

# Occupational Stress Mitigation and Mental Health Outcomes Among Quantity Surveyors in Akwa Ibom State, Nigeria

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**Abstract:** The study focused on examining occupational stress and the related mental health problems of the Quantity Surveyors in Akwa Ibom State, Nigeria, and taking the necessary steps to reduce stress in the construction industry. The study examined the little empirical data available on the impact of work stressors on the psychological and physiological health of Quantity Surveyors in Nigeria, and used a structured questionnaire on which 40 valid questionnaires were analysed using SPSS (version 25). The results revealed that occupational stress was significantly reduced when construction activities were properly planned, effective use of time, communication was clear, breaks and holidays were provided, and timely treatment was provided for the stress related diseases (headaches, hypertension, work stoppages, etc.). The study also found that work stress, especially schedules, adversely impacts productivity and job performance. It finds that the most cost-effective interventions are to ensure regular health care and prompt treatment for stress induced illnesses. The study proposes the creation of a structured support system to protect the wellbeing of Quantity Surveyors and boost industry productivity by construction organisations.

**Keywords:** Mental Health, Occupational Stress, Mitigations, Quantity Surveyors, Stress.

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## I. INTRODUCTION

Psychosocial safety climate (PSC) describes the importance of psychological health among employees of an organisation (Dollar and Baker, 2010). It is the managerial action to establish a framework that helps in protecting workers' welfare by policy, practice and procedure (Idris and Dollar, 2014). There is a strong association between poor PSC environments and occupational stress (Dollar and Baker, 2010) and occupational stress has become a more complex and costly problem globally (NIOSH, 2002). The pressure in the workplace has grown, especially with regard to stress, as a result of globalization and financial crisis (ILO, 2016). Stress has become the top cause of absence in the U.K. (Clarke, Griffin, and Zedeck, 2011) and half of all workers in Europe report stress as being common (EU-OSHA, 2020) while 83 percent of U.S. employees report experiencing stress (AIS, 2020).

Numerous studies conducted in a variety of occupations, including healthcare (Ding et al., 2014), policing

(Ragesh et al., 2017), firefighting (Malek and Mearns, 2010), teaching (Shen et al., 2014), manufacturing (Wang et al., 2017) and correctional services (Lee, Henning and Cherniack, 2019), have supported its harmful impact on well-being, productivity and organisational functioning (Clark et al., 2011; Fila and Wilson, 2018). The work environment of construction professionals, such as Quantity Surveyors, is one that is very vulnerable because of the long hours, the difficult construction schedules, the uncertainty of the construction projects, and the competition in the construction market (Lingard and Francis, 2009; Leung, Chan and Cooper, 2014). Overwork leads to fatigue, mistakes and health risks, and burnout leads to ineffectiveness and turnover.

Recent research has identified associations between stress, mental health, workplace control, support, harassment and discrimination (Blaug et al., 2007; Caplan et al., 2009; Schneider et al., 2000). According to the Job Demands-Control-Support model (Schaufeli and Bakker, 2004), the most adverse situation is when the demands are

high, and the control and support are low. The study, therefore, investigates stress and mental illness of Quantity Surveyors in Akwa Ibom State.

➤ *Strategies Involved in Managing Occupational Stress:*

Professional Quantity Surveyors face stress both in their working environment and in their personal lives, but only the employer can deal with stress they may have in the workplace (Leka et al., 2003). Too much work stress reduces job performance, motivation of staff, physical well-being of staff, and reputation and recruitment of the organisation (Robbins, 2007; Leka et al., 2003). Many organisations now have structured stress management programmes (Robbins, 2007).

Stress prevention or stress minimisation (where applicable) is the goal of the interventions, according to Leka et al. (2003), and this can be achieved at the level of the individual and the organisation.

➤ *Individual Approach in Management of Occupational Stress:*

Individual interventions consist of training and psychological support (clinical, occupational, health or counselling) to strengthen personal resources and help individuals to adapt and/or change their situation. The techniques listed in fig. 1. Mirror the active coping (fight/flight) and rest phases (habituation) of a stress model.

