ISSN 2682-681X (Paper), ISSN 2705-4241 (Online) | http://unilorinjoger.com | https://doi.org/10.63745/joger.2025.07.07.005

JOURNAL OF GEOMATICS AND ENVIRONMENTAL RESEARCH
www.unilorinjoger.com

RESEARCH ARTICLE

Occupational Health and Safety Management Practices on Construction Sites in Kwara State, Nigeria

Adebiyi, Ranti Taibat[1], Amuda-Yusuf, Ganiyu[1], Olorunoje, Lukman Olarewaju[1], Amuda, Amina Damola[1] and Ekanem, Scholastica Fidelis[2]

[1]Department of Quantity Surveying, University of Ilorin, Ilorin, Nigeria
[2]Department of Quantity Surveying, Awka Ibom State Polytechnics, Ikot Osurua, Nigeria.

Corresponding email: adebiyi.rt@unilorin.edu.ng

Abstract

The frequent occurrence of accidents on construction sites is a grave concern to all stakeholders. These accidents usually lead to loss of productivity, payments for treatment of the injured, and burial expenses for the dead. Research findings revealed that poor management of Occupational Health and Safety (OHS) is one of the major causes of accidents on construction sites. These previous research findings have made little headway in identifying effective management practices for OHS on construction sites in Nigeria. Therefore, this study identifies and assesses effective management practices for OHS on construction sites in Kwara State. A total of one hundred and eleven (111) copies of questionnaires were administered to construction site supervisors and operatives through a purposive sampling technique. A total of seventy-six (76) properly completed questionnaires were analyzed, resulting in an effective response rate of 68%. The safety benchmark index (SAF_{bi}) was used to measure and rank the 24 management practices of OHS in order of their importance. The results of the study revealed that the top 5 ranked in order of their magnitude are: Project briefings (SAF_{bi} 0.71), Provision of operating procedures (SAF_{bi} 0.67), Organizing training for site-operatives and supervisors (SAF_{bi} 0.66), Provision of personal protective equipment (SAF_{bi} 0.66), and Provision of first aid facilities (SAF_{bi} 0.64). Results from the T-test revealed that supervisors and site-operatives vary in their opinion ($p<0.05$) on 8 management practices. The study therefore recommends that the management practices identified from this study can be used in OHS on construction sites, thereby reducing accidents and ill health.

ARTICLE HISTORY
Received: 16th May 2025
Accepted: 27th June 2025
Published: 17th July 2025

KEYWORDS
Accidents
Construction sites
Management practices,
Occupational health and safety
Safety bench mark index

Citation: Adebiyi, R. T., Amuda-Yusuf, G., Olorunoje, L. O., Amuda A. D. & Ekanem S. F, (2025). Occupational Health and Safety Management Practices on Construction Sites in Kwara State, Nigeria, *Journal of Geomatics and Environmental Research, 8(1). 72-80*

1.0 INTRODUCTION

1.1 Background to the Study

The construction industry is known for being vulnerable to Occupational Health and Safety (OHS) risks (Ugwu, Nwaichi, and Patricks, 2021; Labaran, Gunal, and Saini, 2024). These are grave concerns to construction practitioners all over the world (Suparna and Jaiswal, 2021; Gungor, 2023; Adebiyi *et al.,* 2024). OHS statistics by different studies revealed that the injury and fatality rates on construction sites are very high in comparison with other sectors of industry in the majority of countries (Eze, Sofolahan, and Siunoje, 2020; Akanbi, Abdulrashid, and Aliyu, 2022). The occurrence of accidents on construction sites usually causes severe injuries, illnesses and even death which can result to site closure for accident investigation, loss of man/machine hours, loss of output, loss of corporate reputation, payment of burial expenses/compensation/insurance claims for the dead (Adebiyi and Rasheed 2021).

