Stress Management among Artisans in Construction Industry in Nigeria

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***Abstract*-It is rather important for artisans that are directly involved in the handling and usage of materials that constitute about 60% of the cost of building projects to be emotionally stable so as to perform optimally. Hence, this study assesses stress management among artisans in construction industry by determining its causes, effects and the possible ways to effectively manage it. The result of the study shows that most artisans experienced much stress at their work place than at home, and the stress had negative effects on their productivity at work, and at the same time caused medical problems in their body systems. The study also shows that aerobic, bio-feedback, relaxation, laughter and social support are the commonest ways artisans use to manage stress while their common stressors are drinking, quarrelling, clubbing, flirting and smoking. The study concludes that every construction firm should make provision for the management of stress of artisans through proactive strategy, non-specialist and specialist assistance measures, restructuring of social-physical environment, time-off and social activities measures while artisans should adhere to their chosen ways of managing stress as these would help to achieve optimal performance at work.**

Keywords-Stress, Stressors, Construction Industry, Performance, Manageability.

I. INTRODUCTION

THe construction industry is important in any nation's economy as it contributes to the process of development. It equally has many features that set it apart from other industries and which accentuate the need for professional engagement. The team for each project is assembled from a disparate collection of professionals, subcontractors, craftsmen, artisans, labourers and suppliers within and outside the industry Bamisile (2004). Also, there is sufficient evidence to show that a growing number of people are involved in the activities of the industry. Construction relates to the erection or assembly of large structures. It is in common usage, most frequently applied to such major works as buildings, ships, aircrafts and public works such as roads, dams and bridges. Construction process requires a lot of physical activities that are stressful to the participants in the industry. These physical activities are usually carried out by the artisans who occupy the lower part in the pyramid of personnel that contribute to the erection of the aforementioned structures.In view of the nature of production processes that take place in the industry,

construction work is an inherently dangerous occupation and highly prone to stressful environment Linda et. al. (2003). Researchers' interests in job-related stress have increased ramatically in recent years. This is because many d researchers believe that stress is becoming a major contributor to absenteeism, low employee morale, high accident and turnover rates, decreased productivity and increased company medical expenses (Whetten and Cameron1991; Steers, 1991). The term stress as it relates to human experiences has been in the scientific literature since 1930s. Today, the term is used in everyday vocabulary to capture a variety of human experiences that are disturbing in some manners. Stress according to Oxford Advanced Learners Dictionary (2006) has been defined as pressure or worry caused by the problem in somebody`s life. Stress is also a pressure put on something that can damage it or make it lose its shape. However, Health and Safety Executive (2001) equally defined occupational stress as adverse reaction by people to excessive pressure or other types of demand placed on them. It further affirmed that occupational stress or work place stress is that which is experienced as a direct result of a person`s occupation.

Various researchers equally made us understand that spending hours on work or on work related-issues will not only leave us to deal with work pressures, but also reduce the productivity level as well as increase proportion of our finance expended in keeping healthy. In fact, modern day living can be incredibly stressful and could impose high physical demand on our bodies as well as emotional costs on our lives Cohen (2002). Workplace stress is the harmful physical and emotional responses that can happen when there is a conflict between job demand on the employee and the control an employee has in meeting these demands. Stress reaction is seen as an individual response to a given stress; which can be behavioural, perceptual, physiological, emotional and cognitive, or signs and symptoms of illness or disorders such as headaches, alcohol abuse, obesity, cardiovascular disease and hypertension. Also, subjective sensations commonly experienced in conjunction with "feeling stressed" are headaches, shortness of breath, light-headache or dizziness, nausea, muscle tension, fatigue, gnawing in the gut, palpitations, loss of appetite or hunger and problems with sleep.

Behavioural manifestations of stress commonly reported are crying, smoking, excessive eating, drinking alcohol, fast talking and trembling. It is also common place for people to complain that stress negatively affects their functioning systems. It impairs concentration ability, problem-solving ability, decision-making ability and the ability to get work done. Many research studies have been focusing on the behaviour and performance of construction workers as building production managementmaintenance, management and estimating tasks are largely unstructured and relying on

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]subjective judgment which the problem solving ability and performance of the construction workers could be affected by job stress. Stress can either be managed or reduced; this is because stress cannot totally be eliminated from the life of an adult human being.