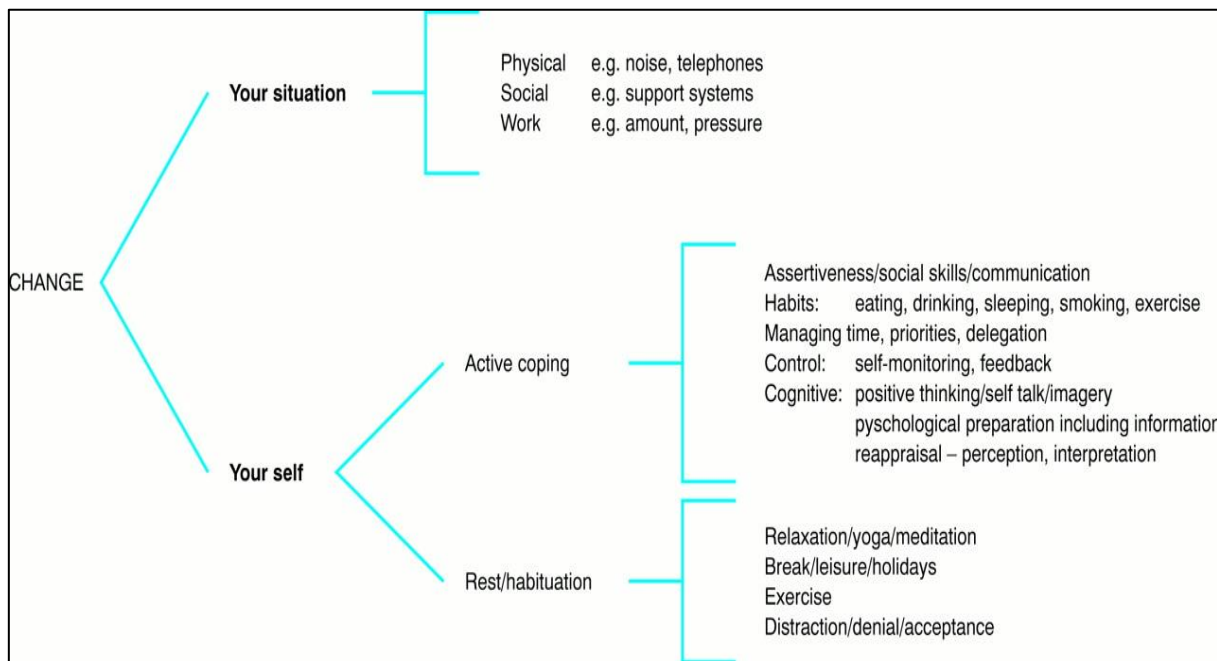


Fig 1 Techniques for Managing Occupational Stress (S Michie Occup Environ Med, 2002).

• *Training Can Reduce Occupational Stress by Supporting People to be Able to:*

- ✓ Identify signs and symptoms of stress.
- ✓ Evaluate stressful situations to determine and implement proactive strategies to mitigate key stressors.
- ✓ Early stress signals to break up emerging maladaptive behaviour patterns before they become escalated.
- ✓ Practice active coping and relaxation skills and lifestyle factors that will help to buffer stress.
- ✓ Practice these skills in low stress situations to develop confidence, skill, and sustained motivation.

Active coping can be enhanced through a variety of training programmes including assertiveness, communication, time management and problem-solving training. But there are numerous stressors that arise in organisational structures or cultures. So, only individual adjustment interventions are limited; the goal should be to empower practitioners to change their situation, not adjust to a bad situation.

➤ *Management of Occupational Stress at the Organizational Level:*

The National Institute for Occupational Safety and Health (NIOSH, 2021) indicates that organisational strategies for preventing occupational stress are:

• *Matching the Work with Workers' Abilities:*

- ✓ Defining roles and responsibilities.
- ✓ Designing meaningful, ability-enhancing jobs.
- ✓ Encouraging worker interaction.
- ✓ Engaging staff in decision making about the task.
- ✓ Clear communication on work issues.