Various studies were conducted to assess the causes of these accidents and ill health. Findings from previous research studies have pointed to poor management of OHS as a major cause of this problem (Deng, Wang and Zhang, 2022; Simpeh and Amoah, 2023). This underlines the urgent need for a thorough assessment of OHS hazards and effective management practices on construction sites. Eze, Sofolahan, and Siunoje (2020) confirmed that effective management practices are critical to achieving a safe work

environment by managing hazards and controlling risks on construction sites. Through effective management practices, construction practitioners are educated about protective actions and warned about disasters and how to manage emergencies. According to Suparna and Jaiswal (2021), an effective OHS management practice is required to identify, evaluate, and assess workplace hazards to achieve better safety performance. Osei-Asibey et al. (2021) noted that OHS management is a performance-oriented approach to construction by establishing a safe working environment that is free of accidents and ill health for all stakeholders. The negative image that the industry has earned for poor OHS practices, as verified by the research conducted by Ugwu et al. (2021), is linked to a lack of knowledge of occupational hazards among site operatives and poor management of safety practices, as noted by Niziołek and Boczkowska (2021).
According to Chan *et al*., (2023) the primary cause of accidents on construction sites is improper OHS management. It was pointed out in the study that one of the main causes of fatal human accidents is inadequate management practices on OHS. To minimize the occurrences of accidents and risks on construction sites, effective knowledge and information sharing on OHS is becoming extremely important (Boadu, Wang and Sunindijo 2020, Chen, et al., 2020).

Adebiyi and Rasheed (2021) acknowledged that different communication strategies are used on OHS on construction sites, such as induction training, team briefings, toolbox talks, or supervision meetings. Osei-Asibey *et al.,* (2021) emphasized that the management approaches used during construction are crucial to attaining an acceptable level of safety for site operatives. According to Ramadan *et al.,* (2023), the way OHS is managed will influence whether people will accept or reject it. This study is important because there is a dearth of previous studies on OHS management practices used on construction sites. Previous studies have concentrated on the general effects of adhering to OHS rules by the site operatives (Tanko *et al.,* 2020; Ugwu *et al.,* 2021; Akanbi *et al.,* 2022). Therefore, the objectives of this study are to identify the effective OHS management practices and to determine the level of adoption of these management practices by contracting organizations on sites. The study is important because it will assist contractors in determining the effective OHS management practices to pay more attention to during construction activities on sites.

2.0 REVIEW OF RELATED LITERATURE

2.1 Occupational Health and Safety Management Practices in the Construction Industry

Management of OHS on construction sites is important in ensuring successful project delivery, as previous studies have hypothesized that a positive correlation exists between effective OHS management practices and construction projects success (Chen *et al.,* 2020, Nassereddine *et al.,* 2022; Chan *et al.,* 2023). Effective OHS management practices were found to have a major impact on performance and productivity of site operatives which are critical to the successful execution of construction projects (Ramadan *et al.,* 2023). This was in line with the study carried out by Barrow, *et al.,* (2021) that one of the important issues facing successful delivery of construction projects is the declining rate of productivity and performance of site-operatives as a result of prevailing accidents and ill-health on construction sites. According to Suparna and Jaiswal, (2021**)** management of OHS on construction sites educates the site-operatives on how to achieve safe work environment by giving them project briefings about likely hazards and risks on the sites. The site-operatives are informed about the construction organization's safety policy, the use of personal protective equipment, warning about disasters, first aid facilities available in case of emergencies and how to manage the emergencies (Tanko, Ting, and Idiake, 2020; Ali, Habib, and Sharaa 2021).

Project briefings allow supervisors and site-operatives to interact purposively and co-operatively to achieve organizational goals. This assertion is supported by Fang et al., (2020), that OHS management is very critical in minimizing the safety risks in construction, it helps to attract the site operatives because of its influence in shaping human dealings by promoting actions that prevent accidents on construction sites. Duryan *et al.,* (2020) intimated that to accomplish the goal of a project, there is a need for communication of important information to construction site operatives. This claim is also supported by Ramadan *et al.,* (2023) that the success of projects is often defined by how well information is handled.

