UNSAFE AND UNHEALTHY BEHAVIOURAL PRACTICES OF NIGERIAN CONSTRUCTION WORKERS IN SMALL AND MEDIUM-SCALE CONSTRUCTION FIRMS

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ABSTRACT

Purpose*: The construction industry in Nigeria operates in a multifaceted environment, involving different individuals performing varying tasks. Many of the workers, particularly in small or medium-scale construction firms, often engage in unsafe and unhealthy behavioural practices. This study sought to evaluate the behaviours, and the key factors influencing them in the construction firms in Lagos State, Nigeria.*

Methodology*: This study employed a survey research method, utilizing a convenience sampling technique to select the target respondents for questionnaire administration. A total number of 192 copies of a questionnaire were distributed, resulting in 84% response rate, as 161 copies were fully completed and returned. The collected data were analyzed using both descriptive and inferential statistical methods.*

Findings*: The findings of this study confirm the occurrence of unsafe and unhealthy behavioural practices among construction workers in Lagos State, Nigeria. The results identify common unsafe practices such as poor housekeeping, failure to maintain or service machinery, the use of unsafe scaffolding or equipment, neglecting personal protective equipment, and disregarding supervisors' instructions during task execution. Additionally, factors such as drug and alcohol addiction, overconfidence, ignorance, stress, and inexperience were identified as major contributors to such behaviours among construction workers in Lagos State.*

Practical Implications*: The health and safety of construction workers are of utmost importance to all stakeholders in the construction industry. This study reveals the wide spread nature of the unsafe and unhealthy behaviours among workers, as well as the key factors contributing to them.*

Originality/value*: The study contributes significantly to understanding the causes of risks, accidents, and injuries on construction sites by identifying unsafe and unhealthy behavioural practices among construction workers. Recognizing these practices and the factors influencing them provides construction stakeholders and shareholders with the rationale to develop sustainable and feasible health and safety measures aimed at eliminating accidents on construction sites.*

KEYWORDS: *Behavioural practices, construction industry, construction workers, unhealthy, unsafe*

INTRODUCTION

The unsafe and unhealthy behaviour of construction workers on job sites has become a growing concern in the construction industry. Adebayo (2014) defines unsafe acts as

behaviours exhibited when individuals disregard their safety or that of others. Approximately 80% of accidents on construction sites are caused by unsafe acts and hazardous conditions. Reem et al. (2013) describe unsafe acts as any deviation from established procedures, practices, or unnecessary exposure to hazards. Examples provided by Adebayo (2014) include improper tool usage, use of equipment for unintended purposes, and working with electrical equipment without turning off the power. Unsafe and unhealthy behaviour is widely recognized as a leading cause of accidents. Numerous studies, such as those by Zhang and Fang (2013), have sought to understand these behaviours from various perspectives. In Nigeria, the majority of construction projects have reported accidents and injuries of varying degrees of severity (Inuwa et al., 2014). The primary factor driving safety incidents is the improper behaviour of construction workers, as highlighted by Deng et al. (2022).

The construction industry is considered labor-intensive, with labor costs accounting for 40–65% of the total project cost (Fagbenle et al., 2011). It faces numerous risks, uncertainties and complexities due to frequent accidents, and its performance in occupational health and safety remains unsatisfactory (Giri, 2020). Kennedy (2016) describes the construction industry as high-pressure, with a tendency for conflicts among workers that can escalate into verbal threats, shouting, cursing, physical altercations, and other violent behaviours. Haslem et al. (2005) emphasize the critical role of supervisors or front-line managers in preventing accidents as they interact with workers daily. However, despite their efforts, they often struggle to fully manage safety risks. Tirmisiyu et al. (2022) add that human behaviour is highly complex and not entirely predictable, making it difficult to control consistently. Workers' attitudes are fundamental to preventing accidents and injuries in various industries. Numerous factors such as environmental conditions, task and equipment characteristics, job instructions, as well as psychological and physiological stresses influence the behaviours (Gbajobi et al., 2018). Specifically, in the construction sector, attitudes shaped by ignorance, negligence, carelessness and overconfidence present significant challenges to maintaining health and safety standards on job sites (Hamid et al., 2008).

Accidents in construction are primarily driven by human behaviour, compounded by difficult worksite conditions and inadequate safety management practices. This combination often leads to unsafe practices, use of improper tools, and adherence to ineffective procedures (Revathi et al., 2017). Furthermore, worker safety is adversely affected by how employees react to changing environmental circumstances. Factors such as heat, humidity, noise, ventilation and temperature can significantly impact on their ability to work safely (Harsini et al., 2020). The nature of construction work, which frequently involves outdoor tasks, working at heights, and operating complex machinery, adds another layer of complexity. These conditions, combined with workers' attitudes and behaviours unmindful of safety, can escalate the risk of accidents (Khosravi et al., 2014). Moreover, the physical demands of the job influence worker behaviour significantly in both industrialized and developing countries, as fatigue and strain can lead to lapses in safety awareness and compliance (Bilau et al., 2015).

The Nigerian construction industry is experiencing daily expansion, and significantly contributing to the nation's economic growth by way of generating employment opportunities and income for the population (Agwu & Olele, 2014; Dlamini, 2014).

