Effect of Occupational Health and Safety on Employee Performance in the Ghanaian Construction Sector

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ABSTRACT: The contribution of the construction sector to the socio-economic development of Ghana cannot be underestimated. However, these benefits are not without challenges such as frequent industrial accidents and diseases leading to the loss of lives of workers and influencing employee and organisational performance. Construction firms are therefore required to ensure workers’ health and safety at the construction sites. This study therefore explores the influence of occupational health and safety (OHS) on construction workers’ performance in Ghana. This study employed the descriptive research design from the quantitative approach, and a sample of 120 employees was drawn out of 200 workers from the sector. Means, standard deviations and multiple standard regression were used to analyse the data. The study found that OHS policies in the construction sector had a statistically significant effect on employee performance and related well with best international practices. However, the construction sector lacks regular health and safety induction, orientation and refresher courses for construction workers. Hence there were still occupational accidents and diseases affecting workers in the sector. For fear of being sacked, workers hardly report pains and injuries suffered at the construction sites. Also, construction workers felt that the high cost of training could explain why employers were not providing regular refresher training and induction training on OHS in the workplace. The study, therefore, concluded that more efforts were required from the management of construction firms than workers, as opposed to the position of Heinrich Domino’s theory, to ensure occupational safety and health in the sector. It was recommended that the management of construction companies in the sector should prioritise the health and safety of workers over the economic concern with regard to the cost of training.

KEYWORDS: Health and safety, work environment, construction workers, performance

RECEIVED: August 24, 2022. ACCEPTED: October 19, 2022.

INTRODUCTION

Occupational health and safety (OHS) relate to how the facility and human resources are being protected and preserved in the workplace. OHS ensures that people are not injured or become ill due to workplace hazards. Occupational safety and health is also a field wherein professionals attempt to prevent catastrophic losses. In practice, occupational safety and health include moral and economic issues. OHS is a science focused on ensuring safety in the workplace.¹,²

Many activities in the construction sector, including manual handling loads, working at height, nearness to falling materials, and working in confined spaces, are integrally risky to health and safety at the workplace. Other construction activities that are very risky to human lives are noises, handling hazardous substances, dust, exposure to live cables and fire, and using plants and equipment. A greater number of workers in present jobs in the construction sector are exposed to health risks or hazards related to their work.³,⁴ The hazards emerged in the form of radiation and noise termed as physical hazards, asbestos and disinfectants called chemical hazards. Other hazards include ergonomic hazards manifesting in the form of poor work postures, irregular work situations such as night work and shifts/rotations, raising of bulky equipment, irregular workdays and workplace violence such as harassment.⁵

Due to inadequate attention given to OHS by industry and the governments in Africa, OHS issues are predominant in most African countries.⁶ One reason for the predominance is that most African countries, as well as developing economies, are associated with poor cultures in relation to health and safety issues. Additionally, due to competing political, social and economic interests, OHS issues are mostly neglected in most African countries.⁷,⁸ The effect of poor or lack of occupational health and safety policies in organisations in Africa is mostly deaths, permanent disabilities, severe injuries and absenteeism. One of Africa’s key sectors or industries closely associated with health and safety issues is the construction industry.

The construction industry in Ghana has experienced considerable progress in construction activities. The high proportion of development and urbanisation has induced high demand by residential and commercial consumers, increasing the number of construction and manufacturing activities. This further led to both unskilled and skilled labour finding employment in the construction sector.⁹ The Ghanaian construction industry plays a socio-economic role in the development and growth of the economy of Ghana. Typically, construction activities grew by 8.7% in 2010, 8.9% in 2011, 10.55% in 2012 and 12.6% in 2013.¹⁰ Also, the construction industry in Ghana contributed

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The Ghanaian construction industry is regulated with rules and regulations in terms of health and safety. Among these regulations are Workmen’s Compensation Law 1987, PNDC Law 187, and Ghana’s Factories, Offices and Shops Act 1970, Act 328. The Factories Offices and Shops Act 1970 focuses on ensuring progress to achieve internationally accepted standards on welfare, health, and safety of workers found in offices, shops, factories, or manufacturing sites. It is, however, difficult to find standards against which services will be measured in the Factories Offices and Shops Act.

