**OCCUPATIONAL STRESS AND SITE WORKERS’ WELLBEING: A CASE STUDY OF GHANA**

Emmanuel Aboagye-Nimo1, Francisca Nai2, Samuel Osei-Nimo3 and Samuel Mamphey4

*1School of Environment and Technology, University of Brighton, Cockcroft Building, Lewes Road, Brighton, BN2 4GJ, UK*

*2&4 School of Architecture, Design and the Built Environment, Nottingham Trent University, 50 Shakespeare Street, Nottingham, NG1 4FQ, UK*

*3 Birmingham City Business School, Birmingham City University, Millennium Point, Birmingham, B4 7XG, UK*

Stress and its effect on workers’ wellbeing are a concept that is well-documented in the academic sphere. The construction industry is no different and may even possess a slightly higher problem due to its macho culture. Site operatives such as skilled tradesmen often fall under the hard-to-reach category and tend to be missed out on many investigations. This could be as a result of the transient nature of their roles and time of site. Construction site workers are exposed to excessive job demands and this increases the risk of prolonged stress which adversely affects their wellbeing. Unfortunately, very little research and documented guide exists in the case of many developing economies particularly Ghana. This research aimed to investigate the elements of occupational stress that affect the wellbeing of site workers in Accra, Ghana. 20 semi-structured interviews were conducted with site workers. This was followed up with two focus group sessions. Some key themes that emerged were task-related stressors, work environment stressors and overall organisational stressors. It was identified that most stressors affected the workers’ physical, social and psychological wellbeing. It was a common perception that the wellbeing of Ghanaian construction site workers needed to improve significantly. The identified stressors were widely agreed to affect the workers’ productivity; a vital point that employers failed to pay attention to. This research offers some important recommendations based on relevant literature and respondents’ views to aid in the improvement of site workers’ wellbeing in Ghana and possibly countries bearing similarities in construction project practices.

Keywords:Ghana, occupational stress, site workers, wellbeing

**INTRODUCTION**

The nature and intensity of construction jobs highly influence workers’ overall wellbeing and performance (Eaves et al. 2016). The irregular nature of site locations and inadequate control of operating environments renders the occupation a high risk one (Love et al. 2010; Bowen et al. 2013). The job site is transient, requiring site workers to constantly relocate during the construction period (Lingard and Francis 2004), rendering the focus on the workers’ wellbeing secondary (ILO 2001). Most research on occupational health focuses on white-collar roles while overlooking site-based workers in the industry (Love et al. 2010). Such oversight can lead to the likelihood of increased fatalities, ill-health, and on-site skill shortage in the sector. There is a pressing need to address occupational stress among construction workers in developing countries particularly Ghana, especially as they are characterised by socio-economic challenges and labour-specific problems, including poor infrastructure and high unemployment levels (IFS, 2018). This paper is thus aimed at improving the wellbeing of site workers in relation to occupational stress in the Ghanaian construction industry. The key focus is on the impact of stress factors.

**THE CONSTRUCTION INDUSTRY AND WELLBEING**

Developing and industrialised economies are strongly dependent on the construction industry. Socio-economic factors contribute to the growth of GDP and job creation. The concept of overall wellbeing goes beyond one’s state of health but necessitates a reflection of one’s satisfaction with work and life (Cattell et al, 2017). Still, the industry’s inherent hazards put workers’ wellbeing at risk (ibid).

Dodge et al (2012) define wellbeing as when people have the support and resources, they need to meet a specific psychological, social, and physical challenge. Overall, wellbeing is based on matching resources to challenges that can affect individual stability when altered. Wellbeing is about indirect health factors that significantly impact employees’ overall health and performance. The study issued by the Health and Safety Executive (HSE) (2015) concluded that construction workers are at great risk of musculoskeletal diseases, construction-related dermatitis, asbestosis. In recognition of these risks, Occupational Health and Safety programmes have been implemented in working practices to promote overall health and safety (H&S). Oswald et al (2019) point out that non-physical risks can also cause significant employee wellbeing issues.

