



Emotional Intelligence as a predictor of productivity and occupational stress of employees in electrical industries

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Abstract

The study investigated the relationship between emotional intelligence, occupational stress and productivity of employees in electrical industries. Research questions were answered while null hypotheses formulated were tested at 0.05 level of significance. The study adopted a correlational research design and was carried out in North Central States of Nigeria. The population for the study was 301 employees in electrical industries. The entire employees were involved in the study. The instrument for data collection was questionnaire titled Emotional Intelligence, Occupational Stress and Productivity Questionnaire (EIOSPQ). Five experts face- validated the instrument. The internal consistency of the questionnaire items was determined using Cronbach alpha reliability method and coefficients of 0.88 was obtained for Electrical Occupational Stress, 0.94 for Productivity of workers in electrical occupation, 0.85 for Emotional intelligence of employees. The overall reliability coefficient of the questionnaire was 0.96. Out of 301 copies of EIOSPQ administered, 295 copies were completed representing 98.01 percent return rate. Pearson product moment correlation and regression analysis were employed to analyse data for answering research questions and hypotheses. The findings on hypotheses revealed that: EI significantly predicts productivity of employees in electrical industries, EI does not significantly predicts occupational stress of employees in electrical industries, emotional intelligence was a significant moderator of the relationship between occupational stress and productivity of employees in electrical industries, demographic variables were not significantly influenced emotional intelligence and productivity of employees in electrical industries. It was recommended that employees in electrical industries should be sensitized through workshops and seminars on how EI can influence their productivity and occupational stress in their occupations.

Keywords: Productivity, Predictor, Occupational Stress, Emotional Intelligence, Employees, Electrical Industries

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Introduction

Employees in electrical industries are saddled with many technical responsibilities. They are workers with electrical knowledge and skills to perform all kinds of technical operations on a particular equipment or machine. Most of these employees are found in electrical companies, organizations or involve themselves in self employment. Employees in electrical industries in this study are skilled individuals working in electrical related workplaces for the purpose of carrying out assigned tasks in order to earning a living. Within electrical occupation, according to John (2005), workers may specialize in electrical wiring of buildings, stationary machines and related infrastructure. Some of the works carried out by employees in electrical industries include: rectification of faults in electrical equipment and machines by using all kinds of instruments and hand/power tools, construction of different panels and erection of poles for rural electrification (Orji,2015; Ogbuanya and Orji 2018). Employees in electrical industries also embark on installation and maintenance of electric machines, electrical installation of industries and house wiring (Orji, 2021). Generally, the work of an electrical employee is physically demanding because it involves climbing of ladder, lifting of tools and

supplies (Electrical Trade Union, 2018). All these activities are sources of occupational stress for employees most especially when the environment is not conducive. Generally, an attempt by employees to continuously carry out their assigned tasks can result to stress. If employees cannot control such stresses this may negatively affect their work attitudes and behaviours (satisfaction, commitment, productivity, quality and health) in the workplace (Seaward, 2005; World Health Organization, 2005). Emotional intelligence (EI) is one of the variables that may have influence on employees' productivity and occupational stress. Wood (2014) reported that workers generally experience low productivity as a result of occupational stress and lack of emotional intelligence.

Emotional intelligence refers to the ability to perceive, control and evaluate a situation. Emotional intelligence according to Panagiotis (2009) is the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. Coleman (2008) described EI as the capability of individuals to recognize their own, and other people's emotions, to discern between different feelings and label them appropriately, to use emotional information to guide thinking and behaviour, and to manage and/or adjust emotions to adapt environments or achieve one's goals. Emotional intelligence was considered by Murphy (2014) as the array of skills and characteristics that drive leadership performance. Emotional intelligence is the ability or capacity of electrical worker to recognize and monitor his own and other workers' emotions and feelings to discern between different feelings and to use emotional information to guide one's thinking and actions. There are three major components of emotional intelligence. These components are self awareness, self management and social awareness. Emotional intelligence is therefore a factor which has the potential to contribute to more positive attitudes, behaviors and outcomes of electrical workers in order to attain maximum performance (Lianying, Zhang, Weijie & Fan, 2013). Generally speaking, emotional intelligence improves an electrical worker's social effectiveness. It is all about learning to better understand one's emotions (as well as emotions of other people) while finding the most effective way to manage how one reacts to them as to get on with the real work. The higher the emotional intelligence, the better the social relations of workers in any occupations and this can also improve productivity and reduces occupational stress among electrical workers. The four branch models of emotional intelligence describe four areas of capacities or skills that collectively describe many of areas of emotional intelligence (Mayer and Salovey, 1997). More specifically, this model defines emotional intelligence as involving the abilities to: accurately perceive emotions in oneself and others, use emotions to facilitate thinking, understand emotional meanings, and manage emotions. High emotional intelligence of employees in electrical industries could improve their productivity (Murphy, 2014).

Productivity may be conceived of as a matrix of the technical or engineering efficiency of production. Productivity as the rate at which a company produces goods or services, in relation to the number of materials and number of employees needed (Microsoft, 2009; Eze, 1981). Productivity is a combination of effectiveness and efficiency (Nwachukwu, 2014). Productivity in electrical industries therefore is a combination of effectiveness and efficiency of employees in constructing/developing electrical circuits, maintenance of equipment and installation. In performing most of the tasks in electrical industries, employees experience occupational stress which in turn leads to their low performance and productivity of the industries (Health and Safety Executives 2017). Kazeem (2014) stated that there are factors that suggest serious occupational stress such as handling multiple tasks, low wages and poor working environment to mention just but a few.

