UNIVERSITY OF CAPE COAST

SAFETY BEHAVIOURS OF VOLTA RIVER AUTHORITY WORKERS, AKOSOMBO

GERTRUDE NAA TORSHIE OBODAI

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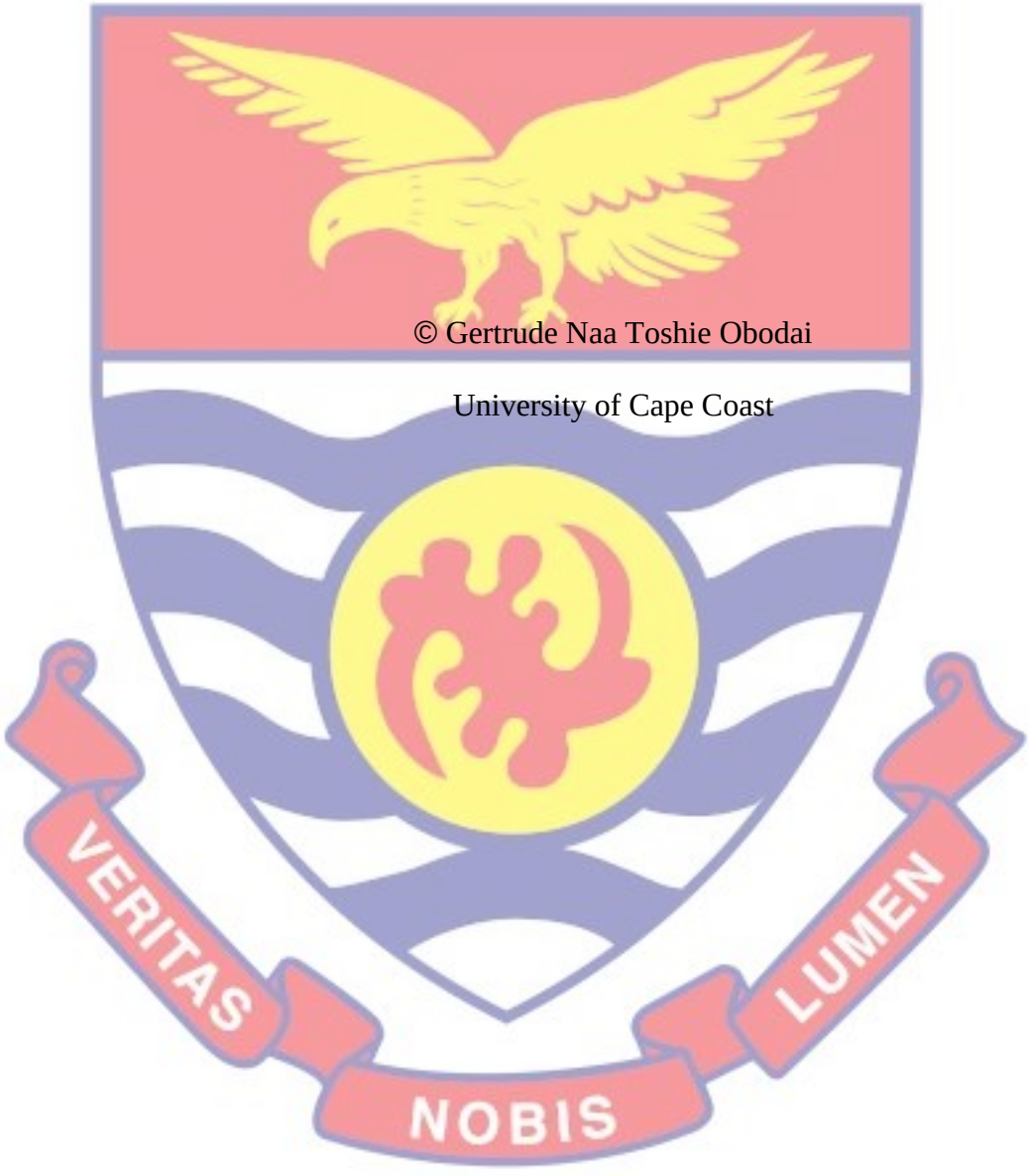

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SAFETY BEHAVIOURS OF VOLTA RIVER AUTHORITY WORKERS, AKOSOMBO

BY

GERTRUDE NAA TORSHIE OBODAI

Thesis submitted to the Department of Health, Physical Education and Recreation, Faculty of Science and Technology Education of the College of Education Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Philosophy in Health Education

AUGUST 2022

DECLARATION

Candidate's Declaration

I hereby declare that this submission is the result of my original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: …… Date: ……

Gertrude Naa Torshie Obodai

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature: …… Date: ……

Name: Dr. Edward Wilson Ansah

ABSTRACT

The health and safety of employees is an important aspect of any organisations. The determination of the factors that influence employees' behaviour to safety issues is an important step in achieving and maintaining safety at the workplace. This study examined the prevalence of workplace health conditions, safety behaviours, and factors that influence safety behaviours among Volta River Authority (VRA) employees at Akosombo. The research employed a mixed-method approach to achieve the study objectives. Participants included 250 randomly selected operational staff and non-operational staff. Questionnaire was used for quantitative data collection while an interview checklist was used for the qualitative data collection. The quantitative data were analysed using frequencies, percentages, and chi-square in the Statistical Package for Social Sciences (version 23). Thematic content analysis was used to analyse the qualitative data. The results showed that behaviour of staff towards health and safety is influenced by the availability of PPE, their attitude, and the enforcement of safety protocols by management. Though the staff perceived their work as highly risky, injuries rate at work was minimal. The main factors influencing health and safety at Akosombo VRA are workload, worker competency, management commitment, resource availability, safety policies, and working culture. It is recommended that the management of VRA need to manage the workload of staff to mitigate injury occurrence. Management of VRA needs to also provide adequate PPE and strictly enforce safety policies at the workplace to increase adherence to safety behaviours among the employees.

KEY WORDS

Health

Health Conditions

Injury

Safety

Safety Behaviour

Workplace

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DEDICATION

To my husband, Mr. Eric Godsway Ametefe, and my children: Michelle Maame Afua Otoo, Miguel Paa Kwesi Otoo, Giovanny McMillan Elorm Ametefe, and Evanny McClaine Selorm Ametefe.

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LIST OF ABBREVIATIONS

WMSDs	Work-related Musculoskeletal Disorders
BLS	Bureau of Labour Statistics
NSI	Needle Stick Injuries
OHS	Organisation Health and Safety
HIV	Human Immunodeficiency Virus
AIDS	Acquired Immune Deficiency Syndrome
GST	General System Theory
VRA	Volta River Authority
VLTC	Volta Lake Transport Corporation
NEDCo	Northern Electricity Distribution Company
HSD	Health Services Department
PPE	Personal Protective Equipment
NLC	National Labour Commission
IND	Independent Power Producers
ROI	Return on Investment
HPER	Department of Health, Physical Education and Recreation
IRB	Institutional Review Board
HR	Human Resource
SPSS	Statistical Package for Social Sciences
TSC	Teachers service commission
MSI	Mean Score of Influence

CHAPTER ONE

INTRODUCTION

The socio-economic and political development of every nation depends on the health of its workforce, productivity, and less expenditure on the cost of health care (Piabuo & Tieguhong, 2017). Therefore, the health and safety of employees become a vital commodity for all organizations that drive the development of every country. This calls for an equal level of employee risk protection, especially those employees involved in highly risky occupations like health-care, mining, construction, electronics, nuclear plants, oil extraction, energy generation, and marketing (Bailey, Dollard, McLinton & Richards, 2015; Gosh, 2013; Jespersen, Hasle & Nielsen, 2016). In this case, a well-developed and continual improvement of the safety system is merely not the responsibility of the employers alone but that of the employees. Employee actions and inactions are prime to their protection, that of their clients, organizational integrity, and image (Gosh, 2013).

Background to the Study

According to Andersson, Zbirenko and Medina (2014), organizations are social structures that have procedures to fulfil the needs of their employees as a way of increasing productivity. As a social structure, organizations consist of social beings like workers (Nadel, 2013). This assertion affirms that organizations do not only exist for economic gains but also to serve the interest of their employees in terms of protection of their safety. The interest and welfare of workers or employees of an organization range from financial welfare/security, emotional well-being/affection (sense of belonging), and physical safety (European Agency for Safety and Health at Work, 2012).

Safety is one important element when talking about the welfare of workers in any given organization. According to Glendon, Clarke, and McKenna (2016), when something is described as safe, it usually means that it is safe within a fair range of criteria. In the view of Karande (2019), safety is the ability to avoid damage or other undesirable outcomes for the worker. The concept of safety is defined as the control of known dangers to attaining a level of risk that is acceptable within an organisation (Karande, 2019). There are a variety of ways in which safety can be defined, including actions and activities taken to protect people's lives and property. Safety is relative and removing all danger which is hardly feasible would be incredibly difficult and expensive. Therefore, a safe situation is one in which the potential for danger or damage to property and or person is low and can be controlled (Glendon, Clarke, & McKenna, 2016).

The practice of safety may be viewed in different forms depending on the approach and seriousness attached to its implementation (Zhang, Li, Jiang, Fang & Anumba, 2019). Even if a product has a checkered past when it comes to safety, if it conforms to all of the relevant norms and regulations for its design, construction, or manufacture, then it may be considered safe (Smalley, 2011). In contrast, when the real-world safety record is positive, regardless of compliance with rules, the evaluation may be substantial or objective (Vincent & Amalberti, 2016). Finally, when users' comfort and perception of risk are taken into account independently of standards and safety history, safety is considered as subjective (Arezes & Miguel, 2008; Choi & Kim, 2011).

From an organisational standpoint, safety has been defined by Trist, Higgin, Murray, and Pollock (2013) as "steady state" compliance with all

applicable public codes and standards, as well as all associated architectural and engineering designs, corporate vision and mission statements, and operational plans and personnel policies. Safety is an expected condition for any enterprise, setting, or activity, no matter how big or little (Reiman & Rollenhagen, 2014).

International Labour Organisation [ILO] (2018) estimates that about 317 million nonfatal workplace injuries and 321,000 fatal workplace accidents occur globally each year, despite tremendous strides in Organisation Health and Safety (OHS) improvement over the past century. This suggests that 151 workers are involved in a work-related accident every 15 seconds. Thus, individuals, businesses, and society bear the cost of unsafe and unhealthy working conditions. Even though almost all employees experience some level of risk of harm, the severity of that risk varies greatly across jobs, industries, geographic locations, and individuals. For instance, temporary workers, according to Abdalla, Apramian, Cantley, and Cullen (2017), have twice the risk of occupational injury compared with permanent workers because most temporary workers lack job experience, awareness of workplace risks, and sufficient safety training.

The construction, agricultural, service sector, mining and oil, and gas extraction, fishing, aviation, lumber, metallurgy, transportation, health care, and social support industries are among the riskiest industries for workers (Stergiou-Kita et al., 2015). Employees in professions such as health care providers, law enforcement, prison guards, and educators face more psychological dangers such as workplace violence marketing (Bailey, Dollard, McLinton & Richards, 2015; Gosh, 2013; Jespersen, Hasle & Nielsen, 2016).

For instance, there are more deaths on the job in the construction industry than in any other in the United States or the European Union combined. Falls are the leading cause of both deadly and non-fatal construction worker injuries. A report from Singapore indicates that, in 2021, there were about 37 workplace fatalities, which is a 5% decrease from the previous year. In 2021, the workplace fatality rate was the same as it was in 2019, at 1.1 deaths per 100,000 employees (Ministry of Manpower, 2021).

Agricultural workers are at risk for a variety of health problems such as occupational lung disease, noise-induced hearing loss, skin diseases, and even certain cancers linked to chemical exposure or prolonged exposure to the sun (Baksh, Ganpat & Narine, 2015; Mitchell & Lystad, 2019). It is estimated that the incidence of injuries for aquaculture workers was 16.0 for every 1000 employees and that its frequency was 8.5 for every million hours worked in the four years. Of all claims, nearly a third were complaints about pain in the muscles, tendons and joints (Mitchell & Lystad, 2019). Moreover, workers in the healthcare industry face a variety of dangers and hazards that can harm their health and well-being. These employees are at risk of illness and injury due to dangers such as long work hours, shifting shifts, physically demanding duties, violence, and exposure to infectious diseases and hazardous chemicals (Guzman, 2012; Roberts, Sim, Black & Smith, 2015). Several kinds of literature have documented the prevalence of some selected occupational injuries among healthcare workers globally.

Considering the musculoskeletal health of healthcare workers, a systematic review that included 27 publications indicated a high prevalence (71.9%) of work-related musculoskeletal disorders (WMSDs) among nurses

(Ellapen, 2014). Another systematic review assessed the lifetime prevalence of WMSDs among physiotherapists and revealed a high prevalence of 90% from 32 research articles (Viera et al., 2015). According to Epstein et al. (2018), the 12-month prevalence of WMSDs among physicians was 60%. This indicates that healthcare workers are prone to WMSDs which could lead to either permanent or temporal disability. Another common researched hazard among health care workers is needle stick injuries (NSI) which could cause severe diseases such as Hepatitis B&C, HIV/AIDS and may lead to premature death if not managed properly. The prevalence of NSI among healthcare workers is between 30%-50% (Kimaro et al., 2018). In Ghana, healthcare workers are not spared from the detrimental effects of occupational hazards because recent literature has indicated the prevalence of WMSDs and NSI to be 69% and 47% respectively (Asare-Donkor, Agyemang-Boakye, Torve, Voegborlo & Adimado, 2020).

