

Analysis of Stress Management among Professionals in the Nigerian Construction Industry

T. O. Oladinrin, O. Adeniyi, & M.O. Udi

Department of Quantity Surveying, Federal University of Technology, PMB 704, Akure, Ondo State Nigeria

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Abstract

Stress is a universal phenomenon that essentially manifests itself in human as a result of pressure emanating from several experiences or challenging situation. Due to the nature of the construction industry which embraces a wide range of loosely integrated activities, stress becomes an issue of concern. This research work focuses on identifying the sources of stress among construction professionals, assessing the impact of stress on the productivity of professionals and examining ways of effectively managing stress level among construction professionals. To achieve these objectives, 100 questionnaires were administered to professionals in the construction industry out of which 70 were returned and suitable for analysis. Using descriptive statistical analysis tool on the data obtained shows that insufficient finance/resources, staff shortage, and conflicting roles ranked highest as the main sources of stress. Delay in job completion, deterioration of power of organization and planning, increase in error rate during manipulative and cognitive task, depression and feeling of helplessness and over sensitivity are the major impact of stress on the productivity of professionals. In order to minimize stress, delegating some work, share burden with colleagues, leave and time off work with family and love ones, as well as reducing work overtime ranked highest as strategies for stress management. Based on the findings, it was concluded that stress has a great impact on the professionals and thereby affects the level of productivity. It was therefore recommended that professionals should exhibit self-control and good self-esteem; engage in continuous professional development on skills for better organization, integration of work within specified project constraints and delegation of assignment, authority and breaking work into manageable parts so as to be able to cope with stress.

Keywords: Stress, Professionals, Construction Industry, Productivity.

1. Introduction

The Construction industry constitutes an important element of a country's economic development. It involved very complicated process and extensive linkages to more than hundreds of upstream and downstream industries. The managerial level of the construction organization has their responsibility to well manage and control their subordinates in order to ensure the efficiency and productivity of the construction works.

(Fadhlin, Chai, Kharul, & Tan, 2004). Loosemore & Waters (2004) stated that there is accumulating evidence that stress levels among construction professionals are on the increase from day to day. Therefore, the managerial level of the construction organization as well as their subordinates also would experience stress due to increase of workload and the pressure. Hence, management competency has become leading in human resource practices and is often applied in organizations to guide selection assessment, development, and performance appraisal (Heinsman, Hoogh, Koopman &

Van, 2008). Management competency can be described as an integrated set of human resource activities aimed at optimizing the development and the use of employee competencies in order to increase individual effectiveness, and, subsequently, to increase organizational effectiveness. (Heinsman et al 2008).

2. Definition of stress

The word stress is derived from the Latin word "stringere" which meant literally to draw tight and was used in the 17th century to describe hardship, strain, adversity or affliction. These root words refer to the internal feelings of constriction many feel under stress. During the late 18th century, stress denoted "force, pressure, strain or strong effort, referring primarily to an individual or to an individual organs or mental powers. Cartwright, (1997) as cited in Lim, (2009)

Fontana (1989) as cited in Chowhiu, (2009) defines stress as those challenges which excite us and keep us on our toes, and without which life for many people would

become dull and ultimately not worth living. At the other end of the scale, stress represents those conditions under which individuals have demands made upon them that they cannot physically or psychologically meet, and that lead to breakdown at one or other of these levels. Therefore, stress is a life-saver, at the other end of the spectrum a life-destroyer. The meaning of 'demands' mentioned above is equivalent to 'stressors'.

Jeffrey (2006) defined stress as a state of cognitive, emotional and physical arousal. The state of arousal that is known as "stress" is caused by exposure to some actual or perceived demand or stimulus in our environment. Once we arouse the intellect, emotions and the body, we can observe changes in a person's behaviour. Stress, at reasonable levels, is essential for a healthy life. When it gets out of control, however, stress can be a powerful destructive force.

2.1 Signs and symptoms of stress

Sommerville and Langford (1994), mention that there are two primary sets of stress indicator: healthy and unhealthy. Examples of healthy indicators include abundant energy, ease of adaptability, stimulation, calmness, control, clear and rational thought, and decisiveness. Examples of unhealthy stress indicators include sleeplessness, high levels of aggression, difficulty in thinking, fatigue, inflexibility, and anxiety. Healthy indicators are something that is desirable; however, unhealthy stress indicators will give rise to high stress level. As the stress indicators only defined in a very general sense, Sommerville and Langford (1994) in the research further categorized the symptoms of stress into three aspects:

2.1.1 The Psychological Symptoms

Include lack of concentration, tenseness and other symptoms which can be regarded as possible illnesses such as depression and paranoia.

2.1.2 Behavioural Symptoms

Include irritability, lack of effort, excessive consumption of food and beverages, and withdrawal from the work environment that is trying to retreat from commitments. Besides, behavioral response to stress may also take the form of escapist drinking, physical inactivity and or cigarette smoking. All these will lead directly or indirectly to health risks (Sutherland & Davidson, 1989).

