Influence of Insomnia Severity and Occupational Stress on Work Productivity

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ABSTRACT
This study examined the influence of insomnia severity and occupational stress on work productivity among staff of Lead City University, Ibadan. Cross-sectional research design and purposive sampling technique was used to select 260 academic and non-academic staff of the lead city university. A questionnaire comprising of socio-demographic variables, insomnia severity scale of 7-items ($\alpha = 0.91$), Occupational stress scale($\alpha = 0.87$) and work productivity scale ($\alpha = 0.77$) were adapted and administered on respondents. Data were analysed using descriptive statistics, t-test for independent samples,Multiple regression analysis at P<0.005 level. Participant's mean age was found to be 35.63 ± 10.73. Gender distribution revealed that more of the respondents 151(60.6%) were males while the other 98(39.4%) were females. It was discovered that occupational stress had significant influence on work productivity [t(247)=12.26; p<.01]. Also, insomnia had significant influence on work productivity[t(247)=13.74;p<.01]. In addition, iinsomnia severity and occupational stress were found to have joint and independent influence on work productivityy [R = .84; R^2 = .71; F (2, 246) = 302.33 P<.01]. A multiple regression analysis on demographic factor (age, year of employment, highest educational level and monthly income) jointly and independently predicted work productivity among University staff and when combined, demographic factors (age, educational level, years of employment and income) had joint influence on employee productivity [R = .27; R^2 = .07; F (4, 244) = 4.88; P<.05]. Based on the findings, it was recommended that the school management should design intervention plans to reduce negative insomnia effect, improve sleeping hygiene which may contribute to a global sleep quality which is believed will help improve the level of work productivity among lead city university staff.

Keywords: Insomnia Severity, Occupational **Stress**, Work Productivity, Lead City University, Ibadan.

I. INTRODUCTION
Generally most businesses, organizations and their managers are faced with numerous challenges. One of such challenges is in the area of management which refers to the utilization of resources effectively and efficiently in order to achieve an organizations goals and objectives. Some of these managerial challenges are obvious in matters concerning employees such as reimbursement, recruitment, performance management, training and career development, health and safety, benefits, motivation and administration amongst others. The human resource is the most vital of all resources among other factors of production and the human capital is what distinguishes one organization from the other (Maimuna & Rashad, 2013). Therefore, for organizations to survive and remain relevant and competitive, it is essential for them to be able to entice and maintain efficient and effective employees in a bid to enhance productivity (Sunia, 2014). This study however is centered on the aspect of performance appraisal and perception of service quality and their effects on organizational productivity.

Employees make up the workforce of any organization as such they are an integral part of the organization. Aluko (2014), stated that an organization is only as good as the workforce that runs the organization. This is to say that when employees are performing, chances are that their morale would be high as such performance and productivity levels would increase thereby to a large extent boosting overall organizational performance level. In order to achieve high levels

of productivity as such boost organizational performance or productivity, managers therefore need to continually seek ways of ensuring that their employees performance is appraised often and the standard of quality is maintained high. This is because a lack of adequate appraisal of performance and poor quality of service delivered is harmful to organizational performance and productivity.

An organization that fails to provide a conducive work environment, compensate its workforce adequately, create room for proper training and career advancement is at risk of having a demotivated workforce. This means that such a workforce being demoralized would fail to effectively and efficiently discharge their duties leading to low performance and productivity levels (Nwachukwu, 2004). This study therefore focuses on showing the influence of insomnia and occupational stress on work productivity among Lead City University employees in Ibadan.

Insomnia is one of the most common sleep disorders which negatively affect people's lives. Insomnia can be defined as a complaint of insufficient and non-restorative sleep described by the inability to maintain sleep. Insomnia can be dissatisfaction with sleep owing to difficulties in falling asleep, staying asleep, and waking up too early (Roth, 2007). The term Insomnia is derived from the Latin word Insomnus, which translated, means "no sleep". Classify insomnia such as sleep quality, time to fall asleep, and sleep maintenance or difficulty maintaining sleep.