A number of indicators, including the frequency of near-misses, injuries, illnesses, and fatalities, are used to assess workplace safety (Cylus, Permanand & Smith, 2018). Employers and safety officials perform routine investigations to ensure that safety protocols and measures are being followed, or to install new ones if necessary, which improves these indices (Dekker, 2014; Hollnagel, 2014). However, a significant factor that influences adherence to safety standards in any given organization is the behaviour of individuals and workers (Toppazzini & Wiener, 2017; Wong & Soo, 2019). Toppazzini and Weinner (2017) further suggest that top management engagement in safety issues of an organisation is a prerequisite for a safe and healthy work environment. Thus, management should be accountable for

setting goals, developing strategies, allocating resources, designing and implementing systems, and setting examples in its role (Toppazzini & Wiener, 2017). Safety culture includes vision, values, attitudes, mission, intent, and objectives, which affect the workplace. Safety culture reflects a dedication to occupational health, safety, and security of workers (Reiman & Rollenhagen, 2014). A dominant culture is coherent internally, and commonly shared, and that makes evident what behaviour is suitable. Therefore, the systems theory could best be used to explain the factors that affect the safety behaviour of workers by postulating organisational system where safety protocols are adhered to. Designing and managing complex systems and thinking can help to better understand the aspects that affect workers' safety behaviour (Naiduwa-Handi & De Silva, 2013). Therefore, this study investigates the prevalence of workplace health conditions, safety behaviour, and factors that influence safety behaviours of Volta River Authority employees at Akosombo.

Statement of the Problem

The nature of the work at VRA is unique with various safety issues and concerns that workers encounter predominantly. The organisation has complex systems with risky operations that often mean that the safety behaviours of employees should be given critical attention. The VRA has a Safety Unit, under the Technical Services Department, which oversees the safety issues of the organisation. This unit organises routine training, and safety meetings and has yearly reward programmes for the best performing 'safety conscious' department. However, over the years, there has been a steady increase in the incidence of back pain, hypertension, diabetes, and other work-related illnesses, leading to disabilities and complications among the staff (VRA

Hospital, Resource Centre, 2018). Accidents such as falls from heights and injuries caused by plant equipment, including tools and machinery occur as a result of unsafe work conditions and hazardous acts. Other safety issues include crushed injuries on the hand, back injuries, exposure to dangerous chemicals and slips and falls (VRA, 2019). The safety of the VRA workforce is extremely important as they are the power generators of the country and even some neighbouring countries.

These reported cases of injuries occur in the light of a perceived high level of safety regulations by authorities and safety practices on the part of workers. Meanwhile, Burton (2012) states that more than 80% of accidents are due to employee behaviour or the human factor, in the form of acts or omissions. Therefore, the assessment of the safety behaviour of VRA workers has become critical. However, VRA, Akosombo has no research evidence on the safety behaviours of its workers and how that affects the health of the workers. This study seeks to bridge the research gap by providing answers to the questions posed in the study.

Purpose of the Study

The study aimed to investigate the prevalence of workplace health conditions, safety behaviour, and factors that influence the safety behaviours of Volta River Authority employees at Akosombo.

Research Questions

The following research questions guided the study:

1. What is the prevalence of health and safety conditions among Akosombo VRA workers?
2. What is the level of safety behaviours among Akosombo VRA workers?
3. What factors influence the safety behaviours of Akosombo VRA workers?
4. What health and safety measures are in place for the protection of Akosombo VRA workers?
5. What are the challenges facing staff of Akosombo VRA in adhering to safety protocols?

Significance of the Study

It is expected that the findings would bring to bear factors that influence the workers in dealing with or approaching safety practices at VRA Akosombo. This may improve safety behaviours, reduce unsafe acts by the employees, thereby minimizing the occurrences of accidents and boosting the behaviour-based approach to occupational health and safety management of the company that may boost the morale of the workers and increase the corporate image of VRA. It would further help stakeholders (management, workers, and the community) at the VRA in the enforcement of safety regulations. It may also serve as a guide for other similar companies and corporations in formulating and enforcing their safety policies.

Delimitation

The study was delimited to employees of the VRA in Akosombo specifically the staff at the Hydro Generation and Technical Service which are considered as operational staff and that of the hospital, categorized as non-operational staff. These two categories of employees were chosen because they encounter varied forms of risk. For example, the Hydro Generation workers are often exposed to the risk and dangers associated with electricity and machinery, while the hospital staff are exposed to the risk of infections, especially during this time of COVID-19 pandemic. The two units are likely to experience similar safety issues such as posture problems, slips, and falls.

The study concentrated on the physical safety variables among workers of the VRA. The lack of harm or injury caused by physical objects or behaviours is what is meant when physical safety as used in this study consisted of the employee, the workplace environment, furniture, work equipment, prohibited items, and tools.

Limitations

The VRA has operational and non-operational staff in its several areas across Ghana but the study focused on only staff at the Akosombo area. This situation places some limitations on the generalisability of the research findings to other areas. Additionally, due to the busy nature of the study area and varied working schedules, the researcher was not able to collect and analyse data from a very larger sample. Also, the Multiple Regression was not segregated into operational and non-operational workers. As a result, the study could not compare the two categories of staff with regard to the factors influencing their safety behaviours.

Definition of Terms

Safety: According to Formela, Weintrit and Neumann (2019). The general definition of the term ″safety″ is usually understood as the condition of being protected from or unlikely to cause danger, risk, or injury.

Safety Behaviour: Is an overt or covert avoidance strategy carried out in feared situations to minimize perceived threats (Levy & Radomsky, 2014). Lee and Dalal (2016) also define safety behaviour as a set of "actions or behaviours that individuals exhibit in almost all jobs to promote the health and safety of workers, clients, the public, and the environment".

Safety Culture: Whether or not individuals and groups take personal responsibility for their safety, take action to protect and improve the way they communicate safety concerns, work to actively learn from mistakes and adapt and modify their behavior as a result, and are rewarded in a way that supports these values (Gutberg & Berta, 2017).

Organization of the Study

The study is organized into five chapters. Chapter one presents background to the study, statement of the problem, and research questions, the significance of the study, delimitation, limitations and definition of terms. The literature review in chapter two serves as a guide for the study. . The method for conducting the study was captured under the chapter three. The method comprised research design, population, sampling procedure, the instrument for data collection, data collection procedure, and data processing and analysis. Results and discussion are covered under chapter four whereas chapter five focused on the summary, main findings, conclusions, and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This study aims to investigate the prevalence of workplace health conditions, safety behaviour, and factors that influence safety behaviours among VRA employees at Akosombo. This chapter reviews theories and concepts relevant to the study. Safety behaviours, safety policy, factors affecting safety behaviours, the attitude of employees towards safety, and ways of improving employee safety behaviours are reviewed in this chapter. The last part of the chapter presents the conceptual framework underlying the study.

Systems theory

Ludwig von Bertalanffy propounded the systems theory in the 1940s (Von Bertalaffy, 1956). A system, according to Von Bertalaffy (1956), is a collection of interconnected parts. To find general principles that apply to all systems, Von Bertalanffy encourages systems thinking in all fields. It introduces "system" as a new scientific paradigm in opposition to classical science's analytical, mechanical paradigm (von Bertalanffy, 1956).

Organizational structure and the physical environment have a role in the design of the work system technology and human components (Murphy, Robertson, Huang, Jeffries & Dainoff, 2018). Technology and personnel work together to establish how work is done (including "non-human" structural features) and who is responsible for doing it (i.e., who does the work). According to Murphy, Robertson, Huang, Jeffries and Dainoff (2018), people and technology make up the work system, and the system is comprised of both a human and technological subsystem (also referred to as a technical

subsystem). Safety is achieved as a result of a system of components working together (i.e., joint optimization). No single subsystem (such as persons or technology) is solely responsible for ensuring the safety of the entire system and all of its employees.

The systems theory can be utilized in the field of occupational safety to help answer questions on events and activities (Carayon et al., 2014). People, tasks, tools/techniques, environment, and organizational factors are all included. According to Jackson (2003), in order to be effective, system identification needs to zero in on the goals being pursued and zero in on the best system for getting there. A functional system also has to be able to specify its target entity and its operable components.

An organization's effectiveness and its capacity to bring about change are influenced by pressures at the micro, meso, and macro levels, as stated by Lord and Din (2012). These authors concluded that attention must be paid to how OHS inputs are blended at one level to produce OHS outputs at another level in the standards of analysis.

Some researchers believe that systems theory is overly idealistic, expecting that a single profession can serve the needs of everyone (Hutchinson and Otedal, 2014). There is also a lot of emphasis on the way society functions. Aesthetics, morals, ethics, and how society should be are not discussed. A "poor focus on morals and ethics"; "no stand taken and conflicts of interests are highlighted" are the finest descriptions of the philosophy (Hutchinson & Otedal, 2014).

Systems theories have been applied by different researchers in the area of organizational health and safety including Anderson (2016) and Boadu,

Wang and Sunindijo (2021). Anderson (2016) applied the theory in the study of four distinct nurse groups to detect patterns and system failures causing injuries in the hospital.

Anderson (2016) and Boadu, Wang and Sunindijo (2021) applied the systems theory to the enforcement of occupational health and safety in developing countries with Ghana as a reference. System theory is applied to this research to explain how the various departments of VRA can work together to enhance health and safety through improved safety behaviours. The various systems and procedures that need to be put in place are explored in this research.

Conceptual Review

This section reviews concepts relevant to the research topic. Safety behaviours, safety policy, factors influencing safety behaviours of employees, attitude of employees towards safety, and measures to ensure safety behaviours are reviewed.

Safety behaviours

Management of an organisation is to ensure that the safety of the personnel is their primary concern (Niskanen, 2015). Thus, management of an organisation must prioritise the safety and well-being of workers by creating a safe and healthy work environment. Employee safety behaviour can be influenced by working conditions such as high workload, high workload pressure, uncertainty, task complexity and a high emphasis on process and speed of standard operation (Wang, Wang & Xia, 2018). Zhang, Zhao, Niu, Xu and Wang (2021) indicated that employees who had more job uncertainty were more inclined to engage in risky safety behaviours. Compliance with

safety rules and procedures has a positive, significant link with a safety-minded attitude, management support, and safety behaviours of employees (Sugumaran, Abdullah, Hadi, & Manaf, 2017).

Safety policy and enforcement

A safety policy, according to Griffith and Howarth (2016), is a disseminated declaration that embodies the organisational vision and is vital to the management of safety and health issues. The safety policy outlines the organization's way of thinking in relation to its business actions on safety and health concerns. Starting with the association's highest level of official administration, this must be put into practise as a policy clarification. It is the responsibility of top management to ensure safe working practises and circumstances on construction site. A safety policy, according to Wong and Soo (2019), is a requirement of the safety and health strategy that reflects management responsibility for the company's safety and health.

Management's method for dealing with safety concerns has been effective in helping to establish an appropriate level of protection within a business (Wong & Soo, 2019). Managers are responsible for assigning competent and knowledgeable workers to represent various aspects of a project. According to Ilyani, Muhamad, Nasirun, and Ahmad, (2013), any safety programme relies on a strategy that mandates worker safety insurance. Worker safety and other business-related issues are fully integrated into the agreement.

Charehzehi and Ahankoob (2012) indicated that safety policies comprise notices illustrating responsibilities, obligations, culture, behaviours, and standards to ensure that a workplace is safe, healthy, and acceptable for

employees. Those who have been affected by work conditions will also be able to pay attention to these signals to enhance their health.

Factors Influencing the Safety of Employees in Organizations

Existing literature has attempted to espouse a wide range of factors affecting worker safety. One of the most important factors in ensuring workplace safety is the enforcement of safety rules and regulations (Fung, Tam, Sing, Tang & Ogunlana, 2016). To do this, the safety standards provide a list of tasks that must be performed or avoided to complete work safely and successfully (Minchin, Glagola, Guo, & Languell, 2006).

Investing in safety measures (e.g., providing safety equipment) is determined by the government and industry laws on a broader scale (Fung, Tam, Sing, Tang & Ogunlana, 2016). It has been found that stricter policies that include frequent inspections, larger fines for non-compliance, and higher accident costs can lead to a better implementation of safety standards in organsations (Fung, Tam, Sing, Tang & Ogunlana, 2016). Nevertheless, following laws and regulations does not come without drawbacks; for example, complying with safety regulations necessitates an enormous amount of paperwork (Jadidi, Borgheipour & Mohammadfam, 2019).

Workplace motivations, wages, job satisfaction, rewards and penalties, peer pressure, and incentive programmes are some of the factors that might have impact on worker safety. Job motivators include pay, the pleasure of the work, and financial recompense. Incentives are key component to motivational factor. The primary purpose of incentive and penalty provisions is to better match the motivation with the project goals of the owner (Hasan & Jha, 2013). The primary goal of an incentive programme should be to reward employees

for exhibiting safety-conscious behaviours (Hasan & Jha, 2013). Incentive programmes are effective in practice because workers are more likely to repeat acts that have been rewarded with praise or public recognition (Hallowell, Molenaar, & Fortunato, 2013).

Another aspect that contributes to workplace safety is the level of health and safety experience of the employees. Among the factors considered here are a worker's prior safety training and experience, as well as his or her current level of competency and safety knowledge (information). Confidence and accident rates are strongly linked. Employees who are forced to learn safety laws and regulations may be more competent at their jobs, but this does not guarantee that they will perform safely. Because of this, improving worker safety awareness should be the primary focus of safety training (Fung, Tam, Sing, Tang & Ogunlana, 2016).