Moreover, studies show the building industry reports a far higher incidence of suicide. The site-based employees have an alarming rate of suicide and job loss, resulting from occupational stress and the masculine culture prevalent in the sector (Turner et al, 2017). For example, some male-dominated construction environments prevent workers from expressing and dealing with harmful emotions that often harm their health and wellbeing (Houle et al, 2015). Construction work is strenuous, but diet and exercise, and sickness are all factors to consider when it comes to physical wellbeing (Lingard and Turner 2015; Fordjour and Chan 2019). Socio-cultural factors, which offer a sense of identity and attachment, also influence wellbeing.

**Occupational stress in the construction industry**

The definition of stress is multi-faceted. Lazarus and Folkman (1984) found that stress can reduce an individual’s ability to adapt, which causes strain on the individual in certain instances. The definition of stress adopted for this study is ‘a condition subjectively experienced by respondents who identify an imbalance between the demands addressed and resources available to them to counter these demands’ (Bowen et al. 2014: 1). Nonetheless, some levels of stress are needed to excite, stimulate innovation, productivity, but not all (Leung et al. 2005). According to the European Agency for Work Environment (2009), workplace stress happens when employees cannot manage or handle work pressures. Thus, occupational stress is a given in the construction industry. On the other hand, managing various difficulties depends on a person’s capability to handle demands at work.

Construction workers often suffer from stress (Lingard and Francis 2006). As research in developed economies such as the UK and Australia shows; high stress levels impact the workforce (Love et al. 2010; Lingard and Francis 2006). Equally, construction workers in developing countries such as South Africa and Nigeria record high stress levels (Bowen et al. 2013). This danger is high due to the lack of qualified employees and many building sites (ibid).

Ofori (2015) clarifies that contractors in their current capacities are incapable of completing projects from start to finish and require subcontractors’ services to complete projects. With the high frequencies of time pressures, varying work locations and unstable work, construction workers are often prone to emotional fatigue. Leung et al (2016) highlight construction worker stressors as physical, emotional, and objective stress in nature and negatively impact job, safety, and organisational performance. These include prolonged exposure to physical and environmental threats, non-compliance with safety controls, and organisational-level problems with training and work certainty. Stress leads to poor interpersonal relationships between working teams on site (Leung et al. 2005), ‘burnout’ amongst workers (Lingard and Francis, 2004) and finally, work-family conflict (Bowen et al. 2014). Hare et al. (2019) stress the importance of management-worker engagement when it comes to the improvement of workers’ overall wellbeing through meaningful discussion, empowerment, trust motivation and commitment to cultural change. The benefits of such engagement are exponential.

**The Ghanaian environment**

The construction industry in Ghana contributes significantly to its gross domestic product (GDP) and jobs. Nonetheless, as a developing country, there are socio-economic challenges such as high unemployment and infrastructure deficit (IFS 2018). For Ghana, the construction industry’s contribution to GDP rose from 5.7% in 2006 to 13.7% in 2017. It is worth noting that following the post-colonial period of Ghana’s independence in 1957, the state-funded State Construction Corporation (SCC) was set up to oversee and upgrade urban and feeder roads. Due to management inadequacies and the arrival of strong/equipped private firms from Europe, the SCC collapsed in 1998 (Laryea and Mensah 2010). These private firms’ have transformed and improved the industry over the last two decades. In recognition of these successes, the government founded the Building and Road Research Institute (BRRI) and Construction Industry Development Institute (CID) to study and offer strategic direction.

The construction industry in Ghana lacks comprehensive workplace H&S regulations. Physical measures can assist with general wellbeing (Leung et al. 2010). Nonetheless, the Labour Act 2003 (Act 651) bill regulating the workplace and occupational H&S rights is in effect. Despite this Act, workers’ rights to safety and fair compensation in Ghana remain a concern (Donkoh and Aboagye-Nimo, 2016).

Overall, the tension generated by professional societies often hinders artisanal work in Ghana’s construction industry. And finally, it must be noted that the Construction and Building Materials Workers’ Union (CBMWU), which is meant to represent and protect its workers’ working conditions and wellbeing, is poorly unionised and unappealing to the majority of workers. As a result, they seem to have less bargaining power in discussions for equal pay and working standards for construction workers in Ghana.