Stress is the way a person perceives, interprets, and evaluates events in their environment (Ugwoke et al 2018) Occupational Stress is a type of strain one experiences as a result of unfavourable environmental conditions in an occupation. Occupational stress is an aversive characteristic of working environment, and this has often led to stress being grouped with hazards (Andrew, Emma, George and Tim, 2000; Ogbuanya et al 2017). Musaka (2013) described occupational or job stress as a type of strain or pressure that affects an individual due to the nature of the environmental factors related to the type of one's job. Occupational stress therefore is a strain that employees in electrical industries experience due to bad work environment. These employees can be affected by both physiological stress and psychological stress. Physiological stress is often viewed as a physical reaction of the body (headache, migraine, abdominal pain, lethargic, backache, chest pain, fatigue, heart palpitation, sleep disturbance and muscle ache as well as changes in eating, drinking, sleeping and smoking habits) and all these affect workplace output (Critchley, Rotshtein, Nagai, O' Doherty, Mathias and Dolan, 2004; Mansor, Fontaine and Chong, 2003). On the other hand, psychological stress is often seen as an emotional reaction (anxiety, depression, burnout, job alienation, hostility, tension, anger, nervousness, irritability and frustration) as a result of stimuli at the workplace (Antoniou, Davidson and Cooper, 2003; Millward, 2005; World Health Organization, 2005). Occupational stress can lead to deviant behaviors among employees in electrical industries. Apart from levels of EI of electrical employees, some intervening variables such as age, gender, education qualification, year of work experience and marital status can have their ways in influencing productivity. These variables are also known as demographic factors.

Demographic variables are certain characteristics of human populations and population segments, especially when used to identify consumer markets (Lucia, 2013).

Tasks such as development, construction, installation and maintenance of faulty/malfunctional electrical equipment and machines in electrical industries are performed by employees using relevant tools and instruments. Employees are not supposed to experience any occupational stress while performing these tasks but they do. Most of these employees in electrical industries experience occupational stress which in turn leads to their productivity. They are now leaving electrical jobs for others where there is less occupational stress and where working environment is favourable such as sale and marketing of electrical equipment and parts. At present, there is little or no statistical data to justify whether EI is a true predictor of occupational stress and productivity of employees in electrical industries. Based on this situation, the researchers saw it necessary to conduct this study in order to provide empirical evidence that can establish the reality on the ground and to show whether relationship exist between emotional intelligence, occupational stress and productivity of employees

The general objective of the study was to investigate the relationship between emotional intelligence, occupational stress and productivity of employees in electrical industries. The following research questions were developed in order to achieve the general objective:

1. What is the relationship between emotional intelligence and productivity?
2. What is the relationship between emotional intelligence and occupational stress?
3. What is the relationship between occupational stress and productivity?
4. What is the influence of demographic variables such as marital status, year of experience, age and educational qualifications of workers on emotional intelligence and productivity?

Hypotheses

1. Emotional Intelligence does not significantly predict productivity of workers in electrical occupation
2. Emotional intelligence does not significantly predict occupational stress of workers in electrical occupation
3. Occupational stress does not significantly predict productivity of workers in electrical occupation
4. Emotional intelligence does not moderate the relationship between occupational stress and productivity of workers in electrical industries
5. Demographic Variables do not significantly influence emotional intelligence and productivity of employees in electrical industries

Literature Review

Relationship among EI, Productivity and Demographic Variables of Employees in Electrical Industries

Emotional intelligence (EI) of individual employees in electrical industries determines the output of an organization. Dirk, Lindebaum and Peter (2012) argued that context and nature of tasks are neglected issues in studies of EI and performance at work. Findings suggest that workers' levels of EI are linked to most relational performance dimensions. However, workers EI was not associated with cognitive task related performance dimensions. There is a strong relationship between EI of workers and the performance or output of the industries (Love, Edwards & Wood, 2011). Whether it is a growing demand for qualified project management professionals to tackle the increasing workload or the demand to accomplish more work with fewer people, the importance associated with the work experience in terms of values, attitudes and moods is increasing in the world of work (Turner, 2007). Retention of skilled, high-producing workers to accomplish the current or next task can no longer be solely accomplished with a paycheck. Awareness of Emotional Intelligence (EI) could have value in productivity and output of industries. For the purpose of this study, EI is defined as involving: the ability to perceive, appraise, and express emotion with accuracy; the ability to access and create feelings when they facilitate cognition; the ability to understand emotionally-rich information and make use of the knowledge; and the ability to regulate emotions to promote emotional and intellectual growth and well-being (Mayer and Salovey 1997). Emotional intelligence ranks ahead of intelligence and technical skills in the ability to achieve success in electrical occupation (John, 2010). It plays a critical role in someone working lives since the relationships formed are governed by rules of behaviour – of cooperation and dominance, among others – that are triggered by emotions (Mukasa, 2013).

