



Psychometric analysis of stress among lecturers in Nigerian university

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Abstract

The paper examined the stress level of university lecturers in Nigeria. It adopted cross-sectional survey and collected research data from 386 participants drawn from universities in Port Harcourt. The participants were restricted to senior lecturers because of perceived high administrative and academic challenges such rank is prone to. The study involved a psychometric stress analysis, using Sheldon Cohen Psychometric Test Instrument (PTI). The research participants' demographics were basically gender and age using percentage distribution. The data on stress generated from the Psychometric Stress Analysis Average (PSAA) was compared with standard average to determine whether the stress levels of participants were above or below the standard average. The study indicated that: male participants were more stressed than their female counterparts; university lecturers are stressed. The study identify personal work conditions, and peculiar environmental factors as stressors to lecturers. The study recommended flexity-leisure time; work rescheduling, minimal use of threat, sabbaticals, increase worker-participation, and cushioning cost of living allowances for lecturers.

Keywords: psychometric stress analysis, personal stressors, organizational stressors, environmental stressors

Introduction

Environmental perturbations are high, and pressure on organizations to sustain resilient capacities is also on the increase, while tendencies to fail are quite indicative. The attainment of organizational goals is becoming more and more difficult, and even uncertain. A lot of factors have combined to push forward these threats, without clear opportunities. In the context of these, the individuals working in organizations appear to be the burden bearers, whereby more efforts are required to adopt to unpalatable work conditions. Under this condition, it is most likely that work is characterized by stressors and individual stress level may respond in the same direction. Jaja (2003:65) [7] argued that, the sharp increase in the incidence of stress-related ailments or disorders that result from our inability to cope successfully with stress is relatively new. The death toll from stress-related problems is high that stress is now known as a modern epidemic.

This appears to be the situation in Nigerian universities, where individual, and to a greater extent, organizational stressors are most likely to be responsible for the incessant incidents of sudden deaths. Although there are no public medical reports on the causes of these incidents of death, a random test of blood pressure (*BP*) for a pilot study shows astonishing over 82% abnormal cases with *BP* measured at dangerous levels. This medical condition has been largely blamed on work stress by most writers as an occupational phenomenon (Durbin, 2006; Nelson & Sutton, 1990; Slocum & Hellriegel, 2007) [3, 15, 20]. Also, considering the homogeneous nature of such factors involved; age bracket, occupational type, work challenges, job insecurity, work expectation, environmental threats, etc. it tends to suggest that the cause of stress may be arising from problems so shared, just the Chief Executives of at least twelve major Japanese Companies all died suddenly during the first seven months of 1987, where experts attribute their deaths to stress. This may be arising from the increasing challenges facing lectures, as they battle to raise standard amidst declining

government attention on resource, coupled with the ever growing rate of students' intake in the universities (Selye, 1969; Kalm & Byosiere, 1992; and Flippo, 1984) [19, 9, 5].

Thus, the psycho-occupational distress and depression expressed in work stress have become so worrisome, demanding the burden of intellectual obligation on the part of organizational behaviourists to examine. On related scenarios, Johnnie (2002) contended that stress is associated with the consequences of ill health for individuals, and loss of resources to organization. Slocum & Hellriegel (2007:440) [20] noted that, "the workplace makes a variety of demands on people, and too much stress over too long a period of time will exhaust their ability to cope with those stressors". In this study, a psychometric analysis on the stress level of lecturers in Port Harcourt is conducted to provide gainful explanation that will partly reveal the mutual and exclusive relationships between stress and the threat to health of university lecturers.

The concept of stress

Etymologically, stress as used in work psychological disciplines has an engineering origin, as introduced by Hans Selye in 1936. In adopting the engineering concept of stress for use in the social sciences, Selye defined stress as "non-specifically induced changes within a biological system" (Johnnie, 2002). Schuler (1980) contended that stress is a dynamic condition confronting an individual with opportunity, constraint, or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important. Also, Barling, Kelloway, & Frone (2005) [1] defined stress as "the excitement, feeling of anxiety, and / or physical tension that occurs when the demands placed on an individual are thought to exceed the person's ability to cope.

Westen (2000:445) contended that, "stress refers to a challenge to a person's capacity to adopt to inner and outer demands, which may be physiologically arousing and emotionally taxing and call for cognitive and behavioural responses". This view recognizes the fact that, "stress is a

psychological process that entails a transaction between a person and her environment”, such psychological connection according to Selye (1976) manifest from a condition of general adaptation syndrome consisting of alarm, resistance, and exhaustion. Thus, psychologically, stress arise from a person’s perception that demands of the environment tax or exceed his endowed psychological capital, at a given time. It thus, implies that stress depends on the meaning of an event or circumstance to the individual.

