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Teachers' Factors, Self-Efficacy and Social Desirability as Correlates of ICT Utilization for Stress Management among Secondary School Teachers in Oyo State, Nigeria

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Abstract

The study examined correlates of information and communication technology utilization for stress management among secondary school teachers in Oyo State, taking an in-depth study of Ibadan North Local Government Area. A sample of 160 teachers were randomly selected from which an "Information and Communication Technology for Stress Management Questionnaire" $r=0.73$ was used to collect data. Findings of the study indicated a significant relationship $r= 0.648$, $p<0.05$ between teachers' attitude to and the use of ICT for stress management. Social desirability was significantly related to the use of ICT for stress reduction $r= 0.68$, $p<0.05$, while teacher computer self-efficacy ($r=0.116$, $p>0.05$) and teachers' personal characteristics were not significantly related to the use of ICT for stress management among secondary school teachers $r= -0.167$, $p>0.05$. The outcome of the study revealed that secondary school teachers' attitude and social desirability among staff are functions of whether teachers will reject or adopt ICT for stress management activities at the secondary school level. It was recommended that teachers and the administrative staff in secondary schools should develop positive attitudes towards the use of smart devices especially for stress management.

Keywords: stress, management, attitude, desirability, self-efficacy

Introduction

Attracting, developing and retaining future teachers as nation builders are major concerns to the various stakeholders in education. In developing nations, there seems to be a shortage of qualified teachers in many schools, while the few ones available are saddled with more than enough workload (Moore, 2003). In Nigeria, many school teachers assigned to classes find themselves teaching six to eight lessons daily. Nigerian teachers seem to be having a hard bite of a stressful recipe because of changes in government, government frequent demands for school reports, change in policy and poor pay (Agbatogun, 2010).

Teaching, like other professions, involves stress which is an inevitable result of challenges, flavour and change which adds zest for living. Stress as viewed by Olley (1999) is a physiological and behavioural response of an individual seeking to adopt and adjust to both internal and external pressures. Health Information Publications (2005), defined stress as the emotional and physical strain caused by our response to pressures from the outside world. While, Dalloway (2007), see stress as an automatic physical reaction to danger, demands or threat, Love and Irani (2007) describe it as the individual's inability to cope with excessive workplace demand or job pressure, and (Hartig, Kylin & Johansson, 2007) presented stress as a process of responding to an imbalance between demand and resources.

The implication of the above definitions is that too much pressure can be placed upon teachers in schools arising from factors like unnecessary deadlines, attempts to impress boss/employer, job insecurity and large class size. (Gupta, 1981; Ling, 1991; Johnstone, 1993; King, 2002; Calloway, 2003; Moore, 2003; Abosede, 2004; Fields, 2005 & Georgia Reproductive Specialist, 2005). Wright (2008) re-affirms that workplace stress is borne out of attrition and the demand for more in less time by the school system.

Individual demographics such as marital status and level of educational attainment have been relatively omitted from occupational stress research (Amick, Kawachi, Coackley, Lerner, Lerner, Levine & Colditz; 1998). In the opinion of Somerfield and McCrae (2000), significant factors that influence individuals' stress coping behaviour include variables like level of educational qualification and marital status. Empirical findings indicate that the use of telework as a stress coping strategy differs among people of varying educational category Hartinget *et al.*, 2007). Similarly, marital status has been fingered to have a relationship with the individual's ability to manage stressful events through whatever (Love and Irani, 2007). Charlie (2001) notes that there are gender based differences in teachers' stress. Ahlberg *et al.* (2003) also allude 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. Abosede (2004) Smith and Pergola (2006), argue that awareness of the level of stress and its coping strategies are more important than the type of pressure one faces in his or her workplace. Mueller (2001) observed that information and electronic technologies (IET) have been sources of great relief in various work places. Teachers' involvement in exercises and relaxation therapies which involve the use of appropriate IET is one of the best approaches to reducing stress in schools (Godfrey, Bonds, Kraus, Wiener & Toth, 1990; Moore, 2005).

