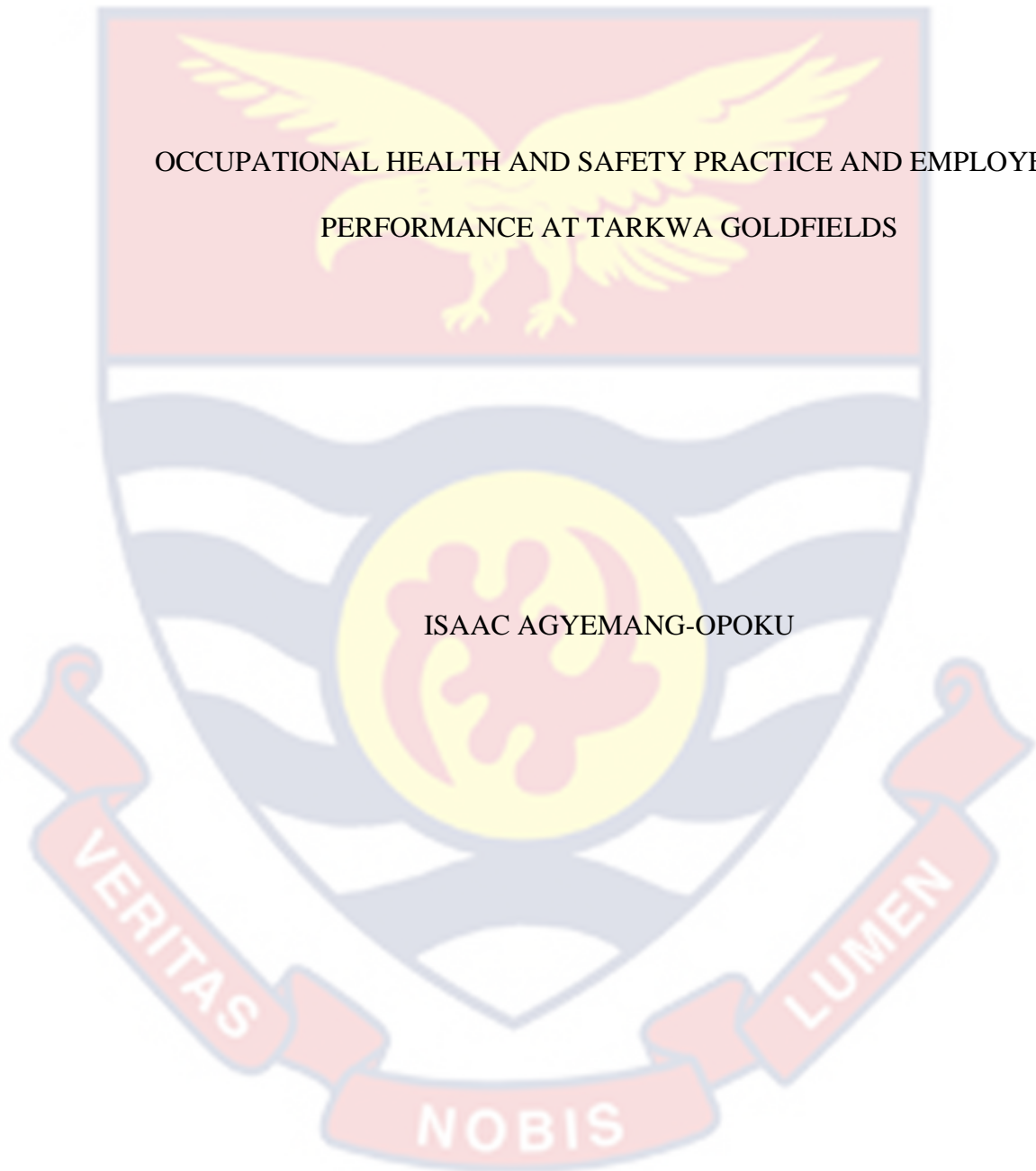


UNIVERSITY OF CAPE COAST



OCCUPATIONAL HEALTH AND SAFETY PRACTICE AND EMPLOYEE
PERFORMANCE AT TARKWA GOLDFIELDS

ISAAC AGYEMANG-OPOKU

2024

UNIVERSITY OF CAPE COAST

OCCUPATIONAL HEALTH AND SAFETY PRACTICE AND EMPLOYEE
PERFORMANCE AT TARKWA GOLDFIELDS

BY

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Dissertation submitted to the Department of Human Resource Management of