Several factors contribute to the stress of the job, including the amount of work required, the amount of time spent working, how much overtime is required, and how much time is lost due to a delay in the original schedule. These factors are likely to jeopardize the security of the site (Guo et al., 2015). Construction projects are frequently subjected to significant production pressure as a result of delays in the project timeline (Han et al., 2014). According to the Han et al. (2014) study, which found that schedule delays were a substantial contributor to project-related accidents, the role of the latter in raising overall levels of work stress can be better understood.

Safety people, resource limits, and equipment are all factors in the resource and equipment considerations. Safety resources include the number and qualifications of individuals allocated to deal with safety issues, as well as

the availability and accessibility to safety equipment, materials, and facilities on the worksite (Jiang, Fang, & Zhang, 2015). As a result, the rise in the number of workplace injuries can be attributed in part to the absence of adequate protective gear. Occupational accidents are more likely to occur when the employer fails to provide workers with Personal Protective Equipment (PPE), when PPEs are not used correctly, and when employees fail to use safety precautions or ignore warning signs of hazards in the workplace, according to (Cheng, Kelly, & Ryan, 2010). That's why the onsite provision of suitable and appropriate equipment and facilities is dependent on the availability of sufficient safety resources; and businesses should provide their staff with the necessary equipment as well as effective safety procedures (Frazier, Fainshmidt, Klinger, Pezeshkan, & Vracheva, 2017).

Attitude of Employees towards Safety

Employee behaviour is one of the most important factors in workplace safety, especially as employees deal with a variety of safety concerns. Human behavior thus has a significant impact on the performance of an employee's job. There are both positive and bad aspects to the work, depending on how it is done by the person assigned to it (Sikh, 2011). According to Rigtering and Weitzel (2013), employees' attitudes not only determine how well they perform their duties but also how safe they feel while doing so. Those with a positive outlook tend to be more productive at work because they have an open mind and examine the consequences of their actions (Rigtering & Weitzel, 2013). The opposite is true for those who are always down on themselves, even when it comes to things like safety precautions. As a result, someone with a bad work attitude is less concerned about the quality of their

work or how they carry it out. Having a bad attitude at work can lead to risky work practices and accidents (Rigtering & Weitzel, 2013).

When confronted with a given situation, people have a particular manner of acting. Nobody's behaviour is the same for everyone. Some people have a hard time dealing with stress, but others can cope (Bysted, 2013). Employee behaviour is described as an employee's response to a specific workplace environment. It is called employee behaviour when an employee's actions are influenced by a specific set of workplace factors (Juneja, 2015). Employer behaviour has also been defined by Raza, Anjum, and Zia (2014) as an individual's capacity to engage in a wide range of activities that are influenced by their cultural and social context as well as their genetics.

According to Sikh (2011), the behaviour of employees in the workplace has direct relevance to the organization's operations and, thus, its success. Professional work ethics are typically associated with increased production and a better reputation for the company. When improper or unprofessional procedures are employed, it has the potential to undermine production, lower morale among employees, and produce a negative public perception. Many factors influence an employee's behaviour in the workplace, but two of the most important factors are his or her own culture and the culture of the firm. Corporate culture has a significant impact on how employees relate to one another and management. Furthermore, an employee's beliefs influence his or her ethics and feeling of ethical obligation (Juneja, 2015).

Management and leadership play an important influence in the workplace, according to Raza, Anjum, & Zia, (2014). Leaders are responsible for establishing a course of action for their subordinates. Research shows that

in the majority of cases, employees dislike going to work when they have harsh managers (Bysted, 2013; Raza, Anjum & Zia, 2014; Sikh, 2011). It follows that managers should stand behind their employees and help them through the day-to-day tasks of their jobs to help them grow professionally. According to Bysted (2013), as a leader, one must be an authoritative source of inspiration for your subordinates.

Ways of Improving Employee Safety Behaviours

There are a variety of options available to organizations wishing to raise the level of safety in the workplace. There is little doubt that to create a long-term safety culture, we must first change people's mindsets, according to (Boutetière, Rousseau, & Turnbull, 2019). Employee safety-related behaviours and interactions are influenced by a variety of factors, according to the authors, including an organization's emphasis on tools and processes rather than underlying mindsets. They outline five of these limiting minds sets to include; Fear of blame, Disempowerment, Trade-off, Fatalism, and Complacency. To address these pitfalls, Boutetière, Rousseau and Turnbull (2019) advocate for an effective reward system for safe behaviours, emphasising the fact that safety is a priority, developing soft skills, and top management acting as role models to subordinates.

Zizzo (2011) also opined that creating and improving safety behaviour in an organization is a continuous process and requires a huge commitment on behalf of the entire organization, however, the effort results in a positive attitude toward safety and a reduction in accidents and incidents. Zizzo (2011) proffers that improving safety behaviours in an organization will require top management to define safety responsibilities adding that, this should be done

for each level within the organization and it should include policies, goals, and plans for the safety culture.

Empirical Review

Hadikusumo, Jitwasinkul and Memon (2017) observed that to prevent workplace accidents, it is critical to focus on organizational variables. Communication, culture, management commitment, leadership, organization learning, empowerment, and incentive system are the seven most significant variables in Thailand's construction sector based on a literature assessment of 22 components. In the last step, the Bayesian Belief Network was utilized to handle the complicated causation and provide solutions for improving safety work practices. According to the first alternative, management commitment, engagement, learning, and leadership nodes were simultaneously analysed to achieve 73.3% of safety work behaviour. When the leadership, management commitment, participation, and intention nodes were assigned to a favourable condition, 74.6 percent of safety work behaviour was achieved. 77% of safe work behaviour can be achieved by regulating leadership, management commitment, involvement and perception of behavioural control in the third alternative. This study made important findings of the influences of management and leadership to employees safety behaviours. However, the study was undertaken outside Ghana which makes it necessary to undertake this study in Ghana.

Naiduwa-handi and Silva (2017) examined and prioritized the elements that influence workers' safety behaviours. A thorough review of the literature revealed 18 different influences on workers' safety behaviours. A survey with two rounds of questions was used to get the data. Before moving on to the Sri

Lankan context and asking experts to grade those elements based on their degree of significance, the factors found in the literature were first validated. To determine the average mean score of influence (MSI) for each factor, the experts' rankings were employed. The factors were then prioritized based on the MSI values. Age was shown to be the most influential personal component, whereas organisation health and safety incentives were found to be the most influential organizational factor. Workplace safety concerns and the availability of personal protective equipment (PPE) were the two factors that had the least impact on the outcome. This study prioritized the elements that influence workers' safety behaviours in Sri Lankan whiles the current study focuses on Ghana.

Jitwasinkul and Hadikusumo (2011) tried to determine the most relevant organizational factors to decrease risky work behaviours. Using case studies, it was possible to identify and classify organizational characteristics. Literature reviews were an essential first step in any method for discovering potential candidates for a certain role or position. Organizational characteristics literature was a primary source of information for the research. Safety specialists and workers were interviewed in semi-structured interviews; business papers were also reviewed. In the Thai construction business, the researchers identified seven essential variables: communication, culture, management commitment, leadership, organization learning, empowerment, and incentive system. While this study was on Thai construction business, the current study is in Ghana.

Teachers' perceptions of their role in ensuring health and safety in secondary school workplaces were the focus of a study by Jonathan and Mbog

(2016). Secondary school Board of Management members as well as teachers service commission (TSC) instructors and deputy principals were surveyed for this study. It was intended to use survey principles, but they were unavailable at the time of the study. It was decided to use a descriptive research approach for this project. A questionnaire guide was utilized to collect the data, which was then analyzed with the help of SPSS version 20. Data was presented in frequency tables and charts. According to the findings, the majority of teachers were not participating in safety training programs that would have prepared them for their jobs. When it came to discussing workplace safety, they were largely absent from the conversation. Teachers' health and safety at work were threatened, and this had a knock-on effect on how well they performed as a whole. The study by Jonathan and Mbog (2016) focused on health and safety in the education sector whiles this study focuses on VRA.

Agyekum, Simons, and Botchway (2018) assessed safety management programmes in Ghana's construction industry to determine what factors contribute to their success. In Kumasi and Greater Accra, Ghana, 60 construction firms were analysed quantitatively. The survey was broken up into three parts, each of which asked for specifics about the respondent's background, the safety features implemented by the company, and the external factors affecting the effectiveness of those features. After reviewing the available literature, 13 components and 17 criteria were assigned ratings on a Likert scale. SPSS 22 was used to analyse the data (statistical package for social sciences). According to the findings, all 13 elements were incorporated into the companies' safety procedures. On-site safety managers, comprehensive safety and health plans, training tailored to individual projects,

and routine safety meetings were some of the most common and useful features identified. Based on the numbers, it was clear that 16 of the 17 factors were detrimental to the efficiency of the businesses' safety initiatives. Companies in Accra and Kumasi were the focus of Agyekum, Simons, and Botchway's (2018) research, but the current study focuses on VRA in Akosombo.

Boadu, Wang and Sunindijo (2021) concentrated on the broader enforcement issues and not thoroughly explored constraints faced by organisational health and safety enforcement organizations. After coming up with a list of twelve potential problems, the researchers in Ghana polled OHS inspectors and construction industry professionals with a questionnaire. The significance of the answers and the connections between the problems were analysed using analysis of variance (ANOVA) and correlation. The three largest challenges to the effective implementation of OHS legislation were a lack of OHS campaigns, a lack of education on OHS, and a lack of sanctions or prosecution for OHS breaches. From this research, practical suggestions for government officials, OHS inspectors, and other construction industry specialists have been formulated to strengthen OHS enforcement.

Tappura, Syvänen and Saarela (2014) aimed to describe the challenging OHS situations that managers encounter and the assistance they require in these situations. As part of the research, the researchers spoke with and polled the senior officials from three different public sector organizations in Finland. Managers in the field of occupational health and safety (OHS) encounter a wide range of issues, including balancing the needs of their staff, fostering cooperation and conflict, and providing feedback. Management

issues in OHS can be overcome with the use of managers' talents, resources, and assistance from their employers. The study was undertaken in Finland whiles the current study is in Ghana.

Critique and Literature Gap

The empirical literature has revealed varied findings on organisational health and safety by adopting different methodologies. The works of Naiduwa-handi and Silva (2017), Hadikusumo, Jitwasinkul and Memon (2017), Jonathan and Mbogo (2016), Boadu, Wang and Sunindijo (2021) and Agyekum, Simons and Botchway (2018) employed quantitative approach to data collection and analysis. In contrast, Jitwasinkul and Hadikusumo (2011) employed a qualitative approach to data collection and analysis. This research combines both quantitative and qualitative approaches to answer the research questions to make up for the limitations of only one approach. The study by Jonathan and Mbogo (2016) focused on health and safety in the education sector whiles this study focuses on VRA. Additionally, most of the reviewed studies were done outside Ghana (Boadu, Wang & Sunindijo, 2021; Hadikusumo, Jitwasinkul & Memon, 2017; Jitwasinkul & Hadikusumo, 2011; Jonathan & Mbogo, 2016; Naiduwa-handi & Silva, 2017) with scanty studies in Ghana (Agyekum, Simons & Botchway, 2018) necessitating this study to bridge the gap in research on safety behaviours of employees of Volta River Authority.

Conceptual Framework

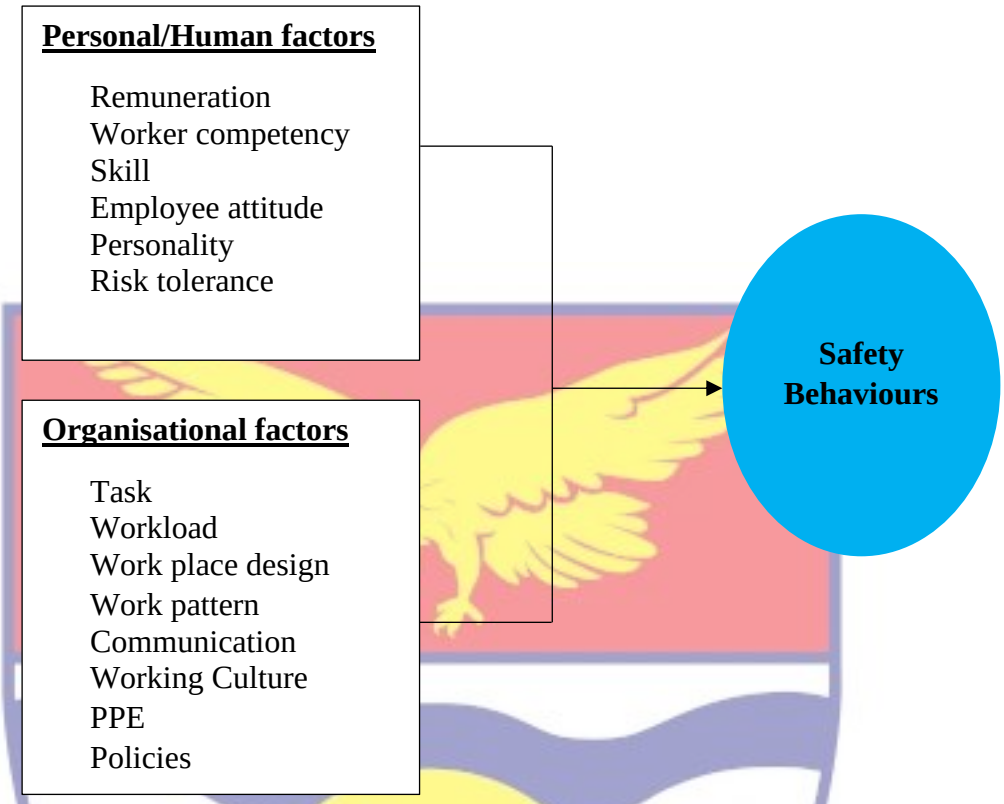

Figure 1: Conceptual Framework for the Study
Source: Author's Construct (2022)

Figure 1 shows the Conceptual Framework for the study. The framework shows the research variables and their relationships. The factors influencing safety behaviours are broadly categorised into three which are personal/ human factors, organisational factors and normative/ substantive, and objective variables. The identified personal factors influencing work behaviours of workers are tasks, workloads, work patterns, communication, worker competency, skill, and attitude of employees. Additionally, the organisational factors influencing the safety behaviours of employees are working environment, workplace design, working culture, resources, policies, programmes and procedures. The safety behaviours of workers are also influenced by normative, substantive, and subjective factors. These factors are

the observed influencing factors of the safety behaviours of workers at the workplace.