Stress management therefore describes strategies of coping, recovering, reinterpreting, refraining and cognitive restructuring adopted by an individual who is under stress, making changes that can reduce stress or taking actions that can alter stress impacts. Gunning & Cooke (1986) found stress to be as much of a problem for the construction industry as almost any other profession, but noticed that individual in the industry felt that admitting to stress was a major sign of weakness. Artisan according to Oxford Learners Dictionary (2006) is a person who does skilled work and makes things with his hands. With this definition, artisans in the construction industry are carpenters, joiners, masons/bricklayers, electricians, plumbers, painters, plant operators, crane drivers, steel fixers and tile settlers. Activities in construction industry can be objectively harmful physically or mentally to the individuals involved in them, especially the artisans.

II. STAETEMENT OF PROBLEM

The most obvious stressors in the construction industry are physical; working with heavy equipments, noise, and vibration and chemical exposures e.g. asbestos, lead and epoxy resins. The effects or the problems this have on the personnel in the construction industry are the increase in heart rate and blood pressure, and changes in how well the skin conducts electrical impulses. Other types of job and organizational stressors, including a high level of job demands, too much work, insufficient social support, harassment and discrimination, the overall work environment and the composition of the crews have been shown to increase construction workers' risk to adverse physical and psychological outcomes (Helander,1991; Holmstrom et. al. 1992 and Vander-Molen et. al. 1998).

Furthermore, the entire class of physical problems known as psycho- physiological disorders often result from stress. These medical problems are caused by an interaction of psychological, emotional and physical difficulties. Stress contributes increased irritability, loss of self-esteem, loss of perspective when work invades family life, and feeling of helplessness and anger. It also results in excessive drinking, smoking and eating, all of which can lead to coronary heart disease which is responsible for the death of more than a quarter (27%) of men between the ages of 35 and 44 (Jeff Grout, 1994).

Artisans are found to be more susceptible to disease as their ability to fight off infection is lowered. In addition to major health difficulties, many of the minor aches and pains that men experience may be caused or worsened by stress. These include headaches, backaches, skin rashes, indigestion, fatigue and constipation. Stress among artisans in construction industry worth what to manage because cost of materials in construction works cover at least 60% of the cost of the whole project and the artisans are at the centre point of the success of any construction works since they are in charge of materials handling and performance of other operations on site. The artisans work with harmful building materials and are exposed to occupational stress. In respect of this, if they are not well catered for in the sense of managing the possible stresses, the output of the whole construction work would be affected negatively.

Equally, in view of the need to maximize productivity and profitability of construction industry and to enhance construction performance in a challenging environment, a stress management method is significant in providing valuable information on how to actively manage stress among construction industry participants, especially the artisans. Hence, this study aims at identifying stress being experienced by artisans in construction industry, identifying and evaluating the causes of the identified stresses, examining the effects of stress on the productivity of artisans and assessing the manageability of the stresses.

III. REVIEW OF STRESS AND CONSTRUCTION INDUSTRY

Health and Safety Executive (2001) defined stress as adverse reaction people have to excessive pressure or other types of demands placed on them. They also said, occupational stress or workplace stress is the stress experienced as a direct result of a person`s occupation. Lazarus and Folkman (1984) defined stress as that which a person appraises as harmful, threatening or challenging and also noted stress as a state produced by a change in the environment that is perceived as challenging threatening or damaging to the person`s dynamic balance or equilibrium. It leads to a real or perceived imbalance in the person`s ability to meet the demands of the new situation.

Stress in itself is not a bad thing. A certain amount is necessary to motivate someone, and without some pressures, life would become boring and without purpose. How man reacts to stress depends on whether one sees himself in control of a situation or overwhelmed by it (Cohen, 2002). Job stress has been defined as the harmful physical and emotional response that occurs when the requirements of the job do not match the capabilities, resources or need of the workers. Stress as an effective and unhealthy reaction to change and as a force which affects human beings physically, mentally, emotionally, socially and spiritually. Stress has always been an integral part of our daily life since prehistoric times. Stress was there when our predecessors were required to fight or flight for their survival. In modern times, stress plays an important role in how successful or unsuccessful we are in our productive work activity, and in general, in enjoying our live (Victor et al. 1991). Stress is not necessarily negative for our performance. Some levels of stress are desirable to generate enthusiasm, creativity, and productivity. However, excessive levels of stress could become counterproductive if the situation does not require this elevated level of stamina (Davidson, 1997).