**RESEARCH METHOD**

A qualitative approach was adopted for the research project. The research was not aimed at arriving at generalizable results but rather the ability to shed more light on the stresses that workers experience and how it affects their overall wellbeing. It is widely accepted that variables for people’s stressors vary significantly (Segerstrom and O’Connor, 2012) and this falls outside the scope of the current study.

Semi structured interviews and focus groups were the main data collection tools used. The interviews allowed individual views to be shared while the focus group sessions enabled the opportunity for collective perspectives to be explored. Data was collected from a total of twenty (20) participants in Accra, the capital city of Ghana as it is the fastest developing city characterised by many construction projects. A purposive sampling technique was utilized in selecting participants. The chosen participants helped the study in generating in-depth understanding of workers’ experiences. Participants were chosen on their experience and expert knowledge. They included workers with skilled-trade occupations who offer specialised services at the construction phase of projects (see Table 1). All data from this study was collected before the COVID-19 pandemic.

Furthermore, the interviews were conducted with some site workers with artisanal skills such as masons, carpenters and exclusively for all site supervisors. Two focus groups were conducted. These were conducted on site and facilitated by selected participants who were briefed beforehand. They also used prompts provided by the research team. Since supervisors are superiors, it was essential to separate them from the group discussions to avoid subordinates being intimidated by their presence in the group discussions. Finally, a mental health professional was interviewed to provide expert information on the wellbeing of construction workers in Ghana.

Some of the questions utilised in the interview guide included: What participants thought about wellbeing in general. Also, how they believed physical and emotional stress could affect an individual’s personal/private life. They were also asked how they coped with other teams/gangs on site and finally, how they believed work stress affected their family lives.

Data was digitally recorded (with consent) and transcribed verbatim. Thematic analysis was used in the analysis process. The data was managed and analysed using QSR NVivo software. Due to ethical considerations, quotes and views shared are presented using code names. Thus, all information presented in this paper is anonymised.

**FINDINGS, ANALYSIS AND DISCUSSION**

The findings were analysed using themes developed from both literature and preliminary data analysis. Some of the broad themes used were stress factors, awareness of wellbeing, and measures for improvement. The participants varied significantly (see Table 1). The themes excluded personal stresses as it was assumed that these are inherent in how all other stressors are manifested in workers’ (participants) experiences.

*Table 1: Participants’ profile*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Participants | Code | Skilled Trade/ Profession | Number | Years of Experience  |
| Exterior Installations  | EI1 | Glazier | 1 | 5 |
| Exterior Installations | EI2 | Roofer  | 2 | 15 |
| Finishing Occupation | FO1 | Painter | 1 | 7 |
| Finishing Occupation | FO2 | Tiler | 1 | 9 |
| Mechanical & Electrical  | ME | Electrician | 2 | 16 |
| Plant Occupation | PO | Heavy Equipment Operator | 1 | 11 |
| Steel & Iron  | SI1 | Welder | 1 | 14 |
| Steel & Iron  | SI2 | Steel bender | 1 | 8 |
| Site Technician | ST | Site supervisor | 2 | 19 |
| Trowel Occupation | TO1 | Plasterer | 1 | 8 |
| Trowel Occupation | TO2 | Mason | 2 | 17 |
| Water & Sewage  | WS | Plumber | 2 | 14 |
| Wood Occupation | WO | Carpenter | 2 | 15 |
| Ankaful Psychiatric Hospital | APH | Psychiatric Nurse | 1 | 9 |

As highlighted in Table 1 there was a wide range of participants. Also, their years of experience varied from five (5) to 19 years. In addition to the traditional construction workers, it was crucial to include a Psychiatric Nurse from the nation’s top psychiatric hospital; Ankaful. The main themes and the data analysed are presented in this section.