Summary

This chapter has reviewed relevant literature on factors influencing the safety behaviours of employees at the workplace. The chapter reviewed the systems theory to underlie the research. The theory explains the influencing roles of the entire system at the workplace including technology, the physical environment and human components. Interaction between the system factors plays a key role in the safety behaviours of workers at the workplace. The literature has explored the influencing factors of safety behaviours of workers which have been broadly classified into personal, organisational and normative/ substantive factors. The empirical literature has reported varied findings on the subject necessitating this study to bring a conclusion to the factors influencing the safety behaviours of workers. The next chapter presents the methods and procedures adopted in undertaking the research.

CHAPTER THREE

RESEARCH METHODS

The purpose of this research was to examine the variables that affect the safety practices of VRA employees in Akosombo. This section detailed the methodology employed in the study, including the research design, geographical scope, population, sampling strategy, and data gathering tools. Methods for data collection, as well as processing and analysis, are included.

Research Design

The sequential exploratory design was used to investigate the factors influencing safety behaviours of VRA workers in Akosombo. Creswell (2013) described the design as the use of qualitative information to enrich, clarify, or elaborate on the outcomes obtained from quantitative data. There were two stages used in this sequential explanatory model adopted. Phase one involved the collection of quantitative data and analysis, and phase two used qualitative techniques to elaborate on the outcomes of the quantitative phase (Creswell, 2013).

Quantitative method in the form of cross-sectional survey was used to gain relevant insights from the workers of operational and non-operational departments at VRA, Akosombo. These departments encounter high levels of risks in the discharge of their duties, which need combination of approaches to explore. Some researchers hold the view that qualitative data can enhance quantitative data and lead to a better understanding of the phenomenon (Plewis & Mason, 2005). Thus, the two approaches (quantitative and qualitative) were aptly employed within the context of this study to determine the prevalence of health and safety conditions among VRA workers in

Akosombo and determine the health and safety measures in place for the protection of employees. Qualitative approach has the strength of giving detail data for explaining complex situations whiles it has the weaknesses of being subjective, and difficult to analyse. The quantitative approach can obtain consistent and reliable data but unable to explain complex issues (Creswell, 2014).

Study Area

Eastern Ghana, namely the city of Akosombo, is the focus of this research. Akosombo is a tiny town located in the southern part of the Asuogyaman District in Ghana's Eastern Region. It is known for having streets named after cities and countries in the sub-region, including Ghana, the Congo, Namibia, Lagos-town, and Freetown. Akosombo is one of the six area councils of the district in line with provisions of the Local Government Act 467(1993). There are two communities in Akosombo, 1 and 2. (Ghana Statistical Service, 2021).

The population in this community is heterogeneous, predominantly Ewes, Adangbes and Akans, with Christianity as the dominant religion. Volta River Authority, Volta Lake Company and Akosombo Textiles Limited form the major industry employing a major of the population in Akosombo. According to VRA, Akosombo is home to a predominantly migrant population of about 15,000. The town is the seat of some important national infrastructure, tourist sites, and architectural landmarks including a hydroelectric dam, inland ports that facilitate transportation of goods and people to and from northern region of the country, the petroleum deports, Volta Hotel and Dodi World (Ghana Statistical Service, 2021).

The Volta River Development Act, Act 46, was approved by the Republic of Ghana on April 26, 1961, granting the Volta River Authority, Akosombo, the power to generate, transmit, and distribute electricity. The VRA's mandate was mostly restricted to the production of power until 2005, when a significant amendment to the VRA Act was enacted as part of the Ghana Government Power Sector Reforms (VRA, 2019). By creating the foundation for Independent Power Producers (IPPs) to enter the Ghanaian energy market, this reform will have a substantial impact. The Northern Electricity Department (NED), a distribution company for the VRA, is now the Northern Electricity Distribution Company (NEDCo), a distinct, fully-owned subsidiary of the VRA. Ghana Grid Company (GRIDCo) is the organisation that now handles the transmission role (VRA, 2019). A few of the businesses that are a part of VRA are The Volta Hotel, Kpong Farms, Volcano Lake Transport Corporation (VLTC), VRA Property Holding Company (VRA PROPCo), VRA Schools and Health Services Limited, and Northern Electricity Distribution Company (NEDCo) (VRA.COM, 2019). The activities of each of the Authority's affiliates are crucial (VRA.COM, 2019).

Established in 1964 as a medical service unit in Akosombo, the Health and Safety Unit (HSU) and the Health Services Department (HSD) are two of VRA's many departments (VRA.COM, 2019). The Volta River Development Act, 1961 authorized the HSD to become a limited liability corporation in February 2014, which became a wholly-owned subsidiary of the VRA (Act 46). Employees of VRA Akosombo, their spouses and dependents, residents of Akosombo township and beyond, and the lakefront area are all served by the Health Services division of VRA, Akosombo. In addition, VRA Health

Services takes social responsibility for the riverside communities and individuals affected by VRA's operations (VRA.COM, 2019). In discharging its responsibilities as a health centre, VRA Health Services has a vision of "Touching lives with Quality Healthcare at all times," and a mission to, "provide and maintain quality health delivery service that meets the health needs of all clients using modern technology, within a clean and healthy environment whilst satisfying stakeholders' expectations." Workers and staff of the VRA Health Services hold the values of Trust, Integrity, Commitment, Teamwork, Accountability and Confidentiality in very high esteem.

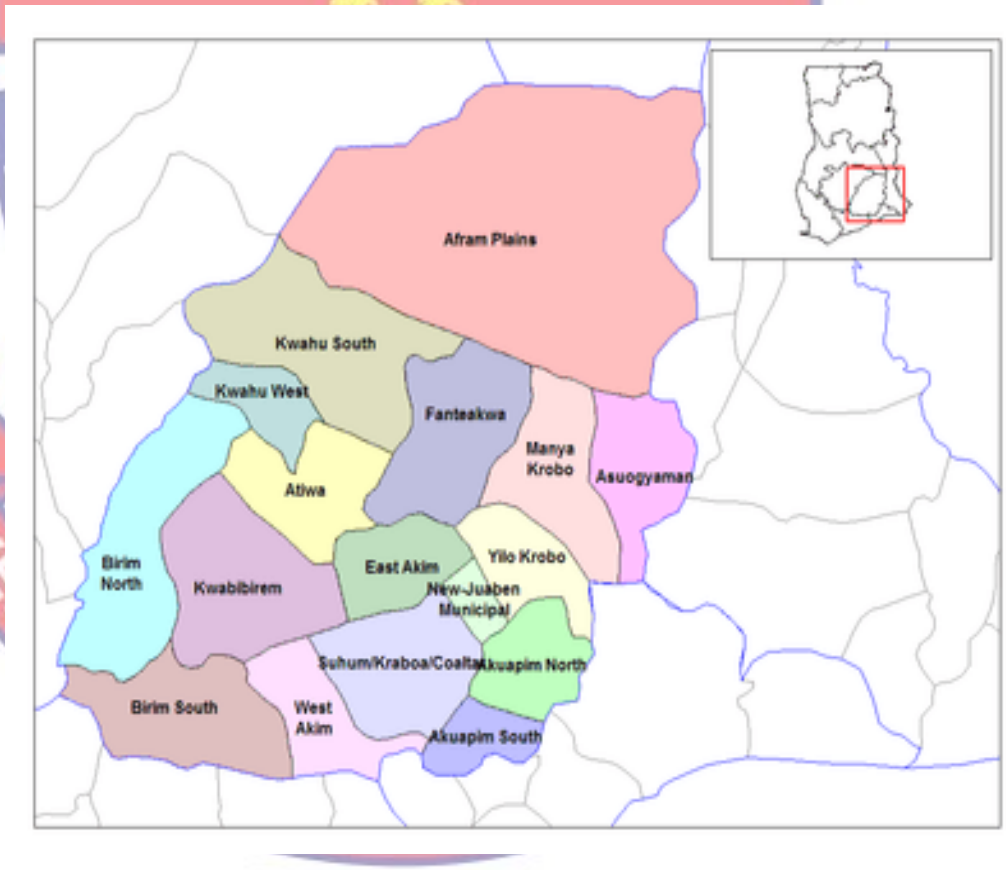

Figure 2: Map of Study Area (Ghana Statistical Service, 2021)

Population

The target population for this study comprised 813 employees of the VRA in Akosombo. These employees by virtue of the nature of their jobs encounter varied forms of risks which pose danger (falls and shocks, especially when dealing with electricity) to their health and safety. Furthermore, these workers are taken through weekly and routine safety tips, hold monthly meetings and are expected to abide by a high standard of safety. Therefore, they are the most appropriate workers that could yield reliable information necessary for the study. They included Operational staff (Environment & Sustainable Development employees, 65; Hydro generation employees,152; Technical Service employees, 97) and non-operational staff (Human Resource, 5; Finance, 25; MIS, 15; Procurement, 17; Health Service, 177; School, 106; Real Estate, 154) (Human Resource Department, VRA).

Healthcare workers (non-operational) at the VRA hospital have the responsibility of administering care to all the staff of VRA. These duties expose this category of workers to risk of infection. In addition, the management and safety officers of VRA are supposed to ensure the health and safety of operational and non-operational staff of the authority and are responsible for ensuring that the employees follow the stipulated occupational health and safety guidelines while on duty and at home. They also run in-service training on the appropriate safety procedures in the discharge of their duties. Again, they provide appropriate PPE needed to work safely at all times.

Sampling Procedure

The sample size was determined using the Taro Yamane formula as presented below:

$$n = \frac{N}{1+NE^2}$$

Where n is the sample size

N is the estimated population

E is the allowed error (+5%)

This was calculated as;

$$n = \frac{762}{1+762*0.05^2} = 262$$

n=262

Using the Yamane (1967) formula, two hundred and sixty-two (262) participants were used for both quantitative and qualitative data collection.

A total number 762 staff were grouped according to their roles at VRA, as operational and non-operational staff. A proportionate sampling was used based on the sample size to recruit participants from the various departments and sub-groupings. The proportionate sampling enabled the researcher to get a representation of different categories of employees for the study. In the final stage, a simple random sampling method, precisely the lottery method, was used to select participants from all their respective departments. The data collection was done department by department by presenting several "Yes" and "No" on pieces of paper, folded, thoroughly shaken and a draw was made by each employee. The pieces of paper that were selected by each employee were opened and if the status of the paper drawn was a "Yes", it indicated the inclusion of the participant in the study whiles a "No" status meant the exclusion of the participant from the study. Each "Yes" and "No" were written 250 times. Two hundred and fifty (250) participants were selected for the quantitative study.

Persons in supervisory and managerial positions relevant to the study and safety officers were purposively selected. The criteria for inclusion in the study were experienced senior personnel, departmental heads, safety coordinators and representatives with profound knowledge regarding the daily operations of employees of the Authority and the safety measures in place for them. A significant advantage of this technique was that it allowed the researcher to get some vital information from participants who are crucial to the study. The researcher interviewed 12 officers for the qualitative aspect of this study.

Data Collection Instrument

A structured questionnaire and an interviewing guide were the tools utilised to obtain the data. The management of VRA employed a structured questionnaire to gather information from its employees about the risks, harm, and hazards they faced while doing their duties as well as the safety precautions that had been put in place for them. The National Labor Commission's suggested safety guidelines and other sources, including adaptations of items from Naiduwa-handi and Silva (2017) and Agyekum, Simons, and Botchway (2018), were used to create the questionnaire.

Both open-ended and closed-ended questions are included in the structured questionnaire to elicit precise replies for quantitative analysis. Participants in the study completed 46 questions in total, the majority of which were closed-ended. There were five sections to the questionnaire: portions I, II, III, IV, and V. Part I (1-6) assessed the sociodemographic traits of the participants, including their gender, age, education, years of work experience, name of unit, position, and title within the company. The majority of the

questions were multiple-choice, and some participants typed their answers in the areas supplied, while others marked the boxes that were offered. Part II (7-11) measured the prevalence of health and safety conditions among employees, mainly with a categorical scale ("yes" or "no") and Part III (12-17) assessed the safety policies in VRA by including questions like understanding and effectiveness of safety policies among employees. Part IV (18-26) assessed the level of safety behaviour among employees of VRA and Part V (27-46) factors influencing safety behaviours. Items in both Part IV and V were scored on a 5-point Likert scale; strongly agree (1), agree (2), not sure (3), disagree (4), and strongly disagree (5).

The interviews were conducted using an interview guide that was prepared based on the recommended safety guide by the Labour Law of Ghana (2020), the theoretical underpinnings of OHS, and from the literature. The interview guide was divided into two sections; section A contained questions on the biographic data and section B contained questions on challenges in adhering to safety protocols (see Appendix A).