The most obvious stressors in the construction industry are physical e.g. working with heavy equipments, noise, and vibration and chemical exposures e.g. asbestos, lead and epoxy resins. Indeed, the direct relationship between these

types of stressors and illness and injuries on construction sites has been well documented Ringen et al. (1999). Other types of job and organizational stressors, including a high level of job demands, too much work, insufficient social support, harassment and discrimination, the overall work environment and the composition of the crews have been shown to increase construction workers' risk to adverse physical and psychological and potentially, injury outcomes Helander (1991); Holmstrom et al., (1992). Vander Molen et al., (1998) also identified other factors that cause stress in construction industry as deadlines getting shorter, working hour getting longer, short-term contract and increasing competition as well as stress caused by financial penalty clauses, confrontation within the industry and constant initiatives to improve productivity.

A close scrutiny of the identified stressors revealed that they could be meaningfully categorized according to their distinctive nature and characteristics Djebarni (1996). For example, some of the stressors are concerned with the time allowed for work execution, such as "quantitative work overload" and "tight-time frame for work". In contrast, stressors such as "lack of career guidance" and poor communication with counter players" are typified by personal relationships among different parties of work. Also, stressors such as bureaucracy, inadequate room for innovation, unsatisfied salary and the policies of the organization play a significant role in their formation.

A worker that is exposed to stress is bound to exhibit certain symptoms. According to Cohen (2002), symptoms of stress are categorized into five classes as follows:-

1. ***Emotional*****:** anxiety, nervousness, depression, anger, irritability, guilt, moodiness, loss of enjoyment of life, loneliness, loss of humor, lack of confidence, isolation and job dissatisfaction.

2. ***Physical*****:** feeling restless, feeling uptight, jumpy, high blood pressure, back and neck muscle tension, lack of energy, dry mouth headaches, insomnia, dizziness, loss or increase in appetite and ringing in the ears.

*3.,****Behavioural*****:** impatience, impulsiveness, hyperactivity, short temper, aggressiveness, alcohol abuse, use of drugs, avoiding difficult situations, loss of sex drive, and overworking.

*4.****Mental*****:** frequent lapses of memory, constant negative thinking, being very critical of oneself, inability to make decisions, difficulty in getting things done, distorted ideas, very rigid attitudes and difficulty in concentration.

*5.****Health:*** high blood pressure; higher than usual susceptibility to colds and flu, migraines, irritable bowel symptoms, ulcers, stomach disorders, heart attacks, angina, strokes, asthma and skin rashes.

Nevertheless, the most common symptoms are hair loss, insomnia, depression, irregular menstrual cycle, low libido, decrease or increase in appetite and high blood pressure. Some studies focused on the effects of stress on the performance of various professionals like physicians Chaplain (1995). Stress not only affects personal psychology, but it also influences the construction project, interpersonal relationships amongst project team members mostly the artisans, and finally the organizational relationship. Stress is considered as a major problem as it can lead to poor health and even injury. Stressors produce threats to well-being. Even, pleasant events like planning a party or beginning a sought after job results in greater detrimental consequences than positive ones.

Often, the most immediate to stress is a biological one. Exposure to stressors induces a rise in certain hormones secreted by the adrenal glands, an increase in rate of heart beat and blood pressure, and changes in how well the skin conducts electrical impulses. However, continued exposure to stress results in a decline in the bodies overall level of biological functioning due to the constant secretion of stress-related hormones. Overtime, stressful reactions can promote deterioration of body tissues such as blood vessel and the heart. Ultimately, we become more susceptible to diseases as our ability to fight off infection is lowered (Sapolsky, 1996).

Also, an entire class of physical problem, known as psycho-physiological disorders often result from stress. These medical problems are caused by interaction of psychological, emotional and physical difficulties. Among the common psycho-psychological disorders are headaches, skin problems and high blood pressure. Overtime, little stressors can add up and take a toll on our health and well-being. Hypertension (high blood pressure) rates are high among residents of urban ghettos, where the stresses that accompany poverty, unemployment and overcrowding are part of daily life for some people. A number of diseases and illness are associated with stress that workers are prone to. These diseases affect emotional stability at work and equally have a negative effect on level of productivity. Few of the identified diseases are as follows:-

Heart Disease: According to Friedman & Ulmer (1984), stress increases vulnerability to heart diseases. They also declared that men are more susceptible to heart disease because they do more stressful work than women. It is then obvious that artisans in the construction industry are all men and so they are susceptible to heart disease because of the nature of their work in the industry.

Arteriosclerosis: It is a kind of disease that makes reactive people to be vulnerable to high blood pressure, a risk factor for strokes and heart attacks. Further stress sometimes may trigger the altered heart rhythms than in those with weakened hearts can cause sudden death Kamarck and Jennings (1991). Research has revealed that those inclined to be hostile and cynical were five times more likely than their gentle trusting colleagues to die by middle age.