However, concerns for construction workers' safety are waning. There is a lack of comprehensive studies on examining the level of awareness and compliance among construction workers regarding safe and healthy behavioural practices, which can lead to accidents. According to Samuel (2016), many construction professionals in Nigeria are unaware of their legal responsibilities, and the government's enforcement of safety laws on construction sites is often insufficient. This situation has allowed both new and experienced construction workers to engage in unsafe and unhealthy behaviours, putting their teammates, supervisors and overall management at risk. Ibrahim et al. (2022) emphasize that safety is a shared concern for both workers and the general public, highlighting the need to prevent casualties that could negatively affect site operations, and lead to financial losses and reduced workers' morale. Therefore, this study aims to investigate the common unsafe and unhealthy behavioural practices of construction workers; together with the factors influencing such practices, in Lagos State, Nigeria. Addressing the research gap is crucial for understanding how construction workers engage in such practices; the underlying reasons for their disregard for safety, both for themselves and others; and the impact of their disregard for safety on project quality, particularly in residential and commercial construction.

LITERATURE REVIEW

Unsafe and unhealthy behavioural practices

The Institution of Occupational Safety and Health (IOSH) (2015) defines behaviour as any individual action that can be observed and measured. According to Shamsuddin et al. (2015), safety behaviours refer to actions aimed at minimizing potential accidents and encouraging safe practices in the workplace. Therefore, promoting safety behaviours on construction sites is essential for reducing injuries, as it indirectly affects the outcomes of actions that lead to accidents or injuries (Agnew, Flin & Mearns, 2013). Many researchers have found that accidents involving construction workers are largely caused by unsafe behaviour and dangerous practices (Li et al., 2022). On construction sites, unsafe behaviour refers to any actions or habits that pose a risk to the health and safety of workers, visitors, or the general public. If not promptly addressed, these unsafe behaviours can lead to accidents, injuries, and even fatalities (Choudhry & Fang, 2008). According to Machfudiyanto et al. (2020), unsafe behaviours among construction workers is a result of a poor safety culture. Buniya et al. (2021) state that the commitment to health and safety in small and medium-sized construction enterprises is influenced by employees' awareness of safety practices.

In a positive safety culture, workers tend to develop safety awareness, understanding that safety is a top priority in all their activities (Wang et al., 2020), but such is not well reinforced in the Nigerian construction industry. Several researchers have identified human-related factors, especially unsafe actions by construction workers, as contributing to approximately 70% of on-site accidents (Xia et al., 2019). They also emphasized that such risky behaviours are the main causes of accidents, injuries, and fatalities in the construction sector. Meliá and Becerril (2009) observe that unhealthy behaviours, particularly those associated with drug and alcohol use, are major causes of danger, and capable of adverse safety outcomes, such as minor injuries or micro accidents. These behaviours may be seen as inadequate or non-adaptive responses to the stress stemming from the challenging conditions prevalent in many construction jobs. Proper et al. (2020) note that unhealthy behaviours are a primary factor contributing to the poor health status

reported by workers who rate their health as low. This suggests that many construction workers who engage in unsafe practices, particularly Nigerian construction workers exposed to environments that foster such unsafe behaviours, may have been driven by their health conditions. Choudhry (2014) indicates that numerous initiatives aimed at improving safety on construction sites; such as legislation, engineering solutions, safety awareness campaigns, safety training, and the management of unsafe acts, have been implemented. Nevertheless, the efforts frequently fail due to individual attitudes, which play a crucial role in shaping the behaviours that workers exhibit. Several factors affect the unsafe and unhealthy behaviours of construction workers, as outlined in previous literature by various scholars below. Knowing the causes, effects and extent of these practices in the Nigerian construction industry today is essential. The knowledge will help to address the need for effective monitoring and stricter supervision of construction workers to promote their safety, and the safety of their organizations.

Common Unsafe and Unhealthy Behaviour Practices in the Nigerian Construction Industry The inadequate use of personal protective equipment is a common practice. The use of PPE plays a major role in protecting workers and visitors on construction sites. PPE such as helmets, safety boots, goggles and head covering for workers who are exposed to excessive wetness prevent direct injuries to operatives on site (Osei-Asibey et al., 2021). There is a strong association between these accidents and the lack of safety training, as well as the improper use of personal protective equipment (PPE). When used correctly, PPE can greatly enhance worker safety and mitigate the risk of accidents (Sehsah et al., 2020). It is common that, construction workers ignore supervisors' instructions on how tasks should be carried out. Supervisors are typically knowledgeable about safety protocols and procedures, and their guidance is intended to ensure the well-being of workers. When workers fail to follow these instructions, it can result in accidents, injuries, or even fatalities (Shamsuddin et al., 2015). Supervisors or foremen play a pivotal role in preventing accidents, as their supervision and control over worker performance are crucial to reducing the likelihood of accidents (Xia et al., 2020). According to Leung et al. (2016), workers often disregard supervisors' instructions and violate safety regulations, choosing to work in ways they find more comfortable. The presence of a supervisor on-site is crucial, as Kao et al. (2016) and Schwatka and Rosecrance (2016) point out. Supervisors can influence workers' safety behaviours by modelling safe practices, prioritizing safety over production, discussing safety issues openly, and encouraging workers to report unsafe conditions. When supervisors engage in training and take preventive actions, the group's safety climate improves, ultimately leading to better safety behaviours among construction workers (Fang et al., 2015; Zhang et al., 2017).