Insomnia can lead to tiredness, lack of energy, anxiety, irritability or depression, excessive daytime sleepiness, and difficulty concentrating, remembering, or memorizing things, among other skills that complicate work or learning (Johnson & Steinman, 2009). Some factors associated with insomnia are age, sex, fertile stage, alcohol, tobacco, drugs, sedentary lifestyle, obesity, stress level, and hormonal levels.

Apart from insomnia, another factor that can contribute to work productivity is occupational stress. Occupational stress is a much-talked-about phenomenon. This has led to the emergence of a most common form of stress in various organizations presently known as occupational stress. According to Malta (2004), it was stated that occupational stress is any distress that is felt and seen at an individual level and activated by instances, events, or situations that are too intense and frequent to exceed an individual's coping capabilities and resources to handle them adequately. Occupational stress is universal and has become an extensive occurrence in every workplace (Babatunde, 2013). Occupational stress often exhibits high displeasure among the employees, job mobility, burnout, poor work productivity, and less effective interpersonal relations at work.

Therefore, the contemporary time is considered as the time of stress, and consequently these days research interest in occupational stress, coping and health has grown significantly. It is because occupational-related stress is inevitable in working life today. It occurs whenever a person has inadequate stress management and needs a frustrating work environment. It is certain that in many job situations, particularly in human services; high levels of stress are an integral and largely inevitable constituent of the work21. Scholars on occupational stress has discovered many different classes of job-related stressors and related them to such matter as job satisfaction and worker productivity. Occupation life in the present era world has become probably the most significant feature of one's life because individuals keep themselves engaged in some occupation where they spend more time than in any activity but sleeping (Adenuga, 2004).

When the body is subjected to pull it is said to be under tension, and when it is being pushed, i.e., is supporting a weight, it is under compressive stress (Kauman, 2008). Sharing stress results from a force tending to make part of the body or one side of a plane slide past the other. Tensional stress occurs when external forces tend to twist a body around an axis. Kaufman (2008) defined Stress can be said to be an uncontrolled response to a dangerous situation or events that upset, irritate, confuse, endanger or excite us and place demands on the body.

Studies have shown that occupational stress or work stress has a great danger to the well-being of an individual (Kaufman, 2005). Stress has considerable importance for the organizationalconcern because it has a direct effect on the employee's health and performance. According to Welten and Dickson (2006), it was stated that stress influences people both positively and negatively. In the initial stage, itinfluences positively by motivating employees, but if it is consistent for a long time it negatively influencesthe people through increasing frustration, anxiety, and tardiness.

Although organizations are paying more attention than in the past tothe consequencesof insomnia and occupational stress their employees go through when they place extraordinary demands on them,there isstill more room for improvement. Again, to generate enough revenue tobe self-

sustaining and to be able to fund the acquisition of modern equipment meant efficient service provision and optimal employees of resources. There has been a need for a continuouschangein management strategies, and administration and the demand for employees to perform has been increasing.

In a bid to ensure further increased productivity among employees of Lead City University, this study sets out to investigate the influence of insomnia and occupational stress on employee productivity. The following hypotheses were tested in this study;

H_i1: Respondents with high level of occupational stress will significantly report lower on productivity than those with low level of occupational stress

H_i2: Respondents with high level of insomnia will significantly report lower on productivity than those with low level of insomnia.

H_i3: Occupational stress and insomnia will jointly and independently predict employee productivity among University staff.

II.   METHODOLOGY

Research Design

The study adopted a cross-sectional survey research design. The variables investigated were insomnia severity and occupational stress (Independent Variables) and work productivity (dependent variable). Other variables were demographic factors: age, gender, marital status, religion, ethnicity, level of education, years in employment, job status and average monthly income.

Research Settings

The setting for this research work was Lead City University Ibadan, Oyo State. The study was limited to Oyo state for the different reasons, firstly, to ensure that the participant are from homogenous setting, secondly, because Ibadan is one of the most cosmopolitan of Oyo state amongst Nigeria cities and also (50%) of all business activities in Oyo state took place in Ibadan and its environs FOS(1983) (1988) and (1990). Thirdly, Lead City University have one of the largest concentration of students and staffs in Oyo state.