Despite the socio-economic importance and growth of the construction sector and the associated regulatory framework, ill health and fatalities suffered by the construction workers at construction sites are still high and dangerous. These accidents are associated with risks of severe injuries, deformation of the body, which may be permanent and even results in death. The consequence of such occurrence impacts the nation’s economy as it lowers the population of the workforce, diminishes productivity and negatively affects the overall work performance.

Like many African countries, Ghana is confronted with lack of a comprehensive national policy on OHS. Enforcement of legal provisions concerning OHS in the Labour Act is also a challenge in Ghana. Other challenges identified were inexperienced and insufficient OHS professionals, feeble OHS infrastructures, and lack of proper monitoring and surveillance for OHS diseases and injuries. Rowlinson et al. posits that there are several feeble records on OHS and risky behaviour among workers in the construction sector, leading to serious workplace accidents.

Study Gap

Studies on health and safety in Ghana by Laryea and Mensah used only observation method for 14 construction sites in Ghana; Puplampu and Quartey was a review or conceptual paper; Amponsah-Tawiah and Darkey-Baah focused on wood processing, safety practices and injuries among timber workers in Ghana. The study by Amponsah-Tawiah and Mensah also concentrated on the Ghanaian Mining Industry in terms of organisational commitment and occupational health and safety practices. The most recent study by Amankwah et al. on-trend air quality and lung function analysis was also limited to the Nwabiagya District in Ashanti Region. Most of these studies were conducted from an ecological perspective, not from the human resource perspective. Meanwhile, humans control the ecological systems and with the right policies in place by an organisation to ensure a safe working environment for their workers, performances could be improved for the betterment of the individuals, society and country. Even though some organisations could afford to pay for the cost associated with injuries at the workplace, no amount of compensation can ever bring the dead to life or restore the amputated legs or arms. Thus, the need for health and safety measures to ensure employees’ safety is urgent than ever in Ghanaian workplaces. Thus, there is a gap in the literature regarding recent empirical studies on how health and safety practices in the construction sector and how it affects employee performance in Ghana. This study thus fills this gap by examining the effect of occupational health and safety on employee performance in the Ghanaian construction sector. Thus this study contributes to the literature on employment, health and safety, wellbeing and decent working conditions of workers. It is expected that the outcome of this study will inform both policy and practices of health and safety in the construction sector of Ghana during and after the pandemic. For this reason, the study is guided by 4 research questions, and these were:

1. How are the OHS policy and practices in Ghanaian workplaces compatible with best practices?
2. How does the level of awareness of OHS among employees in Ghana influence workers’ attitudes towards hazardous conditions associated with their work?
3. How do occupational health and safety practices influence employee performance in Ghana?
4. What challenges are associated with implementing OHS policies and practices at the Ghanaian workplaces?

The rest of the paper focuses on the theoretical and empirical review, methodology, results and findings, discussion, conclusions and recommendations.

Literature Review

Theoretical and conceptual perspectives

Heinrich Domino’s theory of accident causation was used in this study to explain the causes and behaviour perspective of accidents or health and safety issues at the workplace. Heinrich Domino’s theory of accident causation, propounded by Heinrich, explains what factors and stages lead to industrial accidents. Factors identified were how workers relate to machines, the relationship between severity and frequency, risky acts, costs associated with accidents, and how efficiency is impacted by safety. About 88% of the fatalities are caused by risky acts of work and 10% by risky conditions and 2% by natural disasters or acts of God.