Other demographic or characteristic factors that can affect productivity of electrical workers include: lack of experiences, illness/sickness, low qualification and experience, level of education, age of workers and marital status. There are no one-directional results on the effects of demographic variables of workers to their performance, productivity and occupational stress. Some studies found that the workers' marital status (Ng & Feldman, 2010), year of experience (McNair, 2011), age and educational qualifications (Stoeber, Mutineli & Corr, 2016) determine their emotional intelligence and productivity. It is therefore necessary to determine effects of demographic variables or characteristics of employees in electrical industries on the levels of emotional intelligence and their productivity. In North Central States, there is little or no statistical data to reveal the existence and extent of occupational stress influence on productivity especially among workers in

electrical occupation. There is a sharp decline in performance of workers in electrical related industries in North central (Najam-us-Sahar, 2016). There is also a problem of high worker burn-out, massive alcohol consumption, high morbidity and mortality rates in the recent years (Ministry of Environment, 2013) which suggest excessive and prolonged stress. These employees in electrical industries as a result of occupational stress are now leaving the occupation for others such as sale and marketing of electrical parts where there is less occupational stress and where work environment is favourable. Electrical industries are beneficial and very important to individual and society at large. There is hardly any area of life where electrical industries have not made impact. Employees engage in it to earn a living. Hence there is need to investigate the relationship between emotional intelligence, occupational stress and productivity of employees in electrical industries.

Activities of Employees and Occupational Stress in Electrical Industries

Activities in electrical industries can easily cause stress for employees if carried out in an unfriendly environment. Working in an unfriendly environment can lower the productivity of workers. The unfriendly situations can mean: carrying out maintenance activities in unorganized workshops, using defective or unsafe tools and equipment for rectifying faults in electrical gadgets. Hunter in Mukasa (2013) therefore explained that, in many countries the work of the electrical workers currently is considered as one of the most stressful professions. This is because before an electrical circuit is analyzed or a faulty circuit is rectified, a worker must use various instruments to find out the nature of the faults, locate the faults on the complex circuitry board, troubleshoot the entire electrical system and adopt appropriate methods (cold or hot) to correct the situation. All these activities can stress up electrical employees most especially when the working environment is not conducive. Problem of stress and its management can therefore be conveniently viewed in a social relationship discourse of human beings. Poor working environment can generate stress and when a worker is stressed in his/her employment or occupation, the productivity becomes low and electrical employees in North Central Nigeria are not left out. Most of the people in the North Central States of Nigeria choose to be in electrical occupations because of competitive nature of the job environment and serious demand for people to maintain all kinds of electrical equipment. Usually, electrical workers are more worried about the outcome of their work that can even affect the way they treat other people and how they communicate with their peers and customers (Makasa, 2013). Electrical employees will not put in their best if stress inherent in their working environment and in the occupation, itself is not controlled. The employees are expected to perform their assigned tasks for hours and still be productive.

Electrical work environment contains stressors such as heavy work load, long hours of work, working in an uncertain environment, fear to damage fragile components such as, meters, fuses, circuit breakers etc most especially in electrical, low wages, lack of job security and demand to execute work and meet deadlines. These can cause headache, backache, eye problem among others. Observation reveals that, the major sources of stress for most adult workers stem from work situations. Similarly, Steers and Black (2014) observed that an individual's occupation is the major source of the general stress. Fontana (2008) therefore described electrical occupation in particular as being, by its nature, a stressful profession. In North central States, workers in electrical occupation are high amongst over-stressed professionals (Kasali, 2013). Occupational stress has negative implications on worker's health, trajectory functions, harmony and productivity. Such negative health consequences may include: chronic blood pressure which can lead to death, anxiety, depression, sleeplessness (insomama), absenteeism, hostility, psychosis, aches, and pains among many others.

Theoretical framework

Emotional intelligence theory and theory of stress management intervention are relevant to this study. The Emotional Intelligence theory was originally propounded by psychologists Howard Gardner (Harvard), Peter Salovey (Yale) and John Jack Mayer (New Hampshire) during the 1970s and 80s. This theory believes that emotional intelligence is an important consideration in workers planning, job profiling, recruitment interviewing and selection, management development, customer relations and customer service and more. Emotional Intelligence is a relatively recent behavioural model, rising to prominence with Daniel Goleman's 1995 Book called Emotional Intelligence. Emotional intelligence is increasingly relevant to organizational development and developing people, because the EQ principles provide a new way to understand and assess people's behaviours, management styles, attitudes, interpersonal skills, and potential. Emotional intelligence as being concerned with effectively understanding oneself and others, relating well to people and adapting to and coping with the immediate surroundings to be more successful in dealing with environmental demands. Emotional intelligence theory therefore related to this study in that EI is an important concept beneficial to workers in various occupations and employers of labour; it improves productivity and efficiency of individuals; acquiring EI can help to improve human relations.

Theory of stress management intervention was propounded by Schneidman in 1973. The intimate goal of stress management is to help the individual or families to regain a new level of functioning which may be

equal or better than the pre-crisis/stress level of functioning of the individual or the family. This theory sees workers in an organization as a family. The theory of stress management intervention rests solely on the work of Schneiderman (1973), who tried to establish the relationship between risk, protective factors, family crises/stress and recovery/factors. Several approaches are possible; one approach is to concentrate on reducing the impact of stress through building of qualities and strengths which are considered to be adequate for effectively coping with the demands of the stressor. These qualities are referred to as family protective factors, and it is usually described as primary intervention. Another approach is to concentrate effort on equipping the individual in stress with adaptive factors and resources needed to recover from a state of dysfunction to a new level of functioning. A major challenge in stress management is in identifying individual that is vulnerable to stress and those that are already in stressful situation. This is because workers tend to keep stress to themselves. Workers who experience a stressful situation generally come to the attention of intervention/interveners in one of the two ways: (i) looking for new ways of resolving the crises/stress the/worker may voluntarily seek outside assistance for example, from members of the community, religious leaders family therapist and practitioners, (ii) workers in stressful situation also draw the attention of outside interveners when a stress either takes place on a public view or on some manner that comes to the attention of societal agents for example, a suicide attempt by a family member or a family quarrel in which neighbours call the polices as an illustration. Theory of stress management intervention (TSMI) is relevant to this study. It is relevant because it is based on both protective (primary intervention) and adaptive (secondary intervention) factors while other are only based on adaptation factors.