Validity and reliability of the instrument

According to Ruane (2005), researchers should test out their surveys on a pilot group of persons who are representative of the target community. In support of this claim, 30 participants were recruited for quantitative data and 3 participants were selected for qualitative data during the pre-test of the instrument at the Volta River Estates limited and the Akuse Government Hospital. These places were selected because the workers have similar attributes and characteristics to typical industrial and hospital settings where the jobs involve high risks like that in VRA Akosombo. The content and

quality of the instruments were enhanced thanks to the responses of the survey's recipients. Three professors from the UCC Department of Health, Physical Education, and Recreation also assessed the questionnaire for content validity to ensure the instrument's reliability and accuracy. To begin, we examined the instrument's internal consistency using the Kuder-Richardson Formula 20 (KR-20) and reliability using Cronbach's Alpha for the continuous (five-point Likert scale) questions, and its validity using the Likert Scale Content Validity Index (LCVI). The Cronbach Alpha value for the instrument for measuring safety behaviours was 0.872 and the instrument for measuring factors influencing safety behaviours was 0.890. The values are higher than the recommended lower limit of 0.70 (Khalid & Kumar, 2012).

Data Collection Procedure

The research protocols were approved by the research supervisor before the commencement of the data collection. Ethical clearance was also obtained from the Institutional Review Board (IRB) of UCC (ID-UCCIRB/CES/2021/32). This was complemented with an introductory letter from the Department HPER (Ref. ET/HLE/19/0006/5), which helped to seek permission from the Human Resource manager of VRA. In addition, permission to administer questionnaires was sought from departmental heads. I selected and trained five research assistants who assisted in the data collection. These were first degree holders, thus three physiotherapists and two statisticians. They were trained on the purpose of the study, how to gain entry into the institution, how to build rapport with the workers and give respect to the staff and participants and how to observe COVID-19 protocols. The

members of the research team distributed the questionnaire to the participants face-to-face bases.

In each case, the researcher and her research assistants introduced themselves and thanked the participants for their time and willingness to participate in the research before distributing the questionnaires to the employees. The employees who agreed to participate in the study were informed of its relevance and goal. Additionally, consent forms were made accessible to the participants to explain the study's voluntary nature and their choice to discontinue participation at any moment without repercussions. Participants were instructed to omit any information that could be used to identify them and given additional assurances of their secrecy and anonymity.

Interviews with participants were done at their offices on the day and time that were scheduled during the gathering of qualitative data. Each person's portion of the interview lasted between 25 and 30 minutes. The interviews were verbatim recorded on tape and transcribed.

Data Processing and Analysis

Preparing data, doing various analyses, and digging ever-deeper into the data are all parts of data analysis (Creswell, 2013). Following the scoring keys in the questionnaire, the valid questionnaires were coded to represent their relevant categories. The Statistical Packages for the Social Science (SPSS) was used to process the data that was collected (version 23). Frequencies and percentages were used to analyse the respondents' background data. The Chi-square test was used to answer research questions 2 to 3. The linear multiple regression was used to answer the fourth research

question. The analytical tools were used because they provide robust analysis for realising the research objectives.

Thematic content analysis of the worker interviews provided the answer to the fifth research question. The interviews were examined after being verbatim transcribed. The NVivo programme, version 11, was used to code the transcripts line by line and identify emerging themes for analysis in accordance with the research goals. To avoid skewing the meaning, the transcripts were reviewed while listening to the audio files (Alvo & Yu, 2014). The recurring themes and patterns were displayed. The findings served as the foundation for examination and discussion of findings from related earlier investigations.

CHAPTER FOUR

RESULTS AND DISCUSSION

This study aimed to examine and determine the factors influencing the safety behaviours of VRA workers at Akosombo. This chapter presents the results and discussions of the study.

Demographic Characteristics of Respondents

The demographic characteristics of the respondents were presented in this section. The data as shown in Table 1, were analysed using frequencies and percentages.

The results from Table 1 show that most of the respondents (21.2%; n=53) were between the ages of 36-40 years old, 18.0% (n=45) and 18.0% of the respondents were between the ages of 41-45 years and 51-55 years old respectively. Additionally, 10.0% (n=56-60) were in the 56-60 age group and only 4.4% (n=11) were in the 26-30 age group. The results indicate that most of the workers were in the Middle Ages. The results also show that more than half (58.8%; n=147) of the respondents were females while 41.2% (n=103) were males. Over a third 33.2% (n=83) of those surveyed have BA/BSc degrees one third (30.0%; n=75) had HND/Diploma, 21.6% (n=54) had Master's degree and only 0.4% (n=1) had PhD. The results indicate that most of the workers had BA/BSc and HND/Diploma academic qualifications.

Table 1: Demographic Characteristics of Staff of Akosombo VRA

Demographic variables	Frequency n=250	Percentage %=100	Cumulative Percentage
Age (years)			
26-30	11	4.4	4.4
31-35	28	11.2	15.6
36-40	53	21.2	36.8
41-45	45	18.0	54.8
46-50	42	16.8	71.6
51-55	46	18.4	90.0
56-60	25	10.0	100.0
Gender			
Female	147	58.8	58.8
Male	103	41.2	100.0
Highest Academic qualification			
BECE/ MSLC	7	2.8	2.8
WASSCE/ SSSCE	6	2.4	5.2
SC/ GCE 'O'/ A' Level	24	9.6	14.8
HND/ Diploma	75	30.0	44.8
BA/ BSc	83	33.2	78.0
Masters	54	21.6	99.6
PhD	1	0.4	100.0
Total	250	100	
Length of work (years)			
1-5	44	17.6	17.6
6-10	39	15.6	33.2
11-15	78	31.2	64.4
16-20	48	19.2	83.6
21-25	31	12.4	96.0
26-30	8	3.2	99.2
31-40	2	0.8	100.0
Staff category			
Non-operational (Health Service)	116	46.4	46.4
Operational (Hydro-Technical services)	134	53.6	100.0
Staff status			
Casual	9	3.6	3.6
Contract	4	1.6	5.2
Permanent	237	94.8	100.0

Source: Field Survey, 2021

Regarding work experience at the VRA, most (31.2%; n=78) of the respondents had worked for 11-15 years, 19.2% (n=48) 16-20 years and 17.6% (n=44) had 1-5 years. A small percentage of 0.85 (n=2) had worked for 31-40 years. The vast majority of the respondents (94.8%; n=237) were permanent staff. The results indicate that most of the respondents have had more than 10 years of work experience with VRA Akosombo.

Research Question One: What is the Prevalence of Health and Safety Conditions among Akosombo VRA Workers?

The first research objective aimed to determine the prevalence of health and safety conditions in Akosombo VRA, where variables such as the level of risk of working in the organization, the incidences of injuries, and hospitalizations at the organization were assessed using frequencies, percentages, and Chi-square (X^2). The results of the study are presented in Table 1.

Table 2 shows that 65.5%; n=76) of the non-operational employees and 67.9% (n=91) of the operational staff indicated that their job is very risky, respectively. Overall, 66.8% (n=167) of respondents perceived their job to be very risky. Only 6.9% (n=8) and 8.2 (n=11) of non-operational and operational staff reported their job to be of very little risk. There was no significant association between the category of staff and level of perceived risk of job (p=0.768). Less than half (40.8%; n=102) of the respondents surveyed said they had ever been injured on the job. Almost half (46.6%; n=54) of non-operational staff reported ever being injured on the job.

Table 2: Prevalence of Health and Safety Condition among Workers of Akosombo VRA

	Category of staff				
Responses	**Non-oper. n=116**	**Operational n=134**	**Total N=250**	**χ^2**	**p-value**
Level of risk					
No risk at all	0 (0.0)	0 (0.0)	0 (0.0)	0.528	0.768
Somehow risky	32 (27.6)	32 (23.9)	64 (25.6)		
Very little risk	8 (6.9)	11 (8.2)	19 (7.6)		
Very risky	76 (65.5)	91 (67.9)	167 (66.8)		
Total	116 (100.0)	134 (100.0)	250 (100.0)		
Injured on the job					
Not injured on job	62 (53.5)	86 (64.2)	148 (59.2)	2.964	0.085
Injured on job	54 (46.6)	48 (35.8)	102 (40.8)		
Total	116 (100.0)	134 (100.0)	250 (100.0)		
Injury requiring hospitalization					
N/A	33 (28.5)	46 (34.3)	79 (31.6)	3.639	0.162
No hospitalization	81 (69.8)	81 (60.5)	162 (64.8)		
Required hospitalization	2 (1.7)	7 (5.2)	9 (3.6)		
Total	116 (100.0)	134 (100.0)	250 (100.0)		

Significance Level: 0.05

Source: Field Survey, 2021

In addition, 35.8% (n=48) of operational staff reported ever been injured on the job. However, there was no significant association between staff category and injury history (p=0.085). Only 3.6% (n=9) of respondents with a history of injury required hospitalization. Also, only 1.7% (n=2) of non-operative staff and 5.2% (n=7) of operational staff required hospitalization because of injury. There was no significant association between staff category and injuries requiring hospitalization (p=0.162). From the results, it can be concluded that both the operational and non-operational staff work in risky conditions resulting in lost time injuries, and sometimes requiring hospitalization at the Akosombo VRA.

This finding showed high level of perceived work risk among the study respondents. Studies have indicated that nurses (Kgakge, Hlongwa & Ginindza, 2021) due to manual handling of patients, poor postures and a longer period of work, and doctors, surgeons, and physiotherapists (Epstein et al., 2018; Vieira et al., 2015) are at high risk of work-related musculoskeletal disorders, stress and nosocomial infections which affect their job performance. (Moreover, stress due to overwork and burnout (Guillaumie, Boiral, Champagne, 2016), nosocomial infections through droplets and needle pricks (Gómez-Ochoa et al., 2021) can pose serious sources of risk to workers. This situation is not different from Ghana as recent cross-sectional study have suggested that there is a prevalence of work-related MSDs among nurses, midwives, and community health care workers (Boakye, Wireko-Manu, Oduro, Ellis, Gudjónsdóttir, & Chronakis, 2018). With regards to the ongoing Covid-19 pandemic, a recent systematic review and meta-analysis that included ninety-seven papers globally concluded that health care workers are at higher risk of

the disease due to their working environment compared to the general population (Gómez-Ochoa et al., 2021). Therefore, it is not surprising that an overwhelming majority of the non-operational staff in this current study perceived their work as very risky, citing needle pricks, slip, trip and fall, infections, manual patient handling and chemical inhalations as associated workplace hazards.

Taking into account the hydro and technical staff, similar studies conducted have revealed that this groups of workers are at high risk of occupational hazards resulting in injuries of varying degrees. For example, a study assessing the injuries and fatalities of thermal and hydroelectric plant workers from 2002 to 2010 recorded 941 injuries and 15 fatalities within the period (Ünsar & Süt, 2015). Accordingly, the injuries and fatalities were a result of manufacturing/ materials defects, non-use of PPE, lack of practical and theoretical knowledge of occupational health and safety procedures. Similarly, in a recent study conducted in Ethiopia among hydroelectric dam workers, Dagne and Yenealem (2020) showed a prevalence of occupational injuries at 57.8%. The authors found factors such as age, education, alcohol intake, workplace stress, work shift, and working hours per week to have a substantial impact on occupational injury. The risk of injuries and fatalities have consequencces for both workers and VRA. For example, workers who are injured at work spend more time in hospitals and at homes during the healing process. Productivity will decrease as operational and non-operational workers miss productive workdays.

Research Question Two: What is the Level of Organisational Safety Behaviours in Akosombo VRA?

The aim of objective two was to determine the safety behaviours in Akosombo VRA. Frequencies, percentages and chi-square (X^2) tools were used for the analyses.

Table 3: Organisational Safety Bahaviours of Akosombo VRA

	Category of staff				
Responses	**Non-oper. n=116**	**Operational n=134**	**Total n=250**	**χ^2**	**p-value**
Familiar with safety policies					
Extremely familiar	38 (32.8)	68 (50.8)	106 (42.4)	19.687	0.001*
Moderately familiar	46 (39.7)	54 (40.3)	100 (40.0)		
Not at all familiar	4 (3.5)	0 (0.0)	4 (1.6)		
Slightly familiar	15 (12.9)	9 (6.7)	24 (9.6)		
Somewhat familiar	13 (11.2)	3 (2.2)	16 (6.4)		
Clearly understands safety policy					
No, Understanding of OHS Policy	8 (6.9)	0 (0.0)	8 (3.2)	14.099	0.001*
Somehow Understand OHS policy	24 (20.7)	16 (11.9)	40 (16.0)		
Understand the OHS Policy	84 (72.4)	118 (88.1)	202 (80.8)		
Effectiveness of policies					
Effective	60 (51.7)	63 (47.0)	123 (49.2)	19.379	0.001*
Ineffective	11 (9.5)	2 (1.5)	13 (5.2)		
Not sure	18 (15.5)	11 (8.2)	29 (11.6)		
Very effective	16 (13.8)	42 (31.3)	58 (23..2)		
Very ineffective	11 (9.5)	16 (11.9)	27 (10.8)		
Enforcement of safety policies					
Always	39 (33.9)	78 (58.2)	117 (46.9)	15.927	0.001*
Often	50 (43.5)	32 (23.9)	82 (32.9)		
Rarely	7 (6.1)	5 (3.7)	12 (4.9)		
Sometimes	19 (16.5)	19 (14.2)	38 (15.3)		
Impact of safety policies					
Major impact	54 (46.6)	92 (68.7)	146 (58.4)	15.278	0.002*
Minor impact	8 (6.9)	2 (1.5)	10 (4.0)		
Moderate impact	40 (34.5)	33 (24.6)	73 (29.2)		
Neutral	14 (12.1)	7 (5.2)	21 (8.4)		

Significance Level: 0.05
Source: Field Survey, 2021

The results from Table 3 show that more than half (50.85; n=68) of the operational staff and 32.85 (n=38) of the non-operational staff reported that they are extremely familiar with the organization's occupational health and safety (OHS) policy. About 40.3% (n=54) of operational staff and 39.7% (n=46) reported they were moderately familiar while 3.5% (n=4) of non-operational staff reported that they were completely unfamiliar with the OHS of the organization. There was significant association between the category of staff and familiarity with the organization's OHS policy (p=0.001).