The theory revealed the 5 stages of an accident at the workplace: ancestry and social environment (knowledge and skills), physical condition or unsafe act, personal fault of carelessness, mechanical and accident or injury. According to Heinrich, breaking the chain of the sequence is the solution to the prevention of accidents. Thus, the elimination of unsafe acts/conditions can lead to the prevention of accidents and associated injuries. The 2 main axioms of the Heinrich Domino theory of accident causation are, first, workers (humans), are the main reasons for accidents. Secondly, management is responsible for
The Labour Act of Ghana (Act 651) compels every employer to provide a safe working environment, a safe method of working, and proper equipment and machinery for their employees. Employers are liable for work-related injuries, especially those that lead to injuries or fatality of a worker during workers’ employment.

Fenson postulated that critical areas of construction work that must be considered for effective health and safety management include excavation and demolition, shoring, and working on scaffolds and ladders. It involves activities such as laying of services, sewage, drainage, and pipework. Accidents associated with excavation include bodily contact with underground services and the collapse of a wall on people. Scaffolding to a height for work schedules to be carried out involves some sort of health and safety issues in the construction sector.

Ghana has some regulatory frameworks on health and safety, such as the Factories, Offices and Shops Act 1970, Act 328; Workmen’s Compensation Law, Act 1987 (PNDC 187); National Labour Act 2003, Act 651; Code of Practice on health and safety in the workplace. Proponents of the economic requirements perspective of health and safety at the workplace argue that industrial accidents come with an associated cost to the organisation. The legal process of lawsuits also comes at a cost, and time wasted on the lawsuit can also result in an economic burden to the organisation. These costs have a direct impact on the organisation’s profitability. Another factor for which health and safety are required in the construction sector of Ghana also relates to humanitarian factors. Proponents of the humanitarian argument are of the view that no life lost as a result of an industrial accident can ever be brought back to life again. The fact that some organisations have the financial muzzles to settle all the financial costs associated with industrial accidents does not give them the licence to be negligent with OHS issues at the workplace. This is because, chopped hands or legs, and workers who pass on due to accidents cannot be revived.

Effective management of health and safety will ensure the mitigation of costs associated with the occurrence of accidents, such as overtime costs, the cost of repairing or replacing damaged equipment and the cost of recruiting new workers to fill the position of injured workers. Other costs and areas of benefit include the cost of time lost in dealing with issues of accidents, the cost involved in compensating injured workers and the cost of medication that are unexpected and unbudgeted for by the company. The legal process of lawsuits also comes at a cost, and time wasted on the lawsuit can also result in an economic burden to the organisation. These costs have a direct impact on the organisation’s profitability. Another factor for which health and safety are required in the construction sector of Ghana also relates to humanitarian factors. Proponents of the humanitarian argument are of the view that no life lost as a result of an industrial accident can ever be brought back to life again. The fact that some organisations have the financial muzzles to settle all the financial costs associated with industrial accidents does not give them the licence to be negligent with OHS issues at the workplace. This is because, chopped hands or legs, and workers who pass on due to accidents cannot be revived.

Table 1. Variables of the study.

| S. NO | VARIABLES OF THE STUDY | CONSTRUCTS | REFERENCES |
|-------|------------------------|------------|------------|
| 1     | OSH awareness          | Training on safety, safety policy programmes, reporting injuries | Obese³² |
| 2     | OSH policies           | Provisions of PPEs, safety notices | Bitire and Chuma¹¹ and Obese³² |
| 3     | OSH practices          | Using the right tools and reporting injuries and accident | Bitire and Chuma¹¹ and Obese³² |
| 4     | Employee performance   | Timely completion of task, quality of work | Bitire and Chuma¹¹ and Segbenya and Hatsu²³ |
| 5     | Safety of employees    | Enforcement of OSH policies, safe working environment | Ngaruuya et al⁴ |

Source: Field Survey.³⁴
OSH in an organisation stem from the availability of OSH policies. Thus, the 3 main dimensions of OSH policies are important to this study. These are the need to consider policies on provisions and usage of PPEs, policies on regularity and places earmarked for pasting notices on occupational health and safety. The last dimension of the policy considered in this study is the policy on the procedure for using the right tools to curtail industrial disease and accidents at construction sites in Ghana. Closely related to the existence of OSH policies are practices of OSH in an organisation. OSH practices in this study relate to putting the policies on OSH into action or actualising the content of the OSH policies. Thus, a review of OSH policies can only happen if the policies are implemented and evaluated. This is to suggest that it is not enough to have OSH policies but rather implementation of practices that harness OSH’s benefits to both management and workers.