2.1.3 Physical Symptoms

Which are often the most readily identifiable, include cardio-bronchial pains, weight loss from under-eating, and sleeping at abnormal times. The symptoms may appear as singular factors acting in isolation, or as composites within a highly complex situation. Although

the symptoms only indicate the beginning of the stress problem, the impact of symptoms is also influential to people. Copper (1986) suggests that the symptoms of stress may have a significant impact on an individual's instigation, perception of, and response to, conflict situations within the organization. On top of that, if the psychological and behavioural symptoms combine together, they may bring substantial influence to bear on potential conflict situations as the symptoms may control the value and judgment state of an individual.

2.2 Types Of Stress

Stress is inevitable from the moment of birth. One definition of life is "the continual process of solving problems," and all problem solving involves pressure, conflict, and frustration – in other words, stress (Manning, 1988). Besides, Selye (1978) as cited in Lim, (2009) stated that "No one can live without experiencing some degree of stress all the time. You may think that only serious disease or intensive physical or mental injury can cause stress. This is false. Crossing a busy intersection, exposure to a draft, or even sheer joy are enough to activate the body's stress mechanism to some extent. Stress is not even necessarily bad for you; it is also the spice of life, for any emotion, any activity, causes stress."

Therefore, stress is widely accepted to have two opposite effects on individuals – good stress (eustress) and bad stress (distress). Han Selye, who often referred to as the "father of stress", was the first to distinguish between good stress (eustress) and bad stress (distress). He also noted that eustress provides challenges that motivate individuals to work hard and meet their goals meanwhile distress results from the stressful situations that persist over time and produces negative health outcomes (Landy, 2007). Broadly, it can be concluded that the acceptable levels of stress help to improve the individuals' performance whilst excessive amounts of stress can lead to a decreased performance.

2.2.1 Eustress (Positive or Good Stress)

Eustress is good or positive stress and arises in any situation or circumstance that a person finds motivating or inspiring (Seaward, 2004). Seaward also stated that situations that are classified as eustress are enjoyable and for this reason are not considered to be a threat. Besides, Selye (1978) as cited in Lim, (2009) stated that pleasurable, satisfying experiences came from eustress. Eustress heightens awareness, increases mental alertness and often leads to superior cognitive and behavioral performance. Eustress may supply the arousing motivation for one individual to create a work of art, another an urgently needed medicine and scientific theory (Rice, 1999).

2.2.2 Distress (Negative or Bad Stress)

Generally, stress and distress are been thought as interchangeable terms (Rice, 1999). Perhaps, this is because common sense suggests that stress is something bad. According to Selye (1978) as cited in Lim, (2009) distress is “damaging or unpleasant stress”. Therefore, distress can be refers to the negative effects of stress that drain of energy and surpass ones capacities to cope. Expressed in these terms, stress is much the same as a state of anxiety, fear, worry, or agitation (Rice, 1999). Rice (1999) also stated that the core of the psychological experience is negative, painful and something to be avoided.

Broadly, there are two kinds of distress namely acute stress and chronic stress (Seaward, 2004). Acute stress is the result of short-term stressors (Olpin&hesson 2007). Acute stress occurs, usually quite intense, and then disappears quickly (Seaward, 2004). Meanwhile chronic stress is long-term stress resulting from the unrelenting demands and pressures that go for interminable periods of time (Olpin&hesson 2007). The danger of chronic stress is that some people just get used to it, lose hope, and give up searching for solutions. Meanwhile, the physical and mental resources are depleted.

2.3 Specific Stress Sources Related to the construction Industry

After discussing some general factors which may be applicable to the general public, there are also some factors which are recognized by the people in the construction industry. Sutherland & Davidson (1993) conduct an investigation of the impact of stress upon 36 male, middle and senior construction site managers in UK, in which 77%of them are senior managers and 23% are in middle management positions. Ten main sources of stress are cited which are experienced by site managers frequently:

Inadequate or inconsistent communication flow is scored the highest among the site managers in UK. Following it is the excessive amount of paperwork, in which it involves the need for managers in senior levels to complete the paperwork, rather than letting some less senior members in the organization to do and also some of the paperwork is only used to record a situation such as minutes. Moreover, being a site manager who is in charge with so many things, he or she must have a complete picture of the whole project. As a result, large amount of paperwork is unavoidable (Sutherland & Davidson, 1989) as cited in Sutherland & Davidson, (1993) Apart from paperwork, workload is also perceived as a source of stress, in which it is associated with ‘Working long hours’ and ‘Insufficient time spent in family or home environment’. Due to excessive amount of workload, site managers in the UK on average work 10 to 11 hours every day excluding travel time and so it reduces the time spent with family members (Sutherland and Davidson,

1989).Insufficient time spent with family members reduces the amount of social support and also creates role conflict, that is the role of being a site manager and one of the family members are out of balance and so an individual is under tension. In addition, conflict of boundary situation also perceived as a source of stress among 50% of construction site managers, in which it is related to role-based stress, i.e. inter-sender conflict mentioned by Kahn, (1964).