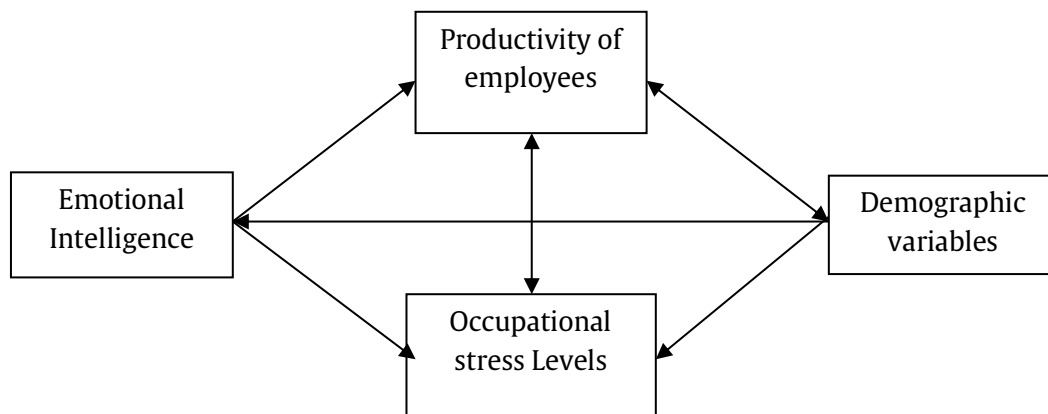


Figure 1. Schema of EI as a predictor of productivity and occupational stress of employees in electrical industries

Method

The study employed a correlational survey design. Correlational survey design in the opinion of Leedy and Ormrod (2010) is concerned with establishing relationships between two or more variables in the same population or between the same variables in two populations. This design was appropriate for the study because it determined the relationship among variables EI, productivity and occupational stress of employees in electrical industries. The study was carried out in North Central Nigeria, which comprised Federal Capital Territory (FCT) Abuja, Kwara, Niger, Plateau, Nasarawa, Kogi and Benue States. The population for the study was 301 employees in registered small and medium scale industries in North Central Nigeria (National Bureau of Statistics (NBS), 2020). The researchers further purposively sampled employees with minimum education level of Ordinary National Diploma (OND) or Nigerian Certificate in Education (N.C.E) while their maximum was Ph.D degree. The workers must have been with the industries or in occupation for at least three years or above.

The instrument for data collection was a structured questionnaire titled emotional intelligence, occupational Stress and productivity questionnaire (EIOSPQ). Some sections of the EIOSPQ were adapted Goodman and Svyanteks' (1999) job performance scale; Chiriboga and Franco (2001) emotional intelligence scale and Weiman (1978) occupational stress scale. The entire questionnaire is made up of two parts. Part one focuses on demographic information such as age, year of experience, educational qualifications and marital status of employees in electrical industries while Part two consisted 84 items to cover items on emotional intelligence, productivity and occupational stress of employees in electrical industries. Items in Part two were further structured into five response options of: Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), and Strongly Disagree (SD) with corresponding values of 5, 4, 3, 2 and 1.

The instrument for data collection was face-validated by five experts. The experts were provided with the original scales that were adapted to enable them authenticate and suggest the level of adaptations made in this study. Each of the experts was given a copy of the instrument to vet and also requested to eliminate or indicate any ambiguous statement or item in the instrument. The experts made necessary suggestions for improving the quality of the instrument towards meeting the purpose of the study. In addition, the experts were asked to make sound judgments, suggestions and corrections on the scales where necessary. The observations and suggestions made by the experts were strictly incorporated to improve the final copy of the Occupational Stress and Productivity Questionnaire. After all, the experts' observations and suggestions were used to improve the quality of the instruments for data collection.

Cronbach Alpha reliability method was used to determine the internal consistency of the questionnaire items (This was done in sections) and reliability coefficient was obtained for each section of the Occupational Stress and Productivity Questionnaire as follows: Electrical Occupational Stress- 0.88; Productivity of employees in electrical industries -0.94; Emotional intelligence of employees in electrical industries -0.85. The overall reliability coefficient of the questionnaire was 0.96. The researchers and research assistants administered 301 copies of the Occupational Stress and Productivity Questionnaire on the respondents and collected them back after two week of administration. Out of 301 copies of the questionnaire administered, 295 copies were collected back representing 98.01 percent return rate

Pearson Product moment correlation was employed to analyze data for answering research questions while regression analysis was used to test all the null hypotheses. The responses to the items were interpreted by describing the strength of the correlation using the guide suggested by Evan (1996) for the absolute value of r as follows:

Very weak Relationship	= \pm 0.00-0.19
Weak Relationship	= \pm 0.20-0.39
Moderate Relationship	= \pm 0.40-0.59
Strong Relationship	= \pm 0.60-0.79
Very Strong Relationship	= \pm 0.80-1.00.

Results and Discussion

What is the relationship between emotional intelligence and productivity?.

Table 1. Bivariate Correlation of Emotional Intelligence and Productivity

Variables	1	2	3	4	5	6
1 Emotional Intelligence	1					
2 Tasks productivity	-.005	1				
3 Contextual productivity	-.024	.286**	1			
4 Adaptive productivity	.113	.056	.295**	1		
5 Counterproductive work behavior	.335**	-.046	.214**	.412**	1	
6 Overall Productivity	.161**	.524**	.720**	.677**	.615**	1

Table 1 reveals a very weak positive correlation, $r = .161$. The positive correlation means that in general, workers in electrical occupations who possess high emotional intelligence tend to record high productivity. The Table also reveals the inter-correlations between the various dimensions of productivity and emotional intelligence, and it ranges from very weak to strong relationship.