**Stress factors**

Participants general understanding of stress was explored. When asked to share their views on stress and work, many opinions were shared, including:

*My work involves too much pressure and precision, that makes me not to be myself.* (WO)

*...if you think the operating caterpillar [excavator] is demanding [stressful], try plastering which requires standing always.*  (TO1)

From the responses, site workers clearly had a working understanding of stress. TO1 even went to the extent of showing how his role was more demanding [stressful] than excavator operators. It was evident that the participants were of the view that stress is inherent in their jobs. Furthermore, it is worth noting that the comment of TO1 alludes with Lazarus and Folkman’s (1984) subjective appraisal of stress, which is dependent on an individual’s response to events. Subsequently, what constitutes stress may vary from one worker to the other. Contrary to (Leung et al. 2005) assertion that some levels of stress, not extreme though are needed to invoke creativity and productivity, the participants perceived it to have a negative impact regardless of the degree of intensity.

Job demands for which workers have little control over, and in some cases, inadequate support as reviewed in the literature (Johnson and Hall, 1988) were considered stress factors. Stressors identified include work overload, long work hours, extreme temperature, and job insecurity. These are categorised as task stressors, environmental stressors, and organisational stressors.

Three key stressor factors were identified: task stressors, environmental stressors and organisational stressors.

***Task stressors***

Majority of participants identified work overload as a stressor arising from their occupation. Another stressor was related to long work hours. Also, they raised a concern about having to work at unstable hours to complete their task. These are evident in the following responses:

*The work is very difficult. But sometimes if you work with big contractors, it makes work easier because they have machines like an electric saw to cut woods.* (WO)

*The nature of my job sometimes demands that I work at night, on weekends, and holidays.* (FO2)

Work overload is related to the difficulty of the task and having a tremendous amount of work to do i.e., long hours. It is worth noting that most of the work overload was attributed to low technological equipment, such is evidenced in WO’s comment.

Some respondents expressed their disappointment in having limited ability to exercise autonomy over their jobs. For others, unclear understanding as to how their task should be carried out causes them to be stressed. Some comments were:

*I dislike it when I am instructed on how I should carry out something I have been doing for years. It makes me feel like a child who cannot think for himself.* (ME)

Studies have shown that lack of autonomy induces stress of workers in construction (Leung et al. 2010). Given the position of site workers on project structure, which they are considered to be the least (Fordjour and Chan 2019), their understanding of projects may be limited. This affects their ability to schedule activities and procedures in carrying out tasks discretionally. Concerning unclear instructions, the situation can be attributed to the educational levels of these workers, which are generally low. This finding is consistent with (Leung et al. 2010) who found that role ambiguity that is lack of clarity to perform a task as stressor experienced by site workers.

***Environmental stressors***

Respondents expressed their concern about the physical environment for which workers have little control over specifically, harsh temperature, dust and unpleasant smells. Also, some identified the characteristics such as exposure to hazardous chemicals and excessive noise of on-site work as stressors.

*The noise levels with machines are overbearing, but hey, the job needs to be done.* (PO)

*It’s funny when your job is roofing, there isn’t any to protect you from the sun while working.*  (EI2)

Working under these circumstances can induce or raise the stress levels of the workers. These findings are consistent with stressors identified by site workers (Leung et al. 2010). Indeed, unsafe physical environment significantly induce stress of workers on construction sites as they are directly involved with the actual construction phase of projects.

Another stressor that emerged was related to public perception presented by the social environment. Some participants stated that they would have loved white-collar jobs because of how people tag them with their jobs. One participant commented:

*My father took me to learn apprenticeship in welding after I completed JHS. I would not have chosen this job if things were better at home. The way people look at us in this country is bad.* (SI1)

The Ghanaian society gives much reverence to people with white-collar jobs and higher education. The perception is that site workers with artisanal skills are people who cannot pursue higher education because of financial hardships and poor academic performers. Therefore, site workers are of low social status.