Other sources of managerial stress in construction industry are suggested by Djebarni (1996), which include lack of resources, insufficiency of time, pressure to make urgent decisions without adequate information, interpersonal conflicts and making hiring and firing decisions. The author does not, however, specify the weighted importance of these sources.

The result obtained from research by Haynes & Love (2004) shows that workload is the greatest ‘high pressure’ stressor for site managers.

2.3.1 Nature of the Industry

When there is a new project, a project team which composes of different members such as engineers, architects and surveyors will be formed. The project team will be directed under the command of a project manager, which was mentioned beforehand. The project team organization is set up to carry out all the work including the management of cash flow, purchase of plant and equipment and soon. When the project is finished and handed over to the client, the team and the project manager will have no further purpose and thus eventually the whole team will be vanished. (Lock, 1996). Owing to the nature of the construction industry, stress will be induced. Haynes& Love (2004) mention that pressure of project manager arises due to the need to complete a project on time, to a desired quality, within budget and satisfy a wide range of stakeholders’ objectives, in which it is difficult to balance all the aspects. For example, satisfying the stakeholders’ objectives may sometimes make the required completion date more difficult to achieve and the project managers will need to deal with them. One of the characteristics of the construction industry is that projects are usually a one-off type production which required a high level of coordination and specialist input. (Haynes & Love, 2004) As mentioned previously, there are the development of different relationships and changes of job for each construction project, in which all these are key events lead to stress inducement.

2.3.2 Sector Involved

Gunning & Cooke (1996) mention that the sector in which the construction professional is involved will also affect the degree of stress experienced. Those engaged in contracting are under the greatest degree of stress compared to those in private practice and local

government, which are similar to each other. The following shows the degree of stress experienced in different sectors;

- Occasionally under stress
- Periodically under stress
- Regularly under stress
- Always under stress

2.3.3 People

Sommerville & Langford (1994) find that people are the primary stressor on any construction project while others may think that time and cost of the project are the stressors. They point out that time and cost may be subject to external constraints but people are directly under the control and influence of the organization executing the project. Therefore, if a greater emphasis is put on the individuals within the project team, i.e. on the composition of the team, may lead to a significant reduction in one of the key stressor.

2.3.4 Role

In general, most managers, regardless of the field of operation, have to manage people, information and decision-making process. They perform these roles using varying combinations of human, technical and conceptual skills to plan, direct, organize and control people and resources. Therefore, staff development and mentoring becomes the most important part of most managers' job. (Fryer, 1997).

More specifically, in the construction industry, the role of construction site managers is important, as they are responsible for the contractor's generation of cash flow and the building of the companies' reputation. It is said that construction site managers' role is crucial to the success of the organization. The reason is that site managers are responsible for carrying out the hardest and toughest job in the construction process. Another job which construction site managers are responsible for is site management. However, site management is characterized by a high work overload, long working hours, and many conflicting parties to deal with including the management, the subcontractors, the subordinates, the client, etc. (Djebarni, 1996). Apart from the role of managers and construction site managers, the role of project managers should also be taken into account.

Sommerville and Langford (1994) mentioned that project managers are involved in autonomous responsibility, which means they have high degree of responsibility which needs them to working dependently. Project managers need to satisfy the company's objectives and manage the project on the one hand, while on the other hand, they need to enjoin several parties that are involved in the construction process such as the client, the architect, suppliers and the subcontractors.

In addition, Lock (1996) opined that the project managers are responsible for all aspects of a project and he or she has the clear authority of direct command in order to lead the whole project team to achieve the purpose or objective of the project. As there are lots of responsibilities imposed on project managers which are defined as demanding, complex and varied. Examples include management of people, information and decision-making and thus they are a critical human resource. (Fryer, 1997)

The increasing demands and constraints imposed on construction project managers by the internal and external environment have resulted in longer working hours being experienced, which can have psychological and physiological consequences (Haynes & Love, 2003). Thus, in short, the source of stress is the responsibility of project managers is too much which lead to long working hours and ultimately lead to problem. Again in this study, it coheres with the result of Sutherland & Davidson (1989) that long working hours will lead to stress.

2.3.5 Gender

Gender difference is also a source of stress. It is found that women are more emotional and less rational than men. Moreover, they are less committed to their careers. Therefore, they could not handle the stress and strain associated with administrative positions. (Tung, 1979) as cited in Chowhiu, (2009). Moreover, male are experienced with higher levels of responsibility stress and work or organizational climate stress than female, but they can adapt to it. While female are found have less tolerance to work stressors.