Table 2 reveals a very weak positive correlation, $r = .047$. The positive correlation means that in general, employees in electrical industries who possess high emotional intelligence experience occupational stress. The Table also reveals inter-correlations between the various dimensions of occupational stress and emotional intelligence, and it ranges from very weak to very strong relationship.

Table 2. Bivariate Correlation of Emotional Intelligence and Occupational Stress of Employees in Electrical Industries

Variables	1	2	3	4	5	6
1 Emotional Intelligence	1					
2 Stress	.100	1				
3 Role conflict	-.018	.595**	1			
4 Coworker support	.046	.389**	.541**	1		
5 Work-life balance	.030	.182**	.283**	.396**	1	
6 Overall Occupational Stress	.047	-.004	.873	.825	.390	1

Table 3 reveals a weak negative correlation, $r = -.376$. The negative correlation means that in general, employees in electrical industries who experience high occupational stress tends to record low productivity. The Table also reveals inter-correlations between the various dimensions of occupational stress and productivity, and it ranges from weak to strong relationship.

Table 3. Bivariate Correlation of Occupational Stress and Productivity of Employees in Electrical Industries

Variables	1	2	3	4	5	6	7	8	9	10
1 Stress	1									
2 Role conflict	.595**	1								
3 Coworker support	.389**	.541**	1							
4 Work-life balance	.182**	.283**	.396**	1						
5 Tasks productivity	.402**	.416**	.362**	.194**	1					
6 Contextual productivity	.240**	.269**	.396**	.128*	.286**	1				
7 Adaptive productivity	.115	.034	.197**	.047	.056	.295**	1			
8 Counterproductive behaviour	-.094	-.115	.046	-.054	-.046	.214**	.412**	1		
9 Overall stress	-.004	.873	.825	.390	.490	.375	.125	-.0571	1	
10 Overall productivity	.014	.246	.400	.127	.524	.720	.677	.615	-.376	1

Table 4 shows the influence of marital status, year of experience, age and educational qualifications of employees in electrical industries on their levels of emotional intelligence. The Table shows that educational qualification has the strongest relative influence ($\beta = .223$) on employees' emotional intelligence followed by age ($\beta = .216$), marital status ($\beta = .219$) and year of experience ($\beta = -.199$). However, the level of influence of marital status, year of experience, age and educational qualifications of employees in electrical industries on their levels of emotional intelligence is not significant ($p > 0.05$).

Table 4. Regression Analysis showing Influence of Marital Status, Year of Experience, Age and Educational Qualifications of Employees in Electrical Industries on their Levels of Emotional Intelligence

Model	Unstandardized Coefficients		Standardized	T	Sig.
	B	Std. Error	Coefficients		
Constant	14.587	.795		18.355	.000
Marital status	.708	.370	.219	1.914	.059
Year of experience	-.518	.317	-.199	-1.634	.106
Age	.356	.433	.216	.821	.053
Educational qualification	.908	.551	.223	1.648	.103

Dependent variable: Emotional intelligence

Table 5 shows the influence of marital status, year of experience, age and educational qualifications of employees in electrical industries on their productivity. The Table shows that year of experience has the strongest relative influence ($\beta = .417$) on workers' productivity, followed by marital status ($\beta = .382$), educational qualification ($\beta = .339$), and age ($\beta = .257$). However, the level of influence of marital status, year of experience, age and educational qualifications of employees in electrical industries on their productivity is not significant ($p > 0.05$).

Table 5. Regression Analysis showing Influence of Marital Status, Year of Experience, Age and Educational Qualifications of Employees in Electrical Industries on their Productivity

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	13.668	.684		16.355	.000
Marital status	.619	.262	.382	1.114	.074
Year of experience	.427	.206	.417	1.363	.10
Age	.449	.482	.257	.933	.371
Educational qualification	.897	.431	.339	1.537	.113

Dependent variable: Productivity

Hypotheses

Hypothesis 1: Emotional intelligence does not significantly predict productivity of employees in electrical industries.

Table 6. Model Summary of Regression Analysis between Emotional Intelligence and Productivity of Employees in Electrical Industries

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.353 ^a	.279	.288	15.79796

a. Predictors: (Constant), emotional intelligence

The above table highlights the model summary of regression analysis between emotional intelligence and productivity of employees. It shows the value of correlation coefficient that is R and coefficient of determination that is R². The value of R represents the simple Pearson's correlation. The value of coefficient of determination (R²) indicates how much of the variation in the dependent variable (productivity of employees) can be explained by the independent variable (emotional intelligence). The table shows that the value of R² is .279 which means that 27.9% variation in productivity of employees is explained by emotional intelligence.

Table 7. Simple Linear Regression: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	82.720	15.744		5.254	.000
Emotional intelligence	.046	.263	.053	.176	.000

The coefficient Table above provides details of models parameters (Beta values) and significance of these values. The unstandardized Beta coefficient gives measures of the contribution of each variable to the model. It is clear from table that the value of unstandardized Beta is .046 which represents the gradient of regression line. Therefore, if the value of predictor variable (Emotional intelligence) is increased by one unit, there is .046 unit increased in the dependent variable (productivity of employees). The value of unstandardized Beta also indicates that there is a moderate and positive influence of emotional intelligence on productivity of workers. This impact is statistically significant because sig. value (p) is .000 which is less than .05(95% confidence interval). Therefore, the null hypothesis is rejected. It may be concluded that there EI significantly predicts productivity of employees in electrical industries.