A noteworthy difficulty presently confronting the construction industry includes poor management of OHS amongst members of the project team (Adebiyi *et al.,* 2024). This could have devastating consequences whereby site operatives may not be able to execute the tasks safely, which may eventually result in accidents, injury, or even death on the sites. Among the various challenges that construction organizations face, management of OHS is one of the most important. Adebiyi *et al.,* (|2024) attributed causes of accidents

on construction sites to ineffective management between safety personnel and site operatives, lack of training on key issues about safety consciousness, and lack of understanding about the workplace safety rules. Failure in OHS management can lead to the failure of the project as a whole. Therefore, safety on construction sites relies on effective management of OHS between individuals, teams, and organizations (Ramadan *et al.,* 2023). Certainly, on every construction site, safety of operatives should be considered number one priority, hence the need for effective OHS management on the sites.

Studies on OHS on construction sites have seen remarkable progress evolving from its importance to safety of site-operatives in construction sector, exploring the role of stakeholders in creating awareness on safety rules and regulations, impact of compliance with the safety rules and regulations on project performance (Cao, Chen, and Cao, 2021; Simukonda, and Emuze, 2022). Several studies that focused on OHS in the construction industry and affirmed its importance to the sector further recommend studies on the management practices of OHS.

2.2 Challenges to Implementing Effective OHS Management Practices in Construction

The construction industry is characterized by various factors that make it difficult to implement effective OHS practices. Construction projects are usually complicated and constantly changing. They have numerous dynamic sections that require frequent changes and modifications, making it very hard to identify and assess potential hazards, implement safety measures, and provide workers with appropriate training (Ugwu, Nwaichi, and Patricks, 2021). Yet another challenge is the reliance on multi-skilled and casual workers in the building sector. Frequently, construction projects require a large and diverse workforce, including temporary and migrant workers who lack proper training or familiarity with OHS regulations (Simukonda and Emuze, 2022). This complicates the assurance that all operatives understand the OHS requirements and comply with the necessary safety practices. Moreover, the implementation of effective OHS practices in the construction industry is hampered by concerns over high costs and time (Liu et al., 2020). Building contractors often have to operate under strict deadlines and budgets, making it challenging to establish OHS practices (Niziołek and Boczkowska, 2021). Additionally, OHS practices may require extra resources like training and personal protective equipment, which adds to the project's expense (Cao, Chen, and Cao, 2021). These obstacles create a significant dilemma for contractors in prioritizing OHS practices and allocating the necessary resources for their successful execution. Furthermore, the lack of regulatory enforcement and oversight also impairs the implementation of OHS practices in this industry. In some countries, enforcement may be weak, leading construction companies to overlook their OHS responsibilities (Hoque and Shahinuzzaman, 2021). Moreover, the construction sector may be susceptible to corruption, leading to unethical practices that compromise the implementation of effective OHS measures.

3.0 METHODOLOGY

The main objective of this study is to identify and assess effective OHS management practices on construction sites in Kwara State, Nigeria. To achieve the objective, a comprehensive literature review was carried out to identify OHS management practices adopted on construction sites. A total of twenty-four (24) OHS management practices identified from previous studies were adopted as the basis for questionnaire design. A questionnaire was designed to determine the effective management practices adopted on construction sites. The target population was contracting organizations that are registered with the Kwara State Ministry of Housing and Urban Development, Nigeria. The ministry maintains a database of registered contractors to describe their classification and categorizations based on contract value.

The pilot survey for this study revealed that there were thirty-seven (37) active construction firms with various categories of classifications that have ongoing projects in the study area as at the time of the study. Therefore, this study adopted the purposive sampling technique, which is an example of a non-probability sampling technique. Purposive sampling is where sampling units are selected based on purpose (Simpeh & Amoah, 2023). Purposive sampling technique was employed to select a sample size of thirty-seven (37) supervisors and randomly select any two (2) site-operatives from bricklayers, carpenters, iron benders, electricians, and plumbers in the study area. The total sample size was one hundred and eleven (111). A total of seventy-six (76) properly completed questionnaires were analyzed, resulting in an effective response rate of 68%. The questionnaire was structured and divided into two sections: the first section was designed to get information about personal data of the respondents, such as education qualifications, years of experience on construction sites, and several projects handled in the last ten years.
The second section was designed with the purpose of determining the effective OHS management practices. Respondents were therefore requested to rate the importance of the 24 practices identified from

the literature review on a five-point Likert scale from 1 = Not Used, 2 = Seldom Used, 3 = Moderately Used, 4 = Often Used, 5 = Very often Used. Respondents were also requested to state and rate other OHS management strategies considered but not included in the questionnaire.