➤ *Preventive/Management Measures of Occupational Stress*

Cooper & Quick (2017) identify three levels of work-related stress prevention as primary, secondary and tertiary. Primary prevention aims to prevent the sources of stress by either minimising, modifying or removing stressors and is regarded as the most effective organisational strategy as it alters the demand on the employees (Nelson and Quick, 2013). Quick and Cooper (2003) list a number of key

interventions which together improve behavioural and psychological coping skills: learned optimism, time management, planning, modifying Type A behaviour and strengthening social support networks. They are encouraged to choose and practise strategies that are most relevant to them. For instance, learned optimism involves reinterpreting negative events in a more positive light to lessen the stress.

Secondary prevention is about reducing the impact of an unavoidable stressor on the health of an individual by teaching them to cope with stress and to enhance their well-being. Primary and secondary methods both seek to affect the sense and reactions of individuals towards occupational stress over time. These techniques offer important behavioural and psychological approaches to preventing and handling stress.

The tertiary prevention stage is the one that treats stress-related ill health, including early warning symptoms like headaches or attendance problems, and more serious symptoms such as hypertension, work stoppages and strikes (Nelson and Quick, 2013). When it comes to the European Union, primary prevention and health promotion are the focus, however, many organisational interventions focus on secondary and tertiary intervention approaches, including relaxation training, counselling and lifestyle modification (Cooper and Quick, 2017).

As illustrated below in Table 1, the comparative studies of stress and mental health between QS and other construction industry professionals are crucial to test theory and determine effective strategies for mitigating stress and mental health problems, given these differences.

Table 1 Some of the Strategies to Adopt to Mitigate Occupational Stress Identified from the Literature

S/N	Strategies to Adopt to Mitigate Occupational Stress	Quick & Cooper, 2003	NIOSH, 2021	SmichieOccuPEviron Med, 2002	Nelson & Quick, 2013
1.	Good Planning of Construction Activities	✓	✓		
2.	Effective Time Management	✓			✓
3.	Effective Communication among Workers		✓		
4.	Physical Exercise			✓	
5.	Provision of Break/Leisure/Holidays for Workers			✓	
6.	Adjustment of Work Load to Workers' Ability		✓		
7.	Clear Definition of Role and Responsibilities	✓			✓
8.	Involvement of Workers in Decision Making, regarding their Practices/Jobs	✓			
9.	Building Supportive Social Relationship among Co-Workers	✓		✓	
10.	Treatment of Resulting Ill-health, such as Headache, Hypertension, Work Stoppage and Strikes etc.				✓

**II. METHODOLOGY**

The study started with a detailed literature search to guide in the design of the research instrument. With the limited number of quantity surveyors in practice in Akwa Ibom state, purposive sampling was used and 53 respondents were obtained from construction companies and consultancy practices, Government offices and academia. A structured questionnaire consisting of multiple choice, dichotomous and closed and open-ended questions was used to obtain data. The SPSS (Version 25) software was used for analysis, with descriptive and inferential methods such as cross tabulation and Relative Importance Index (RII) used to explore

relationships between the variables and prioritise the most important variables.

➤ *Area of the Study*

The study area is Akwa Ibom State, Nigeria. Akwa Ibom state is situated at the coastal southern part of Nigeria, lying between latitudes 4<sup>0</sup>32<sup>1</sup>N 5<sup>0</sup>33<sup>1</sup>N, and longitudes 7<sup>0</sup>25<sup>1</sup>E and 8<sup>0</sup>25<sup>1</sup>E. The state is located in the south- south geopolitical zone, and is bordered on the east by Cross River state, on the west by River's state and Abia state, and on the south by Atlantic Ocean and the southernmost part of Cross River state.