Furthermore, the majority of non-operational staff (72.4%; n=84) and 88.1% (n=118) of operational staff reported that they clearly understand the organization's OHS policy. However, 6.9% (n=8) of non-operational staff reported that they do not understand the organization's OHS policy. There was a significant association between the category of staff and their level of understanding of OHS policy (p=0.001) of the company. More than half (51.7%; n=60) of non-operational staff and less than half (47.0%; n=63) of the operational staff reported that the OHS policy of the organization is effective, 9.5% (n=11) of non-operational staff and 11.9% (n=16) of operational staff reported that the OHS policy of the organization is very effective. However, 9.5% (n=11) and 1.5% (n=20 of non-operational and operational staff respectively reported that safety policies of the organization are ineffective. There was a significant association between category and perceived effectiveness of OHS policy at VRA (p=0.001). More than half (58.2%; n=78) of operational staff and 33.95% (n=39) of non-operational staff reported that OHS policy is always enforced in the organization. However, 3.7% (n=5) of operational staff and 6.1% (n=7) of non-operational staff reported that OHS

policies are rarely enforced. There was a significant association between the category of staff and enforcement of the OHS policy (p=0.001). Again, more than half (68.7% (n=92) of operational staff and less than half (46.6% (n=54) of non-operation staff reported that OHS policies have a major impact. However, 6.95% (n=8) of non-operational staff and 1.55% (n=2) of operational staff reported that OHS policies have a minor impact. There was a significant association between staff category and impact of OHS policies (p=0.002). The results suggest high familiarity and understanding of OHS policies at Akosombo VRA.

Research Question Three: What Health and Safety Measures are in Place for the Protection of Akosombo VRA Workers?

The third objective assessed the health and safety measures at Akosombo VRA. Frequencies, percentages, and Chi-Square (X^2) analytical tools were used (see Table 4 for results).

Table 4: Health and Safety Measures at Akosombo VRA

Statement	Category of staff Non-Op. n=116	Op. n=134	Total n=250	χ^2	p-value
Supervisors ensure employees safety training					
Strongly agree	42 (36.1)	65 (48.5)	107 (42.8)	10.26	0.036*
Agree	51 (44.0)	49 (36.6)	100 (40.0)		
Not sure	16 (13.8)	7 (5.2)	23 (9.2)		
Disagree	3 (2.6)	9 (6.7)	12 (4.8)		
Strongly disagree	4 (3.5)	4 (3.0)	8 (3.2)		
Correction of unsafe conditions					
Strongly agree	26 (22.4)	51 (38.1)	77 (30.8)	19.569	0.001*
Agree	55 (47.4)	57 (42.5)	112 (44.8)		
Not sure	27 (23.3)	10 (7.5)	37 (14.8)		
Disagree	8 (6.9)	12 (9.0)	20 (8.0)		
Strongly disagree	0 (0.0)	4 (3.0)	4 (1.6)		

Table 4: Continued

Discussion of safety issues					
Strongly agree	32 (27.6)	74 (55.2)	106 (42.4)	24.858	0.001*
Agree	55 (47.4)	43 (32.1)	98 (39.2)		
Not sure	18 (15.5)	5 (3.7)	23 (9.2)		
Disagree	8 (6.9)	7 (5.2)	15 (6.0)		
Strongly disagree	3 (2.6)	5 (3.7)	8 (3.2)		
Supervisor emphasis on workplace safety					
Strongly agree	41 (36.0)	68 (50.8)	109 (43.9)	12.773	0.012*
Agree	46 (40.4)	47 (35.1)	93 (37.5)		
Not sure	19 (16.7)	7 (5.2)	26 (10.5)		
Disagree	4 (3.5)	9 (6.7)	13 (5.2)		
Strongly disagree	4 (3.5)	3 (2.2)	7 (2.8)		
Availability of PPE					
Strongly agree	47 (40.9)	68 (50.8)	115 (46.2)	5.354	0.253
Agree	49 (42.6)	41 (30.6)	90 (36.1)		
Not sure	10 (8.7)	9 (6.7)	19 (7.6)		
Disagree	7 (6.1)	11 (8.2)	18 (7.2)		
Strongly disagree	2 (1.7)	5 (3.7)	7 (2.8)		
Safety training in my workgroup					
Strongly agree	40 (34.8)	63 (47.0)	103 (41.4)	4.997	0.289
Agree	50 (43.5)	49 (36.6)	99 (39.8)		
Not sure	17 (14.8)	12 (9.0)	29 (11.6)		
Disagree	4 (3.5)	4 (3.0)	8 (3.2)		
Strongly disagree	4 (3.5)	6 (4.5)	10 (4.0)		
Emergency preparedness					
Strongly agree	30 (26.3)	62 (46.6)	92 (37.3)	15.437	0.004*
Agree	61 (53.5)	47 (35.3)	108 (43.7)		
Not sure	17 (14.9)	12 (9.0)	29 (11.7)		
Disagree	3 (2.6)	9 (6.8)	12 (4.9)		
Strongly disagree	3 (2.6)	3 (2.3)	6 (2.4)		
Encouragement of suggestions					
Strongly agree	39 (34.2)	57 (43.5)	96 (39.2)	11.557	0.021*
Agree	46 (40.4)	50 (38.2)	96 (39.2)		
Not sure	25 (21.9)	12 (9.2)	37 (15.1)		
Disagree	1 (0.9	6 (4.6)	7 (2.9)		

Table 4: Continued

Strongly disagree	3 (2.6)	6 94.6)	9 (3.7)		
Prompt response of safety issues					
Strongly agree	24 (20.7)	53 (39.9)	77 (30.9)	22.761	0.001*
Agree	55 (47.4)	50 (37.60	105 (42.2)		
Not sure	29 (25.0)	11 (8.3)	40 (16.1)		
Disagree	5 (4.3)	13 (9.8)	18 (7.2)		
Strongly disagree	3 (2.6)	6 (4.5)	9 (3.6)		

Significance Level: 0.05
Source: Field Survey, 2021

The results in Table 4 show that less than half (36.1%; n=42) of non-operational staff and 48.55% (n=65) of operational staff strongly agree that their supervisors ensure that employees receive appropriate safety training. There was a significant association between the category of staff and the perception of the provision of adequate safety training (p=0.036). Further, (69.8%; n=81) of non-operational staff either strongly agreed or agreed that unsafe conditions in the workplace are promptly corrected. The non-operational staff who either agreed or strongly agreed were 42.5% (n=57). There was a significant association between staff category and prompt correction of unsafe conditions in work areas (p=0.001). The results show that majority (55.2%; n=74) of operational staff and 42.4% (n=106) of all staff strongly agreed that safety issues are openly discussed between their supervisors and their workgroup. The study observed a significant association between staff category and discussion of safety issues (p=0.001).

Majority of staff 81.4% (n=202) of staff believe that their supervisor attaches great importance to safety at work. Less than half of 36.0% (n=41) of non-operational staff strongly agree their supervisor places a strong emphasis on workplace safety, compared to 50.85 (n=68) of operational staff. There was

a significant association between the category of staff and emphasis on workplace safety (p=0.012). In this study, the majority of non-operational staff 83.5% (n=96) and 81.4% (n=109) of operational staff believe all required PPE for their job are always available to them. There was no association between staff category and availability of PPEs (p=0.253). Less than half of 34.8% (n=40) of non-operational staff strongly agree that there is adequate safety training in their workgroup compared to 47.0% (n=63) of operational staff. Additionally, 43.5% (n=50) of non-operational staff and 36.6% (n=49) of operational staff agree there is adequate safety training in their workgroup. There was no association between the category of staff and adequate safety training (p=0.289). Majority 79.8% (n=91) of non-operational staff compared with 81.9% (n=109) of operational staff believe the organization adequately prepare in an emergency. There was a significant association between the category of staff and emergency preparedness (p=0.004).

A large majority of the staff 78.45 (n=192) believe the organization encourages suggestions on how to improve health and safety. Also, 34.2% (n=39) of non-operational staff compared to 43.5% (n=57) of operational staff strongly agree that the company encourages suggestions on how to improve health and safety. There was a significant association between the category of staff and improvement in OHS (p=021). In this study, 20.7% (n=24) of non-operational staff and 39.9% (n=53) of operational staff strongly agree that their workplace management acts quickly to fix issues related to affect the health and safety of workers. However, 25.0% (n=29) of non-operational staff and 8.3% (n=11) operational staff reported they are not sure their workplace management acts quickly to correct problems that affect the health and safety

of workers. The study observed a significant association between the category of staff and the resolution of issues that affect the health and safety of staff (p=0.001). The results suggest adequate health and safety measures at VRA to protect staff. This implies that VRA is likely to reduce workplace accidents and avoid costs associated with such accidents. Furthermore, the workers will have great assurance of their safety and hence work with confidence to increase productivity.

Hadikusumo, Jitwasinkul and Memon, (2017) observed that safe work behaviour can be achieved by regulating leadership, management commitment, involvement and perception of worker behavioural control. Naiduwa-handi and Silva (2017) also identified workplace health and safety measures as the organisation's OHS incentives and the availability of PPE. In addition, Agyekum, Simons and Botchway(2018) indicated workplace safety measures to include safety managers on site; documented and detailed safety and health plans; project-specific training and regular safety meetings. These findings are congruent with the findings of this study. Jonathan and Mbogo (2016) made an observation that is inconsistent with this research by discovering that the majority of workers in their study were not participating in safety training programmes. Most of them were not involved in negotiating workplace safety policies. Workers' health and safety at work were greatly compromised as a result of this, hurting their preparedness for health dangers and their overall performance. In Ghana, Asumeng Asamani, Afful, Badu, and Agyemang (2015) found that failure to put in place procedures to ensure that employees and other people in the workplace are treated fairly can be tremendously costly in the long run. Stringent enforcement and adherence to

safety laws and procedures are essential. Supervisors, with the help of management, are responsible for ensuring that those entrusted with their care comply with company safety standards and guidelines. In like manner, Makhonge (2005) asserts that the ability of safety and health committee members to effectively enforce regulations can be improved by sufficient training. When an enforcement agency established by law is incapable of fulfilling its mandate, little is anticipated of organisations that often do not place a high emphasis on safety, let alone establish safety committees. Whatever the case, increasing organizational health and safety enforcement requires a sufficient number of trained personnel. The findings have implications for productivity at Akosombo VRA, as proper occupational health and safety measures will reduce injuries and work-related incidents and ensure that workers can always contribute to productivity.

Research Question Four: What Factors Influence the Safety Behaviours of Akosombo VRA Workers?

This objective sought to identify the factors influencing safety behaviours of VRA in Akosombo. The linear multiple regression was used to run the analysis for this research objective. The results have been presented in Table 5.

Table 5: Multiple Regression of factors influencing the safety behaviours of Akosombo VRA workers

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	1.247	.083		15.002	.000
	Safety training	.122	.046	.207	2.653	.009
	Safety issues communication	.048	.047	.083	1.005	.316
	Workload	.095	.051	.162	1.868	.003
	PPE availability	.115	.054	.184	2.133	.034
	Worker safety attitude	.022	.054	.036	.400	.013

R = .678
R^2=.460
Adjusted R Square = .427
Durbin-Watson = 1.855
F=2.261
a. Dependent Variable: Safety Behaviors

Source: Field Survey, 2021

The regression results show that safety training has a statistically significant relationship between safety training (p = 0.009), workload (p = 0.003), PPE availability (p = 0.34), worker safety attitude (p = 0.013) and safety behaviours of VRA. Communication of safety issues does not have a significant relationship with safety behaviours of VRA (p = 0.316). Among all the variables, safety training, PPE availability and workload have the greatest influence on safety behaviours.

The F statistics which is a test of significance for the entire regression is shown as 2.261 with a probability value of 0.000 which is less than 0.05. The results show that, the regression is statistically significant because p-value = 0.000 < 0.05. The results suggest that, when workers are given safety training, PPE, safety communication, manageable workload with a positive safety attitude, the safety behaviours in Akosombo VRA will improve. Field

(2009) warns that values of less than one or more than three for Durbin-Watson are a serious problem. Test statistic levels in the 1.5 to 2.5 range are considered to be normal under Durbin-Watson. To be on the safe side, researchers should keep an eye on values that fall outside of this range. The results from the regression show a value of 1.855 which falls within the normal range thereby confirming model fitness for the study. The R^2 coefficient represents the degree to which the regression model accurately predicts the observed data. The model summary shows an Adjusted R Square value of .427 which means that safety training, safety issues communication, workload, PPE availability and worker safety attitude contribute 42.7% to safety behaviours in VRA. The results suggest that there are an unexplained 57.3% other factors that influence safety behaviours.

Hadikusumo, Jitwasinkul and Memon, (2017) found communication, culture, management commitment, leadership, organization learning, empowerment, and incentive system as the seven most significant variables in influencing Thailand's construction sector workers' safety behaviours. Similarly, Naiduwa-handi and Silva (2017) examined and prioritized the elements influencing workers' safety behaviours. Age was shown to be the most influential personal component, while workplace health and safety incentives were shown to be the most influential organizational factor. Concerns about workplace safety and the availability of personal protective equipment (PPE) were the two factors that least impact the outcome.