the School of Business, College of Humanities and Legal Studies, University
of Cape Coast in partial fulfilment of the requirements for the award of Master
of Business Administration degree in Human Resource Management

JANUARY 2024

DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

Candidate's Signature..... Date.....

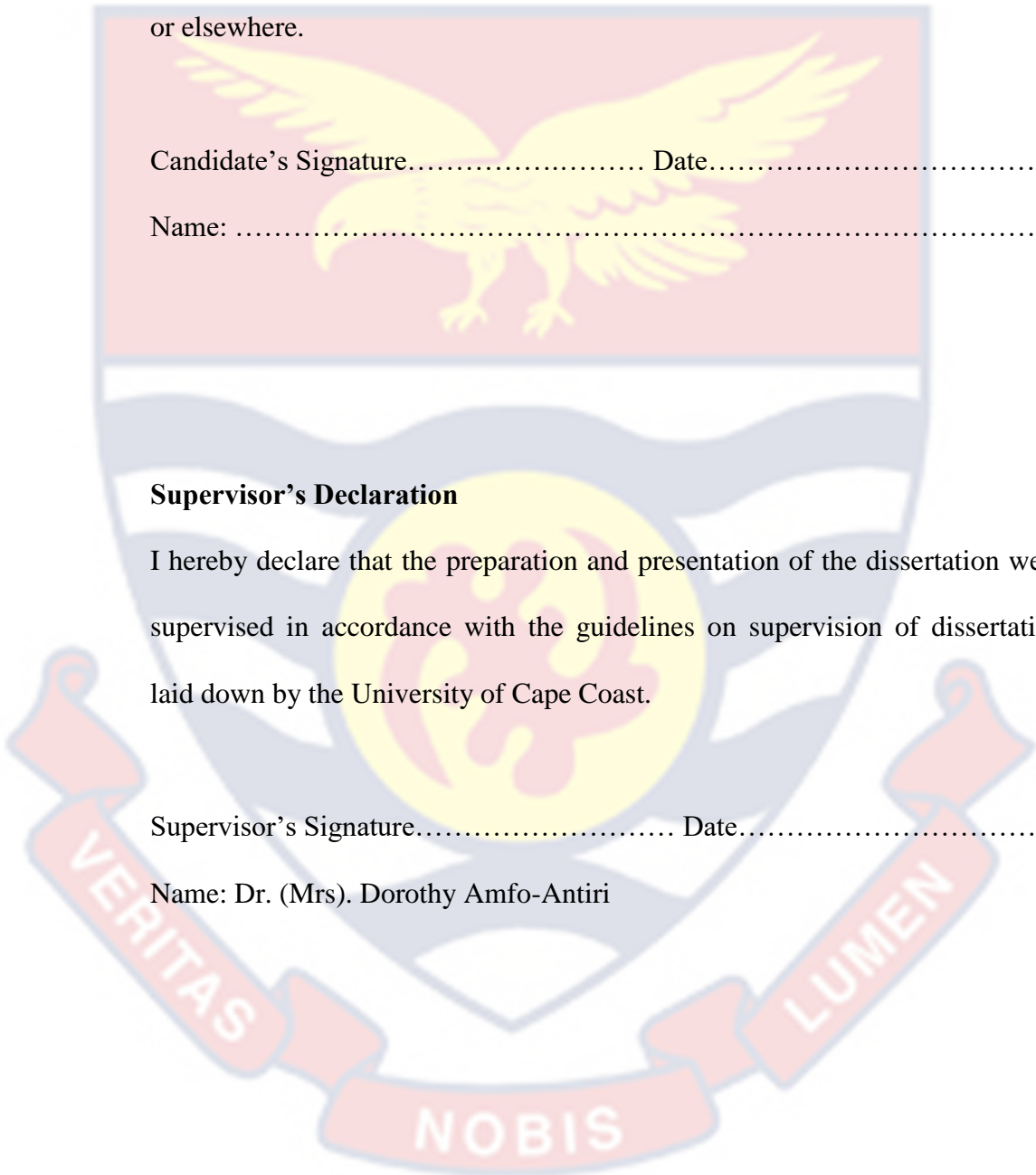
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Supervisor's Declaration