A major resource capable of influencing the job performance of teachers in the present day education is ICT, and which is yet to be given its pride of place in Nigerian secondary schools. The term, ICT includes communication devices or applications, such as radio, television, cellular phones, computer and network hardware and software and satellite system. The use of computer instructional programmes such as Computer Assisted Instruction (CAI), Computer Mediated Instruction (CMI), Computer Aided Design (CAD), Computer Assisted Learning (CAL), for teaching and learning process reduces teacher's tension and burden (Calloway, 2003; White & Le Cornu, 2004). In the same vein, Belisle (2003) and Moore (2005) suggest that teachers' stress could be reduced through the use of radio and web-based systems that will assist the teacher to prepare and plan their lessons. Stress is the "wear and tear" the body experiences as we adjust to continual environmental demands. Panebianco (2003) affirms that teachers' access to videocassettes, television, digital video and newspapers is a bastion of hope and an empowering tool that improves human productivity in the educational system.

Calloway (2003) and Moore (2005) argued that technology machines do things faster and better than human beings; thus reducing anxiety and nervousness. Smooth (2007), stresses the efficacy of smart technology as a coping strategy in stress reduction. Smart technology reduces tension and nervousness by allowing the user to breathe deeply while working throughout the day. Teaching by nature is a highly demanding profession which generates a high level of stress, burnout. One of the ways to deal with this problem is to appropriate the opportunity of using ICT in routine activities.

Attitude is described as important to either success or failure in a given endeavour. Bahr (1997) defines attitude as a positive or negative feeling associated with a specific psychological object. Attitudes are predisposition to classify sets of objects or events and to react to them with some degree of evaluative consistency. It is important that teachers have a positive attitude towards the use of ICT for effective teaching and learning. Therefore we consider that researching the attitude of teachers

towards the adoption and use of ICT for stress management is of great significance. Cho (2006) argue that a person's beliefs anticipate their attitude. Positive disposition towards the use of ICT may further enhance employee's effectiveness while reducing stress.

Cho (2006) and Bai, Low and Wen (2008) found a relationship between personal characteristics and adoption of ICT especially for stress reduction and management. Personal or demographic variables of the employees, such as sex, age, time of employment and position in the company's hierarchy were considered germane to gainful utilization of ICT devices. Perceived self-efficacy as the person's assessment of their ability to organize capabilities of concrete know-how, within the society and in relation to the behaviour they already demonstrate, so that by mastering them they may fulfil the requirements presenting themselves at a possible situation. Margarita (2001) found that self-efficacy significantly influenced adoption of ICT among company's employee. Ajzen and Madden (1986), reported that the social desirability/subjective norm expresses the social pressure that is placed on the individual to perform a specific behaviour.

The zeal by the government and school administrators to integrate ICT into the educational process may be due to the gain it yields both to teachers and learners. Carlson and Gadio (2002) reported that teachers who succeed in making use of ICT in their work process do not only contribute to improved learning outcomes in their students, but also benefit personally from enhanced work productivity, reduced isolation, stress and increased professional satisfaction. Therefore the need to examine the use of ICT in stress reduction among secondary school teachers is of paramount importance.

Statement of the Problem

Teacher effectiveness is reflected in how secondary school teachers are able to combine and manage school activities that are likely to cause friction to the smooth running of teaching and learning. Poor management of teaching and learning activities may result in having a stressful day and cause diseases such as high blood pressure and insomnia. Stress reduction is a vital part of achieving and maintaining good health and productivity. Although research investigating the effects of occupational stress on productivity began in the early 1950s worksite programme to improve employee health and reduce the effects of stressors began much later. In Nigeria, there have been studies on teachers and stress management with several recommendations outside the scope of ICT. With the introduction of ICT into everyday life of Nigerians and its adoption in secondary school system, this research is poised to find out the possibility of using ICT to track stress and reduce it among secondary school teachers using Ibadan North Local Government Area as a test case.