With its attendant impact on health and morality, Westen (2000) argued that, “whether a person under stress remains healthy or become ill also depends in part on the person’s enduring personality dispositions”. This type A personality is more prone to stress than the B category. Also, power motivation, hardness and optimism/pessimism are other personality traits linked to stress and health. However, Lazarus (1991) ^[11] categorized three types of stress as harm or loss, threat, and challenge. This presupposes that while stress is often associated with anxiety, sadness and anger, it can also engender pleasure, excitement, and interest (Westen, 2000).

The views on the concept of stress throw up implications from such factors as inducements, which suggest it is external to the individual, but become intervention in the course of work or other interactions. Also, it carries with it some form of dynamism involving opportunity (positive) and constraint (negative) circumstances. Lastly, it tasks on an individual ability to cope. This suggests that a given stressor may affect individuals differently since individuals are endowed with distinctive abilities. Nevertheless, stress connotes a negative psych-stance of an individual, which negatively affect his interaction with his environment.

Sources of Stress in Organizations

Several sources give rise to stress in the workplace. Studies have identifies such sources as: environmental (Robbins, 2010; Jaja, 2002 and Slocum & Hellriegel, 2007) ^[17, 7, 20]; organizational (Fox, *et al*, 1993; Frew & Burning, 1987; Flippa, 1984; Hellriegel & Slocum, 2007) ^[20]; individual (Robbins, 2010; Nelson & Sutton, 1990); and physical condition of work (Slocum & Hellriegel, 2007) ^[20]. The environment spurs up stress when it is in a high state of flux, with attendant, uncertainty on all factors operating within. Such situations are perceived to have very high risk with a corresponding high propensity to fail. The fear of failure and the known consequence breed stress. The organizational factors are sources of stress are seen in the light of the following: work structure, leadership, pressure to avoid error, time pressure, role ambiguity, inter-personal demands and job characteristics such as autonomy, insufficient authority, high power distance, variety and degree of automation.

Also, high temperature and noise, increase anxiety and stress. The individual factors as constituent of stress are: family issues, personal economic issues, inherent personality characteristics, etc. on the physical work conditions, such factors as: job insecurity, job satisfaction, work organizational climate, work hours, work load, work role, etc. combine to determine the level of stress. All these factor are not mutually exclusive, they can combine in a given situation to produce complex stressors. Westen (2000) identify life events, catastrophes, and daily hassles as sources of stress. Change is one of the most significant elements of life events. For instance acculturative stress refers to the stress people experience in trying to adapt to a new culture. Catastrophes

are stressors involving rare, unexpected disasters as earthquakes, floods, and other traumatic events that affect many people.

Stress, experience, responses and role of personality

Individuals experience stress in different ways. These ways are determine by a cluster of factors that may be present in different degrees. Slocum & Hellriegel (2007) identify these factors as: perception, past experience, social support, and individual different in reacting to stress. The individual perception is how the individual make meaning of the situation, as Robbins (2010) ^[17] argues that perception is a process whereby a person selects and organizes environmental information into a concept of reality. Thus, it implies that a situation is a stressor if it is so perceived. It also infers that individuals’ perceptual error or inaccuracies may engender stress. Also, past experience of a given situation does influence the individual experience of stress. One perceive a situation as more or less stressful, depending on how familiar he is with the situation and prior experiences with the stressor involved (Slocum & Hellriegel, 2007) ^[20].

Social support plays in to determine the level of an individuals’ stress, because the presence or absence of other people influences the degree of the stress on the individual in a given workplace. Also, people are different in their psycho-structural dynamics. They respond differently to common stimuli, because of their different in such foundational behavior factors as: self-esteem, locus of control, motive, attitudes, abilities, personality values, learning, age, tenure, etc (Robbins, 2010) ^[17]. All these combine to verigate individuals’ response to stressors.

However, research has identify type A, Type B and hardly personalities as having varying degree of stress influence on them (McShane & Von Glinow, 2008) ^[12]. For instance, the type A personality is identified with anger, hostility, and aggression which increase the tendency for stress. The type B is such in the light of an individual who is easy going, patient, relaxed, good listener, takes a long range view of things, and plays cool. The type is safer than the type A in the face of stress prone stimulus (Slocum & Hellriegel, 2007) ^[20]. The hardy personality according to Benishek, Feldman, Wolf, Mecham & Lopes (2005) is a person with a cluster of characteristics that includes feeling a sense of commitment, responding to difficulty as representing a challenge and an opportunity and perceiving that one has control over one’s own life. Personality thus, plays a major in the ways an individual response to stressor.