***Organisational stressors***

Low pay and job insecurity were the main source of concern for all the respondents: site workers. Some complained about the lack of training programs to learn to enhance their skills to carry out jobs as a stressor. Also, participants identified unsatisfactory H&S measures to be factors that put a strain on them. These are evident in the responses obtained e.g.:

*I cannot freely express some concerns. Sometimes the scaffold is not in the best shape. But in the end, man must eat so you don’t have any choice than to use what is being provided.* (TO2)

*If you want to complain about every problem, then you will go hungry for a long time. The nature of the job infrequent, you have to maintain a good relationship with your foreman in order to secure jobs in the future. As the elders say, you do not bite the hand that feeds you.* (SI2)

In relation to low salaries and job insecurity, it can be attributed to the type of employment contract as site workers are typically engaged temporarily, usually not exceeding six months on a project. Job insecurity has been found to raise the stress of workers (De Cuyper and De Witte 2007). The issue of lack of training and development can be associated with managerial competencies and financial constraints of Ghanaian contractors (Laryea 2010). Also, the type of employment contract or contract period is a contributing factor e.g., casual employment. Regarding H&S issues, the comment made by TO2 indicates that less of H&S practices are witnessed on Ghana’s construction sites as opined by Kheni et al, 2007). This can partly be attributed to the harsh environment associated with contractors including difficulty to access financial loans, reduced managerial capacity, and high cost of equipment repair (Kheni et al. 2007; Laryea 2010). It subsequently translates to poor treatment of site workers, as they are under the control of contractors (HSE, 2015). In furtherance, these findings point out the aggressive management style of some contractors. For example, comments made by TO2 and SI2 indicates that their superiors or contractors deal with an autocratic manner. This situation can produce multiple stressors for site workers as leadership powers are very influential in the workplace.

**Wellbeing**

The views of participants on wellbeing are directed towards positive feelings and the ability to function at an optimal level. It was mostly interpreted as having a sound mind and body and also, the absence of ill-health. Respondents were asked questions along the lines of what they considered as wellbeing. Similar to most other responses, ME simplified it as follows:

*Wellbeing is about your health, living a healthy lifestyle.* (ME)

Overall, it can be agreed that the participants have a general understanding of the term wellbeing. Although, they relate wellbeing to physical and mental health, Dodge et al (2012) define/deal with it as a tripartite state of physical, social and psychological resources to meet its corresponding challenges to maintain stability to cope with situations. Nonetheless, an interview with a participant from the health care sector revealed that mental health is statistically low, resulting from cases not regularly being reported notably by men.

*Our culture and beliefs, especially believers of spiritual camps, makes it difficult for people to seek mental health treatment. The government should make more of an effort to increase public awareness and other stakeholders like companies should be mindful of their workers' health.* (APH)

Despite mental health awareness, when probed to ask if they would seek help if the situation worsens, the majority were hesitant. This is primarily due to the "macho" culture, which does not encourage men to show their sentiments/emotions. Also, in Ghana, there is a myth attached to mental illness. Traditionally, it is believed that some element of madness still exists in people who have sought mental health treatment in the past. This finding may be consistent with studies that poor mental health is a significant problem for the construction industry (Love et al, 2010; Oswald et al, 2019).

It was imperative to explore the respondents’ general understanding of stress and wellbeing before exploring the interplay between both concepts.

**Stress and Wellbeing**

Based on the tripartite system developed by Dodge et al (2012), stress and wellbeing are being explored under the following areas: physical, social and psychological dimensions.

***Stress and physical wellbeing***

Some participants mentioned they had been diagnosed with diseases, including musculoskeletal disorder due to the demands of the job. Others have a hearing impairment because of excessive noise identified earlier. Other effects of stressors on physical wellbeing were related to fatigue and skin problems. A couple of the comments received were:

*I have developed a skin problem. At first, I did not understand where it came from, but after visiting the hospital, the doctor said it is as a result of working with cement.* (TO2)

*My wife has to massage me every time I close from work.* (SI2)

Although it is normal to be exposed to hazardous substances on construction sites such as cement, the inadequacy of safety equipment and measures can cause serious illness, including skin problems (see HSE, 2015) as revealed by TO2. This can be traced to inadequate H&S which some identified as stress factors. Studies have shown that an increased level of vulnerability to physical illness affects wellbeing. Laryea and Mensah (2010) emphasise that PPE must be considered as a control measure to mitigate site workers risks of injury and accidents. As for fatigue/tiredness, while it can be associated with stressors such as work overload when experienced frequently is not a good impact on physical wellbeing.  Getting a massage every time after work as expressed by SI2 is an indication of muscle strain. While feeling pain is usually due to job demands/requirements, extreme activities such as bending, and movement can negatively affect one's physical wellbeing. Musculoskeletal disorders are a major cause of functional impairment and disability among site-based workers (HSE, 2015). The link between stress and physical aspects of employees’ wellbeing in the construction industry has been well established in research (Lingard and Turner 2015).