Also, OSH awareness as another variable in this study also explains the extent to which organisation’s workers are very much informed about the existence of OSH policies. It also covers knowledge on safety measures put in place by management for its workers in the organisation against injuries and diseases. OSH awareness in this study also looks at the degree to which employees are very much informed about hazards associated with their work, hazardous work locations and what steps workers should take to avoid injuries as well as knowledge of reporting injuries when they occur. Additionally, OSH awareness looks at the regularity of OSH training provided to workers in general and specific safety officers. Safety of employees, as another variable in this study, represents the degree to which workers work for a longer period of time without suffering from work-related accidents and diseases. This study takes the position that until the OSH policies exist and are implemented, it will be very difficult to achieve the safety of workers. Thus, enforcement of OSH policies leads to a safe working environment for workers. Additionally, the safety of workers is not only the managers’ responsibility but also requires workers’ commitment.

Performance relates to the amount of output produced from a unit of input. The construction sector’s output has been calculated as equal in wealth to the total input. Thus, performance should be measured with changes in educational status instead of the number of lessons taught, patient health instead of the number of patients treated. Several factors contribute to performance, including employee and management commitment, compensation system, training and performance management systems and community involvement. In the construction industry, organisational core processes influence performance at organisational and process levels.

General efficiency is also associated with performance in the construction sector. The safety and health of workers is closely linked to company performance. Individual workers’ job performance environment influences organisational performance. Thus, most of the explanatory power in employee performance is determined by work systems. Furthermore, job designs have been found to have an effect on performance. Also, studies on workplace innovation revealed that higher participation by workers and autonomy affect learning and skill development and subsequently lead to productivity.

The dimensions and the 3 independent variables of the study—OSH awareness, OSH policies and OSH practices were adopted from Obese and Bitire and Chuma. However, dimensions of employee performance were adopted from Segbenya and Hatsu and Bitire and Chuma. A detailed list of all variables with references can be seen in Table 1. From the conceptual discussion so far, a conceptual framework was constructed to guide the study, as shown in Figure 1.

Methodology

The study organisation was Consar Construction Ltd. Consar Construction Ltd has gained popularity in Ghana for the
massive and strategic construction projects it undertakes. Consar Construction Ghana Ltd is one of the leading building and construction companies. Consar Construction Ghana Ltd has been recognised for ensuring efficiency and quality in large, complex projects. However, the company suffered a legal suit in 2018 for occupational health and safety issues that led to the death of 6 workers in mining activity in the Ahafo Region of Ghana. It cost the company a court fine of $200,000. Similar unfortunate incidents continue to occur at construction sites, and it is not clear whether it was solely due to failure to adhere to regulatory directives/provisions or could be partially blamed on workers’ attitudes. Thus, using Consar Construction Limited will provide ample evidence on the causes of health and safety challenges in the construction industry and how best to address them during and after the COVID-19 pandemic.

This study employed the descriptive research design from the quantitative approach.36 A sample of 120 employees was drawn from a study population of 200 employees who were directly engaged in the construction work, drivers and heavy machine operators, and employees from the office. The Cochran formula was used to determine the sample size as given as:

$$\frac{z^2 \times p(1-p)}{e^2} \times \frac{1}{N} = \frac{z^2 \times p(1-p)}{e^2}$$

Where:

- $N = \text{population size}$;
- $e = \text{Margin of error (percentage in decimal form)}$;
- $z = z\text{-score}$, $Z = Z\text{ value (eg, 1.96 for 95\% confidence level)}$;
- $p = \text{percentage picking a choice expressed as a decimal (0.5 used for sample size needed)}$;
- $\epsilon = \text{confidence interval expressed as a decimal (eg, 0.5 \pm 0.5)}$.