The responses or reactions to stressors take a range of a broad spectrum of possibilities. Durbin (2006) ^[3] and Kelloway & Frone (2005) ^[1] tend to agree that there are complex and multifarious reactions to stress. The most common reactions to stress are: high blood pressure, ulcer, loss of appetite, indecision, irritability, etc (Johnnie, 2002). Selye (1969) ^[19] the famous stress theorist, contended a three stage development of stress based on psychological response. There are: (a) the alarm reaction, (b) stage of resistance and (c) stage of exhaustion. The alarm stage takes the form of the body combating the stress signals, most often manifesting to fatigue. The stage two represents a psychosomatic reaction, involving frustration, anxiety, and emotional maladjustment. Johnnie (2006:161) pointed out “duodenal ulcers, hypertension, migraine, enterocolitis, dermatitis, gastritis, hay fever, grave disease, crushing disease and a host of other allergies”.

The emotional disorders take the form of anxiety, involving neurotic behavior patterns, it very often, psychotic reactions manifest as bizarre behavior patterns characterized by perceptual errors about reality. Kahn & Byosiere (1992) [9] classified these reactions into physiological symptoms, behavioural symptoms, and psychological symptoms

Coping Mechanisms

With reference to response to stress, Westen (2000) and Moos & Schaefer (2009) [14] share the view that it is not surprising to get stuck of unpleasant emotions, rather it is surprising that most people who experience life crises remain healthy. To remain healthy in the face of life crisis, catastrophes and daily hustles reflect on resiliency- the way people deal with stressful situations. There type of coping mechanism are identified in Moos & Billings (2012) [13] as efforts to change the situation, efforts to alter ones cognition about the situation and efforts to alter the unpleasant emotional consequences of stress.

However, whereas the coping mechanism presented above are largely conscious acts, unconscious process known as defense mechanism are usually applied, involving self deception. Defense mechanisms are unconscious mental processes aimed at protecting the individual from experiencing unpleasant emotions or bolstering positive effect (Vailent, 1990; and Perry & Copper, 2000) [16]. These mechanisms are: repression, denial, projection, reaction formulation, sublimation, rationalization and passive aggression. Another effective way of coping with stress is social support. This represents the readiness of others to show concern, confide with and from which one can expect help. Invariably, it implies that isolatory conditions or stay with people who are introvert may most likely increase the tendency of stress in an individual.

Methodology

This study was intended to measure the stress level of university lecturers in Port Harcourt, South South Nigeria. 386 respondents were involved, with such characteristics as: at least 40 years of age, senior lecturers and about full time employment, and without any political appointment interjection for the last 10 years. This study essentially utilizes the cross sectional survey research design. The research data was collected using the psychometric instrument for stress analysis developed and validated by Seldom Cohen in Alder (1991). The instrument provides a self-calibrated score upon which stress level of individual are evaluated. The analysis of the data was done through the calibrated continuum provided in the instrument upon which respondents' response values were compared to the instrument scale to determine level of stress in a particular individual.

Analysis and interpretation

Table 1: Respondents Gender Distribution

Gender	Number	Percentage
Male	267	73%
Female	119	27%
Total	386	100%

Source: Survey Data, 2018.

Table 1 show the gender distribution of respondent. Out of the 386 respondents, 267 are males, representing 73%, while

119 are females representing 27%. The male respondents are 56% above the females.

Table 2: Respondents Age Distribution

Age	Male	Female	Total	Percentage
18-29	13	7	20	5.18%
30-44	23	12	33	8.55%
45-54	90	41	131	33.94%
55-64	139	59	168	43.52%
65 and above	2	1	3	0.78%
Total	267	119	386	100%

Source: Survey Data, 2018.

Table 2 indicates that 13 males and 7 female are within the age bracket of 18-29 years; 23 males and 12 female are between 30-44years; 90 male and 41 females are between 45-54 years; 139 male and 59 females are between 55 – 64 years; and only 1 female fall between 65 years and above. The table further shows that majority of the respondents fall between 55 – 64 years of age.

Table 3: Stress Level of Age Brackets

Age	Average Score (Given)	Above Average (Derived)	Below Average (Derived)
18-29	14.2	17	3
30-44	13.0	23	10
45-54	12.6	101	30
55-64	11.9	153	15
65 and above	12.0	3	-
Total		328	58

Source: Survey Data, 2018.