***Stress and social wellbeing***

Workers described how time pressures cause conflict with their colleagues at the workplace. In some instances, relationships have gone sour by other stressors such as inadequate working tools and equipment. The comment below is an example:

*There have been times where I have had to argue with people on the job because I felt too much pressure to complete my task on time. Recently, I got into an argument with another plasterer over a power trowel, which we all use for our various work.* (TO1)

There is an indication that stress impairs social relationships among colleagues. With regards to workplace relationships, it causes inter-role conflict among workers. Poor attitudes which affect relationships its colleagues may have emanated from role ambiguity and inadequate working tools identified earlier. Nonetheless, Lingard and Francis (2004) suggest that relationships with colleagues’ help reduce the negative effects of stress. Also, during the interview, a participant disclosed that he does not relate well with his kids because he spends all of his time at work. He further commented:

*Sometimes I spend five days or more on-site before going home due to travelling long distances.* (FO2).

Another said:

*I have lost the close relationship I had with someone who used to be my best friend as a result of this job. The situation was that I could not attend his wedding because I was busy at work. At that time, I needed to make more money which I still do as the job does not come regularly.* (ST)

As construction workers typically work long hours and sometimes at unstable hours to meet tight deadlines, this interferes with their non-work life such as commitments with friends and family. Studies have shown that long work hours affect work-life balance. For example, Lingard et al. (2010) found that increased working hours reduces one's capacity to complete tasks at work and home as well as a satisfaction to balance work-life activities. In respect of time with family, in recent times men take an active part in raising the family, unlike before when it was traditionally the responsibility of women. So, spending insufficient time with them affect the parent-child relationship. Moreover, regarding FO2's comment, Cattell et al (2017) found that excessive travel time was the most severe problem affecting work-life balance of employees in the construction industry. Therefore, managing work-life balance is crucial to the wellbeing of since majority of hours/time are spent at the workplace.

***Stress and psychological wellbeing***

Psychological impacts that came up were associated state of happiness and having a sense of purpose. In some instances, they expressed their worries about their job and sleep disorders was also prevalent in their responses.

*Hmmm, most times my job makes me feel worried.* (PO)

This indicates that workers are not fully satisfied with their jobs. Job satisfaction and job security are high contributors to wellbeing levels. Studies have found that job satisfaction has a positive impact on the psychological wellbeing of workers (Cattell et al, 2017). Regarding rest, some attributed it to unstable working hours, whereas others related it to long work hours. Fordjour and Chan (2019) opined that good sleeping patterns reduce negative moods to enhance psychological conditions.

*It is disturbing when you go to bed to sleep, only for you to start thinking about how to get your next job to keep you going, especially in times when the current contract is about ending.* (EI1)

The above comment indicates that there is a sense of frustration. The feeling of uncertainties toward the job creates emotional exhaustion. This may be consistent with De Cuyper and De Witte (2007) assertion that job insecurity of temporary workers is more directed towards life satisfaction and self-rated performance than the attitude towards job.