Studies have shown that improper lifting, handling and moving of objects was one of the leading causes of accidents between 2006 and 2017 (Li et al., 2019). Improper manual handling often occurs on construction sites, where workers perform these tasks without utilizing proper lifting equipment (Li et al., 2019; Xu et al., 2019). Examples of unsafe behaviours by construction workers include inadequate safety measures when handling and lifting materials, tripping over objects, operating faulty machinery, being struck by moving equipment, excavation collapses, and falling from heights (Ahmed, 2019). Additionally, the use of tools, machinery and equipment in defiance of standard operating procedures poses significant risks to workers on construction sites (Williams et al., 2019). According to Askorn and Hadikusumo (2007), many workers opt to carry heavy objects

manually, likely due to a lack of knowledge about safer methods for performing these tasks. Such practices can result in severe musculoskeletal injuries (Li et al., 2019). Their research further indicated that the manual lifting and handling of materials has been ingrained in construction culture for so long that it has become a normalized, albeit dangerous, behaviour on worksites (Askorn & Hadikusumo, 2007).

Oladiran et al. (2008) found that nearly 50% of all fatal falls from heights in construction were linked to working on unsafe platforms or bamboo scaffolds. Many construction workers lack the proper qualifications to identify and assess the risks of using unsafe scaffolding (Halperin & McCann, 2004). According to Douglas and Adeloye (2016), seemingly harmless slips can lead to fatalities, particularly falls from heights, which are the leading cause of fatal accidents in the industry. These incidents often result from inadequate scaffolding, and lack of edge protection. Usually, workers are exposed to dangers, when they are not equipped with the appropriate protective gear. Horseplay, defined as rough or boisterous plays, is prevalent on construction sites in Nigeria, particularly among unskilled and less experienced workers. It includes pranks and reckless actions at the workplace (Environmental Health and Safety Office, EHSO, 2017). Common examples are joking, playing around, racing, grabbing, irresponsible vehicle operation, peer pressure to perform unsafe acts, harassment, and unauthorized contests (Adinyira et al., 2020). According to Askorn and Hadikusumo (2007), such activities, especially involving workers engage in rough play, can lead to unforeseen accidents. Therefore, in the high-risk environment of the construction industry, such behaviours should be strictly prohibited (Adinyira et al., 2020). These behaviours pose serious dangers and should not be condoned (Lingard et al., 2019).

Construction workers often face fainting, exhaustion, and depression, particularly when they become ill. This issue is frequently linked to unsafe behaviours, especially among contract or temporary workers who feel financial pressure to continue working, even when they are unwell (Benach et al., 2010). For example, unskilled workers, tasked with heavy lifting, often lack access to paid sick leave. This can make them to push through their illnesses for fear of losing their jobs. Additionally, a workplace culture that prioritizes toughness and discourages taking time off work for health reasons can further lead employees to place work above their well-being (MacEachen et al., 2010). Moreover, research indicates that workers frequently skip necessary breaks, thereby increase their risk of fatigue and accidents. Many individuals who engage in this unsafe behaviour are concerned that taking breaks might cause them to fall behind or be perceived as less productive, especially in demanding or competitive environments (Quinn et al., 2007). It is often observed that construction workers fail to communicate vital safety and work-related information with their colleagues. Many workers struggle to form positive relationships with their peers, which can negatively impact on the overall efficiency of the team. According to Zhang and Fang (2013), when one worker underperforms, it can create obstacles to accessing critical safety and work information.

Moreover, workers frequently neglect to assess environmental conditions that could affect their tasks. Research by Chi et al. (2013) indicates that factors such as temperature fluctuations, pressure changes, noise levels, climate and weather can greatly impact on safety. If proper safety precautions are not taken, these factors can lead to accidents on the job site. Additionally, construction workers often engage in repetitive and physically

demanding tasks. Performing these activities in awkward or improper positions can strain various body parts, and result in fatigue, injuries or, in severe cases, permanent disabilities. As noted by Lop et al. (2019), without adequate training in ergonomic practices, and an understanding of the importance of maintaining good posture, workers may adopt positions that exacerbate stress and discomfort. According to Joye (2023), most construction workers are fond of ignoring the maintenance or servicing of their manual and powered machinery used on several occasions. This can result in serious workplace injuries when it reaches the breaking limit. Proper use and maintenance of these tools are essential to ensure safety. Furthermore, conflicts may arise among co-workers or between workers and their supervisors due to various factors. Such issues typically occur when project teams experience a lack of cohesion and face communication challenges (Jaffar et al., 2011).

Factors Influencing Construction Workers' Unsafe and Unhealthy Behavioural on Construction Sites

Substance abuse is a significant concern in the construction industry, where many workers engage in the use of illicit drugs and alcohol at higher rates than their counterparts in other sectors. According to Bush & Lipari (2013), research indicates that approximately 16% of construction workers reported heavy alcohol use, while 14% admitted to illicit drug use in the past month. Furthermore, 6% were classified as having alcohol abuse or dependence, and about 5% struggle with illicit drug dependence. While no reasons can justify such behaviours, some workers may resort to drug use as a means of coping with trauma (Cook et al., 2004).