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

Supervisor's Signature..... Date.....

Name: Dr. (Mrs). Dorothy Amfo-Antiri



ABSTRACT

The study sought to assess the occupational health and safety practices and employee performance at Tarkwa Goldfields. To achieve this, the study analyzed the effect of management commitment to safety, supervisors' safety practices, co-worker safety practices, job safety and safety programs on employee performance at Tarkwa Goldfields. To achieve these specific objectives, an explanatory research design and a quantitative approach were adopted. The population for this study focused on all employees who work at engineers and planner, mineral processing unit and mining and civil contractors comprising of 190 staff. A sample size of 129 respondents were subsequently made to participate in the study and a simple random sampling technique was adored. The study adopted a questionnaire for gathering primary data. Descriptive and inferential statistics were used to analyse data. Frequency and percentages were used to analyse the demographics of the respondents whilst linear regression was used to analyse the research objectives. The results of the study revealed that management commitment to safety, supervisors' safety practices, co-worker safety practices, job safety and safety programs had positive and significant effect on employee performance at Tarkwa Goldfields. The study recommended that management commitment to safety should be applied to all organisational levels to ensure high commitment to safety. Similarly, it is recommended that supervisors' must take immediate steps to correct unsafe or unhealthy workplace conditions or hazards within their authority and ability to do so. Lastly, management should use a proactive approach to managing workplace safety and health.