Mean Score Ranking and Standard Deviation were adopted for analyzing OHS Management Practices. Safety Benchmark Index was also developed to further analyze the data obtained from the rankings while T-test was conducted to see how the two groupings (supervisors and site-operatives) rated the OHS management practices.
period.

4.0 RESULTS AND DISCUSSION

A total of seventy-six (76) completed questionnaires were analyzed, resulting in an effective response rate of 68%. A total of 39% of the respondents are supervisors, while the remaining 61% are site operatives. From the results, the majority of the supervisors have obtained at least a first degree (71%). The spread of educational qualifications of the supervisors surveyed can be said to be enough to provide the information required from them, and the information provided was borne out of their understanding of the issues posed. The result also revealed that about 48% of site operatives have a very low level of education (not more than primary education), which can be a challenge to understanding the purpose of the research.

The years of construction experience of the respondents are 1-5 years (18%); 6-10 years (11%); 11 – 15 years (22%); 16 – 20 years (28%); and 20 years and above (21%). In summary, about 78% of the respondents have more than 10 years of construction experience. The results show that although the majority of site operatives have had little education, their levels of experience on construction sites are commendable. Not less than 68% of the respondents had worked on more than ten (10) projects in the last 10 years.

It is therefore plausible to conclude that the data provided are credible because of the experience of the respondents. This observation suggests that the data collected from these respondents is reliable.

Table 1: Descriptive Statistics on Occupational Health and Safety Management Practices

OHS Management Practices	**Mean**	**Std. Deviation**
1. Accidents investigation	3.01	.782
2. Distribution of safety manuals	2.84	.784
3. Provision of Personal Protective Equipment (PPE)	3.28	.990
4. Provision of Operating procedures	3.54	.854
5. Provision of safety precautions for working at height	2.63	1.118
6. Organizing Toolbox talks	2.56	1.138
7. Provision of welfare facilities and amenities	3.03	.863
8. Project briefings	3.37	.771
9. Organizing training for workers and supervisors	3.31	.851
10. Risk assessment	2.78	1.325
11. Appointment of a competent health and safety officer	2.15	1.200
12. Safe storage, handling, and disposal of hazardous substances	2.13	1.171
13. Site illumination	2.57	.779
14. Provision of first aid facilities	3.18	.992
15. Replacement and repair of PPE	3.12	.838
16 Provision of adequate site security	3.04	1.408
17. Provision of safety Alarm	3.04	1.491
18. Provision of Warning signs	3.06	1.505
19. Proper handling of explosives	2.53	1.252
20. Fire protection and prevention	2.00	1.234
21. Provision of Excavation work safety precautions	2.10	.949
22. All workers undergo medical test prior to work	1.97	1.036
23. Safe loading and unloading of construction materials	2.03	.992
24. Provision of Emergency routes and exits clear of obstruction	2.43	1.297

The supervisors and site operatives were asked to rate the OHS management practices used during construction activities concerning their frequency of usage on a scale of 1-5. The twenty-four (24) variables

used in the questionnaire to measure respondents' opinion on OHS management practices on construction sites are presented in Table 1. Two stage analysis were performed in order to identify the key approaches. The descriptive statistics (Table 1) show that the mean value of the 24 management practices ranged between 1.97 to 3.37 while standard deviation ranged between 0.771 to 1.505. Based on the results, Project briefings recorded the highest mean value (3.37) while all workers underwent medical tests before work recorded the least (1.97). Out of the 24 management practices, 11 have mean scores ≥3 while the rest (13 management practices) have their scores ≥2<3. Those items whose mean scores are ≥3 suggest that respondents perceived them as being moderately or often used to manage OHS on construction sites, while items with scores ≥2<3 suggest that they are seldom used.