The lack of a safe and healthy working environment is a contributing factor to these issues, as highlighted by Kukoyi et al. (2017), who emphasize that management often neglects workers' well-being. When recognition, awards, and incentives for safe practices are lacking, workers may lose motivation to prioritize health and safety. Job dissatisfaction can further lead to increased risk-taking and harmful behaviours (Lipscomb et al., 2006). The presence of inexperienced workers on job sites increases the likelihood of accidents. Studies show that age significantly influences productivity, with young and low experienced workers exhibiting impulsive behaviours and poor decision-making traits during emergencies (Sathvik et al., 2023). Depression can further impair motivation and reduce workers' capacity to perform essential tasks, adversely affecting workplace safety and performance (Jung et al., 2020). Ignorance also poses a considerable risk, as many workers lack awareness of potential hazards associated with their tasks. Understanding these risks and exercising caution can significantly reduce the incidence of workplace accidents (Douglas & Adeloye, 2016). Moreover, an unsupportive work environment can harm physical health, increase vulnerability to illness and decrease overall productivity (Becher & Dollard, 2016).

Fatigue has been linked to various mental and physical health challenges (Xing et al., 2020). Low-skilled workers, in particular, are likely to experience mental health issues, leading to absenteeism and inefficiency, which ultimately impacts on project performance (Law et al., 2011). Emotional stressors related to family life can exacerbate these challenges, affecting workers' mental health and focus on safety protocols (Ijieh & Adedokun, 2020). Most construction injuries stem from poor decision-making, which can be mitigated by establishing a robust safety culture. Unsafe practices, such as neglecting

to use safety gear or leaving tools unattended, can result in serious accidents (Hoque et al., 2017). Additionally, physically stressed workers are at a higher risk of accident (Abbe et al., 2011). Inadequate support from colleagues can lead to work-related stress, burnout and hazardous behaviours, affecting workers in all sectors (Leung et al., 2014).

Construction workers face a myriad of stressors, both psychological and physical (Enshassi et al., 2015). Physical stress can trigger biological responses that compromise health, while psychological stress resulting from traumatic events can lead to anxiety and frustration, undermining adherence to safety procedures (Lehrer, 2006; Seo, 2005). Language barriers can further complicate safety on construction sites. These obstacles often lead to misunderstandings about safety protocols and regulations, which heighten the risk of accidents (Cleveland, 2020). Non-indigenous workers may encounter additional challenges that elevate safety hazards (Ne'Matullah et al., 2021). Lastly, overconfidence among seasoned workers can negatively impact safety, as their familiarity with the job may lead them to overlook necessary safety protocols (Corner, 2022).

RESEARCH METHODS

This research study is both exploratory and descriptive. The participants included construction professionals and workers involved in residential and commercial building projects in Lagos State, Nigeria. A questionnaire was utilized as the primary data collection tool. Lagos State was chosen for this study because of its rapidly growing population, and increasing infrastructure investments from both the public and private sectors in the construction industry. The sample size for the targeted respondents was calculated using Yamane's formula (1967) at a 95% confidence level with a ±5% margin of error, based on an estimated population of seventy (70) for both residential and commercial buildings. The total sample size for administering the structured questionnaire was 192 respondents. A structured questionnaire was employed to gather primary data, and a convenient sampling method was used to identify the target respondents.

The questionnaire consisted of closed-ended questions divided into two sections. The first section aimed to collect demographic information about the respondents to ensure the reliability and quality of the data. The second section addressed the specific objectives of the study. The factors included in the questionnaire were derived from pilot interviews and literature reviews. Twelve (12) factors related to unsafe and unhealthy behavioural practices, and eleven (11) factors influencing these practices on construction sites were identified. Each factor was assigned a scale from 1 to 5 to capture the perceived significance as rated by the respondents. The scale was defined as follows: 1 = not significant, 2 = low significant, 3 = moderate significant, 4 = high significant, and 5 = very high significant. A total of 192 surveys were self-administered, with 161 completed surveys returned and analyzed, resulting in 84% response rate. The responses were coded and analyzed using the Statistical Package for Social Sciences (SPSS) Version 23. Descriptive and inferential statistical analyses were conducted, employing frequency tables, charts and t-tests. The response data from the 161 respondents were coded in SPSS based on the ratings assigned to each factor. The Relative Importance Index (RII), supported by the findings of Smithers & Walker (2000), was used to assess the significance of each factor, with RII values ranging from 0 to 1.

Table 1. Unsafe and unhealthy behaviour practices

S/n	Factors	Literature source
1	Avoidance of personal protective equipment	(Sehsah et al., 2020).
2	Disregard of supervisor directives towards carrying out tasks	(Shamsuddin et al., 2015)
3	Use of non-standard equipment and machinery	(Ahmed, 2019); (Williams et al., 2019)
4	Use of unsafe scaffolding or equipment	(Oladiran et al., 2008).; (Halperin & McCann, 2004)
5	Horseplay during work	(Adinyira et al., 2020)
6	Sick construction workers working on the site	(Benach et al., 2010); (MacEachen et al., 2010)
7	Avoid taking rest during the break period	(MacEachen et al., 2010); (Quinn et al., 2007)
8	Hindering important safety or work information to co-workers	(Zhang & Fang, 2013).
9	Poor working conditions	(Chi et al., 2013).
10	Stress-inducing work posture	(Lop et al., 2019).
11	Non-maintenance or non-servicing of machinery	(Joye, 2023).
12	Conflicts among Supervisors and Co-workers	(Jaffar et al., 2011); (Kamaruddeen et al., 2019).