Using the formula to calculate the sample size:

$$\frac{1.96^2 \times 0.5(1-0.5)}{0.05^2} = 196$$

The study context is Ghana using construction sites and branches of a construction firm (Consar Construction Ltd). Consar Construction Ltd was adopted for this study, because it was one of the few leading building and construction companies in the construction sector of Ghana. The company has branches in almost all regions of Ghana and has records of OSH-related issues and legal suits and charges. Thus, using its branches all over the country helps to get feedback from all parts of the country on several construction sites. Thus, the inclusion criteria for this study was a construction firm with branches and construction sites in almost all the regions in the country and a record of OSH-related issues. In terms of the inclusivity of respondents in this study, only workers with 5 years of working experience and above who have worked with the construction firm as permanent workers qualified as respondents for the study.

A self-designed semi-structured questionnaire was the instrument used for the study. The questionnaire had items grouped into 3 parts. Part 1 collected information on the demographic characteristics of respondents, and part 2 of the research instrument focused on employees’ level of awareness, understanding and attitudes towards OHS issues. Part 3 also centred on employee performance and the associated challenges associated with OHS standards among construction workers. The reliability and validity of the data collection instrument were ensured since all instrument sections obtained a Cronbach alpha value above the minimum threshold of .700. Data collection was done from July 2020 to October 2020. All forms of ethical consideration were ensured, including confidentiality, anonymity, consent, freedom to withdraw even after commencement of the process, and free from harm. Data obtained was analysed with mean and standard deviation, frequency and percentages and multiple linear regression. Ethical approval was obtained from the University of Cape Coast Institutional Review Board through the Department of Business Studies, College of Distance Education. The entire methodology deployed for the study is summarised and presented in Figure 2.

### Results and Findings

The presentation of the results for this section is done in two-folds-demographic characteristics and results for the research questions guiding the study. The results for respondents’ demographic characteristics can be seen in Table 2. The results in Table 2 clearly show that the majority of the respondents were males (75%), 31 to 45 years old (56.7%), undergraduate certificate holders (49.2%), had worked for 15 to 20 years in the construction sector of Ghana.

#### Research question 1: How compatible is the OHS practices in the Ghanaian construction sector with best practices?

Research question 1 was answered with descriptive analyses, and the responses were represented with mean and standard deviation values, as shown in Table 3. The results from Table 3 indicate that respondents agreed with 6 out of the 7 items used to measure the practice of occupational health and safety policies which is a strong precursor of international OHS policy and best practices. Usage of safety materials provided by the organisation (M = 4.45, SD = 0.897) was rated highest, followed by the willingness of co-workers to ensure the safety of fellow workers (M = 4.43, SD = 0.896) and checking of emergency

responses and preparedness of the workers and systems as well as conduction of periodic fire drills at the workplace (M = 4.24, SD = 1.250). The only item with the lowest rating or with somewhat or lowly disagreement from respondents was organising safety induction, orientation, and refresher courses for workers (M = 3.78, SD = 1.498).

Table 2. Demographic information.

| DEMOGRAPHICS SUBSCALE | FREQUENCY | PERCENT |
|------------------------|-----------|---------|
| Gender                 |           |         |
| Male                   | 90        | 75      |
| Female                 | 30        | 25      |
| Total                  | 120       | 100.0   |
| Age                    |           |         |
| 16–30 years            | 15        | 12.5    |
| 31–45 years            | 68        | 56.7    |
| 46–60 years            | 37        | 30.8    |
| Total                  | 120       | 100.0   |
| Level of education     |           |         |
| Senior high school     | 3         | 2.5     |
| Diploma                | 15        | 12.5    |
| Under-graduate         | 59        | 49.2    |
| Graduate               | 43        | 35.8    |
| Total                  | 120       | 100.0   |
| Working experience     |           |         |
| 1–5 years              | 10        | 8.3     |
| 6–10 years             | 15        | 12.5    |
| 11–15 years            | 22        | 18.3    |
| 16–20 years            | 68        | 56.7    |
| Above 21               | 5         | 4.2     |
| Total                  | 120       | 100.0   |

