents.

Results in Table 2 explored the interrelationship among the four components of stress. The findings showed that the relationship between and or among the components was positive. These findings corroborate the findings of an earlier study on teacher stress (Tsai, Fung, & Chow, 2006; Nwimo, 2007). Stepwise Multiple Regression was used to explore the significance of the relationship between the level of stress reported by the teachers and the dimensions of stress. It was observed that the relationship between the overall level of stress and each of its dimensions was significant. This indicates that each dimension contributed significantly to the level of stress reported by the secondary school teachers. The regression B weight (range $B = 0.190\text{-}0.428$) indicated that each dimension accounted for not less than 19.0% of the variance. This is an indication that each dimension could, to some extent, predict the level of stress which teachers experience (Rozihaya, 1998; Nor Salmi, 2002).

This study has some limitations. First, the cross-sectional nature of this study limits the capacity to demonstrate a cause effect relationship between individual and occupational variables and stress level. Second, the study did not take into account all the characteristics of the working environment that could have introduced a source of potential bias (especially working hours, subjects taught and working position). Third, secondary school teachers generally could have similar responsibilities. This means differences in job demands and job control are more a reflection of individual perception of the work situation than in studies where persons from different occupations are included. Therefore, the results can not be generalized to other populations.

6. Suggested Interventions in the Worksite Milieu

The findings of this study provided information regarding the level of stress among secondary school teachers in Ebonyi State. A number of the results of the present study are important for the potential they have in terms of public health and policy implications, especially because some easy to implement measures to change conditions or behaviour at work could help improve the conditions of teachers. Better information for teachers could improve teacher behaviour, which could have an impact on the occurrence of problems that could exacerbate stress among teachers. Evaluation of some areas, such as adopting new teaching strategies duty and levels of extra-curricular involvement, could provide a better regulatory framework within which education staff would be

able to find solutions to some of their problems. Other interventions, such as stress management, can be carried out to reduce stress in the worksite.

While few would deny that teaching is a demanding profession, many would be surprised at how acutely stressed today's teachers have become. Research paints a fairly bleak picture of the working conditions they face, despite efforts on several fronts to address workload and performance pressures (Hill, 2008). The causes of stress, however, are many and diverse. Like the aggregation of a ton of feathers, a multitude of contributing factors weighs heavily on the shoulders of today's teachers.

With stressors coming from all directions, no single panacea can entirely ease the burden on classroom teachers. However, research shows that effectively integrated information and communication technology (ICT) may help alleviate some pressure related to task loads (Bitner & Bitner, 2002). Specifically, use of interactive whiteboards has been shown to positively influence the planning, delivery and revision of lesson material, resulting in decreased task times and workload, reduced anxiety and increased opportunities for teachers to pool scarce resources (Kitchen, Finch, & Sinclair, 2007; Somekh, Haldane, Jones, Lewin, Steadman, Scrimshaw, et al., 2007).

A comprehensive, solution-based approach to interactive whiteboard integration is necessary to ensure successful adoption and maximize benefits to teachers and students. In many cases, inadequate integration strategies exacerbate the very issues the interactive whiteboard was intended to resolve, by increasing pressure on individual teachers to learn and use new tools in an unsupportive environment. As with any ICT investment, appropriate training, resources and support are necessary to fully realize the inherent benefits of interactive whiteboards (Armstrong, Barnes, Sutherland, Curran, Mills, & Thompson, 2005).

7. Conclusion and Recommendation

Teacher stress has become an area of interest among researchers and practitioners in most countries across the globe. Although this study has indicated that stress levels among secondary schools in Ebonyi State are high, it must be pointed out that caution must be exercised in making strong generalizations. It is therefore suggested that additional research, perhaps incorporating physiological techniques to obtain measurements of stress levels, needs to be conducted so that the teachers' stress symptoms can be better understood.

The high level of stress experienced by the secondary school teachers is capable of increasing risks of health problems, lead to reduced productivity and impact significantly on the teachers and the school, its staff, students and the state as a whole. However, stress management programmes should be initiated in secondary schools to assist teachers manage their stress. This is because management of stress is an aspect of health promotion in the worksite, especially the school.

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