2.4 Impact of Stress

In chowhiu, (2009), it was indicated that there are three types of consequences caused by high Stress level, which include:

2.4.1 Physiological Consequences

One of the physiological responses is the 'fight or flight' response which happens at the automatic nervous level. In other words, people gear the body up so as to respond to the challenges facing by them, either by standing ground or hitting back or by a prompt strategic withdrawal. All these responses are happened automatically, in which the body will recognize the need for a response and produces it without the need of people to tell the body to do so. However, the problem associated is that those responses are acted as a short-term and immediate reaction, designed to shut down as soon as the emergency is past. If they do not shut down, there will be adverse effects. There are altogether four main aspects characterized by the author about human body's responses to stress, namely energy mobilizes,

energy support systems, concentration aids and defensive reactions.

2.4.2 Psychological Consequences

As mentioned previously, an optimum level of stress is healthy to us. However, when the stress level is too high, it drains our psychological energy, impairs our performance and leaves people a feeling of useless and undervalued, with diminishing purpose and hopeless, unattainable objectives.

As mentioned in the previous part, the General Adaptation Syndrome (GAS) model, involves three stages: alarm reaction stage, the stage of resistance and the stage of exhaustion. There will be some adverse impacts when an individual reaches the stage of exhaustion. Firstly, there will be increase in physical and psychological tensions, in which the ability to relax muscle tone, to feel good, to switch off worries and anxiety reduces. Secondly, there will be changes in personality traits. For example, if a person is a neat and tidy person originally, he or she may become messy and untidy, etc. Apart from the change of personality, the existing personality problem will also increase. For example, there will be worsening of existing anxiety, over-sensitivity, defensiveness and hostility.

Apart from all the impacts mentioned above, there will also be depression and the feeling of helplessness arises. When a person is having too much stress, he or she will have a lower spirit or a sense of powerlessness to influence events or ones feelings. Besides, their self-esteem will fall sharply, in which a feeling of incompetence and worthlessness develop. This problem is very serious if this happens in a project manager. As a project manager needs to have lots of decision making, he or she somehow should have some confidence in himself or herself, in addition with his or her professional knowledge, so as to make a wise decision.

However, if the personality is affected by the stress level, this will incredibly affect the decision-making process, which may cause huge problem to the construction process. As mentioned by Albrecht (1979), there will be a severe risk to both health and organizational success when there is work-related stress as they are playing a central role in the performance of an organization.

2.4.3 Cognitive Consequences

Cognitive consequences are those relate to thinking and knowing. The first cognitive consequence of too much stress is the decrease in concentration span and the increase in distractibility. Decrease in concentration span means the mind find it difficult to remain focused and the

power of observation diminishes. On the other hand, increase in distractibility means the thread of what is being thought or said is frequently lost.

The second cognitive consequence will be the deterioration of short-term and long-term memory. Too much stress will lead to the reduction of memory span. Moreover, there will be a decline in the recall and recognition of familiar material. Too much stress will also lead to the deterioration of the powers of organization and long-term planning since the mind cannot accurately assess existing conditions or forecast future consequences. The consequence is particularly influential to people in managerial level which required frequent decision-making.

Moreover, there will also be an increase in error rate in manipulative and cognitive tasks. Again, this is very dangerous if it happens in a person in managerial level since the error made in decision-making process will cause serious problem to the whole organization.

2.4.4 General Behavioural Consequences

There are also other types of consequences apart from those suggested above, which can be categorized as general behavioural consequences. Firstly, long working hours have been a very common source of stress and hence there will be less time spent with their family. As a result, working long hours and having insufficient time with their immediate family may limit the amount of social support that they receive. (Haynes & Love, 2003) The lack of social support can be a very serious problem, which may trigger the threats of committing suicide.

(Chowhiu, 2009) stated that too much stress will also lead to the increase of cynicism about clients and colleagues, in which there will be a tendency develops to lay the blame upon others such as 'What can you do with people like that?' and so on. Apart from that, negative health-related behaviours such as smoking more, drinking more alcohol as usual and skipping breakfast are associated with high levels of occupational stress. All of these behaviours will affect one's health and ultimately lead to work impairment or other adverse effects.

Fontana (1989) as cited in chowhiu, (2009) also suggests that too much stress will lead to poor job or manufactured excuses or lateness, discontent or low morale. As a result, there will be a high labour turnover and thus the loss of 'good' employee. Stress can be costly as key people may have to leave due to ill-health, and indecision may cause the loss of important contract.

Smith, (2000) reveals that 16% of managers have taken time off work due to stress within one year. Moreover, another research done by Kearns also cited by Smith shows that each year there are altogether 91.5 million days are lost due to stress-related disorders and up to 60% of work absence is caused by them. Therefore, addressing the problem of high stress levels and figuring out the solutions can help the company to save cost and increase the efficiency of the firm's operation.

2.5 Coping Strategies for Stress

Kuhlmann, (1990) define coping with stress at work as the cognitive and behavioral effort to alter stress producing person or environment relationship in the work context, to weaken the negative emotional impact of a given transaction and suggests that the strategies for managing stress can be placed along two general dimensions: Manifestations of coping and focus of coping.