Population of Interest

The population of interest were staff in both administrative and academic sector in lead city university Ibadan, Oyo state.

Sampling Techniques

The technique used to arrive at the number of staff that would be included was done through writing a letter to the school registrar requesting the total number of staff in Lead City University which the response gotten was seven hundred and twenty five staff (725) and then adopting author1 sampling technique to calculate participants sampling size to two hundred and sixty (260) while observing 5.0 margin of error. The Krejcie and Morgan sampling method helps to simplify the process of determining the sampling size for a finite population.

Participants

The study was conducted among the staff of Lead City University, Ibadan. Oyo State. These includes both the Administrative and Academic employees in the University. Sampling size was determined using the Krejcie and Morgan (1970) calculator, using 5% margin of error. A total of two hundred and sixty (260) staff was sampled, however, only 249 were retrieved.

Instruments

A single paper and pencil questionnaire was adopted for data collection in this study. The structured questionnaire will divide into four sections these are as follow;

SECTION A: Demographic Variable

This is the first section of the questionnaire. The questionnaire comprised of nine (9) items that seek information on the respondents and personal demographic background which includes; age, gender, religion, ethnicity, level of education, marital status, years in employment, job status, and average monthly income.

SECTION B: Insomnia Severity Scale

The scale was developed by Martin and Ancoli-Israel (2002). The insomnia severity scale was adapted to measure the nature, severity, and impact of insomnia. The 7-item scale was rated in five-point Likert format with each item (0 = no problem, 4 = very severe problem) with Cronbach Alpha of 0.90n and 0.91.

SECTION C: Occupational Stress Scale

This scale was developed by Srivastava and Singh (1981). The scale was developed to measure the extent to which individuals perceives to be under stress, related to their work. Response format to the scale ranged as follows; Strongly Disagree (SD), Disagree (D), Undecided (U),

Agree (A), and Strongly Agree (SA). The scale was found to have an internal consistency of 0.87.

SECTION D: Work Productivity Scale
The scale was developed by Koopmans (2015). The study adapted to measure work productivity, task performance, contextual performance, and counterproductive work behaviour. The 18-item scale with a 5-point rating scale (1=Never to 5= Almost always for the task). The scale was found to have an internal consistency of 0.77.

Procedure
The researcher sought permission to conduct the study by writing a letter to the school registrar. Prior to the administration of questionnaires copies, the respondent were informed of the exercise and main objectives of the study. Participants were selected to the research using the cross sectional survey research design. An author1 sampling technique was adopted to recruit the participant to the study. About two hundred and seventy (270) questionnaires were administered, at each administration, the consent of the respondent was informed coupled with proper information, and the purpose of the study, and their

queries were addressed. The names and personal details of the respondent were not included in the questionnaire in an attempt to ensure anonymity and confidentiality of their response. Each section of the questionnaire was in Likert point format response except for a few questions among demographic variables (in which some will be the open end) the filled questionnaires were retrieved at their completion for analysis. The response rate of the questionnaire was 92.2%.

Statistical Analysis
Gathered data were subjected to analysis using Statistical Package for Social Sciences version 24.0. Based on the stated hypotheses, hypotheses one, two and four were tested using t-test for independent samples, while hypotheses three and five were tested using multiple regression analysis.

III.   RESULTS
This section presents results of gathered data on the influence of insomnia severity and occupational stress on work productivity among University staff. Data was gathered from two hundred and forty nine (n = 249) respondents.