Hypothesis 2: Emotional intelligence does not significantly predict occupational stress of workers in electrical occupation

Table 8. Model Summary of Regression Analysis between Emotional Intelligence and Occupational Stress of Employees in Electrical Industries

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.245 ^a	.060	.025	4.97025

a. Predictors: (Constant), emotional intelligence

The above table highlights the model summary of Regression analysis between emotional intelligence and occupational stress of employees. It shows the value of correlation coefficient that is R and coefficient of determination that is R². The value of R represents the simple Pearson's correlation. The value of coefficient of determination (R²) indicates how much of the variation in the dependent variable (occupational stress) can be explained by the independent variable (emotional intelligence). The table shows that the value of R² is .060 which means that 6.0% variation in occupational stress of employees is explained by emotional intelligence.

Table 9. Simple Linear Regression: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	61.399	4.953		12.396	.000
Emotional intelligence	.069	.083	.245	.838	.420

The coefficient Table above provides details of models parameters (Beta values) and significance of these values. The unstandardized Beta coefficient gives measures of the contribution of each variable to the model. It is clear from table that the value of unstandardized Beta is .069 which represents the gradient of regression line. Therefore, if the value of predictor variable (Emotional intelligence) is increased by one unit, there is .069 unit increased in the dependent variable (occupational stress). The value of unstandardized Beta also indicates that there is a moderate and positive influence of Emotional intelligence on occupational stress of workers. This impact is not statistically significant because sig. value (p) is .420 which is more than .05(95% confidence interval). Therefore, the null hypothesis is accepted. It may be concluded that EI does not significantly predicts occupational stress of employees in electrical industries

Hypothesis 3: Occupational stress does not significantly predict productivity of workers in electrical occupation

Table 10. Model Summary of Regression Analysis between occupational stress and productivity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.081 ^a	.777	.784	15.76851

a. Predictors: (Constant), occupational stress

The above table highlights the model summary of Regression analysis between occupational stress and productivity of workers. It shows the value of correlation coefficient that is R and coefficient of determination that is R². The value of R represents the simple Pearson's correlation. The value of coefficient of determination (R²) indicates how much of the variation in the dependent variable (productivity) can be explained by the independent variable (occupational stress). The table shows that the value of R² is .777 which means that 77.7% variation in productivity of employees is explained by occupational stress.

Table 11. Simple Linear Regression: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	69.082	60.798		1.136	.000
Academic performance	.249	.927	.081	.269	.000

a. Dependent Variable: productivity

The coefficient Table above provides details of models parameters (Beta values) and significance of these values. The unstandardized Beta coefficient gives measures of the contribution of each variable to the model. It is clear from table that the value of unstandardized Beta is .249 which represents the gradient of regression line. Therefore, if the value of predictor variable (occupational stress) is increased by one unit, there is .249 unit increased in the dependent variable (productivity). The value of unstandardized Beta also indicates that there is a positive influence of occupational stress on productivity of workers. This impact is statistically significant because sig. value (p) is .000 which is less than .05(95% confidence interval). Therefore, the null hypothesis is rejected. It may be concluded that occupational stress significantly predicts productivity of employees in electrical industries.

Hypothesis 4: Emotional intelligence does not moderate the relationship between occupational stress and productivity of workers in electrical industries.

Table 12. Results of moderation effect using Hayes PROCESS macro (Model 1)

Model	Coeff	Se	T	P	LLCI	ULCI
Constant	42.1940	38.3689	1.0997	.0001	-44.6328	129.0208
Productivity	.2355	.4662	.5052	.0000	-.8195	1.2905
Emotional	.3661	.6406	.5715	.0003	-1.0835	1.8157
Int_1	-.0037	.0078	.4696	.0001	-.0212	.0139

The moderation effect was tested using Hayes PROCESS macro (Model 1). The Table shows the interaction term was statistically significant ($b = .4690$; $SE = .0078$; $p = .0001$) in our model, indicating that emotional intelligence was a significant moderator of the relationship between occupational stress and productivity of employees in electrical industries. The relationship between occupational stress and productivity was positive and significant ($b = .2355$, $SE = .4662$, $p = .0000$), conditional on emotional intelligence = 0; the conditional effect of emotional intelligence was positive and significant ($b = -.3661$, $SE = .6406$, $p < .0003$).

Hypothesis 5: Demographic Variables do not significantly influence emotional intelligence and productivity of employees in electrical industries.

Table 13. Regression Analysis showing the relationship between demographic variables, emotional intelligence and productivity

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	17.750	17.620		1.007	.353
Age	-1.250	10.394	-.213	-.120	.908
Marital Status	-2.000	3.585	-.347	-.558	.597
Years of Experience	-2.750	5.561	-.449	-.495	.639
Educational Qualification	21.000	15.626	1.440	1.344	.228
Emotional intelligence	2.750	10.238	.270	.269	.797
Productivity	-3.000	13.293	-.643	-.226	.829

The Table above provides details of models parameters (Beta values) and significance of these values. The unstandardized Beta coefficient gives measures of the contribution of each variable to the model. It is clear from table that the value of standardized Beta is ($\beta = -.213, -.347, -.449, 1.440, .270, -.643$) which represents the gradient of regression line. Therefore, if the value of predictor variable (demographic variables) is increased by one unit, there is a corresponding (β) unit increase in the dependent variable (emotional intelligence and productivity). However, the influence of age, marital status, years of experience, educational qualification and emotional intelligence of electrical employees on their productivity and emotional intelligence is not significant ($p > 0.05$). Therefore, the null hypothesis is accepted. It may be concluded that

demographic variables were not significantly influenced emotional intelligence and productivity of employees in electrical industries.