Table 2. Factors affecting unsafe and unhealthy behaviour practices

S/n	Factors	Literature source
1	Addiction to drugs and alcohol	(Bush & Lipari, 2013); (Cook et al., 2004); (Ntili & Monyane, 2015)
2	Lack of motivation	(Kukoyi et al., 2017); (Lipscomb et al., 2006).
3	Inexperience	(Sathvik et al., 2023).
4	Depression	(Jung et al., 2020).
5	Ignorance	(Douglas & Adeloye, 2016).
6	Mental health disorder	(Becher & Dollard, 2016); (Xing et al., 2020); (Law et al., 2011).
7	Family crisis	(Ijieh & Adedokun, 2020)
8	Poor decisions	(Hoque et al., 2017)
9	Stress	(Abbe et al., 2011)
10	Language barrier	(Cleveland, 2020); (Ne'Matullah et al., 2021)
11	Overconfidence	(Corner, 2022)

The Kolmogorov-Smirnov Z test was conducted to assess the normality of the data distribution. The average asymptotic significance (Asymp. Sig.) Value was 0.68, which exceeds the threshold p-value of 0.005. This indicates that the data collected from the participants followed a normal distribution. A reliability analysis was performed to assess whether the selected scale accurately represented the constructs being measured. Reliability here refers to the consistency of results when two comparable observations, related to the same construct, produce similar outcomes. The Cronbach's alpha test was used to measure the survey's reliability. According to Taber (2017), a Cronbach's alpha value within an acceptable range reflects a high level of internal consistency. The analysis showed strong internal consistency, with a Cronbach's alpha of 0.964 for unsafe and

unhealthy behavioural practices, and 0.944 for the influencing factors. This indicates that the variables effectively measured the constructs as defined the context of the study.

Results and Discussion

The result in Figure 1 shows the respondents' demographic information. It also shows that the respondents possess an adequate level of education with their varied academic qualifications.

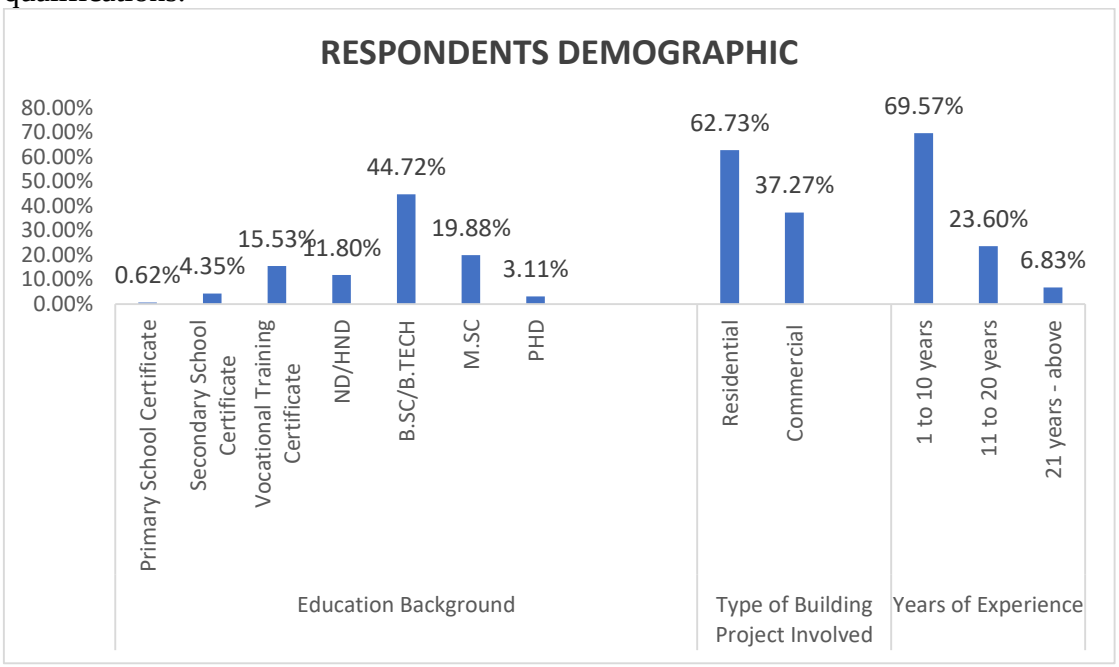

Figure 1: Respondents' demographic data

The results presented in Figure 1 show that 0.62% of the respondents held a Primary School Certificate, 4.35% had a Secondary School Certificate, 15.53% possessed a Vocational Training Certificate, 11.8% had an Ordinary or Higher National Diploma (OND/HND), 44.72% held a Bachelor's Degree, 19.88% had a Master's Degree, and 3.11% had a Doctorate. Regarding the type of building projects, 62.73% of respondents were involved in residential projects, while 37.27% were engaged in commercial projects. In terms of industrial experience, 69.57% of respondents had 1-10 years of experience, 23.6% had 11-20 years, and 6.83% had 21 years or more.

Table 3. Unhealthy and unsafe behavioural practices of construction workers on sites

Unsafe and Unhealthy behaviour	Residential		Commercial		Total	
	RII	Rank	RII	Rank	RII	Rank
Avoidance of personal protective equipment	0.798	1	0.720	6	0.759	4
Disregard of supervisor directives towards carrying out tasks	0.770	6	0.730	4	0.750	5
Use of non-standard equipment and machinery	0.774	4	0.720	6	0.747	6
Use of unsafe scaffolding or equipment	0.772	5	0.750	1	0.761	3
Horseplay during work	0.766	8	0.727	5	0.747	7
Sick construction workers working on the site	0.717	11	0.690	9	0.704	9
Avoid taking rest during break period	0.733	9	0.637	12	0.685	11
Hindering important safety or work information to co-workers	0.701	12	0.640	11	0.671	12
Poor housekeeping	0.784	2	0.747	2	0.766	1
Stress-inducing work posture	0.768	7	0.713	8	0.741	8
Non-maintenance or non-servicing of machinery	0.780	3	0.743	3	0.762	2
Conflicts among supervisors and co-workers	0.718	10	0.677	10	0.698	10