Source: Field Survey

Table 3. Level of OHS practices in the construction sector.

| OCCUPATIONAL HEALTH AND SAFETY PRACTICES | N   | MEAN | STD. DEV. |
|------------------------------------------|-----|------|-----------|
| 1. My company provides safe place of work.| 120 | 4.05 | 1.222     |
| 2. My company provides adequate equipment, materials, and personal protective equipment (PPEs) to enable employees to carry out their work safely. | 120 | 4.01 | 1.306     |
| 3. Safety materials provided by my organisation are used all the time at the workplace | 120 | 4.45 | 0.897     |
| 4. My company provides notices on all health and safety measures. | 120 | 4.06 | 1.292     |
| 5. Safety induction, orientation, and refresher courses are conducted by my organisation at the workplace | 120 | 3.78 | 1.498     |
| 6. Fire drills are conducted periodically at the workplace to check for emergency responses and preparedness of the workers and systems. | 120 | 4.24 | 1.250     |
| 7. Co-workers in my organisation ensure the safety of fellow workers. | 120 | 4.43 | 0.896     |

Source: Field survey (2020).

Key: 1 = Strongly Disagree, 2 = Disagree, 3 = Lowly Disagree, 4 = Agree and 5 = Strongly Agree.

Research question 2: What is the level of awareness of OHS policies and hazards among construction workers in Ghana?

Table 4 presents results for the level of awareness of OHS policies and hazards among construction workers in Ghana. The results show that the majority of the workers saw fatalities occurring at the workplace for the past 12 months (71.7%) even
though their organisation had an OHS policy (70.8%), and the content of existing health and safety policy had provisions on procedures for environmental health and safety (EHS) and working conditions (69.2%). The procedure for reporting industrial accidents by workers was, however, not confirmed to have existed at the construction sites (43.3%).

Research question 3: How do OHS practices influence performance among construction workers?

Results for research question three, which sought to explore the influence of OHS on workers’ performance, can be seen in Table 5. The regression results represented by R-Square (R²) suggest that OHS explains approximately 30.4% variance in explaining the performance of construction workers in Ghana. The results mean that about 69.6% of the variance in employee performance could be explained by other factors or variables not considered in this study. Meanwhile, the individual contribution of OHS to employee performance is represented by the beta value of .728 worth noting. More importantly, OHS had a statistically significant effect on employee performance in the construction sector of Ghana (Beta = .728, P = .000).

Research question 4: What challenges are associated with the implementation of OHS practices in the Ghanaian construction sector?

The last research question for the study on challenges faced with OHS practices in the construction sector was analysed with descriptive statistics. The results are represented with mean and standard deviation values, as shown in Table 6. The results in Table 6 revealed that construction workers in Ghana agreed to 7 out of 8 items used to measure the challenges associated with OHS practices in Ghana. Key among these items was low literacy, and awareness levels on health and safety among construction workers in Ghana (M = 4.48, SD = 0.987) was a challenge for OHS practices in the construction sector in Ghana. Other notable challenges identified were the high cost of training workers on OHS (M = 4.47, SD = 0.755); workers’ refusal to report minor injuries for fear of being sacked (M = 4.29, SD = 1.126), and getting competent health and safety personnel for the promotion of OHS at workplaces (M = 4.26, SD = 0.874). Meanwhile, respondents lowly disagreed provision of health and safety materials was a cost burden for their organisation (M = 3.91, SD = 1.277).
The results, therefore, suggest the accident causation occurrence and the rate of industrial accidents at the work
needed to ensure workers’ health and safety and minimise the ensured fellow workers’ safety, and conducted periodic fire drills
of Ghana used safety materials provided by their organisation,
the construction sector of Ghana. 32,52 The best practices are the indicators of OHS best practices have been introduced in edness of the workers and systems. This means that most of workplaces could have some loopholes paving the way for con-
scientisation, and enforcement of rules on OHS policies at the
perspectives will mean that probably the implementation, con-
scientisation, and enforcement of rules on OHS policies at the workplaces could have some loopholes paving the way for con-
tinued occurrences of industrial accidents. This means that good OHS policies are not enough; rather, awareness and monitoring for evaluation are needed to ensure that policies work to reduce accidents in the construction sector. The results agree with the earlier findings that although OHS policies exist in Ghana, implementing and monitoring challenges have made them unproductive.2,12,53
The findings for research question 2, that most respondents have witnessed accidents/diseases at the workplace for the past 12 months, need further deliberation. The results mean that construction sites are still not very safe, and workers continue to suffer injuries at the workplace. However, this finding chal-