Depression: Women of age 67 or older with varying level of depression found significant differences in mortality due partly to increased heart diseases. In the year following a heart attack, depressed people have a quadrupled risk of further heart problems (Pratt, 1996). The depression that follows a spouse's death similarly increases one's risk of having a heart attack or stroke. Wilkinson and kawachi (1999) made it clear that depression substantially increases the risk of death, especially death by unnatural causes and cardiovascular diseases.

PSYCHO-PHYSIOLOGICAL ILLNESS: Such as hypertension and some headaches are stress related. A person under stress may retain excessive sodium and fluids which together with constriction of the arteries muscle walls and increase blood pressure Light et. al. (1983) ***AIDS:*** Researchers have found that stress and negative emotions do correlate with progression from HIV infection to AIDS and with the speed of decline in those infections.

CANCER: Although some researchers found no link between stress and cancer . But other investigators revealed that people experiencing work place stress had 5.5 times greater risk of colon cancer than those without stress.

***WOUND*:** Studies of the effects of stress on wound healing and tissue repair have suggested that stress-induced neuroendocrine activation impairs healing and delays recovery.

IV. RESEARCH METHODOLOGY

The scope of this study was limited to construction companies in southwestern Nigeria by making Lagos and Ibadan as the study areas due to the fact that different types of construction activities are carried out there. Ajanlekoko (2001) confirmed that Lagos State accounted for 60% of construction projects in Nigeria and this would provide good opportunity to see large size of artisans and evaluate stress on their productivity levels. The population where the artisans to be examined in the course of this study were from the Federation of Building and Civil Engineering Contractors in Nigeria and who are mostly found working on construction sites in the country. The firms are supposed to have different artisans working on various trades and whom the data needed on stress can be gotten from. It was believed that construction activities in these locations would represent a good sample of construction activities in the country.

The sources of data employed during the course of this study were primary data and secondary data. The primary data were obtained through the use of structured questionnaires and interview that focused on issues relating to stress among artisans in Nigerian construction industry while the secondary data were obtained from the review of related textbooks, journals, articles, internet, records and any other publications on stress related issues in construction industry. A face-to-face interview method was used to complement questionnaires administered. The self–completion questionnaire method was adopted for this study where respondents answered questions by completing the questionnaires themselves and otherwise interpreted if they were illiterates. Simple words that would not pose ambiguity to the respondents explained in few paragraphs were used so as to get adequate contributions from them. The two methods of data collection; interview and questionnaires were structured to identify stressors, obtain basic biographic and behavioural information; the respondents were also asked about the common sources of stresses they experienced and the stress management strategies commonly used.

The method of analysis used in this study included both descriptive and inferential statistics. The descriptive statistics used included cross tabulation frequency counts and percentages method. Tabulation is the arrangement of data involved in tabular form. It forms the basis of reducing or simplifying the details in a mass of data into such a form that the main features would be brought out to make the assembled data easily understood. It equally helps to condense the data and to ease comparison of data. The inferential statistics used included the use of likert scale for the qualitative assessment of the data gotten from the questionnaires.

V. RESULTS AND DISCUSSIONS

This section focuses on the analysis of the data collected and the presentation of the results. It also explains the method of measurement used, method of coding and the type of analysis carried out. From these analyses, different conclusions and recommendations were made. In this research, a total number of 150 questionnaires were administered and 105 were retrieved. The characteristics of the respondents are shown below:-

VI. PERSONAL PROFILE OF THE RESPONDENTS

Table 1 shows the distribution of respondents by their organization. It is shown that 92.40% of the organizations were nationals of this country while the remaining were foreigners. This is an indication that most of the construction organizations in Lagos and Ibadan are owned by Nigerians. The table shows that the bulk of respondents, 52.40% worked with large-sized organizations, 33.30% worked with medium-sized organizations while the remaining 14.30% were working with small-sized organizations. This indicates that there are more large organizations than medium organizations in Lagos and Ibadan and the sizeable number of artisans in their employment would have great understanding of the concept of stress based on the nature of their work. The table shows that most of the respondents (58.10%) worked with building construction firms while those who worked with building construction and civil engineering firms were 28.60%, those that worked with civil engineering firms were 7.60% and those that worked with other types of firms as may be designated were 5.70%. This simply indicates that data were collected mostly from artisans that worked in building construction firms.