In Table 3, the findings indicate that in residential building projects, the most significant unhealthy and unsafe behavioural practices are: avoidance of personal protective equipment (RII=0.798), poor housekeeping (RII=0.784), and lack of maintenance or servicing of machinery (RII=0.780). On the other hand, the less significant practices include conflicts between supervisors and co-workers (RII=0.718), sick workers continuing to work on-site (RII=0.717), and withholding important safety or work-related information from co-workers (RII=0.701). In commercial building projects, the most significant unsafe and unhealthy practices are the use of unsafe scaffolding or equipment (RII=0.750), poor housekeeping (RII=0.747), and non-maintenance or non-servicing of machinery (RII=0.743). The less significant practices in this context include conflicts among supervisors and co-workers (RII=0.677), hindering crucial safety or work information from colleagues (RII=0.640), and skipping rest during break periods (RII=0.637). Overall, across construction projects in Lagos State, Nigeria, the most prevalent unsafe and unhealthy behavioral practices identified are: poor housekeeping (RII=0.766), non-maintenance or non-servicing of machinery (RII=0.762), use of unsafe

scaffolding or equipment (RII=0.761), avoidance of personal protective equipment (RII=0.759), and disregard for supervisors' directives during task execution (RII=0.750).

Table 4. Factors influencing the unhealthy and unsafe behavioural practices of construction workers on sites

S/N	Factors influencing unsafe and unhealthy behavioural practices	Residential		Commercial		Total	
		RII	Rank	RII	Rank	RII	Rank
1	Addiction to drugs and alcohol	0.811	1	0.727	6	0.769	2
2	Lack of motivation	0.727	8	0.74	2	0.7335	6
3	Inexperience	0.754	5	0.74	2	0.747	4
4	Depression	0.685	11	0.67	9	0.6775	10
5	Ignorance	0.784	3	0.74	2	0.762	3
6	Mental health disorder	0.731	7	0.67	9	0.7005	8
7	Family crisis	0.703	9	0.683	8	0.693	9
8	Poor decisions	0.743	6	0.73	5	0.7365	5
9	Stress	0.756	4	0.71	7	0.733	7
10	Language barrier	0.689	10	0.637	11	0.663	11
11	Overconfidence	0.79	2	0.75	1	0.77	1

In Table 4, the results indicate that for residential building projects, the most significant factors influencing unsafe and unhealthy behavioural practices are addiction to drugs and alcohol (RII = 0.811), overconfidence (RII = 0.75), ignorance (RII = 0.74), stress (RII = 0.71), and inexperience (RII = 0.754). The less significant factors include family crises (RII = 0.703), language barriers (RII = 0.689), and depression (RII = 0.685). For commercial building projects, the most significant factors are overconfidence (RII = 0.75), ignorance, inexperience, lack of motivation (RII = 0.74), and poor decision-making (RII = 0.73). The less significant factors influencing unhealthy and unsafe behaviours in commercial projects are depression and mental health disorders (RII = 0.67), and language barriers (RII = 0.637). Overall, across construction projects in Lagos State, Nigeria, the most prevalent factors contributing to unsafe and unhealthy behaviour are overconfidence (RII = 0.77), addiction to drugs and alcohol (RII = 0.769), ignorance (RII = 0.762), inexperience (RII = 0.747), and poor decision-making (RII = 0.7365).

Test of hypothesis

This research postulated a hypothesis to analyze the factors influencing unsafe and unhealthy behavioral practices in both residential and commercial buildings, as illustrated below:

Ho: There is no statistical difference in the perception of the residential and commercial building projects on the factors influencing the unsafe and unhealthy behavioural practices on the Nigerian construction sites. The hypothesis was tested using the Mann-U Whitney Test Statistics. The t-test results are presented in Table 5.

Table 5. Mann-U Whitney Test Statistics

SN	Factors influencing the Unhealthy and Unsafe Behavioural Practices	Mann-Whitney Test Statistics				Decision
		U	W	Z	*P*	
1	Addiction to drugs and alcohol	2436.5	4266.5	-2.207	0.27	Ho accepted
2	Lack of motivation	2877	8028	-0.574	0.566	Ho accepted
3	Inexperience	2959	4789	-0.263	0.793	Ho accepted
4	Depression	3007.5	4837.5	-0.082	0.935	Ho accepted
5	Ignorance	2826	4656	-0.761	0.447	Ho accepted
6	Mental health disorder	2610	4440.5	-1.526	0.127	Ho accepted
7	Family crisis	2973.5	4803.5	-0.206	0.837	Ho accepted
8	Poor decisions	2949.5	8100.5	-0.301	0.763	Ho accepted
9	Stress	2876.5	4706.5	-0.572	0.567	Ho accepted
10	Language barrier	2698.5	4528.5	-1.999	0.231	Ho accepted
11	Overconfidence	4528.5	4560	-1.11	0.267	Ho accepted

Note: *p* is significant at * $p \leq 0.05$

The findings presented in Table 5 reveal that the factors influencing unsafe and unhealthy behavioural practices on Nigerian construction sites for both residential and commercial building projects show no significant differences, with results ranging from $-2.207 \leq Z \leq -0.082$ and $0.127 \leq p \leq 0.935$. As a result, the null hypothesis is accepted for each of the examined variables. This suggests that there is no statistically significant difference in how respondents perceive the factors influencing unsafe and unhealthy behaviours across residential and commercial projects. These results indicate that respondents have a comprehensive understanding and share common perspectives on the factors affecting unhealthy and unsafe behavioural practices. Furthermore, the sample size of respondents who completed the questionnaire was adequate, reinforcing the validity of the collected data.