enches the respondents’ assertion that there was the existence of OHS policy, and its content covers provisions on working conditions and a healthy, safe environment. Juxtaposing the 2 perspectives will mean that probably the implementation, conscientisation, and enforcement of rules on OHS policies at the workplaces could have some loopholes paving the way for con-
tinued occurrences of industrial accidents. This means that good OHS policies are not enough; rather, awareness and monitoring for evaluation are needed to ensure that policies work to reduce accidents in the construction sector. The results agree with the earlier findings that although OHS policies exist in Ghana, implementing and monitoring challenges have made them unproductive.2,12,53
The findings for research question 3 on the statistically signif-
nificant effect of OHS on employee performance in the con-
struction sector of Ghana comes to confirm the relevance of
this study. This means that employers in the construction sec-
tor can enhance the performance of their workers by paying
attention to OHS issues in the workplace. The safer the work-
place, the lesser the industrial accidents, the greater the peace of mind and the chances that employees’ performance will be enhanced in the construction sector. The results also suggest that if attention to OHS policies is taken for granted, the possibility that occupational accidents and disease will escalate in the sector and employees’ lives and performance will be the greatest victims. These findings corroborate the findings of Abuga49,54-56 and Bitire and Chuma13 that occupational health and safety affect employee performance.
The study found for its research question 4, challenges confronting OHS practices in the construction sector, and these include the high cost of training workers on OHS, workers’ refusal to report minor injuries for fear of being sacked, and difficulty with getting competent health and safety personnel for the promotion of OHS at workplaces. This means that more accidents at the workplaces were not reported since workers fear being sacked if they should report some industrial accidents. It is, however, important to note that the high cost of training cannot be placed above human lives. Thus, despite the cost, employers need to find a way to train workers on safety precautions at the workplace. The cost of training for OHS is also closely associated with the training method used. The cost of training for OHS in the construction sector could differ depending on whether it is on-the-job or off-the-job training. Therefore, the economic challenge for employers is not tenable with the humanitarian and legal proponents for a need for a safe working environment for workers. This is because no amount of compensation can bring the dead to life.

Thus, the findings of that health and safety training for construction workers is essential for their safety at the construction site needed for safety, hazard management and emergency procedures for safety management is upheld by this study. Furthermore, Taylor et al.22 and Cao et al.8 found that if general health and safety policies are to be incorporated into specific job practices and skill levels are to be raised to an acceptable standard, training is required, further corroborated by this findings study.

**Implication for theory**

The findings of the study have implications for Heinrich Domino’s theory of accident causation. Firstly, the outcome of the study has confirmed that both workers and management play critical roles as the main factors influencing work-related accidents at the workplace, as posited by the theory guiding the study. Thus, the first factor on the part of the employer, identified which had implications for theory was irregular health and safety orientation and training for construction workers. Safety orientation and training for workers are very much linked to enhancing the knowledge and skills of workers on health and safety measures. Thus, in the absence of orientation and training on new development in the construction landscape, there is the possibility that accidents and diseases at the workplace will arise. The rise in the occurrence of accidents equally has a cost implication for the management of construction firms and life implications for workers. The second theoretical implication relates to a stage of accident identified in terms of how workers related to machines and the risky behaviour of workers. Thus, this study confirms that both management and workers really deal with industrial accidents. However, this study further contributes to Heinrich Domino’s theory of accident causation that management has a greater stake in terms of the provision of policies, their implementations, evaluation, as well as orientation and training on health and safety issues. Thus, management actions have the propensity to compel workers to comply with the dictates of OHS policies and reduce accidents at construction sites. This study unlike earlier studies, places higher demand for OSH in the construction sector of Ghana on employers than workers.