To eliminate at-risk work behaviours, Jitwasinkul and Hadikusumo, (2011) sought to identify the most relevant organizational characteristics. The study found seven key variables in the Thai construction industry which were

communication, culture, management commitment, leadership, organizational learning, empowerment, and incentive system. In a Ghanaian study by Agyekum et al. (2018), factors influencing safety behaviours were established as safety managers on-site, documented and detailed safety and health plans; project-specific training and regular safety meetings. The findings are consistent with the results of this study. The results concerning this objective have implications for the Akosombo VRA by bringing to the attention of workers and management the influences of communication, culture, workload, resource availability and worker competence on employees' safety behaviours. Adequate management of the identified factors ensures that workers remain safe in the workplace to contribute to productivity.

Research Question Five: What are the Challenges Facing Staff of Akosombo VRA in Adhering to Safety Protocols?

Objective five sought to determine the challenges faced by staff of Akosombo VRA in adhering to safety protocols while at work. Qualitative data were obtained from interviews with the staff. The results were presented according to themes and patterns that emerged from the responses. Direct quotes from the interview responses were presented to support the discussions. The analysis revealed three major themes, the challenges that limit staff in adhering to safety protocols while at work. The themes are inadequate PPE, poor worker attitude towards health and safety practices and weak enforcement of health and safety policies.

Inadequate personal protective equipment

From the interviews with the non-operational and operational staff of VRA, almost all the respondents indicated inadequate PPE as a challenge to adhering to safety protocols at work. The staff explained that most of the

safety protocols require the usage of protective clothes such as gloves, boots, safety goggles among others. However, these PPE are mostly inadequately supplied to the workers. The staff also explained that some of the PPEs are worn out making them not fit for purpose. The workers only receive new PPE whenever a new consignment becomes available, but bringing in a new consignment of PPE takes a long time, thereby affecting adherence to protocols. One operational staff narrated the following:

> *"The nature of my work requires that I wear protective boots, clothes, and safety glasses. I still use the old ones I was given when I started work. They are worn out exposing me to danger. Though I have made a request for new ones a long time ago, I am yet to receive them from stores"* (Respondent 1, Operation staff, 8 years' experience).

Another Operational staff corroborated thus:

> *"The problem I have with our safety protocols is that there are undue delays anytime PPE is requested by workers. The processes for the release of PPE are too long which makes it difficult to work. Some of us have been placing several requests for new PPE but we are yet to receive them"* (Respondent 2, Operation staff, 12 years' experience).

Poor attitude towards health and safety practices

Results from the interviews showed that the workers have a poor attitude towards adhering to safety protocols while on the job. Most of the workers explained that they have been educated on health and safety issues in the organization, but they do not adhere to them all the time. Some of the

workers indicated that they have PPE but are not comfortable wearing them. Other workers indicated that they follow all safety protocols at work when their supervisors are around to avoid sanctions. Others said they follow safety protocols for their benefits, most of the time they are reluctant to follow them, if not because of sanctions associated with some of the protocols. One operational staff indicated:

> *"It is good that we have all the safety protocols in place, but I believe it should not be compulsory for someone to adhere to them. As for me, I have been doing this work for a long time and I know how to handle every situation so I hardly get"* (Respondent 3, Operation staff, 5 years' experience).

The head of operations intimated:

> *"If not for the protective equipment one of my team members was wearing, he could have been electrocuted. There is no doubt the safety protocols in this organization are not good. However, as humans, sometimes staff feel reluctant to follow the procedures, though we put in measures to ensure that, they follow the procedures."* (Respondent 4, Head of Operations, 17 years' experience).

Weak enforcement of occupational health and safety policies

All Akosombo VRA workers agreed that the organization has clear OHS policies in place. This OHS policy has been disseminated to all staff and sometimes meetings are held between management and staff to discuss the safety protocols. However, responses from almost all participants show that management does not strictly enforce the OHSprotocols. Workers who breach

the protocols are hardly dealt with thereby giving the workers flexibility to breach them again and again. Workers explained that when an accident happens, management becomes aggressive to enforce the protocols. The head of health and safety had this to say:

> *"We discuss health and safety protocols whenever there is a meeting. After the meeting, the staff are found doing what they like without following the protocols. The sanctions attached to the protocols are applied but I think they are not deterrent enough"* (Respondent 5, Health and Safety Manager, 13 years experience).

One non-operational staff explained:

> *"I cannot remember when management punished those who do not follow health and safety protocols. People go about their daily work without using the required PPE. This practice brings about frequent injuries at the workplace."*

Findings showed inadequate PPE, poor worker attitude towards health and safety practices, and weak enforcement of health and safety policies. The Akosombo VRA does not procure PPE frequently and the procedures involved in realising PPEs to workers bring about inadequacy. Further, the VRA has the safety policies and procedures in place but are not strictly enforced because management and staff are not committed to the policies according to the findings.

In support of the current findings, a study by Agyekum, Simons and Botchway, (2018) on challenges in complying with safety protocols found insufficient communication of safety programmes, lack of workers' self-

protection and awareness, ignoring safety by contractors due to project schedule time constraints, poor personal attitudes toward safety, and lack of enforcement. Mokhtari et al. (2021) found that eenvironmental factors had the greatest impact on the proper use of PPE, while laws and regulations had the least impact. From the perspective of the nurses caring for patients with COVID-19, environmental conditions have the biggest influence on the usage of PPE.

Katunge and Mbogo (2016) established that staff were not involved in the discussion of safety measures in their workplaces affecting their attitude to safety protocols. Health and safety practice in the workplace has been greatly compromised, affecting their preparedness for OHS risks and hence their overall poor performance. Recently, a lack of organizational OHS campaigns and education, inadequate safety policies and insufficient punishments for organisation health and safety violations were identified as the top three biggest obstacles to the efficient execution of an organisation's OHS legislation (Boadu, Wang & Sunindijo, 2021).

Diugwu, Baba, and Egila (2012) found that organisation health and safety in Nigeria are ineffective and inadequate. Despite the government's best efforts, these failures continue to persist resulting in the enactment of the Labor, Safety, Health, and Welfare Bill 2012. This article illustrates that the government's efforts to overcome the shortcomings of these laws remain doubtful, hence it can be concluded that the low level of OSH enforcement in Nigeria is largely due to a lack of commitment and poor attitude. Likewise, Umeokafor, Isaac, Jones, and Umeadi, (2014) observed a lack of political will, corruption, insufficient legislation, and insecurity as some challenges

impeding organisational health and safety enforcement. As a result, organisations must understand the importance and benefits of health and safety compliance in the workplace as an enabler to increased safety, productivity, competitive advantage, and accident and fatality reduction.

Findings related to this objective have implications for the Akosombo VRA, as workers' inability to access the use of PPE at work makes them vulnerable to injuries that can cause worked lost days or restricted worked hours and leading to a productivity loss.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study aimed to investigate the prevalence of workplace health conditions, safety behaviour, and factors that influence safety behaviours among VRA employees at Akosombo. This chapter focused on the summary, key findings, conclusions, recommendations and suggestions for further research.

Summary

The purpose of this study was to investigate the prevalence of workplace health conditions, safety behaviour, and factors that influence safety behaviours among VRA employees at Akosombo. A sequential exploratory design was used. There were two stages used in this sequential explanatory model adopted. Phase one involved the collection of quantitative information and analysis, and phase two used qualitative techniques to elaborate on the outcomes of the quantitative phase (Creswell, 2013). The two approaches to research, quantitative and qualitative were combined within the context of this study. This was based on the idea that qualitative data can enhance quantitative data and lead to a better understanding of the phenomenon (Plewis & Mason, 2005). The qualitative approach has the strength of giving detailed data for explaining complex situations whiles the quantitative approach can obtain consistent and reliable data but is unable to explain complex issues (Creswell, 2014).

The target population for the study comprised 813 employees of the VRA in Akosombo. The target population included Operational staff (Environment & Sustainable Development employees, 65; Hydro generation

employees,152; Technical Service employees, 97) and non-operational staff (Human Resource, 5; Finance, 25; MIS, 15; Procurement, 17; Health Service, 177; School, 106; Real Estate, 154) (Human Resource Department, VRA). Using the Yamane (1967) formula 268 participants were selected for both the quantitative and qualitative study. The systematic random sampling technique was adopted to select respondents from the quantitative data. For the qualitative aspect of the study, the purposive sampling technique was employed to select the key informants. The instruments used for data collection included a structured questionnaire and interview guide. The questionnaire was prepared based on the recommended safety guidelines from National Labour Commission and the literature such as adaption of items from Naiduwa-handi and Silva (2017), and Agyekum, Simons and Botchway (2018). The structured questionnaire had five sections and contained both open-ended and closed-ended questions. The interviews were conducted using an interview guide that was prepared based on the recommended safety guide by the Labour Law of Ghana (2020), the theoretical underpinnings of OHS, and the literature. The validity of the instrument was also checked by three lecturers from the Department of Health, Physical Education and Recreation (HPER), University of Cape Coast (UCC). The Cronbach's Alpha was used to measure the internal consistency for the binary variable sub-scales of the instrument and the reliability of the continuous (five-point Likert scale) items (Khalid & Kumar, 2012).

The research protocols were approved by the research supervisor before the commencement of the data collection. Ethical clearance was also obtained from the Institutional Review Board (IRB) of UCC (ID-

UCCIRB/CES/2021/32). This was complemented with an introductory letter from the Department HPER (Ref. ET/HLE/19/0006/5), which helped to seek permission from the Human Resource manager of VRA. The acquired data was analysed using SPSS (version 23), and study questions I, II, III, and V were addressed using descriptive statistics including frequencies, percentages, and chi-square. The fourth study issue was addressed using linear multiple regression. Themes and patterns that surfaced throughout the interviews were used to analyse the qualitative data. The NVivo programme, version 11, was used to code the transcripts line by line and identify emerging themes for analysis in accordance with the research goals.

Main Findings

Findings showed that both the operational staff and non-operational staff perceived their jobs at Akosombo VRA as highly risky, and this does not depend on category of staff. Almost half of the operational staff and non-operational staff have ever been injured on the job, which is also independent of the category of staff. A few of the non-operational and operational staff required hospitalization from their injuries, which is not dependent on the category of staff. The precursors to these injuries included needle prick, slip and falls, infections and other causes.

The findings also indicated that the majority of the operational staff and non-operational staff are familiar and understand the VRA safety policies and that this does not differ by the category of staff. With no marked difference, many of the non-operational staff and operational staff reported the effectiveness of the safety policies of the organization. Most of the workers

agreed that safety policies are always enforced in the organization and such enforcement has major impact on the organization.

The findings further revealed that supervisors ensure that employees have adequate safety training, which is targeted at all the workers irrespective of the job category. For example, unsafe conditions are promptly corrected in the work areas and most of the operational staff agreed that safety issues are openly discussed between supervisors and their workgroups but a smaller number of the non-operational staff indicated so. However, both non-operational and operational staff believed their supervisors emphasize workplace safety, such as the regular provision and use of appropriate PPE for all workers.

The findings also showed that safety training, workload, worker safety attitude and availability of PPE significantly influence safety behaviours in VRA. Safety communication has lesser influence on safety behaviours. Furthermore, the findings indicated that inadequate PPE, poor attitude towards health and safety practices and weak enforcement of health and safety policies were the challenges experienced by the staff of Akosombo VRA in adhering to safety behaviours. Both the operational and non-operational staff of VRA indicated inadequate PPE as a challenge to adhering to safety protocols. Findings also showed that the staff have a poor attitude towards adhering to safety protocols, though they are educated about the health and safety protocols. Management does not strictly enforce the health and safety protocols giving the staff the room to deviate from adhering to them.

Conclusions

The following conclusions have been drawn from the findings of the study.

1. The behaviours of staff are influenced by the availability of PPE, the attitude of staff, and the enforcement of safety protocols by management. These factors have given rise to safety issues at VRA at Akosombo which includes injuries of staff leading to hospitalization.
2. Though the staff perceives their work as highly risky, injuries at work has been on a minimal level.
3. The main factors influencing health and safety at Akosombo VRA are workload, worker competency, management commitment, resource availability, safety policies, and working culture.
4. The VRA has instituted measures to ensure the health and safety of staff, including training staff on safety policies and explaining safety measures to the understanding of staff.
5. The main challenges facing staff of Akosombo VRA in adhering to safety protocols are inadequate personal protective equipment, poor attitude towards health and safety practices and weak enforcement of occupational health and safety policies.

Recommendations

The following recommendations have been made based on the findings of the study:

With respect to factors influencing employees' safety behaviours, management of VRA needs to manage the workload of staff to mitigate injuries affecting them. Injuries at the workplace are likely to reduce when

workers are allowed to work within their capacity. Further, the study recommends that adequate PPE are provided promptly for staff to facilitate their work. It is recommended that management should make a conscious effort to ensure that all staff adhere to safety protocols for improved health and safety and increased productivity. Staff who continuously disregard safety protocols should be punished whiles those who show strong commitment should be rewarded.

Moreover, management needs to organize frequent meetings on safety issues as they occur to change the attitude of staff towards observing safety practices. Also, communication at the workplace should be open to enable staff to share their concerns on safety issues with colleagues as well as leaders.

Finally, it is recommended that strict enforcement of safety protocols and practices will be ensured to curtail the negative safety behaviours.