*It is sad when the jobs we do are important, yet people in this country do not give us the respect we deserve. This attitude is bad; it does not help the nation and us as a whole.* (MI)

The poor public perception had affected many workers adversely. They felt their work did not have a significant contribution to society. Some participants had cultivated the habit of drinking from working in the industry as it is perceived to free them from troubles encountered at work. Others also believe that strong alcoholic drink enables them to perform tasks without having to feel much of the workload. Arguably, the drinking culture can be connected to lifestyle health risk factors (Osei-Nimo and Kyaruzi, 2015). Furthermore, it can be triggered or intensified by the work environment. Lingard et al. (2010) emphasise that the way construction work is organised influences individual behaviour impedes the health of blue-collar workers. This finding confirms with Fordjour and Chan (2019), revealing alcohol intake is one of the top lifestyle indicators that affect the psychological wellbeing of construction trade workers in Ghana. Excessive intake of alcohol does impair one’s ability to make sound decisions can influence your mental functioning capability. However, this study did not uncover workers’ developing suicidal tendencies due to work stress as found by Turner et al (2017). This may be attributed to the collectivism cultural approach and concurs with Kheni et al (2007) that family and collective value system influences the health and wellbeing of workers within the Ghanaian construction industry.

**Current work support systems**

Despite the stress participants experience, the respondents admitted receiving some support from work which to some extent helps to reduce the impact of their wellbeing. In response to the question “how do you get support from work?”, participants revealed the following:

*If we are fortunate, the contractors provide a van to transport us to sites in remote locations*. (WS)

*Sometimes the foreman can give you a loan in times of financial hardship, that is if there is a long-term and good personal relationship between him and me*. (TO1)

From the responses, there is an indication that support given to these workers are inadequate and irregular. The support they describe are more related to welfare and not their general wellbeing. Effective support depends on the managerial competency/policy or discretion of their employers. The transient nature of construction work may also affect how committed some of these managers are to the ‘casual’ workers. Several researchers have indicated that workplace support helps workers cope better (Love et al. 2010). In line with TO1’s comment, the issue of poor salaries was also discussed earlier as an organisational stressor.

However, social support from supervisors helps to mitigate the adverse effects of stress and improve wellbeing (see Cattell et al, 2017)

**CONCLUSIONS AND RECOMMENDATIONS**

This paper has explored occupational stresses experienced by site workers in Ghana. The qualitative study was conducted in the capital city, Accra. The research focused on different forms of stressors namely, task stressors, environmental stressors and organisational stressors.

The study recommends the formation of an association explicitly designed for the skilled trade site workers in the Ghanaian construction industry. This association would then aim to provide and coordinate activities to promote the welfare and professional development of the workers. Training and development are of significance to reducing the stress that the site workers experience. This can also foster effective coping strategies to help mitigate the adverse effects of occupational stress on-site workers wellbeing and an even superior outcome with human developments.

The CBMWU, if managed effectively, can encourage the majority of skilled trade workers and even casual workers to join willingly. This will increase their numbers to enhance collective bargaining and negotiations to protect the interest and welfare of its members. This can address the issues of low salaries and compensation and benefits packages, including health care insurance, to reduce health-care expenses, particularly with illness associated with occupations of the site workers. Finally, the poor public image of the industry can be improved by all stakeholders making a positive change. This can also be supported by government bodies including the Ministry of Labour and Employment. Well-structured reporting mechanisms, effective management and leadership styles, and highly motivated workforce can enhance the industry considerably.

Future research projects must identify barriers that are preventing government policies developed to improve the Ghanaian construction industry and how these can be eliminated.

**REFERENCES**

Bowen, P., Edwards, P. and Lingard, H., 2013. Workplace stress experienced by construction professionals in South Africa. J. of Con. Eng. and Management, 139 (4), 393-403.

Bowen, P., Edwards, P., Lingard, H. and Cattell, K., 2014. Workplace stress, stress effects, and coping mechanisms in the construction industry. Journal of Construction Engineering and Management, 140(3), p.04013059.

Cattell, K.S., Bowen, P.A., Cooper, C.L. and Edwards, P.J., 2017. The State of Well-being in the Construction Industry. Bracknell: The Chartered Institute of Building. Available at: https://policy.ciob.org/wp-content/uploads/2017/12/The-State-of-Well-being-in-the-Construction-Industry.pdf [Accessed 10/04/2021].

De Cuyper, N. and De Witte, H., 2007. Job insecurity in temporary versus permanent workers: Associations with attitudes, well-being, and behaviour. Work & Stress, 21(1), 65-84.