2.5.1 Focus of Coping

The focus of coping can be further separated into 'problem focused' and 'emotion focused' coping.

2.5.1.1 Problem-Focused Coping

Problem-focused coping means the involvement of and individual's effort to cope with the sources of stress through the modification of their own behaviour or environmental conditions (Djebarni, 1996). Kuhlmann, (1990) stated that individual under stress tries to change their behaviour or other external factors to deal with the sources, which primarily seeks to modify the stressful person-situation relationship.

2.5.1.2 Emotional-Focused Coping

On the other hand, emotional-focused coping means the involvement of coping efforts which aim at adjusting emotional distress and maintaining an optimum level of arousal (Djebarni, 1996). That is, the individual tries to change their own thinking so as to reduce their stress levels. It also includes efforts to manage emotional disturbances caused by the stressors. (Kuhlmann, 1990)

2.5.2 Manifestations of Coping

The manifestations of coping can be divided into cognitive and behavioural strategies.

2.5.2.1 Cognitive Strategies

It refers to intra-psychic attempts to deal with the stressful situation and its consequences. (Kuhlmann, 1990) In other words, it concerns the way that individuals think about things.

2.5.2.2 Behavioural Strategies

It composes of over reactions to handle stress. That is, it concerns with the actions that individuals take to manage the demands placed upon them. Kuhlmann (1990) suggests that the two general dimensions are not mutually exclusive. Instead, they may be viewed as two complimentary stages to cope with pressure. After all the classifications, Kuhlmann (1990) defines coping with stress at work as "the cognitive and behavioural efforts to

alter stress producing person or environment relationships in the work context and or to weaken the negative emotional impact of a given transaction".

2.5.2.3 Training Programs

Apart from problem-focused coping and emotion-focused coping, it is also suggested that training programmes may also help managers to cope with stress. Cooper, Sloan & Williams, (1988) mention that there are two types of behaviors performed by different people even when they come across with the same stressor, training programmes can be initiated to show managers different methods to exploit stress or the correct way to deal with stress (i.e. adaptive behaviour). As a result, stress levels of the project managers can be kept at the optimum levels.

2.5.2.4 Personal Coping

Moos & Billings, (1982) as cited in Ashford, (1988) mentions that coping strategies are relatively stable dispositional characteristics that affect the coping processes and are themselves affected by the cumulative outcome of that process. Ashford (1988) finds out that feelings of personal control and the ability to tolerate ambiguity are linked with improved stress levels. Moreover, he measures self-efficacy, personal control, self-esteem, freedom from self-derogation and tolerance of ambiguity as aspects of personal coping resources for self-efficacy.

Pearlin & Schooler, (1978) as cited by Ashford (1988) mentions that there are two components of self-esteem, which are been positive of one attitude towards oneself and the level of negative attitudes about oneself. Lastly, since uncertainty and ambiguity are the principal stressors associated with a period of change, tolerance of ambiguity is another coping strategy (Schweiger & Ivancevitch, 1985) The more an individual can tolerate high levels of uncertainty and ambiguity, the lesser the stress experienced. After the investigation, Ashford (1988) finds out that the sense of personal control is most strongly related to overall job strain.

2.5.2.5 Continuous Professional Development

Continuous Professional Development (CPD) can also be a key to cope with stress. Love, Haynes & Irani (2001) suggest that CPD can provide site manager with additional skills to better organize and integrate work within specified project constraints and the ability to deal with technical and environmental developments within the industry.

2.5.2.6 Social Support

Leavy (1983), defines social support, in which he links support to the notion of information. To specify, social support is information leading the subject to believe that

he or she is cared for, esteemed, and a member of a network of communication and mutual obligation. He sees support as the guidance and feedback provided by others which enable a person to emotionally master a stressful life episode. Moreover, he also includes instrumental support in the definition.

Instrumental support means the provision of tangible resources such as money. The concept of instrumental support goes in line with the definition given by Kahn & Antonucci (1980) that social support involve the expression of caring and emotional intimacy (affect), the provision of information about the rightness or wrongness of one's actions or thoughts (affirmation), and the availability and use of direct help through money, time, effort, and the like (aid).

Other than the concepts, Gottlieb (1978) also further defines the behaviours of social support activities. There are altogether two categories of activities: emotionally sustaining behaviour' and 'problem-solving behaviour'. Examples of emotionally sustaining behaviour' include reflecting concern, listening and providing intimacy. On the other end of the spectrum, 'problem-solving behaviour' parallels the concepts of instrumental support, aid and cognitive guidance. Examples of 'problem-solving behaviour' are giving materials aid or suggestions.