Suggestion for Further Research

This research employed the mixed-method approach to examine the safety behaviours at Akosombo VRA. I suggest further studies be conducted on safety behaviours by adopting a purely qualitative or quantitative approach in the same research setting to provide a comparison for the findings of this research. Additionally, further studies could be done on examining how health and safety policies at VRA influence the performance of the organisation.

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APPENDICES

APPENDIX A

INTERVIEW GUIDE FOR MANAGEMENT

UNIVERSITY OF CAPE COAST

DEPARTMENT OF HEALTH, PHYSICAL EDUCATION AND RECREATION

Dear Sir/Madam,

This interview guide seeks to elicit information from management of VRA on the **"Safety Behaviours of Volta River Authority Staff Akosombo".** We are relying on your informed consent to include you as a participant in this study. I would appreciate it very much if you could take a few minutes out of your day to answer the following questions truthfully and to the best of your ability. Your participation in this survey is voluntary and your answers will be kept strictly confidential and used for research purposes only. You are free to stop participating at any time without further obligation. There will be no identifying information included in the transcripts of the interviews, which will be transcribed from audio recordings. You may contact my supervisor Dr. Edward Wilson Ansah on 0247703379 or edward.ansah@ucc.edu.gh, or me at trudyobodai@gmail.com or 0208368698 with any concerns regarding this study.

Your co-operation is fully appreciated.

Thank you.

Yours sincerely

(Gertrude Naa Torshie Obodai)

Student/Researcher

Participant's's ID # … … … … … … … … … … … ……..

Section A: Participant's 's personal/background information

1. Age:……
2. Sex:……
   a. Male [] b. Female []
3. Department
   a. Operational (Health official) [ ] b. Non-operational (Site operative) [ ]
4. How long have you been working in this organization?.....
5. What is your highest level of education?
   a. No formal education [] b. Primary education [] c. Secondary education [] d. Tertiary education []

Section B

6. Tell me about the kind of safety policies you have in VRA Akosombo. (probe where necessary)
7. How do you implement these safety policies? (probe where necessary)
8. Please what are your judgements about the safety behaviours of the workers? (probe where necessary)
9. How do the policies and their implementations affect safety behaviours and health issues of the workers? (probe where necessary)
10. What are the impediments to implementing some of these safety policies?
11. What are some of the major health and safety challenges (diseases, injuries, etc.) faced by your workers? (probe where necessary)

12. How does your organization (VRA) try to address these health and safety challenges affecting the workers? (probe where necessary)
13. Please what other factors do you think influence the safety behaviours or performance of the workers here? (probe where necessary)
14. Any closing comments?

END OF INTERVIEW

THANK YOU FOR YOUR CO-OPERATION

APPENDIX B

QUESTIONNAIRE FOR HOSPITAL STAFF AND SITE OPERATIVES OF VRA

UNIVERSITY OF CAPE COAST

DEPARTMENT OF HEALTH, PHYSICAL EDUCATION & RECREATION

Dear Sir/Madam,

This questionnaire aims at collecting data on the **"Safety Behaviours of Volta River Authority (VRA) Staff, Akosombo".** This research is part of the requirements of my Master of Philosophy (MPhil) degree in Health Education. You have been selected as one of the participants in this study. Your responses will also provide management of VRA valuable feedback about safety issues in the workplace that could lead to the development of policies to improve the safety of employees. You are, thereby requested to kindly complete the following questionnaire. Please note that your participation is voluntary and you have the option to discontinue answering the items if you so wish. I shall protect your privacy by not disclosing your identity. As an added bonus, all data collected will be kept strictly confidential and used for study purposes exclusively. I would appreciate it very much if you could take the time to answer the questions in this survey thoroughly and truthfully. It should only take you approximately 10 minutes of your time. You may contact my supervisor Dr. Edward Wilson Ansah on 0247703379 or edward.ansah@ucc.edu.gh, or me at trudyobodai@gmail.com or 0208368698 with any concerns regarding this study.

Thank you for your time.

Yours sincerely,

(Gertrude Naa Torshie Obodai)

Student/Researcher

Instructions: In the spaces provided below, please indicate by checking the appropriate box () your selection of the correct answers to the questions. Please know that you won't be identified in any way by providing any of this information.

Part I: BIOGRAPHIC DATA OF PARTICIPANT

1. Sex: a. Male [ ] b. Female [ ]

2. Age: ……

3. Highest Academic Qualification:

a. BECE/ MSLC [ ] b. WASSCE/ SSSCE [ ] c. SC/ GCE 'O'/ A' Level [ ]

d. HND/ Diploma [ ] e. BA/ BSc [ ] f. Masters [ ]

4. How long have you been working in this organization? ……

5. Category of Staff: a. Operational (Health official) [ ] b. Non-operational (Site operative) [ ]

6. Staff Status: a. Permanent [ ] b. Contract [ ] c. Casual [ ]

Part II: PREVALENCE OF HEALTH AND SAFETY CONDITIONS AMONG EMPLOYEES

6. How would you rate the level of risk of your job?

a. Very risky [ ] b. Somehow risky [ ] c. Very little risk [ ]

d. No risk at all [ ]

7. Have you ever been injured on the job? a. Yes [ ] b. No [ ]

8. If yes to Q7, please describe the injury

……

……

9. Did the injury/harm require hospitalization? a. Yes [ ] b. No [ ]

Site Operatives		**Hospital Staff**	
Power tool and machinery accidents	[ ]	Infections	[ ]
Slip and falls	[ ]	Pricked by a needle	[ ]
Ladder accidents	[ ]	Slip and falls	[ ]
Electrocutions	[ ]	Hand Tools or equipment	[ ]
Chemical inhalations	[ ]	Chemical Inhalation	[ ]
Others (specify)		Others (specify)	

10. What Caused the Injury/harm? (Tick as many as applicable)

Part III: SAFETY POLICY

These set of questions are about policy in your organization. Please express your views by rating the following statements.

1. How familiar are you with the safety policy in your organization?

a) Not at all familiar b) Slightly familiar [ ] c) Somewhat familiar [ ] d) Moderately familiar [ ] e) Extremely familiar [ ]

2. Do you clearly understand the safety policy of your organization?

a) Yes I do [ ] b) No, I don't [ ] c) Somehow I do [ ]

3. How effective are the policies at your workplace?

a) Very ineffective [ ] b) Ineffective [ ] c) Not sure [ ] d) Effective [ ] e) Very effective [ ]

4. How well are the policies been enforced at your workplace?

a) Never [ ] b) Rarely [ ] c) Sometimes [ ] d) Often [ ] e) Always [ ]

5. How positive do the safety policies impact your work life in the organization?

a) No impact [ ] b) Minor impact c) Neutral [ ] d) Moderate impact [ ] e) Major impact [ ]

6. In general, how satisfied are you with your organization's policies?

a) Very dissatisfied [ ] b) Dissatisfied [ ] c) Unsure [ ] d) Satisfied [ ] e) Very satisfied [ ]

Part IV: SAFETY BEHAVIOUR

Mark (√) how much you agree or disagree with each statement below on precautionary actions; From 1 (Strongly Agree) to 5 (Strongly Disagree), there are five possible responses.

Statement	**1**	**2**	**3**	**4**	**5**
I take measures to ensure my personal security at work.					
When it comes to health and safety, I know exactly what is expected of me.					
Even if it is not my job, I always try to resolve any safety issues that may affect my workplace.					
If I notice a coworker engaging in risky behaviour					

while on the job, I will step in to correct them.					
The locals are quite conscientious about donning their PPE whenever required to do so.					
Every member of my staff shares my dedication to health and safety in the workplace.					
At work, I always observe the dress code and wear my PPE.					
To get things done quickly, I sometimes disregard safety procedures.					
When I am busy at work, I don't always remember to use safety gear.					

PART V: FACTORS INFLUENCING SAFETY BEHAVIOURS

Please select your preferred response by checking the box next to the sentence that best describes your organization's safety culture: 1-Strongly Agree, 2-Agree, 3--Not Sure, 4 Disagree, and 5-Strongly Disagree.

Statement	**1**	**2**	**3**	**4**	**5**
My boss insists on giving everyone in the office thorough safety instruction.					
My workplace immediately addresses any unsafe conditions.					
Workplace safety is an open topic of conversation between my manager and my team.					
My supervisor places a strong emphasis on					

workplace safety.					
All the required PPEs (Personal Protective Equipment) like safety shoes, helmets, goggles, gloves, lab coats, facemasks etc. for my job are always available.					
My team has received sufficient safety instruction.					
My company has proper safety measures in place.					
Suggestions for better health and safety are welcomed at this company.					
The administration where I work is very prompt in fixing any issues that may be hazardous to the employees' health.					
When an employee raises a concern about their health, management takes swift and immediate action.					
Leaders that take an active interest in their employees' health issues demonstrate their dedication to reducing stress in the workplace.					
Management places a premium on employees' health and happiness.					
Workers' well-being is clearly valued by management here.					

The welfare of workers is given the same priority as that of output by management.					
There is good communication in this organisation about health and safety issues that affects me.					
My manager frequently shares articles and resources with me that pertain to employee health and happiness on the job.					
When I make suggestions to management about how to improve workplace safety, they take them seriously and try to implement them.					
Participation in health and safety issues occur with all workers.					
Management encourages workers to get involved in health and safety issues.					
There is a strong emphasis on stress prevention across all departments in my company.					

APPENDIX C

INTRODUCTORY LETTER FOR ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF HEALTH, PHYSICAL EDUCATION & RECREATION

TELEPHONE: +233 - (0)206610931 / (0)543021384 / (0)268392819 9[1]

EMAIL: **hper@ucc.edu.gh**

TELEX: 2552, UCC, GH.

Cables & Telegrams:
UNIVERSITY, CAPE COAST

Our Ref: **ET/HLE/19/0006/5**

16th February, 2021.

The Chairman
Institutional Review Board
University of Cape Coast
Cape Coast

INTRODUCTORY LETTER: GERTRUDE NAA TORSHE OBODAI (ET/HLE/19/0006)

The above-named person is a student of the Department of Health, Physical Education and Recreation of the University of Cape Coast. She is pursuing a Master of Philosophy degree in Physical Education. In partial fulfilment of the requirements for the programme, she is conducting a research for her thesis titled **"Factors Influencing Safety Behaviours of Staff of Volta River Authority, Akosombo."**

She has defended her thesis proposal and has passed. I therefore kindly request that she is granted ethical clearance to enable her conduct the research.

Counting on your usual co-operation.

Thank you.

Daniel Apaak (Ph.D)
HEAD

APPENDIX D

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878309
E-MAIL: irb@ucc.edu.gh
OUR REF: UCC/IRB/A/2016/966
YOUR REF:
OMB NO: 0990-0279
IORG #: IORG0009096

28TH MAY, 2021

Ms. Gertrude Naa Torshie Obodai
Department of Health, Physical Education and Recreation
University of Cape Coast

Dear Ms. Obodai,

ETHICAL CLEARANCE – ID (UCCIRB/CES/2021/32)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted Provisional Approval for the implementation of your research **Safety Behaviour of Volta River Authority Staff, Akosombo.**This approval is valid from 28th May, 2021 to 27th May, 2022. You may apply for a renewal subject to submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Samuel Asiedu Owusu, PhD
UCCIRB Administrator

ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST

APPENDIX E

INTRODUCTORY LETTER TO INSTITUTIONAL REVIEW BOARD

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF HEALTH, PHYSICAL EDUCATION & RECREATION

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Our Ref:

EMAIL: **hper@ucc.edu.gh**

Cables & Telegrams:
UNIVERSITY, CAPE COAST

15th February, 2021.

The Chairperson
Institutional Review Board
University of Cape Coast
Cape Coast

Dear Sir,

INTRODUCTORY LETTER – MISS. NAA TORSHIE GERTRUDE OBODAI

I introduce to you Miss. Naa Torshie Gertrude Obodai of the Department of Health, Physical Education and Recreation (HPER). Gertrude is an M.Phil Health Education candidate who is currently working on her thesis, titled **"Safety Behaviour of Staff of Volta River Authority, Akosombo".** The aim of this study is to explore safety behaviours and factors influencing such behaviours among workers of the Volta River Authority, Akosombo station.

The candidate has successfully defended the thesis proposal, and she is ready, with the necessary permissions, for the field work. Therefore, I request that your office provide the necessary supports to aid her field work.

You may contact the Supervisor, Dr. Edward Wilson Ansah, on Tel: +233-247703379 or edward.ansah@ucc.edu.gh for any further clarification.

I count on your usual support.

Yours faithfully

Dr. Edward Wilson Ansah
Tel: 0247703379
Email: edward.ansah@ucc.edu.gh

APPENDIX F

INTRODUCTORY LETTER TO AKOSOMBO VRA

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
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UNIVERSITY, CAPE COAST

Our Ref: **ET/HLE/19/0006/6**

4th June, 2021

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

INTRODUCTORY LETTER: MISS GERTRUDE NAA TORSHIE OBODAI (ET/HLE/19/0006)

The above named person is a student of the Department of Health, Physical Education and Recreation of the University of Cape Coast. She is pursuing a Master of Philosophy degree in Health Education. In partial fulfilment of the requirements for the programme, she is conducting a research for her thesis titled **"Factors Influencing Safety Behaviours of Staff of Volta River Authority, Akosombo."**

We would be very grateful if she is granted the opportunity to conduct her research and also provide her with the information needed from your outfit. The data will be used for academic purposes only and be assured that the data collected will be treated with utmost confidentiality.

We count on your usual co-operation.

Thank you.

Yours faithfully,

Daniel Apaak (Ph.D)
(Head of Department)
Tel.: +233 (0)208587866
Email: daniel.apaak@ucc.edu.gh