4.1 Benchmark Metrics for Ranking the Occupational Health and Safety Management Practices

Having examined the descriptive statistics of the items in Table 1, this section aims to benchmark metrics of OHS management practices on construction sites. In analyzing the data, rankings obtained from the respondents about the major OHS management practices that they perceive could reduce accident rate on the construction sites were used to develop a "Safety Benchmark Index" (SAF_{bi}). In calculating the SAF_{bi}, all the numerical scores for the OHS management practices in Table 1 were transformed in SPSS to assess their relative rankings as postulated by Love & Irani (2004). Thus, the SAFbi was calculated using the formula:

$$SAF_{bi} = = \frac{\sum w}{AN}, (0 < SAFbi < 1)$$

Where,

- W = weighting assigned to each item by the respondent, which ranged from: 1 = not used; 2 = seldomly used; 3 = moderately used; 4 = often used; 5 = very often used
- A = the highest rating which is 5 and
- N = total number of respondents

Table 2: Benchmark Metrics of Occupational Health and Safety Management Practices

Occupational Health and Safety Management Practices	SAF_{bi}	Rank
Project briefings	0.71	1st
Provision of Operating procedures	0.67	2nd
Organizing training for workers and supervisors	0.66	3rd
Provision of Personal Protective Equipment (PPE)	0.66	4th
Provision of first aid facilities	0.64	5th
Replacement and repair of PPE	0.62	6th
Provision of Warning signs	0.61	7th
Provision of safety Alarm	0.61	8th
Provision of adequate site security	0.60	9th
Provision of welfare facilities and amenities	0.60	10th
Accidents investigation	0.60	11th
Distribution of safety manuals	0.57	12th
Risk assessment	0.56	13th
Provision of safety precautions for Working at height	0.53	14th
Organizing Toolbox talks	0.51	15th
Site illumination	0.51	16th
Proper handling of explosives	0.51	17th
Provision of Emergency routes and exits clear of obstruction	0.49	18th
Appointment of competent health and safety officer	0.43	19th
Safe storage, handling and disposal of hazardous substances	0.43	20th
Provision of Excavation work safety precautions	0.42	21st
Safe loading and unloading of construction materials	0.41	22nd
Fire protection and prevention	0.40	23rd
All workers undergo medical test prior to work	0.39	24th

Leaning upon this, the Safety Benchmark Index (SAF_{bi}) was calculated and presented in Table 2. Based on the results in Table 2, the top 8 ranks in descending order are: Project briefings (0.71), Operating procedures (0.67), Organizing training for site-operatives and supervisors and Provision of Personal Protective Equipment (PPE) (0.66), Provision of first aid facilities (0.64), Replacement and repair of PPE (0.62), Provision of Warning signs (0.61) and Provision of safety Alarm (0.61). On the other hand, the 3

management practices with the lowest rank are: Safe loading and unloading of construction materials (0.41), Fire protection and prevention (0.40) and All workers undergo medical test before work (0.39).

4.2 Grouping of Occupational Health and Safety Management Practices

In this section, an independent sample T-test was conducted to see how the two groupings (supervisors and site-operatives) rated the OHS management practices. The results in Table 3 show that significant differences exist among the groupings on only 8 practices out of the 24 practices considered in the study. The following are the practices: Risk assessment ($F = 11.608$, $p<0.05$), Appointment of competent health and safety officer ($F=4.973$,$p<0.05$), Safe storage, handling and disposal of hazardous substances ($F= 11.338$, $p<0.05$), Provision of welfare facilities and amenities ($F= 31.715$, $p<0.05$), Accidents investigation ($F=33.124$, $p<0.05$), Provision of safety alarm ($F = 12.747$, $p <0.05$), Proper handling of explosives ($F = 14.582$, $p<0.05$), and Fire protection and prevention ($F=10.733$, $p<0.05$).