Discussion

The findings of this study found that emotional intelligence levels of employees in electrical industries have very weak relationship with their productivity. It also revealed that inter-correlations between the various dimensions of productivity and emotional intelligence ranges from very weak to strong relationship. Emotional intelligence levels of employees or individuals determine what they will be able to do and the kinds of work they will be able carried out in their respective technical works, various findings of studies are in support of this finding. This finding agreed with the findings of Wood (2014) who reported that workers generally experience low productivity as a result of occupational stress and lack of emotional intelligence. The finding agreed with the finding of Chaudhry and Usman (2011) in a study on relationship between employees' emotional intelligence and their performance; where it was found out that there was a moderately high correlation between emotional intelligence and organizational citizenship behavior. It was also established that employees' job performance can be predicted significantly based upon their emotional intelligence scores and ability levels. The predictive power of emotional intelligence for performance suggests the use of emotional intelligence measure as a selection tool by human resource managers.

Emotional intelligence is the ability to perceive, control and evaluate a situation. Emotional intelligence according to Panagiotis (2009), is the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. The findings of this study were in consonance with the opinion of Lianying, Zhang, Weijie & Fan, (2013) that emotional intelligence is a factor which has the potential to contribute to more positive attitudes, behaviors and outcomes of electrical workers in order to attain maximum performance. Generally speaking, emotional intelligence improves an electrical worker's social effectiveness and productivity. Emotional intelligence (EI) of individual electrical worker and indirectly determines generally the output of an organization. Dirk Lindebaum and Peter (2012) argued that context and nature of tasks are neglected issues in studies of EI and performance at work. Findings suggest that workers' levels of EI are linked to most relational productivity or performance dimensions. However, workers' EI was not associated with cognitive task related performance dimensions. The finding of this study also agreed with the findings of Love, Edwards & Wood, (2011) who found that there is a strong relationship between EI of workers and the productivity or output of the industries. The submission of Turner (2007) indicated that awareness of emotional intelligence could have value in productivity and output of industries. Emotional intelligence helps workers becoming more productive and successful, it decreases conflict, building stronger relationships and increasing harmony Emotional intelligence ranks ahead of intelligence and technical skills in the ability to achieve success in electrical occupation (John, 2010). EI therefore plays a critical role in someone working lives since the relationships form are governed by rules of behaviour – of cooperation and dominance, among others – that are triggered by emotions (Mukasa, 2013). The finding also agreed with findings of Murphy (2014) that high emotional intelligence of workers in occupations such as electrical could improve their productivity. Dirk Lindebaum and Peter (2012) argued that context and nature of tasks are neglected issues in studies of EI and performance at work. Findings suggest that workers' levels of EI are linked to most relational performance dimensions. However, workers EI was not associated with cognitive task related performance dimensions. There is a strong relationship with EI of workers and the performance or output of the industries (Love, Edwards & Wood, 2011). Whether it is a growing demand for qualified project management professionals to tackle the increasing workload or the demand to accomplish more work with fewer people, the importance associated with the work experience in terms of values, attitudes and moods is increasing in the world of work (Turner, 2007). Retention of skilled, high-producing workers to accomplish the current or next task can no longer be solely accomplished with a paycheck. Awareness of Emotional Intelligence (EI) could have value in productivity and output of industries

Emotional intelligence ranks ahead of intelligence and technical skills in the ability to achieve success in electrical occupation (John, 2010). It plays a critical role in someone working lives since the relationships form are governed by rules of behaviour – of cooperation and dominance, among others – that are triggered by emotions (Mukasa, 2013). High emotional intelligence of workers in occupations such as electrical could improve their productivity (Murphy, 2014). It is better to conclude that the higher the emotional intelligence, the better the social relations of workers in any occupations and this can also improve productivity and reduces occupational stress among electrical workers.

The study found that emotional intelligence levels of employees in electrical industries predict their occupational stress. It also revealed that inter-correlations between the various dimensions of occupational stress and emotional intelligence range from very weak to very strong relationship. Emotional intelligence can help workers to manage or handle occupational stress in order to record better productivity. The finding

disagreed with the finding of Riaz and Khan (2012) who conducted a study on college professors and found a significant negative relationship between EI and stress. In the same vein, the finding of this study disagreed with the finding of Singh and Jha who found a strong significant negative correlation between EI and occupational stress. In their study, they did not find any sex effect on EI or stress. This finding agreed with the opinion of Wood (2014) who reported that workers generally experience low productivity as a result of occupational stress and lack of emotional intelligence. Panda (2008) found a significant negative relationship between EI and stress. Azman, Yeo, Mohd & Noor (2009) who examined the relationship between EI, stress and performance and found that EI only mediated the relationship between stress and performance such that employees with higher levels of EI were better able to manage their stress and still have higher productivity. Matthews, Emo, Funke, Zeidner, Roberts, Costa and Schulze (2006) found that even controlling for the personality factors of the Five Factor Model (FFM), EI was negatively correlated with stress. Finally, Panda (2008) found a significant negative relationship between EI and stress. Stress generally occurs when individuals' emotions do not match or cannot handle their job demands, constraints and/ or opportunities (Ugoji, 2003; Ugoji and Isele, 2009).