Discussion of findings

From the results, the study shows that unsafe and unhealthy behaviours exhibited on construction sites in Nigeria do lead to accidents, and according to Abbey & Smallwood, (2014), it is a huge issue for workers to carry out their tasks in an unhealthy and unsafe environment, which results in adverse health risks. The most significant unsafe and unhealthy behavioral practices in both residential and commercial building projects include: poor housekeeping, non-maintenance or non-servicing of machinery, use of unsafe scaffolding or equipment, avoidance of personal protective equipment, and disregard for supervisors' directives during task execution.

Poor housekeeping is a widespread issue on many construction sites in Nigeria where cleanliness is often inadequate. This observation is supported by Douglas & Adeloye (2016), who stress that poor housekeeping presents a mechanical hazard, potentially exposing workers to slips, falls and trips. It is the responsibility of site supervisors to actively monitor and control housekeeping practices. Hallowell et al. (2013) emphasize that project supervisors should perform regular field observations, specifically focusing on housekeeping conditions. Furthermore, housekeeping should be a recurring item on the agenda of daily or weekly supervisor meetings, and be included in the pre-task plan as part of post-job or shift reviews. Unfortunately, the problem of poor housekeeping is likely to persist in Nigeria due to the absence of dedicated safety supervisors on many sites.

There is a notable lack of maintenance and servicing of equipment on construction sites, which is a significant concern. Olutuase (2014) opines that weak enforcement of safety regulations leads to the frequent use of substandard and faulty equipment. When workers use defective tools or machinery, the risks of serious injuries such as amputation, electrocution, and falls increase, as confirmed by the findings of Snashall (2024). To address this, management must implement strict disciplinary measures for those found using faulty equipment. Additionally, there should be adequate provision of safe equipment, alongside regular inspection and maintenance programs to ensure that machinery is kept in good working conditions, and minimize accidents. The use of unsafe scaffolding on construction sites is a leading cause of accidents and fatalities. As highlighted by Abbas et al. (2020), this issue often stems from organizational deficiencies, such as the lack of established safety protocols and insufficient oversight from site supervisors. Moreover, unsafe scaffolding practices are exacerbated by improper use of personal protective equipment (PPE), communication barriers among workers, and fluctuating environmental conditions. For worker safety, management must ensure that the provision of structurally sound scaffolding and proper PPE, as well as strict adherence to safety procedures.

Avoidance of personal protective equipment is a huge concern in the construction industry, as it aligns with the findings of Darda'u Rafindadi et al (2022) that, it is very rampant seeing workers not using the available PPE, especially the heavy ones on the sites, which slows down their efficiency and duration in doing their tasks. This is supported by (Saul et al., 2020) findings. Most construction industries, confirmed Kartam et al (2000) provide personal protective equipment (PPE) to their workers, but not as they should. According to (Waziri et al., 2015) study, 7 out of 30 sites visited, workers are seen using helmets and footwears, and also 20% of the construction sites visited had the workers using the right PPE for their work. Supervisors are obliged to enforce stringent compliance with the proper use of personal protective equipment (PPE) on construction workers. Disregarding supervisors' directives during task execution continues to persist. Supervisors must adopt a lenient and approachable attitude toward construction workers, which can foster a positive outcome. Burns and Conchie (2014) emphasize that safety-specific transformational leadership can directly influence workers' safety behaviours. Additionally, Talabi et al. (2019) stress that supervisors' personal qualities, such as behavioural integrity, enhance workers' commitment to safety practices.

The findings further show the factors influencing the unhealthy and unsafe behavioural practices of construction workers on sites. The most serious in both residential and

commercial building projects include addiction to drugs and alcohol, overconfidence, ignorance, stress, and inexperience. It is common for construction workers to engage in substance use, including drugs and alcohol, before or during their tasks on site, often without concern in the presence of supervisors. This behaviour poses a serious safety risk. Ntili et al. (2015) establish that workers who consume alcohol or other drugs are more susceptible to workplace accidents than workers who do not. Berhanu et al. (2019) also support that alcohol consumption is closely linked to an increased likelihood of occupational injuries, with workers who drink alcohol being more prone to accidents compared to their peers who don't. Research by Yiha & Kumie (2010) and Bhattacherjee et al. (2003) submit that alcohol use negatively impacts on judgment and motor skills, and produce effects such as fatigue, impaired decision-making, and hangovers, all of which jeopardize safety on construction sites. Therefore, construction management should strengthen its policies to curb substance abuse by implementing medical programmes and educating workers on the health hazards associated with drug and alcohol misuse. Engaging medical professionals to deliver talks on the negative impacts of substance use can promote both workers' safety and overall well-being, thereby reducing the risks posed by such behaviours on construction sites.