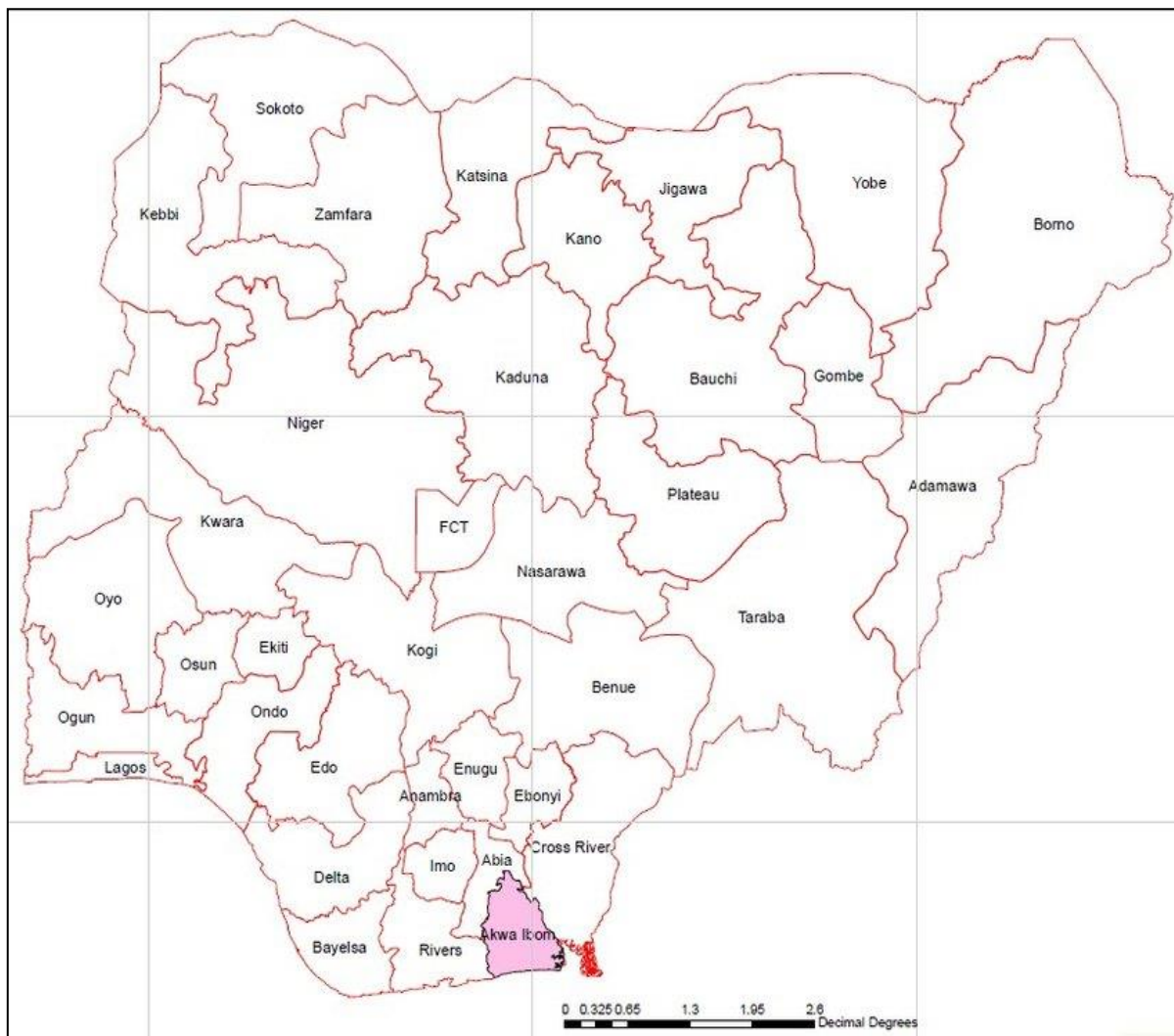


Fig 2 Map of Nigeria showing Akwa Ibom State

Source: Department of Surveying and Geoinformatics, Faculty of Environmental Studies, University Uyo, Akwa Ibom State.

**III. RESULTS AND INTERPRETATION**

➤ *Respondents' Characteristics*

Table 2 summarises respondents' characteristics. The proportion of establishments represented was: 17.5%

construction; 25.0% consulting; 30.0% tertiary institutions; and 27.5% government agencies. As regards roles, the 15.0% were project Quantity Surveyors, 17.5% assistant project Quantity Surveyors, 57.5% consultant Quantity Surveyors and 10.0% client Quantity Surveyors.