Dodge, R., Daly, A.P., Huyton, J. and Sanders, L.D., 2012. The challenge of defining wellbeing. International journal of wellbeing, 2(3), 222-235.

Donkoh, D. and Aboagye-Nimo, E., 2016. Stakeholders’ role in improving Ghana’s construction safety. Proc of the ICE-Management, Procurement and Law, 170(2), 68-76.

Eaves, S., Gyi, D.E. and Gibb, A.G., 2016. Building healthy construction workers: Their views on health, wellbeing and better workplace design. Applied Ergonomics, 54, 10-18.

European Agency for Safety and Health at Work, 2009. OSH in figures: Stress at work-facts and figures. Office for Official Publ. of the European Communities, Luxembourg.

Fordjour, G. and Chan, A, 2019. Exploring occupational psychological health indicators among construction employees: A study in Ghana. J. of Mental Health and Clinical Psych., 3(2), 6-18.

Ghana Statistical Service (GSS). 2016. 2015 Labour Force Report.

Hare, B., Cameron, I. and Lawani, K. 2017, The development of a worker engagement maturity model for the improvement of occupational health and safety in construction. Glasgow Caledonian University.

Houle, J., Meunier, S., Coulombe, S., Tremblay, G., Gaboury, I., De Montigny, F., Cloutier, L., Auger, N., Roy, B., Dion, H. and Bernard, F.O., 2015. Masculinity Ideology Among Male Workers and Its Relationship to Self-Reported Health Behaviors. Int’l J. of Men's Health, 14(2), 163-182.

HSE, 2015. Construction workers: roles and responsibilities [online]. UK: HSE Available at: http://www.hse.gov.uk/construction/cdm/2015/workers.htm [Accessed 10/04/2021].

IFS, 2018. The 2018 Fiscal Policy Objectives and Targets [online]. Available at: Ghana: IFS http://ifsghana.org/wp-content/uploads/2018/11/Fiscal-Alert-15.pdf [Accessed 10/04/2021].

Laryea, S. 2010. Challenges and opportunities facing contractors in Ghana In: Laryea, S., Leiringer, R. and Hughes, W. (Eds) Procs West Africa Built Environment Research (WABER) Conference, 27-28 July 2010, Accra, Ghana, 215-226.

Laryea, S. and Mensah, S., 2010. Health and Safety on construction sites in Ghana. Proceedings of the Construction, Building and Real Estate Research (COBRA) Conference of the Royal Institution of Chartered Surveyors, 2-3 September 2010, Paris.

Lazarus, R.S. and Folkman, S., 1984. Stress, appraisal, and coping. Springer publishing company.

Leung, M.-Y., Skitmore, R. M., Ng, S. T., and Cheung, S. O., 2005. Critical stressors influencing construction estimators in Hong Kong. Constr. Manage. Econ., 23(1), 33–43.

Lingard, H., and Francis, V., 2004. The work-life experiences of office and site-based employees in the Australian construction industry. Constr. Manage. Econ., 22(9), 991–1002.

Lingard, H.C., Francis, V. and Turner, M., 2010. The rhythms of project life: a longitudinal analysis of work hours and work-life experiences in construction. Construction Management and Economics, 28(10),1085-1098.

Ofori, G., 2015. Nature of the construction industry, its needs and its development: A review of four decades of research. Journal of construction in developing countries, 20(2), 115-135.

Osei-Nimo, S. and Kyaruzi, S., 2015. Power and Control in Knowledge-Intensive Firms: Post-Bureaucratic Firms and Enterprise Culture. Open Access Library Journal, 2(10), 1-11.

Oswald, D., Borg, J. & Sherratt, F., 2019. Mental Health in the Construction Industry: A Rapid Review. In: Proc. 27th Annual Conference of the International. Group for Lean Construction (IGLC), Pasquire C. and Hamzeh F.R. (ed.), Dublin, Ireland, 1049-1058.

Segerstrom, S.C. and O’Connor, D.B., 2012. Stress, health and illness: Four challenges for the future. Psychology & health, 27(2), 128-140.