Research Questions

1. What is the strength and direction of relationship between teachers' attitude and the use of ICT for stress management among secondary school teachers?
2. What is the strength and direction of relationship between teachers' personal characteristics (gender, teaching experience and age) and the use of ICT for stress management among secondary school teachers?
3. What is the strength and direction of relationship between teachers' ICT self-efficacy and the use of ICT for stress management among secondary school teachers.
4. What is the strength and direction of relationship between teachers' social desirability of the school community and the use of ICT for stress management among secondary school teachers?

Methodology

i. Design

This study adopts survey research method.

ii. Population and Sample

The population of the study consists of all 1,610 secondary school teachers in Ibadan North Local Government Area of Oyo state. Multi-Stage sampling procedure was used to select participants for the study. At the first stage, simple random sampling technique was used to select 10 out of 36 secondary schools in Ibadan North Local Government Area of Oyo State. At the second stage, the random sampling technique was also used to select 16 teachers from each secondary school in the study area to make the total sample of 160 teachers.

iii. Instrumentation

The instrument used for the study was a questionnaire designed by the researcher which was titled "Use of Information and Communication Technologies for Stress Management Questionnaire" (UICSMQ). The instrument is divided into four sections: section A elicited responses on respondent's demographic characteristics, section B consists of items measuring stress management using ICT. Sections C, D and E collected information on teacher's attitude, self-efficacy and influence of social desirability.

iv. Reliability of the Instrument

The reliability of the instrument was established by conducting a pilot study on the 30 teachers that were different from those used for the study. It yielded a reliability coefficient value of 0.73. This indicated that the instrument used is reliable. The data collected were subjected to statistical analysis. The research questions were tested using Pearson Product Moment Correlation (PPMC) at 0.05 level confidence.

Results

Research Question 1

What is the strength and direction of relationship between teachers' attitude and the use of ICT for stress management among secondary school teachers?

Table 1: Relationship between Teachers' Attitude and the Use of ICT for Stress Management

Variables	N	Mean	Std. deviation	R	Sig	P	Remark
Teacher's Attitude	160	18.8250	3.09097	0.648	0.000	<0.05	significant
Stress Management	160	19.9375	3.91046				

Table 1 shows the result of estimation of Pearson Product Moment Correlation for the relationship between teachers' attitude and the use of ICT for stress management. The result revealed a high, positive linear relationship between the two variables ($r=0.648$). This implies that attitude could influence teachers' use of ICT for stress management. Thus, improved teachers' attitude will lead to corresponding increase in the use of ICT for stress management.

Research Question 2

What is the strength and direction of relationship between teachers' personal characteristics and use of ICT for stress management among secondary schools teachers?

Table 2: Relationship between Teacher's Personal Characteristics and Use of ICT for Stress Management

Variables	N	Mean	Std. deviation	r	Sig	P	Remark
Personal Characteristics	160	7.5063	1.16553	-0.167	0.035	<0.05	significant
Stress Management	160	19.9375	3.91046				

Table 2 shows the Pearson Product Moment Correlation that was calculated to know the relationship between teachers' personal characteristics and the use of ICT for stress management. The result revealed a low, negative relationship between the two variables ($r=-0.167$). This shows that personal characteristics of secondary school teachers have inverse relationship with the use of ICT for stress management.

Research Question 3

What is the strength and direction of relationship between teachers' ICT self-efficacy and the use of ICT for stress management among secondary school teachers?