Gottlieb (1978) also categorizes two smaller categories of helping behaviours, which include indirect personal influence such as conveying to another that one is available, that sounds like a variation on the theme of intimacy. Another category of helping behaviour is environmental action such as stepping in to diminish a source of stress. The last type of support behaviour is appraisal support which involves information which helps one in evaluating personal performance, as when a work supervisor tells an underling that a job was well done.

2.5.2.7 Time Management

Time management is shown to be useful in preventing overload based strain. The rationale of time management is intended to change the way people structure and organize their working situation. However, the adoption of the type of behaviour depends on lots of factors such as one's personality, education level, or even age. Sommerville & Langford (1994), find that there is a difference in the adoption of coping strategies in different age and education level, which is illustrated in the followings:

- Group Prime time Alcohol or Socializing
- Humour Sport or Hobby
- Coffee or Smoking
- Time management

The major group of people who choose to use prime time, that is quality time as coping strategies are those respondents with age less than 40 with a degree. On the other hand, the major group of people who choose coffee or smoking as coping strategies are those whose age are over 40 with qualifications other than a degree.

3. Research Methodology

The objectives of this study were achieved through the accomplishment of the following tasks. The factors used in the research were collected through a literature review and subjected to a questionnaire survey directed towards two groups in both public and private organizations: consulting offices, and contractors. One hundred copies of questionnaire were administered through convenience sampling out of which seventy were returned and analyzed.

3.1 Method of Data Analysis

Simple statistical techniques like frequency tables, pie chart, percentiles and mean score such is suitable for presenting findings so that readers will be able to easily understand the results of the research.

Analysis of the data for this research were carried out using descriptive statistical analysis tools. Review of some past research observed the use of the following techniques and this research will adopt these techniques considering their suitability to this work.

3.1.1 Percentiles Method

These are ratios multiplied by 100, and it helps in rating a number of factors according to the degree of occurrence attached to them. The higher the percentile, the higher the importance or significance attached to such factors. The essence of percentile is to allocate a value between 0 and 100 to a factor (where 100 is the highest possible value) using factor size and the total size. The formula is

$$P = \frac{n \times 100}{N}$$

Where **P** = percentage of the factor
n = size of the factor in consideration and
N = total size of the population

3.1.2 Mean Score Method

Under this method, the findings of a questionnaire will be ranked according to their level of significance and response, the rankings will be summed up and divided by the number of responses. This method will enable deductions to be made regarding the sampled opinion of respondents.

$$\text{Mean Score} = \frac{f_1x_1 + f_2x_2 + f_3x_3 + f_4x_4 + f_5x_5}{\sum Sf}$$

Where f_1 = No of respondent for strongly agree, $x_1=5$
 f_2 = No of respondent for agree, $x_2=4$
 f_3 = No of respondent for partially agree, $x_3=3$
 f_4 = No of respondent for disagree, $x_4=2$
 f_5 = No of respondent for strongly disagree, $x_5=1$
 Sf = Total number of respondent

4. Data Presentation and Analysis

Table 4.1 Gender of Respondents

GENDER	FREQUENCY	PERCENTAGE
Male	56	80
Female	12	17.1
No Response	2	2.9
Total		100

Table 4.1 shows that 80 percent of the respondent was male while 17.1 percent was female and there was no response from 2.9 percent of the respondents.

Table 4.2 Professional Background of the respondents

PROFESSIONALS	FREQUENCY	PERCENTAGE
Quantity Surveyor	23	32.9
Architect	19	27.1
Builder	9	12.9
Civil Engineer	17	24.3
Others	2	2.9
Total	70	100

Table 4.2 shows that 32.9 percent of the respondent are quantity surveyors, 27.1 percent are architect, 24.3 percent are civil engineers, 12.9 percent are builders and others 2.9 percent

Table 4.3 Types of firm of the respondents

FIRMS	FREQUENCY	PERCENTAGE
Contracting	34	48.60
Consultancy	25	35.70
Government	5	7.10
Establishment	0	0.00
Others	5	7.10
No Response	1	1.40
Total	70	100

Table 4.3 shows that 48.6 percent of the respondents work in contracting firms, 35.1 percent is in consultancy firms, 7.1 percent in government establishment, 7.1 percent in other categories while 1.4 percent did not respond to this question.

Table 4.4 shows that 48.6 percent of the respondents were involved in project between 1 to 5, 30 percent between 6 to 10 projects, 12.9 percent was involved in more than 15 projects, and 7.1 percent between 11 to 15 projects.

Table 4.4 Nr of Project Respondent is currently engaged

PROJECT ENGAGED	FREQUENCY	PERCENTAGE
1-5 Projects	34	48.6

6-10 Projects	21	30
11-15 Projects	5	7.1
More than 15 Project	9	12.9
No Response	1	1.4
Total	70	100

Table 4.5 Nr of People Respondent is Responsible for

NUMBER OF PEOPLE	FREQUENCY	PERCENTAGE
Below 20 People	44	62.90
21-40 People	16	22.90
41-60 People	8	11.40
More than 90	1	1.40
No Response	1	1.40
Total	70	100

From Table 4.5, 62.9 percent of the respondents were responsible for less than 20 persons, 22.9 percent for between 21 to 40 persons, 11.4 percent for between 41 to 60 persons, and 1.4 percent for more than 90 persons.