**Practical implication**

The outcome of this study has 3 practical implications for construction companies and economies managers. The first implication relates to the financial implication of OHS at the construction site. This means that educating and training workers on OHS comes with cost implications for managers in the short term but could be beneficial in the long run. Thus, education and training could be considered an investment. The second managerial implication of the findings of the study was the legal implication. That is, failure to adhere to ensuring health and safety measures at the workplace does not only make the work environment risky but also an affront to the legal provision in the Labour Acts (Act 651) for workers. The consequences of this failure on the part of the employer have several dire consequences if found.

The last managerial implication of the findings of this study is the humanitarian implication. The humanitarian implication means that if the employer can afford legal costs and cost of compensation for industrial accidents, the lost body par or life through fatalities cannot be replaced. Thus, human life should be prioritised above all other elements in the working environment. For these reasons, management needs to take OHS seriously in the construction sector.

**Conclusion and recommendation**

This study explores the influence of OHS on the performance of Ghanaian construction workers. The conclusion is that OHS policies in the construction sector in Ghana had a statistically significant effect on employee performance. Also, OHS in the construction sector largely relates well with best international practices, and workers were aware of these policies in the industry. Despite these achievements in the sector, it was found that the construction sector of Ghana lacks the regularity needed for organising health and safety induction, orientation, and refresher courses for construction workers. Hence there were still occupational accidents and diseases affecting workers in the sector. For fear of being sacked, workers hardly report pains and injuries suffered at the construction sites. Also, construction workers felt that the high cost of training could explain why employers were not providing regular refresher training and induction training on OHS in the workplace.

These conclusions warrant a concrete step on the part of management of construction firms in Ghana to ensure that the construction sites become safer for workers to reduce the rate and type of industrial accidents in Ghana’s construction sector.
Therefore, it is recommended that the management of construction companies be more receptive and open to the needs and take care of the safety and health of its employees. This can be accomplished by providing a basis for suggestions for workers on how to enhance safety. This will also enhance the reporting mechanism in the sector without workers being identified and intimidated.

Management of construction companies in the sector should prioritise workers’ health and safety over the economic concern with regard to the cost of training. Funds and investments should be made into health and safety training and induction as well as refresher programmes to continuously update workers on OHS issues in the sector. These programmes should include proactive measures such as crash reports, accident investigations, risk assessments, compliance audits and the use of proprietary technologies. The organisation should organise OHS competitions between departments for the best OHS practices to inspire employees and enhance their understanding of ergonomics. Awards and sanctions attached to the training programmes and competitions could be helpful in this regard.

Recommendations for further studies

OHS is only one of the human resource management issues in the construction sector of Ghana, and further studies could consider several other indicators of workers’ work conditions in the industry. These include social security issues and the effect of the dusty environment on the health of construction workers after construction activities. Further studies could also look at retention or turnover challenges in the construction sector of Ghana.

Acknowledgement

We appreciate the time and responses of workers in the construction sector who served as respondents for this study. The support of the family of Esi Yeboah during the data collection is equally appreciated.

Author Contributions

MS reviewed literature, analyse the data, wrote the entire paper and proofread as well as serving as the corresponding author. EY also conceptualised the topic and collected the data for the stressus discussions.

Data Availability Statement

Currently, data is not attached but can be provided later upon Request.

Ethical Approval Information

Ethical approval was obtained from the Institutional Review Board of the University of Cape Coast through the Department of Business Studies, College of Distance Education.

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