What this means, in essence, is that the respondents (supervisors and site operatives) vary in their opinion concerning the rating of these OHS management practices. For example, the opinion of the supervisors on "Risk assessment" as OHS management practice, as shown by mean score in Table 3, is 3.15 compared to 2.54 for site-operatives. This suggests that supervisors moderately adopt the practices, while site operatives seldom. Likewise, the Appointment of a competent health and safety officer, the Provision of welfare facilities and amenities, and accident investigation. For the rest of the items, no significant differences exist between the supervisors and site-operatives, which is an indication that their opinion (rating or mean score) is not at the 0.05 level of significance. In other words, the respondents concur in their opinion regarding these OHS management practices.

Table 3: T-test on Occupational Health and Safety Management Practices

Management Practices	**Mean Score**		**F**	**Sig.**
	Supervisors	**Operatives**		
Provision of adequate site security	3.11	2.95	1.653	.203
Distribution of safety manuals	3.00	2.73	1.086	.301
Organizing training for workers and supervisors	3.26	3.29	1.222	.273
Project briefings	3.52	3.56	2.099	.152
Provision of safety precautions for Working at height	2.74	2.56	.050	.825
Organizing Toolbox talks	2.63	2.51	2.998	.088
Provision of Warning signs	2.93	3.10	3.250	.076
Provision of Operating procedures	3.19	3.49	.014	.907
Provision of Personal Protective Equipment (PPE)	3.33	3.29	.367	.547
Risk assessment	3.15	2.54	11.608	.001**
Appointment of competent health and safety officer	2.33	2.02	4.973	.029**
Safe storage, handling and disposal of hazardous substances	2.07	2.27	11.338	.001**
Site illumination	2.70	2.49	.201	.656
Provision of first aid facilities	3.19	3.17	.671	.416
Replacement and repair of PPE	3.15	3.10	1.959	.166
Provision of welfare facilities and amenities	4.07	2.37	31.715	.000**
Accidents investigation	3.96	2.44	33.124	.000**
Provision of safety alarm	3.78	2.59	12.747	.001**
Proper handling of explosives	2.89	2.29	14.582	.000**
Fire protection and prevention	1.93	2.07	10.733	.002**
Provision of Excavation work safety precautions	2.07	2.12	1.318	.255
All workers undergo medical test prior to work	2.00	1.95	.058	.811
Safe loading and unloading of construction materials	2.04	2.02	.016	.899
Provision of Emergency routes and exits clear of obstruction	2.41	2.44	1.061	.307

Note: T-test is significant at .05**

5.0 DISCUSSION OF FINDINGS

Project briefing is regarded as a powerful OHS management practice to convey safety information on construction sites. During project briefings, complex issues on occupational hazards can be explained. Project briefing was found to be among the most preferred OHS management practices in studies conducted by Akunyumu (2016). The respondents ranked Provision of operating procedures on construction sites very high, which was described by Al-Bayati (2021) as series of important steps that guide the site operatives on tasks to be carried out on sites. Operating procedures provide guidelines to help prevent incidents and miscommunications, increase hazard reporting, better way to operate equipment, and make informed decisions about operations (Sankar *et al.,* 2022). Operating procedures also provide advice on acceptable/safe work practices.

Organizing training for site-operatives and supervisors which was also ranked high consists of instruction in hazard recognition and control measures, learning safe work practices and proper use of personal protective equipment, and acquiring knowledge of emergency procedures and preventive actions. Training also provides the site-operatives with ways to obtain added information about potential hazards and their control; they could gain skills to assume a more active role in implementing hazard control programs or to effect organizational changes that would enhance worksite protection (Labaran, Gunal and Saini, 2024).

Provision of personal protective equipment, replacement and repair was also ranked high. According to the studies carried out by Simukonda, and Emuze, (2022) and Cao, Chen, and Cao, (2021), site-operatives are required to wear personal protection equipment at all times when working on construction sites. The study emphasized on the importance of inspecting personal equipment for any breaks, tears and visible signs of stress or damage before use. The respondents ranked provision of first aid facilities as one of the frequently used OHS management practices on construction sites. This was in line with the survey carried out by Ali, Habib and Sharaa (2021). Though the study established that most construction sites had first aid boxes, but were ill-equipped with only spirit, bandages, and cotton wool. From the recommendation on the study carried out by Adebiyi et al. (2024), the contractors need to make sure there is enough first aid equipment and trainers on construction sites.