An examination of the table shows that artisans that have worked within 6-10 years were much in construction firms (49.5%).Those that worked within 1-5 years were about 5.70%, those that worked within 11-15 years were 25.70%, those that worked within 16-20 years were 12.40%, those that worked within 21-25 years were 6. 70% and none of the respondents had worked for more than 25 years. This is an indication that the years of experience of the respondents in construction industry would offer them good and reasonable understanding of stress and its related effects on occupational performance and emotional build-up. An in-depth interpretation of the table presented shows that much

percentage of artisans were not educated; they passed through Trade Test Programme (58.10%), 28.60% were Primary Leaving Certificate holders, about 6.70% passed through both SSCE (Senior School Certificate Examination) and JSCE (Junior School Certificate Examination) while none of the respondents was an OND (Ordinary National Diploma) holder.

It is shown that 33.70% of the respondents were bricklayers, 15.30% were carpenters, 14.30% were iron benders, 5.70% were tillers, 5.70% were plumbers, 7.60% were concreters, 6.70% were painters, while the remaining percentage, 15.20% wereinvolved in other trades besides those listed in the table. This is an indication that a sizeable number of the respondents were into bricklaying and with the dispersal of the artisans into different trades; information gotten from them would reflect issues of stress among artisans in Nigerian construction industry. The table also shows the distribution of respondents by their sex. All the respondents were male 100.00%. This shows that only males were mostly employed as artisans in the construction industry in the country possibly because males are stronger than females and can cope with occupational stress encountered in construction works. The table also shows that almost all the respondents were married (89.50%) while 10.50% of the respondents were single.

Table 1 : Profile of Respondents

Percentage Distribution of Respondents by Nature of Employers		
Nature of Employers	Frequency	Percentage
Foreign	8	7.60
Indigenous	97	92.40
Total	105	100.00
Percentage Distribution of the Respondents by Size of the Organisations		
Size of Organisation		Frequency
Percentage		
Large	55	52.40
Medium	35	33.30
Small	15	14.30
Total	105	100.00
Percentage Distribution of Respondents by Type of Projects		
Type of Projects		Frequency
Percentage		
Building Construction	61	58.10
Civil Engineering	8	7.60
Both		30
28.60		
Others		6
5.70		
Total		100
100.00		
Percentage Distribution of Respondents by Years of Experience		
Years of Experience		Frequency
Percentage		
1-5	6	5.70
6-10	52	49.50
11-15	27	25.70
16-20	13	12.40
21-25	7	6.70
Above 25	0	0.00
Total	105	100.00
Percentage Distribution of Respondents by Educational Qualification		
Qualifications		Frequency
Percentage		
OND	0	0.00
Trade Test		61
58.10		
SSCE	7	6.70
JSCE		7
6.70		
Primary Leaving Certificate		30
28.60		
Total		105
100.00		
Percentage Distribution by Sex of Respondents		
Sex		Frequency
Percentage		
Male	105	100.00
Female	0	0.00
Total	105	100.00
Percentage Distribution of Respondents by Marital Status		
Marital Status		Frequency
Percentage		
Married		94
89.50		
Single		11
10.50		
Total		105
100.00		
Percentage Distribution of Respondents by Type of Trades		
Type of Trade		Frequency
Percentage		
Bricklaying		33
33.40		
Carpentry		15
14.30		
Iron Bending		14
13.30		
Tiling	6	5.70
Plumbing	6	5.70
Concreting	8	7.60
Painting	7	6.70
Others	16	15.20
Total	105	100.00

VII. ARTISANS AND STRESS

Table 2: Percentage Distribution of respondents on whether they have experienced stress in the period under review or not

	Frequency	
Experienced		**Percentage**
Yes	98	93.30
No	**7**	6.70
Total	105	100.00

An examination of Table 2 shows that the respondents who indicated that they experienced stress were 93.30% while the remaining 6.70% noted that they did not experience stress. This means that this frequency count would help in having reliability of the data gotten on the causes and effects of stress and the possible ways to manage it. Table 3 shows the percentage distribution of respondents by sources of stress. About 87.60% of stresses experienced by respondents were from their jobs. This supports the position maintained by the artisans during interview that they experience stress mostly from their jobs.

Sources of stress	Frequency	Percentage
Job	92	87.60
Other Source(s)	13	12.40
Total	105	100.00

VIII. STRESSORS

From Table 4, it is observed from the work related section that qualitative work overload has the highest mean score of 3.70 which indicates that work overload is the most rated factor that causes stress among artisans in construction industry in Nigeria. Also, during the interview part of the data collection, the respondents; the artisans maintained that at times they might not have the required knowledge to complete the work assigned to them satisfactorily. Also, from the work time related section, the quantitative work overload has the highest mean score of 3.70 which the artisans noted during the interview that; their working list is too long to complete. This is a potential stressor on their part. Tight-time frame for works has mean score of 3.39. It can be concluded from this that a very short time-frame to complete the work ahead is one of the stressors confronted by the artisans that make them to work overtime.