Table 4.6 Sources of Stress among Professionals

SOURCE OF STRESS	MEAN	RANK
Insufficient finance or resource to work with	3.85	1
Staff shortage	3.75	2
Managing or supervising the work of other people	3.68	3
Inability to delegate work	3.65	4
Have to work very long hour	3.64	5
Poor remuneration	3.61	6
Lack of consultation and communication	3.58	7
Dealing with ambiguous situation	3.5	8
Having far too much work to do	3.44	9
Inadequate guidance and backup from superiors	3.42	10
Work demands affect my private or social life	3.37	11
Misuse of my time by other people	3.35	12
Boring administrative tax or paper work	3.28	13
Conflict job tax and demands in role I play	3.27	14
My family attitude towards my job and career	3.27	14
Too much variety of work	3.22	16
Ambiguity in nature of my job role	3.22	16
Having to take risk in management	3.21	18
Absence of emotional and practical support from outside work	3.21	18
Keep up with new techniques ideas or new challenges	3.21	18
Lack of encouragement from superiors	3.15	21
Absence of stability or dependability in home life	3.15	21
Inadequate poor training or	3.14	23

development		
Having to adopt a negative role (e.g. dismissing someone)	3.14	23
Personal belief conflicting with those of the company	3.14	23
Situation not under my direct control	3.10	26
Inadequate feedback about my own performance	3.08	27
Pursing career at expense of home life	3.08	27
Characteristics of organization structure	3.02	29
Uneven sharing of work and responsibility	3.01	30
Attending meetings	3.00	31
Culture of the organization	2.95	32
Lack of power and influence	2.94	33
The accumulate effect of minor tax	2.92	34
Working at a level below my level of ability	2.91	35
Treat of impending redundancy	2.88	36
Implication of mistakes I make	2.87	37
Lack of social support from people at work	2.82	38
Unclear promotion prospect	2.78	39
Being undervalued	2.74	40
Coping with office politics	2.70	41
Personality clashes with others at work	2.57	42
Making important decision	2.55	43
Simply being seen as a boss	2.42	44
Being promoted beyond my level of ability	2.27	45
Too little variety of work	2.25	46
Opportunity for personal development	2.11	47

The result from table 4.6 shows that insufficient finance or resources to work with, staff shortage, managing and supervising the work of other people, inability to delegate, having to work very long hours and poor remuneration are the main sources of stress among construction professionals.

Table 4.7 Impact of Stress on Individual Professionals

IMPACT OF STRESS	MEAN	RANK
Becoming messy and untidy	3.25	1
Depression and feeling of helplessness	3.18	2
Over sensitivity	3.17	3
Finding it difficult to remain focused	3.15	4
Defensiveness and hostility	3.14	5
Deterioration of short term and long term	3.10	6
Power of observation diminishes	2.94	7
Sense of powerlessness to influence event or	2.90	8
Worsening of existing anxiety	2.88	9

Increase in health related problems	2.85	10
Conflicts in private life	2.72	11
Feeling undervalued and useless	2.71	12
Smoking , drinking more alcohol and skipping of meal	2.62	13
Diminishing purpose and hopelessness	2.52	14

From the result in the table 4.7 becoming messy and untidy ranks first among the impact of stress on professionals while diminishing purpose and hopelessness rank last.

Table 4.8 Impact of Stress on Work Productivity

IMPACT ON PRODUCTIVITY	MEAN	RANK
Inability to finish work on time	3.70	1
Deterioration of power of organization and	3.65	2
Increase in error rate in manipulative task	3.62	3
Unattainable objectives	3.42	4
Frustration	3.35	5
Increase in tendency to lay blames	3.17	6
Target becomes unrealistic or unachievable	3.08	7
I am not clear exactly what my responsibilities	are 2.87	8
Feeling of incompetence and worthlessness	2.74	9
Decline in the recall and recognition of materials	familiar 2.72	10
I have to work at home to get things done	2.70	11
I avoid any difficult situations	2.65	12
I have to work at weekends to get everything	2.64	13
I do not get along with my colleagues	2.57	14
I lack confidence in dealing with people	2.55	15
I can never take all my leave	2.48	16
Conflict with other staff	2.45	17

The result in table 4.8 shows that inability to finish work on time rank first as the impact of stress on work productivity while, conflict with other staff rank last.