Provision of warning signs was also ranked high in line with the studies carried out by Gungor (2023). The study confirmed the importance of warning signs that which include the use of illuminated signs, fire alarms, signs for fire exits, fire action plan notices, and fire-fighting equipment are also considered to be safety signs. It is critical that all warning signs can be easily understood. Where signs are used on a site, they should be sufficiently large and clear so that they can be easily seen and understood. Warning signs also need to be durable, securely fastened and properly maintained to ensure they remain visible. Care must be taken to avoid using too many signs nearby, warning signs are only effective if they can be seen and understood. If too many signs are placed together there is a danger of confusion of important information being overlooked.

6.0 CONCLUSION

This study has identified the effective OHS management practices on construction sites. Out of the 24 practices considered in the questionnaire used, 8 ranked high on the benchmark metrics used to measure OHS management practices. The 8 most significant practices are: Project briefings, Provision of operating procedures, Organizing training for operatives and supervisors, Provision of Personal Protective Equipment (PPE), Provision of first aid facilities, Replacement and repair of PPE, Provision of warning signs, and Provision of safety alarm. These are the most essential methods to address and solve risk and hazard issues on sites. The practices were carried out by health and safety officers and supervisors to explain to the site operatives on rules and requirements, emergency procedures and incident reporting to them carry out their duties in a safe manner from the moment they come on sites. Also, the study went further to examine variation in opinion among supervisors and site operatives on OHS management practices considered. Results from the independent sample T-test showed that variation exists in 8 out of the 24 management practices at the 0.05 level of significance.

Effective OHS management practices would help the participants in carrying out their responsibilities in the correct manner. Accidents could be avoided by adopting appropriate management practices by the team members.

The significant practices adopted in this study could help contractor organizations to improve their management of OHS on construction sites, thereby improving compliance with safety rules and reducing

accidents. Future research work would need to explore the effectiveness of management practices employed by the contracting organizations.

REFERENCES

Adebiyi R. T., Amuda-Yusuf G., Rasheed A. S., and Olorunoje L. O. (2024) Health and safety information management on construction sites in Lagos State, Nigeria. *Built Environment Journal* 21(2) 1-11.

Adebiyi R. T. and Rasheed A. S. (2021) Strategies for communicating health and safety information on construction. *Journal of Engineering, Project and Production Management*. 11 (1) 1-8

Akanbi T. I., Abdulrashid S. and Aliyu H.I (2022) Overview of Building Construction Safety and Legislations in Nigeria. *International Journal of Scientific Advances.* 3(4) 637- 640.

Akunyumu, S. (2016) *A framework for on-site communication planning for construction managers in Ghana*. (Unpublished M.Phil. thesis) Department of Building Technology, College of Art and Built Environment, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Al-Bayati, A. (2021) Impact of construction safety culture and construction safety climate on safety behaviour and safety motivation. *Safety*, 7(2), 41

Ali, M. I. E., Habib, N. S. and Sharaa H. M. (2021) Effect of first aid training program on construction workers' self-efficacy in Egypt. *Pakistan Journal of Medical & Health Sciences.* 15(1) 403-406.

Barrow, A., Jatta, S., Nget, M., and Kuye, R. (2021). Occupational health and safety risks and hazards among workers in the Gambian building construction sites: A mixed-method study design. *Journal of Scientific Research and Reports,* 19-3.

Boadu E. F., Wang C. C., and Sunindijo R.Y. (2020) Characteristics of the construction industry in developing countries and its implications for health and safety: An exploratory study in Ghana. *International Journal of Environmental Research and Public Health.* 17(4) 110.

Cao, Z., Chen, T., and Cao, Y. (2021). Multiple factor comprehensive analysis (CAMF) model of occupational health and safety training effect for construction workers. *Journal of Engineering Research*.

Chan A. P. C., Guan J, Choi T. N. Y., Yang Y., Wu G., and Lam E. (2023) Improving safety performance of construction workers through learning from incidents. *International Journal of Environmental Research and Public Health.* 20(5) 4570.