Table 3 shows stress level distribution on the basis of age bracket. The average scores are thresholds that are given on each age bracket. The comparison with the calculated stress scores showed the 328 respondents have the stress level above the stress holds, representing 64.46%.

Table 4: Stress Level on Gender Bases

Gender	Average Score (Given)	Above Average (Derived)	Below Average (Derived)	Total
Men	12.1	260	07	267
Women	13.1	68	59	119
Total		328	58	386

Source: Survey Data, 2018.

Table 4 indicates that out of the 267 male senior lecturers that participated in the study, 260 have their stress level above the average threshold score. This represents 97.34%. 68 of the 199 female senior lecturer participants have their stress level above the average threshold score representing 57.14%. This also shows that the male senior lecturers are more stressed than their female counterparts.

Discussion and Findings

The study set out to investigate and identify the stress level of lecturers in Port Harcourt. Senior lecturers of university were chosen for the study because the senior lecturers status was considered the most challenging of all ranks. The study focused on such demographic is as gender, age as critical factors that determine an individuals' response to stress, beside personality typology (Slocum & Hellriegel, 2007; and Westen, 2000). The study found that 84.46% of university senior lecturers are more stressed. Also, the lecturers between

ages 54 – 65 years manifested more stress than others who participated in the study.

When these results are placed in prospectively, it tend to correspond with demographic, vocational, and environmental issues related to stress and stressors. For instance, males were found to be more stressed than female, irrespective of the fact they are exposed to the same work challenges. The variance in their stress level may have been risen from additional family or domestic burden of these males, who are incidentally husbands or family heads (Westen, 2000), and the fact that males are largely of the type A personality, which is prone to stress (Slocum & Hellriegel, 2007; and Johnnie, 2002) ^[20]. Also, females are noted to bother less with job threat than males.

Also, that 84.46% of the lecturers who participated in the study are stressed, tends to go beyond gender-based considerations alone. But rather borders on the peculiarities of the vocational work conditions and the general environment of the participants. This brings into focus organizational and environmental stressors. The occupational and organizational variable combined to produce stressors. These are the challenges of meeting up stringent promotion requirements amidst academic and administrative obligations. This is what Slocum & Hellriegel (2007) ^[20] referred to as work overload and role overload

However, the lecturers stress level is heightened by unfavorable job conditions, representing poor working conditions. These are unventilated classrooms and offices pressure to buy and maintain personal cars, accommodation problems, and travelling longer distance to attend classes. Sometimes, there is serious pressure to meet deadline submission of results, where the facilities are not readily provided. The stress level may have also taken the form it did because of the students characteristics which tends to be a stressors.

Other stressors that are predominant in the lecturers' vocation are: role conflict and ambiguity, career development, interpersonal relation and conflict between work and life roles. For instance, the use of fear as a motivational factor to increase commitment and productivity is dominant. The use of threat to job is more often than positive reinforcements. Eketu (2018) ^[4] and Robbins (2010) ^[17] view fear as motivational factor which increase tension and stress. The threat of fail promotion or suspension or dismissal from ones job, result to fear, with attendant stress on the individual concerned.

The environmental stressors affecting lecturers in the city of Port Harcourt are general physical, economic, and social conditions that engender tension. For instance, the cost of living in Port Harcourt is the highest in Nigeria. The lecturers with a seeming high social status do not have a corresponding economic status. Unfortunately, a common commodity and service market exist for rich oil company workers and the lowly paid government workers. Thus, the tension to exist in between an equal social and economic status requirement tends to increase stress.

Conclusion, implications and recommendations

Drawing from the foregoing, it is evincing that university lecturers in Port Harcourt, particularly senior lecturers are heavily stressed. He stress is more on the male senior lecturers than on their female counterparts. Stress among university lecturers is caused by poor time management with

respect to scheduling of lecturers, poor work-life balancing, use of threat as a motivational instrument, unfavourable work conditions, and environmental stressor like high cost of living, and difficulty in adjusting low economic status to high social status.

The implications of such stress-laden circumstance are: sub-optimal work performance, absenteeism, dividedly commitment, and more fundamental health related outcomes like hypertension, sudden death, and other ailments. The threat of stress on lecturers, require stress management, which is any initiative that reduces stress by helping people understand the stress respond, recognize stressors, and use coping techniques to minimize the negative consequences. These involve; (a) Planning ahead and practicing time management (b) Maintaining positive attitude, with a sense of humor (c) Balancing work with personal life (d) Having enough time to relax (e) Improving physical work condition (f) job redesign (g) Changes in workloads and deadlines (h) Sabbaticals, more flexible work schedules (i) Greater use of employee participation (j) Career counseling among others.

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