From the organizational policy related section, it is observed that inadequate knowledge of the of project objectives has the highest mean score of 3.13 which simply means that; artisans suffer from inadequate knowledge of project objectives (that is, the project objectives have not been clearly conveyed to different working levels). Another stressor in this section that possessed the next highest index value is the conflicts among different job demands in different sites and locations. It has a mean score of 2.67. It was confirmed from the artisans during the interview that artisans work in more than one project and they find it difficult to have a stable mind-set for each of them. Result from the also revealed that; at the organizational position related section, unsatisfied salary has the highest mean score of 3.74.This indicates the rate at which the personnel at higher hierarchy in construction are treating personnel at lower hierarchy like artisans is not encouraging. According to the respondents during the interview, they said they were the ones doing the real work on site, handling harmful materials, directly involved in the physical construction of projects, and at the same time, they are the ones earning the least wages/salary. This is unlike personnel in the middle and top hierarchies in the industry that get more fantastic packages and equally reviewed upwardly at a rate faster than that of the artisans.

It was also observed from Table 4 that role conflicts (where there may be occasions of conflicts between their roles in the organization and that under individual project) is the most rated stressor among the situational/environmental factors/stressors. It has the highest mean score of 3.63. Also, different views from the superiors, has mean score of 3.46. This was confirmed during the interview as the respondents complained about different site engineers and supervisors that assess their work. They said what satisfies one might not satisfy another as conflicts normally exist in the site instructions passed. The table also revealed that low recognition received from work causes stress for the respondents. This has a mean score of 2.64.The respondents also complained during the interview that their superiors do not appreciate their efforts all the time. They also complained about poor communication with counter players and problem with their superior management style which were all confirmed from the table by having mean score of 2.16 and 2.45 respectively.

Table 4: Distribution of Respondents by Rating of Job-Related Stressors

JOB RELATED PROBLEMS/STRESSORS	1	2	3	4	5	Mean Score	Overall Ranking
A. WORK NATURE RELATED							
1.Qualitative work overload	16	6	20	14	49	3.70	1
2.Too specialized job nature	47	0	36	6	16	2.47	2
3.Job nature renders too much contact with people	79	0	6	6	14	1.82	3
4.Low job challenges	70	14	13	8	0	1.61	4
B. WORK TIME RELATED							
1.Quantitative work overload	16	6	20	14	49	3.70	1
2.Tight timeframe for work	8	13	14	70	0	3.39	2
3.Unstable working hours	0	14	0	77	0	3.20	3
4.Work under load	60	8	31	0	6	1.90	4
C. ORGANISATIONAL POLICY RELATED							
1.Inadequate knowledge of project objectives	14	11	18	0	55	3.13	1

2.Conflict among different working demands	14	28	70	0	0	2.67	2
3.Adaptability problem with change of job Natures	40	6	32	21	6	2.50	3
4.Inadequate room for innovation	42	12	29	14	8	2.37	4
5.Bureaucracy	56	6	16	20	7	2.20	5
D. ORGANIZATIONAL POSITION RELATED							
1.Unsatisfied salary	15	12	15	6	57	3.74	1
2.Inadequate authority	0	14	0	77	0	3.20	2
3.Lack of career guidance	35	0	36	20	14	2.79	3
4.Lack of job stability	56	14	21	6	8	2.01	4
5.Lack of promotion opportunity	79	0	6	6	14	1.82	5
6.Ambiguity on job requirement	69	12	16	8	0	1.65	6
E. SITUATIONAL/ENVIRONMENTAL							
1.Role conflicts	0	9	19	14	50	3.63	1
2.Different views from superior	14	10	18	0	55	3.46	2
3.Poor working condition	21	0	36	26	22	3.27	3
4.Exposure to dangerous working condition		20	0	0	60	3.23	4
5.Unfair assignment of workload	56	14	21	6	8	2.01	5
F. RELATIONSHIP RELATED							
1.Low recognition received from work	50		15	18	22	2.64	1
2.Problem with superior management style	41	16	22	12	14	2.45	2
3.Poor communication with superior	55	14	6	30	0	2.16	3
4.Poor relationship with colleague	53	14	8	30		2.14	4
5.Poor communication with counter player	63	12	16	14		1.82	5
G. PERSONAL							
1.Work-family conflicts	15	12	16	41	21	3.39	1
2.Inadequate recess	40	6	32	21	6	2.50	2
3.Problem with ability application	69		6	14	16	2.12	3
4.Lack of opportunity to learn new skill	70	12	16	41	21	1.13	4