Table 2 Respondents' Demographic Characteristics

Description	Number of Respondent	Percentage (%)
Respondent's Establishment		
Construction sector	7	17.5
Consulting firm	10	25.0
Tertiary institution	12	30.0
Government establishment	11	27.5
<b>Total</b>	<b>40</b>	<b>100.0</b>
Position on Project you were/and or involved		
Project QS	6	15.0
Assistant Project QS	7	17.5
Project Consultant QS	23	57.5
Client's QS	4	10.0
<b>Total</b>	<b>40</b>	<b>100.0</b>
Highest Academic Qualification(s)		

HND	10	25.0
B.SC	14	35.0
B. TECH	1	2.5
M.SC	9	22.5
PHD	6	15.0
Total	<b>40</b>	<b>100.0</b>
Category of Membership of Professional Bodies		
QSRBN	36	90.0
MRICS	4	10.0
Total	<b>40</b>	<b>100.0</b>
Membership Status in their Professional Bodies		
Associate	1	2.5
Graduate	5	12.5
Corporate	34	85.0
Total	<b>40</b>	<b>100.0</b>
Years of Practicing Experience		
1-5years	3	7.5
5-10years	14	35.0
10-15years	13	32.5
15-20years	10	25.0
Total	<b>40</b>	<b>100.0</b>

➤ *Strategies Adopted in Mitigating the Effect of Occupational Stress on the Mental Health of Quantity Surveying Practices in Akwa Ibom State*

The study focused on the strategies used for reducing the occupational stress on mental health of quantity surveyors and data were analysed using SPSS (Version 25) to obtain mean scores and Relative Importance Index (RII) value. A threshold of validity was agreed upon to be 3.0. The ranked effectiveness of the strategies used by Quantity Surveyors in Akwa Ibom State are given in table 3. A total of 10 strategies were identified and all had an RII score between 0.925 and 0.690.

Regular health status check-up and timely treatment of stress related problems (such as headache, hypertension, work stoppages, and strikes) achieved the highest mean score

of 4.625 and RII of 0.925 with the first rank. Effective communication between workers and good planning of construction activities also had high RII and mean scores, respectively 4.450 and 0.890, and were ranked second together. Breaks, leisure periods and holidays was the third most common provision with a mean score of 4.425 and RII of 0.885. The ninth ranked strategy was building supportive social relationships among co-workers with a mean score of 3.450 and an RII of 0.690.

The results suggest that the strategies evaluated have a significant impact on mitigating the negative mental-health effects of work stress for practicing Quantity Surveyors. The steady high RII values confirm their relevance and potential to improve the wellbeing of the profession in the workplace.

Table 3 Strategies that was Adopted by Professional Quantity Surveyors to Mitigate the Consequent Effect of Occupational Stress on their Mental Health in Akwa Ibom State Nigeria

S/N	Strategies that were Adopted by Professional Quantity Surveyors to Mitigate the Consequent Effect of Occupational Stress on their Mental Health in Akwa Ibom State	N	MEAN	RII	RANK
1	Regular Health status checkup and treatment of resulting ill-health such as, headache, hypertension, work stoppages and strikes etc.	40	4.625	0.925	1st
2	Effective communication among workers	40	4.450	0.890	2nd
3	Good planning of construction activities	40	4.450	0.890	2nd
4	Provision of break/leisure/holidays for workers	40	4.425	0.885	3rd
5	Effective time management	40	4.375	0.875	4th
6	Adjustment of work load to workers' ability	40	4.275	0.855	5th
7	Clear definition of role and responsibilities	40	4.075	0.815	6th
8	Involvement of workers in decision making regarding their practice/job	40	3.825	0.765	7th
9	Physical exercise	40	3.550	0.710	8th
10	Building supportive social relationship among co-workers	40	3.450	0.690	9th



Fig 3 Strategies that was Adopted by Professional Quantity Surveyors to Mitigate the Consequent Effect of Occupational Stress on their Mental Health in Akwa Ibom Stat Nigeria

**IV. SUMMARY, CONCLUSION AND RECOMMENDATIONS**

➤ *Summary*

Ten strategies for reducing occupational stress were considered in this study five of which were found to be most influential: Regular health check-ups and treatment of stress-related illnesses; Effective communication among workers; Planning of construction activities; Providing breaks, leisure and holidays; and Effective time management. These findings are also consistent with previous research on stress-reduction

interventions published by Nelson and Quick (2013); NIOSH (2021); Michie (2002); and Cooper and Quick (2003).