The finding of the study revealed weak negative relationship between occupational stress and productivity of employees in electrical industries. The study also revealed that inter-correlations between the various dimensions of occupational stress and productivity ranged from weak to strong relationship. That is, level of occupational stress of employees determines the levels of their productivity. This finding of this study agreed with the opinion of Hugo, Pia, Yoko, John, Christopher & Raymond (2004) that occupational stress can turn down the efficiency or output of workers in electrical occupation if not properly checked or if adequate measures are not taken in time. This finding agreed with the opinion of Wood (2014) who reported that workers generally experience low productivity as a result of occupational stress and lack of emotional intelligence. The problem of occupational stress has been extensively studied mainly due to the negative effects it has on the organization, workers and their occupation. Some organizations have programs designed to help physical and mental health workers to prevent problems due to stress and to help "make do" with work-related stress. Stress management is an important part of maintaining good physical and emotional health and healthy relationships with others. Occupational stress can affect workplace output and productivity of each worker (Critchley, Rotshtein, Nagai, O'Doherty, Mathias and Dolan, 2004; Mansor, Fontaine and Chong, 2003). Stress is a dynamic condition in which an individual is confronted 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 (Robbins, 1999). Stress, according to Ezeilo (2005) could lead to breakdown in productivity, sub-standard school performance of individuals including children, tense emotional atmosphere, mistrust, doubt, fear, sense of isolation, less feeling of closeness, sharing, intimacy, affection and impaired communication. These situations could further lead to threaten family cohesion and children's delinquent behaviour (temper tantrum, stubbornness) (Awo, 2012). Occupational stress can cause a significant state of disequilibrium and disorganization which can lead to a discontinuity in the workplace's trajectory of functions. Occupational stressors contribute to individual and organizational inefficiency, high staff turnover, absenteeism due to sickness, decreased quality, and quantity of practice, increased costs of health care, and decreased job productivity and satisfaction. One of the organizational outcomes that affected by occupational stress is job performance. Christo and Pienaar (2006) also postulated that the causes of occupational stress include perceived loss of job, and security, sitting for long periods of time or heavy lifting, lack of safety, a complexity of repetitiveness and lack of autonomy in the job. Besides, occupational stress is caused by lack of resources and equipment; work schedules (such as working late or overtime and organizational climate are considered as contributors to employee's stress. With these causes, one could, therefore, point out that stress, if not managed well, affects performance. The probability that employees not exempted from this menace may be high since there is the possibility of being burdened with excessive workloads, and long hours of work (overtime). A lot of studies have been conducted to examine the relationship between stress and performance. For instance, in a study conducted by Elovainio et al. (2002), it was found that occupational stress inadvertently contributes to low organizational performance. The findings of this study also agreed with the finding of Enyonam, Opoku, Addai and Batola (2014) who their finding showed a significant positive relationship between employee stress and job performance ($r = 0.348$, sig. value=.000) which is an indication that as employee stress increases, their job performance also tends to increase and so on. The finding of the study on relationship between occupational stress and productivity agreed with the finding of Rubina Kazmi, Shehla Amjad, Delawar Khan (2008) that work stress of house officers impacts strongly and adversely on overall job performance.

The finding of the study revealed that emotional intelligence significantly moderates the relationship between occupational stress and productivity of employees in electrical industries. This finding was in agreement with the finding of Ismail, Yeo, Ajis and Dollah (2009) that examined the relationship between EI, stress and performance and found that EI mediated the relationship between stress and performance such that employees with higher levels of EI were better able to manage their stress and still have higher

performance. The findings also agreed with the finding of Houghton, Jinpei, Godwin, Neck and Manz who examined college students and found that EI and self-leadership, as mediated through positive affect and self-efficacy, has the potential to facilitate stress coping among students. Positive affect and self-efficacy, has the potential to facilitate stress coping among students.

The finding of the study revealed that demographic variables (marital status, year of experience, age, and educational qualification) of employees in electrical industries influenced levels of emotional intelligence and their productivity. Specifically educational qualification has a strongest relative influence on workers' emotional intelligence followed by marital status and year of experience. Also, year of experience has the strongest relative influence on workers' productivity, followed by marital status and educational qualification. In the study of Christo and Plenaar (2006), demographic characteristics such as (academic level, marital status and year of experience) are found to have relative relationship with career learning self-efficacy and work volition and this slightly agreed with the finding of this study. On the contrary, academic level and age among Electrical Technology Education students do not significantly predict their career behaviours and productivity. The finding of this study revealed that academic level, sex and age are not significant predictors of career behaviours, as well as the levels of psychomotor skills acquisition. This agreed with Hirschi and Henmann (2013) who found that career behaviors of students do not depend on their sex, age or academic level. This result disagrees with Bardick et al (2004) on educational qualifications and Aslam et al (2012) on sex, as predictors of career outcomes among individuals. However, the findings revealed that educational qualification has a strongest relative influence on workers' emotional intelligence followed by marital status and year of experience.

Conclusion

Employees in electrical industries make use of skills, experiences and tools to develop, construct, repair and service all kinds of electrical faulty equipment and machines. These employees are expected to work for hours without experiencing stress; but literature and researcher discovered that in performing these tasks, most of the employees in electrical industries experience occupational stress which in turn leads to their low performance and productivity in the industries. This study was then carried out in order to generate data to justify acclaimed situation in north central states of Nigeria. The study therefore investigated whether EI is a predictor of productivity and occupational stress of employees in electrical industries. EI therefore predicted occupational stress and productivity of employees in electrical industries

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