Many construction workers often display overconfidence when carrying out their tasks. This can lead to accident. This is supported by Trinh et al. (2019), who argue that overconfidence may cause workers to overlook proper procedures, especially when risky behaviour is reinforced over time. This tendency is particularly prevalent among old workers, as Sehsah et al. (2020) submit that old employees, feeling familiar with equipment, and experienced, believe they can work safely even when hazards are present. However, all construction workers must adhere strictly to standard working procedures, as Zhang and Fang (2013) emphasize that following established principles is key to maintaining safety and preventing accidents. Inexperienced workers often disregard the importance of wearing personal protective equipment (PPE) and frequently assume hazardous positions as supported by (Aksorn & Hadikusumo, 2007) findings. This lack of adherence to safety protocols can stem from ignorance and inadequate safety knowledge, as noted by Chi et al. (2013). It is being emphasized by Adebayo and Emoh (2019) that factors such as ignorance, negligence, carelessness and overconfidence are significant contributors to workers' failure to use safety gear properly. Nigeria's construction industry has to address these issues effectively. It is essential to implement a structured training and monitoring programme for workers, thereby enhancing their safety awareness, and ensuring compliance with safety regulations. Construction workers frequently express concerns about stress stemming from the repetitive nature of their tasks, the physical demands of carrying heavy loads, and the often uncomfortable working conditions they face. According to Lu et al. (2023), working at heights requires the operation of various dangerous machines and equipment, which significantly contributes to the overall stress experienced by construction workers. Although it is impossible to eliminate stress in such a high-risk environment, it can be effectively managed and reduced. To address this issue, supervisors should consider implementing stress management programmes for their teams as supported by Giri's (2020) findings.

CONCLUSION

In many countries, construction work remains labour-intensive, often involving different individuals performing varied tasks to achieve the goals of specific projects.

Unfortunately, unsafe and unhealthy behavioural practices are prevalent on construction sites, particularly in Lagos State, Nigeria. Many construction workers prioritize their wages over safety, neglecting essential precautions that could protect them from harm. The primary aim of this study was to investigate the significant unsafe and unhealthy behaviours occurring on construction sites, as well as the factors influencing these behaviours, whether stemming from the workers themselves, the nature of their jobs, or the management practices of the construction industry in Lagos State. The findings indicate that such unsafe practices persist, and efforts to mitigate them have not been fully implemented. Key unsafe and unhealthy behaviours identified include poor housekeeping, failure to maintain or service machinery, the use of unsafe scaffolding and equipment, neglecting personal protective equipment (PPE), and disregarding supervisors' directives during task execution. The factors contributing to these practices encompass addiction to drugs and alcohol, overconfidence, ignorance, stress, and inexperience among workers. To address these issues effectively, management must prioritize safety, and implement comprehensive training and monitoring programmes to foster a culture of safety within the construction industry.

Based on insights from the literature, unsafe and unhealthy behavioural practices in the construction industry pose significant risks, not only to workers themselves but also to their colleagues and the overall working environment. The likelihood of accidents and injuries increases due to factors such as poor housekeeping around electrical equipment, the use of toxic building materials, and improper placement of machinery on construction sites. These risks are heightened by incidents such as falls from heights, often attributed to unsafe scaffolding, as well as slips and trips caused by wet surfaces, particularly when personal protective equipment (PPE) is not utilized. Additionally, there are concerning reports of violence among construction workers when they fail to respect and follow supervisory directives. Establishing a clear organizational structure on sites is essential for delineating reporting lines and enhancing communication among team members. Effective leadership is crucial for preventing disputes and ensuring a harmonious working environment. Quality control measures must be prioritized from the project's inception, focusing on the selection of materials, equipment and human resources. This proactive approach can help mitigate unsafe conditions early in the construction process.

In Lagos State, the widespread availability of drugs and alcohol contributes to high levels of substance use among construction workers, often occurring during work hours. Such habits have led to psychological and mental health challenges for many workers, impairing their judgment and increasing their overconfidence in handling tasks, ultimately resulting in subpar performance, injuries, and accidents. Moreover, the industry's tendency to hire workers at lower wages leads to underperformance, and heightens the risk of accidents. Inexperienced workers, often burdened with excessive responsibilities, may struggle due to their lack of knowledge and carelessness. This can lead to stress-related illnesses and increased susceptibility to injuries. To address these challenges, it is imperative for construction management to implement comprehensive training programmes, enhance workplace safety measures, and ensure that workers are adequately supervised and supported.

To promote safe and healthy behavioural practices within the construction industry, management must take a proactive approach to control and reduce the previously

mentioned unsafe behaviours. The findings from this study will enable stakeholders to identify and address the most hazardous practices effectively. Moreover, it will aid site managers in determining which workers are best suited for specific tasks, thereby minimizing the risk of unsafe and unhealthy behaviours on-site. This research is critical for managing health and safety issues throughout both the planning and construction phases. The health and safety management board must comprise qualified and experienced professionals in the construction industry whose expertise will be instrumental in implementing effective safety measures and fostering a culture that prioritizes workers' health and well-being. By adopting these strategies, the construction industry can create a safer work environment. This will lead to enhanced productivity and an appreciable reduction in accident rates.

Additional research is essential to address unsafe and unhealthy behaviours among construction workers. This should focus on the constraints of surrounding adequate funding for personal protective equipment (PPE) and welfare incentives for all workers on-site. Furthermore, investigating the work-life balance of construction workers is important, as it can positively influence the reduction of unsafe and unhealthy practices. It's also crucial to examine the dynamics between supervisors and construction workers to foster relationships that help prevent unsafe behaviours on-site.

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