t is shown in Table 5 that majority of the respondents (71.40%), claimed that they do not encounter stressors at home front as they do at work. This was also buttressed in Table 2 when 87.60% of the respondents noted that the major sources of their stresses are in job affairs. About 28.00% of the respondents affirmed that they do experience issues that cause stress at home front. This simply indicates that artisans experience much stresses at work than at home. From the table, it is observed that quarreling gives respondents much stress (47.6%) than any other social behaviour. The other social behaviours that induce stress are by these frequencies: drinking (23.80%), flirting (14.30%, smoking (9.50%) and clubbing (4.80%). It is shown that bulk of the respondents (74.30%) responded positively to the question above while the remaining 25.70% responded negatively. This is an indication that stress causes a lot of medical ailments among the respondents (artisans). Result from the table shows that 47.60% of the respondents were affected mostly by depression, 9.50% were affected by psycho-physical illness (hypertension), 4.80% were affected by cancer, 19.00% were affected by wound (delay in wound healing process), 5.70% were affected by emotional disturbance, 4.80% were affected by behavioural disorders (impatience/aggressiveness), 4.80% were affected by mental effect (negative thinking) while the remaining 3.80% were

affected by other ailments like headache, body pains and so on.

Table 5: Stress and Artisans Working in Construction Industry

Distribution of respondents by whether they are facing problems at home front or not		
Response	Frequency	Percentage
Yes	30	28.60
No	75	71.40
Total	105	100.00
Percentage Distribution of social behaviours that give respondents stress		
Social Behaviour	Frequency	Percentage
Drinking	25	23.80
Quarrelling	50	47.60
Clubbing	5	4.80
Flirting	15	14.30
Smoking	10	9.50
Total	105	100.00
Percentage Distribution of respondents by the effects of stressors on their health		
Do Stressors Cause Medical Effects	Frequency	Percentage
Yes	78	74.30
No	27	25.70
Total	100	100.00
Percentage Distribution of respondents by the types of ailments affecting them.		
Types of Ailment	Frequency	Percentage
Depression	50	47.60
Psycho-physical illness(hypertension)	10	9.50
Cancer	5	4.80
Wound(Delay in wound healing process)	20	19.00
Emotional Disturbance	6	5.70
Behavioural(Impatience/Aggressiveness)	5	4.80
Mental Effect(Negative Thinking)	5	4.80
Others	4	3.80
Total	105	100.00

IX. STRATEGIES TO MANAGE STRESS

Result from Table 6 shows that majority of the respondents chose resorting to hobbies and exercises as the emotion-focused strategy they regularly adopt to effectively manage stress. From the table, it has a mean score of 2.92. The next strategy to this is seeking for caring and social support (mean score of 2.66) which was confirmed during the interview from the respondents as what every artisan needs at every time to wave away stress. Majority of the respondents (100.00%) with a mean score of 3.00 chose planning ahead as a strategy to cope with stress. This is the same with that of setting and dealing with problem accordingly. This is an indication that planning ahead and setting and dealing with problems accordingly are problem-focused coping strategies to be adopted

In Table 7, 42.90% of respondents chose relaxation as the most comfortable strategy of coping with stress. According to the respondents during the interview, they said; relaxation after daily work is good for people like them based on the energy exerted during their daily works. About 26.60% of the respondents chose aerobic exercise as a strategy of coping with stress. Some of the respondents (19.10%) chose social support as their own-adopted method of coping with stress while 5.70% chose both laughter and biofeedback as their own strategy of coping with stress. This indicates that relaxation and aerobic exercise strategies are crucial for managing stress among artisans in construction industry. The results of Table 8 shows that majority of the employers/organizations do not provide any stress management strategies for the artisans except time-off measure (sick leave) and social activities measure (Dinner Party, New Year/Festival Celebrations). This is mainly because an ill person will definitely be absent from work (coming to site). And it was discovered that dinner party, new year/festival celebrations are seasonal. At this time, the respondents posited that there used to be scarcity of building materials which affect smooth running of jobs at site would keep them away from work and thus prevent artisans from job-related stress factors during the period.