Table 3 shows the relationship between teachers' self-efficacy and the use of ICT for stress management, Pearson Product moment correlation coefficient was calculated and the result revealed a low, positive linear relationship ($r=0.116$, $p>0.05$) between the two variables. This implies that teacher's ICT self-efficacy does not influence the use of ICT for stress management

Table 3: Relationship between Teachers' Self-Efficacy and the Use of ICT for Stress Management

Variables	N	Mean	Std. deviation	r	Sig	P	Remark
Teachers' Self-Efficacy	160	18.7438	5.17644	0.116	0.143	<0.05	Not significant
Stress Management	160	19.9375	3.91046				

Research Question 4

What is the strength and direction of relationship between teachers' social desirability of the community and the use of ICT for stress management among secondary school teachers?

Table 4: Relationship between Social Desirability and the use of ICT for Stress Management

Variables	N	Mean	Std. deviation	r	Sig	P	Remark
Social Desirability	160	15.2875	5.89999				
Stress Management	160	19.9375	3.91046	0.68	0.001	<0.05	significant

Table 4 shows Pearson Product Moment Correlation was used to examine the relationship between the use of ICT for stress management among secondary schools teachers and the social desirability of the school community. The result revealed a moderate positive linear relationship ($r=0.68$, $p<0.05$). This implies that increase in the level of social desirability for using ICT for stress management will lead to corresponding increase in the use of ICT for stress management.

Discussion

The relationship between teachers' attitude and the use of ICT for stress management was examined and the result revealed that teachers' attitude was significantly related to the use of ICT for stress management in the studied area. This implies that increase in teachers' attitude will lead to corresponding increase in use of ICT for stress management. Therefore we consider that researching the attitude of the individuals towards the adoption and use of ICT for stress management is of great significance. Cho (2006) suggested that a person's beliefs anticipate their attitude, and concluded that this attitude depends on behavioural beliefs and outcome evaluation (positive or negative). Hence, tendency for negative outcome will attract negative attitude while tendency for positive outcome will also attract positive attitude.

Also, relationship between teachers' personal characteristics and the use of ICT for stress management shows that teachers' personal characteristics are significantly related to the use of ICT for stress management. Gender differences and the use of ICT have been reported in several studies. However, studies concerning teachers' gender and ICT use have cited female teachers' low levels of computer use as a consequence of their limited technology access, skill, and interest. Research studies revealed that male teachers use more ICT in their teaching and learning processes than their female counterparts (Burke and Kraut, 2013).

The relationship between teachers' ICT self-efficacy and the use of ICT for stress management was also examined and the result revealed that level teachers' self-efficacy does not influence their use of ICT for stress management. This result is in contrast with findings in the literature such as studies conducted by Charlie (2001), which revealed that teachers' computer self-efficacy influences their use of ICT in teaching and learning. Similarly, Margarita (2001) revealed that the Hong Kong teachers' implementation of ICT was depended on simplicity of computer use and perceived teacher self-efficacy. Bai, Law and Wen (2008) describe computer self-efficacy as computer confidence in competence. Moore (2005) revealed that teachers' competence with computer technology is a key factor for effective use of ICT in teaching and other areas of ICT usage. While social desirability and the use of ICT for stress management by secondary school teachers was also found to be significantly related. This implies that the level of friends and colleagues' usage of ICT for stress management of a particular teacher goes a long way to influence his/her corresponding use of ICT for stress management.

Conclusion

Base on the result of the study, the following conclusions were made;

1. Teacher's attitude, whether positive or negative determine, their use of ICT for stress management in the study area.
2. Personal characteristics of the teachers are the function of their adoption or rejection of ICT for stress management in Ibadan North Local Government Area.
3. The level of Computer self-efficacy of teachers in the study area is not enough to influence their adoption of ICT for stress management.
4. Social desirability influence secondary school teacher's use of ICT for stress management.

Recommendations

Based on the results of the findings, it could be recommended that; secondary school teachers should have positive attitude to the adoption of ICT devices to reduce and manage stress emanating from routine classroom and administration activities. Secondary school teachers in the study area should upgrade their computer literacy skills in order to boost their computer self-efficacy.

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