Demographic Distribution

Table 1: Demographic Distribution of Respondents

SN	Variables	Response	Frequency	Percentage
1	Sex	Male	151	60.6
		Female	98	39.4
2	Age Mean = 35.63 SD = 10.73	Less than 29 years	103	41.4
		30-39 years	35	14.1
		40-49 years	82	32.9
		50 years above	29	11.6
3	Marital status	Single	142	57
		Married	107	43
4	Religion	Christianity	133	53.4
		Islam	110	44.2
		Traditional	6	2.4
5	Ethnicity	Yoruba	193	77.5
		Hausa	6	2.4
		Igbo	30	12
		Others	20	8
6	Educational Level	SSCE	2	0.8
		NCE/OND	79	31.7
		University degree/HND	122	49
		Postgraduate	46	18.5

7	Years of employment Mean = 5.71 SD = 1.71	Less than 5 years 5-9 years 10 years above	58 183 8	23.3 73.5 3.2
8	Job Status	Non-Academic Academic	147 102	59 41
9	Income	Less than N50,000 N50,001-N100,000 N100,001-N149,999 N150,000-N199,999 N200,000-N299,999 N300,000 above	5 39 104 78 22 1	2 15.7 41.8 31.3 8.8 0.4
		Total	**249**	**100**

Table 1 presents results on the influence of insomnia severity and occupational stress on work productivity among University staff. It is shown that more of the respondents 151 (60.6%) were males, while the other 98 (39.4%) were females. Also, more of the respondents 103 (41.4%) indicated to be less than 29 years old, 35 (14.1%) were between 30 and 39 years old, 82 (32.9%) were between 40 and 49 years old, while the other 29 (11.6%) indicated to be 50 years old and above. The mean age of the respondents was found to be 35.63 (SD = 10.73).

Also, frequency distribution according to marital status showed that more of the respondents 142 (57%) indicated to be single, while the other 107 (43%) were married. Further, more of the respondents 133 (53.4%) were Christians, 110 (44.2%) were Muslims, while the other 6 (2.4%) were traditionalists.

In addition, more of the respondents 193 (77.5%) indicated to be from the Yoruba ethic group, 6 (2.4%) belong to the Hausa clan, 30 (12%) were Igbo, while the other 20 (8%) indicated to belong to other minority ethnic group.

From Table 1 as well, it is shown that more of the respondents 122 (49%) were University/HND certificate holders, 79 (31.7%) were NCE/OND certificate holders, while the other 46 (18.5%) were postgraduate certificate holders. Also, more of the respondents 147 (59%) indicated to be non-academic, while the other 102 (41%) were academic staff.

Distribution according to income showed that more of the respondents 104 (41.8%) earn between N100,001 and N149,999 every month, 5 (2%) earn less than N50,000, 39 (15.7%) earn between N50,001 and N100,000, 78 (31.3%) earn between N150,000 and N199,999 per month, 22 (8.8%) earn between N200,000 and N299,999, while the other individual (0.4%) indicated to earn N300,000 and above every month.

Hypotheses Testing

Hypothesis One: Respondents with high level of occupational stress will significantly report lower on productivity than those with low level of occupational stress. This was tested using t-test for independent samples and the result is presented on Table 2;

Table 2: t-test for Independent samples summary table showing results on the influence of occupational stress on employee productivity

Occupational stress	N	Mean	SD	t	df	P
Low	106	63.70	13.49			
				12.26	247	<.01
High	143	43.28	12.62			

Table 2 presents results on the influence of occupational stress on employee productivity among University staff. It is shown that occupational stress had significant influence on

employee productivity [t (247) = 12.26; P<.01]. Further, employees with low level of occupational stress reported higher on employee productivity (Mean = 63.70; SD = 13.49) compared to those

with high level of occupational stress (Mean = 43.28; SD = 12.62). This confirms the stated hypothesis, hence, was retained in this study.

Hypothesis Two: Respondents with high level of insomnia will significantly report lower on productivity than those with low level of insomnia. This was tested using t-test for independent samples and the result is presented on Table 3;

Table 3: t-test for Independent samples summary table showing results on the influence of insomnia on employee productivity

Insomnia	N	Mean	SD	t	df	P
Low	121	63.08	12.95			
				13.74	247	<.01
High	128	41.47	11.88			

Table 3 presents results on the influence of insomnia on employee productivity among University staff. It is shown that insomnia had significant influence on employee productivity [t (247) = 13.74; P<.01]. Further, employees with low level of insomnia reported higher on employee productivity (Mean = 63.08; SD = 12.95) compared to those with high level of insomnia (Mean =

41.47; SD = 11.88). This confirms the stated hypothesis, hence, was retained in this study.