Table 4.9 Strategies for Managing Stress Level

MANAGING STRATEGIES	MEAN	RANK
Delegate some work	4.18	1
Breaking problems down into manageable parts	3.98	2
Time management	3.98	2
Communication of clear goals and objectives	3.92	4
Organizes work in more systematic way	3.87	5
Reviewing process to see if work can be improved	3.75	6
Leave and time-off work with family	3.74	7

and love ones		
Bringing in additional sources to handle work load.	3.67	8
Prioritizing future workloads.	3.60	9
Reduce work overtime	3.55	10
Acting calmly when under pressure	3.57	11
Share burden with colleagues	3.48	12
Work faster so as to complete more work within a shorter period of time	3.40	13
Reduction of working hours periodically	3.25	14
Refusing to take additional work when team is under pressure	3.00	15
Seek clarification with colleagues or superiors	2.98	16
Confront issues with colleagues and better negotiate relationship	2.92	17
Ignores the stress event	2.87	18
Negotiate with superiors on more family time	2.72	19
Leave organization for another	2.38	20
Alcohol or socializing.	2.38	20
Taking coffee or smoking	2.10	22

The result from table 4.9 shows that delegating of some work is the most effective strategies for managing stress level as it takes the first position in the ranking while taking of coffee or smoking takes the last position.

5. Discussion of Results

Result from the this study shows that the main sources of stress among professionals in the Nigeria construction industry are; insufficient finance or resource to work with, staff shortages, managing or supervising the work of others, inability to delegate duties, having to work a very long hours and poor remuneration package. This findings is in partial agreement with Sutherland and Davidson (1993) who stated that the main sources of stress among site managers are; inadequacy of communication flow, too much paper work, high volume of reading materials, workload, lack of competent staff to do work properly, inadequate number of staff to do the job properly, unable to delegate, long working hours, and insufficient time spent with family.

The result of this study shows that the impact of stress on the productivity of professionals are; inability to finish work on time, deterioration of power of organization and planning, increase in error rate in manipulative and cognitive task and unattainable objectives; becoming messy and untidy ranked highest as the major impact of stress on professionals, while other major impacts are depression and feeling of helplessness, over sensitivity and finding it difficult to remain focused. While According to Chowhiu, (2009) the consequences caused by high level of stress are physiological effect, leaves people a feeling of useless and undervalued, diminishing purpose and hopelessness, decrease in concentration span and the increase in distractibility, deterioration of short-term

and long-term memory, and increase in error rate in manipulative and cognitive task.

More over, The result from this study shows that delegating some work, organizing time better so as to strike a balance between home life and job, breaking problems down into manageable parts, organizing time better so as to strike a balance between home life and job, communication of clear goals and objectives and organization of work in a more systematic way are the major strategies of managing stress level among professionals in the construction industry. According to Wahab, (2010) resorting to hobbies and exercise as emotional focused strategy, seeking for caring and social support rank as the most effective ways of stress management among artisans in the construction industry in Nigeria.

Conclusions and Recommendations

5.1 Conclusions

Based on the findings from the analysis of data, the following conclusions are drawn in the context of the objectives set out for this study.

1. The main sources of stress among professionals in the Nigerian construction industry are; insufficient finance or resources to work with, staff shortage, managing or supervising the work of other people, inability to delegate work, having to work a very long hours and poor remuneration
2. High stress level has the following impact on professionals: Becoming messy or untidy, feeling of helplessness and depression, over sensitivity, finding it difficult to remain focused, defensiveness and hostility, deterioration of short term and long term memory are all attributed to stress.
3. Stress impair the mental, emotional, thinking and knowing abilities and this has negative impact on the work productivity as its consequences on professionals are: inability to finish work on time, deterioration of power of organization and planning, increase in error rate in manipulative and cognitive task and makes set objectives unattainable.
4. This study shows that professionals in the construction industry in Nigeria adopts various strategies and coping techniques in dealing with stress and the main strategies are; to delegate some work when under stress, organizing of time better so as to strike a balance between home life and job and breaking of problems down into manageable parts, organizing time better so as to strike a balance between home life and job, communication of clear goals and objectives and organization of work in a systematic way.

5.2 Recommendations

The outcome of this study suggests areas that require attention as to the achievement of the project objectives.

This will enable professional firms to draft policies and make decisions that will help in ensuring effective management of stress level among professionals for higher productivity. Based on this the following recommendations are made:

1. Professional organization, contracting, sub-contracting firms, government organizations and all establishment where construction professionals are engaged should make adequate provisions for; sufficient finance and resources, adequate staffing, improvement in management skills, application of the principle of delegation, reduction of avoidable work overtime and attractive remuneration package. All these should be put in place so as to reduce stressors among professionals.
2. Professionals should exhibit the ability to control situations, have good self-esteem, employ social support, and tolerance of ambiguity when in a stressful situation.
3. Continuous professional development on skills for better organization and integration of work within specified project constraints, and ensure time management.

Delegation of assignments as well as authority to subordinates should be employed in stressful situations, ensuring adequate time management so as to strike a balance between home life and job, task should be broken down into manageable part so as to prevent ambiguity problems in task handling, communication of clear goals and objectives and organizes work in a more systematic way. All these are effective strategies for managing stress for higher productivity.

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