Chen, W. T., Tsai, I. C., Merrett, H. C., Lu, S. T., Lee, Y. I., You, J. K., and Mortis, L. (2020). Construction safety success factors: *A Taiwanese case study. Sustainability (Switzerland),* 12(16), 145- 151

Deng, W., Wang, J. and Zhang, R. (2022) Measures of concordance and testing of independence in multivariate structure. *Journal of Multivariate Analysis.* 191(1), 344- -349.

Duryan M., Smyth H., Roberts A., Rowlinson S., and Sherratt F. (2020) Knowledge transfer for occupational health and safety: Cultivating health and safety learning culture in construction firms. *National Center for Biotechnology Information*. 139(1).

Eze E., Sofolahan O, and Siunoje L. (2020). Health and safety management on construction projects: the view of construction tradespeople CSID *Journal of Infrastructure Development,* 3(2) 152-172.

Fang D., Huang Y., Guo H., and Lim H.W. (2020) LCB approach for construction safety. *Safety Science* 128(5) 104761

Gungor, C. (2023) Safety sign comprehension of fiber board industry employees. *Heliyon*. 9(6), 1-9

Hoque, I., & Shahinuzzaman, M. (2021). Task performance and occupational health and safety management systems in the garment industry of Bangladesh. *International Journal of Work place Health Management*, 14(4), 349-385.

Labaran, Y. H., Gunal, A. Y., and Saini, G. (2024). Occupational health and safety in the construction industry: a comprehensive review with emphasis on Nigeria. *Turkish Journal of Engineering*, 8 (4), 695-711.

Liu, S., Nkrumah, E., Akoto, L., Gyabeng, E., and Nkrumah, E. (2020). The state of occupational health and safety management frameworks (OHSMF) and occupational injuries and accidents in the Ghanaian oil and gas industry: Assessing the mediating role of safety knowledge. *Biomedical Research International*, 2, 1-14

Love P.E.D., & Irani Z. (2004) An exploratory study of information technology evaluation and benefits management practices of SMEs in the construction industry. *Information & Management* 42, 227–

242.
Nassereddine, H., Hanna, A. S., Veeramani, D., and Lotfallah, W. (2022). Augmented reality in the construction industry: Use-cases, benefits, obstacles, and future trends. *Front. Built Environment.* 8, 730094.
Niziołek, K., and Boczkowska, K. (2021). Standardized management systems in the context of active employee participation in occupational health and safety. *European Research Studies Journal*, 24(3), 73-88.
Osei-Asibey, D., Ayarkwa, J., Adinyira, E., Acheampong, A. and Amoah, P. (2021) Roles and responsibilities of stakeholders towards ensuring health and safety at construction site. *Journal of Building Construction and Planning Research,* 9, 90-114.
Ramadan, B., Nassereddine, H., Taylor, T. R. B., Real, K., and Goodrum, P. (2023). Impact of technology use on workforce performance and information access in the construction industry. *Frontiers in Built Environment* 9(1) 1-15.
Sankar, S., Anandh, K., Rajendran, S., and Sen, K. (2022). The impact of various safety leadership styles on construction safety climate: A case of South India. IOP Conference Series Earth and Environmental Science, 1101(4), 042005.
Simpeh, F. and Amoah, C. (2023) Assessment of measures instituted to curb the spread of COVID-19 on construction site. International Journal of Construction Management. 23(3), 383-391.
Simukonda, W., and Emuze, F. (2022). An offsite construction scoping study for occupational health and safety. IOP Conference Series Earth and Environmental Science, 1101(3),
Suparna N. S. and Jaiswal A. (2021) The occupational health and safety *Anthropo-Indialogs* 1(3) 261-269.
Tanko, B. L., Ting, L. C., & Idiake, J. E. (2020). Compliance with the use of personal protective equipment (PPE) on construction sites in Johor, Malaysia*. International Journal of Real Estate Studies,* 14(1), 123–13.
Ugwu, T., Nwaichi, E., and Patricks, E, C. (2021). Evaluation of safety performance of Nigerian construction industry - a case study of the Niger delta region. *Journal of Scientific Research and Reports*, 94-103.