Hypothesis Three: Occupational stress and insomnia will jointly and independently predict employee productivity among University staff. This was tested using multiple regression analysis and the result is presented on Table 4;

Table 4: Multiple regression analysis summary table showing results on the joint and independent influence of occupational stress and insomnia on employee productivity

Dependent	Predictors	β	T	P	R	R^2	F	P
	Insomnia	-.62	-16.66	<.01				
Productivity					.84	.71	302.33	<.01
	Occupational stress	-.38	-10.30	<.01				

Table 4 presents results on the joint and independent influence of insomnia and occupational stress on employee productivity among University staff. It is shown that when combined, insomnia and occupational stress had joint influence on employee productivity [R = .84; R2 = .71; F (2, 246) = 302.33 P<.01]. Collectively, insomnia and occupational stress accounted for about 71% variance in employee productivity. Also, insomnia (β = -.62; t = -16.66; P<.01) and occupational stress (β = -.38; t = -10.30; P<.01) were independent predictors of employee productivity. This confirms the stated hypothesis.

IV. DISCUSSION AND RECOMMENDATIONS

The study investigated the influence of occupational stress and insomnia on employee productivity among employees of Lead City University. It was discovered that influence of stress on staff's work productivity is a problem to be looked into so that proper management of stressful circumstances that distress staff's work productivity will be controlled. This decreases their effectiveness and productivity by weakening attentiveness, causing sleeplessness, and increasing the risk of sickness, back complications, and accidents. Studies have shown that work-related stress is a great danger to our well-being (Kaufman, 2005). However, Kilonga (2009) argue that when staff suffers from stress the students they teach are affected negatively as they may not have pleasant experiences with staff and they may not pass important examinations thus their prospects are compromised. Likewise, when staff suffers stress in their job in the office, the people they attend to, the people that report to them, their immediate bosses, and the organization at large are adversely affected.

Also, it was discovered that insomnia had significant influence on work productivity among the staffs. Studies have suggested adequate sleep will improve our concentration and productivity and enhance memory performance in both children and adults. Sleep is essential for human health and also it allows the brain and body to rest and recover, enabling better physical, mental and emotional well-being. Sleep deprivationnegativelyimpactstheindividual'srespon se topositivestimuli which can lead to negative responses. In occupational setting, this can lead to miscommunication,social misjudgment, and tension between co-workers (Pilcher et al., 2015). Barber and Budnick (2015) shows that sleepinessduringworkwasrelated to aggressive behaviors in the workplace. Tired individuals were more likely to rationalize using aggressive behavior and avoiding rules perceived as unfair[16]. This form of potential issues is of particular concern in that workers are more likely to fully engage in their workplace when they have an emotional and cognitive investment in the system (Voronov & Vince, 2012) and strong work identity, something that sleep loss and sloppiness could negatively impact (Knez, 2016).

Further, it was found that when combined, insomnia and occupational stress had joint influence on work productivity. In addition, workers withpoorersleepweremorelikelytolieabouttheirperfo rmance scores and were rated as showing more unethicalbehavior on work ethics (Beehr & Bhagat, 1985). Poorandinadequatesleepresultsinavarietyofcognitiv edeficits, such as inability to maintain attention, decreasedalertness,delayedreactiontime,andvisualp erception, altered emotional processing, and a general inability to think clearly (Kilonga, 2009).

Based on the findings, it was recommended that management should introduce stress management techniques at Lead City University. To educate and enlighten all the staffs about strategy of coping management on stress and also jobs should be assigned taking into much consideration the age group, education and working experience of employees in order not to overburden them with so much work. The management should design intervention plans to enhancing control, reducing negative effect and improving sleeping hygiene may contributing to a global sleep quality and decrease insomnia among lead city university staff. Further experimental research should be conducted to examine these possibilities, as the potential benefit of improving sleep among lead city university staff.

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