➤ *Conclusion*

The results of the study give a preliminary insight into the nature and consequences of workplace stress to the professional QSs, and the coping strategies they use to address the psychological, physiological and behavioural impacts of that stress. The above evidence suggests that stress levels for those working as Quantity Surveyors in the construction sector are high enough to be a cause for concern

for individual practitioners and the continued efficiency and productivity of the profession. The construction industry is very demanding with short deadlines and a lot of responsibility, making it a lot of commitment. These demands can come into conflict with personal obligations, such as parenting and family life, which can increase stress. The lack of flexible working conditions and the rigour of job roles greatly affect the work performance of Quantity Surveyors as pointed out by Ng et al. (2005).

Too much stress in the workplace can negatively affect performance in the built environment. Previous research, including Ahmad and Darzi (2008), has indicated that stress can cause burnout and, in extreme situations, negatively affect overall performance in construction occupations. In this background, the present study aimed at investigating the occupational stress management strategies adopted by Quantity Surveyors in Akwa Ibom State. The study sought to access the QS who are registered and practicing in Construction Companies, Consultant Practices, Tertiary Institutions and Governmental Establishments in the State.

A well-structured questionnaire with both open-ended and closed questions which the researcher constructed was used to collect data. Five-three (53) questionnaires were distributed and forty (40) valid questionnaires were retrieved. All the data obtained were analysed with the Statistical Package for Social Sciences (SPSS, Version 25) and Microsoft Excel. The Relative Importance Index (RII) was used to meet the aims of the study and to rank the stress-mitigation strategies identified.

Ten (10) strategies were identified for occupational stress management amongst QSs. Of these, five (5) showed relatively high values of importance. They are: (1) regular health examinations, and treatment of stress-related health problems like headaches, hypertension, work stoppages and strikes when they become evident; (2) good communication between workers; (3) good planning of construction activities; (4) provision of breaks, leisure periods and holidays for workers; and (5) effective time management. These results were consistent with the literature on occupational stress management, such as that of Nelson and Quick (2013), NIOSH (2021), Michie (2002), and Cooper and Quick (2003).

The study is based on the empirical evidence; the study concludes that regular health monitoring and prompt treatment of stress-induced conditions are the most critical strategy in mitigating occupational stress among Quantity Surveyors in Akwa Ibom State. The strategies identified provide a comprehensive set of measures that can support mental health and maintain job competence in the construction sector.

#### ➤ Recommendations

The following recommendations are made based on the study titled “Strategies for Mitigating the Effect of Occupational Stress on the Mental Health of Quantity Surveyors in Akwa Ibom State, Nigeria” to improve the

mental health and job performance of Quantity Surveying practitioners:

- *Quality Improvement through Workload Reduction (QIR):*

The construction industry and other organizations that use Quantity Surveyors should give them more institutional support, taking into account the heavy responsibilities of their job. This involves downsizing excessively long hours, minimizing workload intensity and providing circumstances that foster a better work–life balance. The measures are crucial in enhancing the well-being of individuals and the productivity of the entire organisation.

- *Support for Recreation and Social Well-Being Movements:*

Recreational activities should be extended to the job environment and practices should be encouraged that facilitate a balance between professional and social life. It is essential to have good corporate communication and adequate preparation of building works and to strengthen the social network of staff members. Avoidable stressors, which can cause anxiety, depression or emotional exhaustion, should also be avoided for Quantity Surveyors.

- *Support in the Provision of Health, Welfare and Resources:*

Professional bodies, contracting and subcontracting companies, government bodies and all institutions that involve Quantity Surveyors should provide sufficient financial and material resources to ensure that they are regularly assessed with respect to stress related issues with treatment. Other measures include regular breaks, leisure periods, vacation, delegation, and overtime reduction as well as compensation packages. These interventions can all help to reduce stressors at work.

- *Enhancing Individual Coping and Professional Competencies:*

Personal resilience of a Quantity Surveyor depends on having a good self-esteem, effective time management skills, good planning skills and a tolerance of role ambiguity. These skills contribute to building their ability to deal with stressful situations in a positive way.

- *Continuous Professional Development (CPD):*

Continuous training is suggested to further enhance organisation, management and integrative knowledge in project boundaries. Work responsibilities should match to the worker's ability and roles and expectations should be clarified. This will help to increase efficiency, alleviate stress and improve overall professional performance.

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