Table 6: Strategies Used to Manage Stress

Distribution of Respondents by Emotional-Focused Coping Strategy					
RATING					
Emotional-Focused Coping Strategy	Never	Rarely	Often	Mean Score	Ranking
Resorting to hobbies and exercises	0	8	97	2.92	1
Seeking for caring and support	0	15	90	2.86	2
Talking/Listening to friends	0	36	69	2.66	3
Expanding interest/activities after work	21	20	64	2.41	4
Distribution of Respondents by Problem-Focused Coping Strategy					
RATING					
Problem-Focused Strategy	Never	Rarely	Often	Mean Score	Ranking
Planning ahead	0	0	105	3.00	1
Setting and dealing with problem accordingly	0	0	105	3.00	1
Effective time management	16	21	68	2.50	3
Dealing with problem in an unemotional way	60	24	20	1.62	4
Concentrating on specific problem	60	37	8	1.50	5

Table 7: Percentage of Respondents by Strategies Used to Manage Construction Stress

Strategies	Frequency	Percentage
Aerobic Exercises	28	26.60
Biofeedback	6	5.70
Relaxation	45	42.90
Laughter	6	5.70
Social Support	20	19.10
Total	105	100.00

Table 8: Stress Management Strategies Employed by Employers

Proactive Measure		
Response	**Frequency**	**Percentage**
Yes	**35**	**33.30**
No	**70**	**66.70**
Total	**105**	**100.00**
Non-Specialist Assistance Measure		
Response	**Frequency**	**Percentage**
Yes	**56**	**53.30**
No	**49**	**46.70**
Total	**105**	**100.00**
Specialist Assistance Measure		
Response	**Frequency**	**Percentage**
Yes	**8**	**7.60**
No	**97**	**92.40**
Total	**105**	**100.00**
Restructuring of Social and Physical Work Environment		
Response	**Frequency**	**Percentage**
Yes	**20**	**19.00**
No	**85**	**81.00**
Total	**100**	**100.00**
Time-Off Measures (Sick Leave)		
Response	**Frequency**	**Percentage**
Yes	**76**	**72.40**
No	**29**	**27.60**
Total	**105**	**100.00**
Social Activities Measure		
Response	**Frequency**	**Percentage**
Yes	**61**	**58.10**
No	**44**	**41.90**
Total	**105**	**100.00**

X. Conclusion

As construction work is one of the occupations most vulnerable to stress, the result of this study suggests that construction industry needs to urgently address the problems and management of stress among artisans in the industry. In terms of stressors, those confirmed in respect to this study are qualitative and quantitative work overload, too specialized job nature, tight-time frame for works, unstable working hour, inadequate knowledge of project objectives, conflicts among different job demands, inadequate room for innovation, bureaucracy, unsatisfied salary, lack of career guidance, lack of job stability, lack of job opportunity, different view from superior, role conflicts, unfair assignment of workload, poor working environment, exposure to dangerous working conditions, low recognition received for work done, poor communication with superiors and counter players, work-family conflicts, inadequate recess and lack of opportunity to learn new skills. People react differently to stress; the same applies to artisans in construction industry. Respectful and considerate management can help the artisans in getting through difficult times of stress. When stressful situations arise in the work environment, it is important that the company's management and the artisans jointly address the stressors in the work environment through artisans participating in assessing the problem; communicating potential resolutions and recognizing that stress management is a joint effort. Most importantly, aerobic exercises, biofeedback, relaxation, laughter, social supports are all ways of managing stress especially among artisans in construction industry. A stress- free environment begins with a stress-free individual.

XI. Recommendation

1. Every construction firm must be concerned with providing stress management strategies for artisans. These strategies could be proactive measures like training workload, adjustment, stress identification, creating social structures and role clarification.
2. Construction firm should provide special assistance measure for artisans in terms of professional advisers and health interventions.
3. Restructuring of social, physical and work environment should be the target of every construction organization.
4. There should be a provision for time-off measure (not only sick leave) for the artisans in construction industry as this gives room for thorough relaxation.
5. There should be improvement of social activities measures for the artisans.
6. The artisans should be paid in correlation with their work load.
7. The personnel in higher hierarchy in construction industry should know that without artisans, nothing could be done on construction sites, hence they need to recognize and respect and adequately remunerated with upward review of their wages/salaries periodically.
8. Bad and abusive languages in addressing the artisans should be stopped by their superiors.
9. Every organization (large, medium and small size) should provide safety measures for the well-being of artisans to protect them from harsh weather conditions, undue exposure to dangerous working conditions and reactions to hazardous building materials.

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