KEY WORDS

Management Commitment to Safety,

Supervisors' Safety Practices

Co-Worker Safety Practices

Job Safety

Safety Programmes

Employee Performance

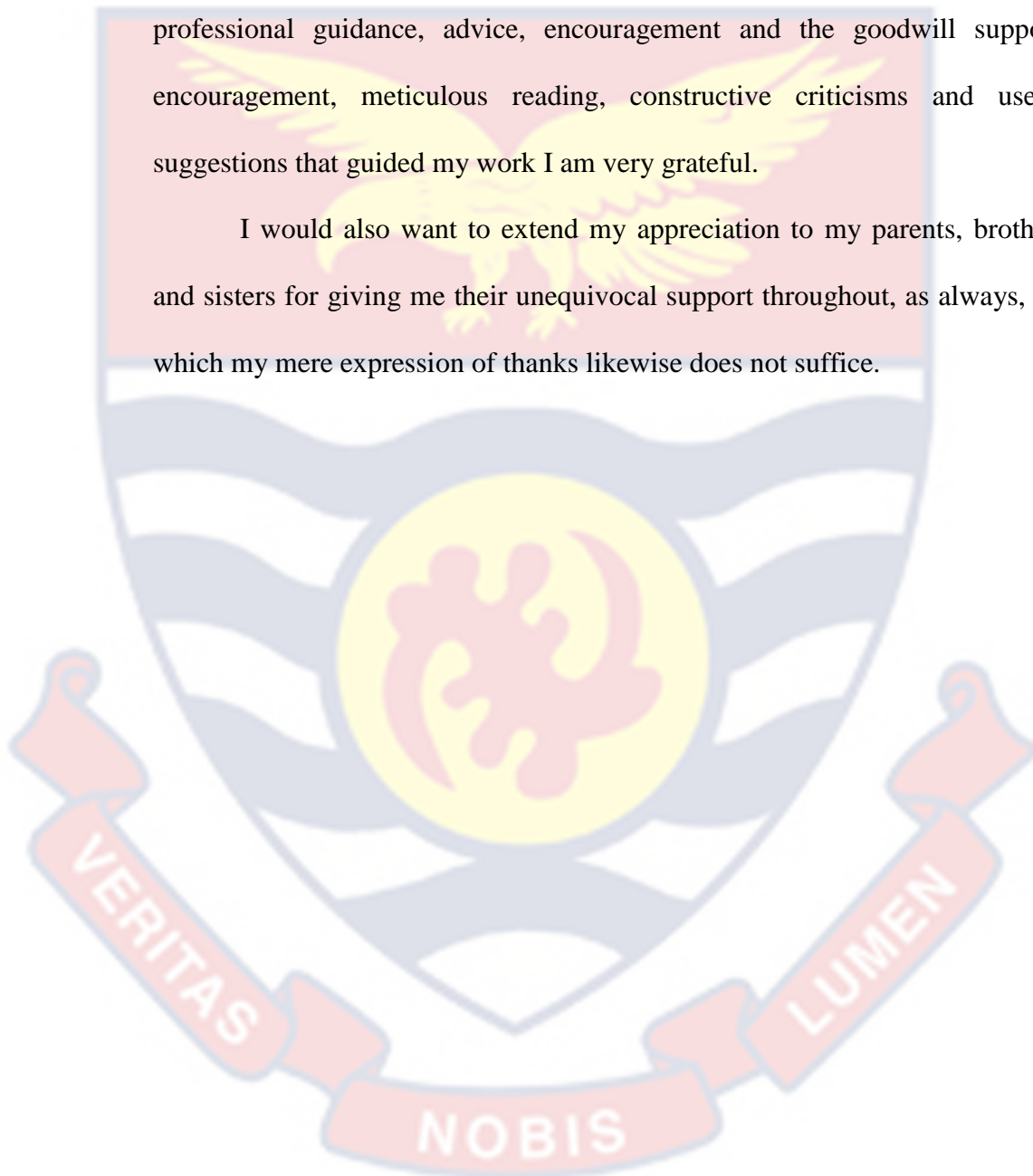
Tarkwa Goldfields



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DEDICATION

This work is dedicated to my parents, sisters, brothers and my children



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CHAPTER ONE

INTRODUCTION

In Ghana, several sources indicate that the mining industry was the most important contributor to the nation's economy in terms of employment, direct and indirect revenues, exports, and investments until the discovery and exploitation of oil in commercial quantities. However, despite these positive contributions, the industry is typically associated with hazardous working conditions, which affect the health and safety of workers. It is reported that staff of the mining sector are frequently at risk of occupational injury due to the abundance of risk factors such as rock falls, fire explosions, mobile equipment accidents, entrapments and electrocutions (Stemn, 2018). Overall workplace injury also increased from 9,664 cases in 2017 to 18,070 cases in 2018 (Ghana Mineral Commission, 2019). Therefore, a study on occupational health and safety and employee performance is imperative.

Background to the Study

The mining environment is considered hazardous despite the technical improvements regarding safe work conditions and equipment. Mining workplaces can be classified as very dynamic work environments. This is because they are in a constant state of change by their nature. Physical work demands and environmental stressors such as exposure to extreme weather conditions, exposure to high levels of vibration and significant amounts of repetitive and manual work, make the mining environment very dynamic (Scharf, Vaught, Kidd, Steiner, Kowalski & Wiehagen, 2001). Despite considerable efforts in many countries to curb workplace mishaps, the toll of death, injury and disease among the world's mine workers indicate that mining

remains the most hazardous occupation when it comes to the number of people exposed to risk (Amponsah-Tawiah & Mensah, 2016). In trying to study and control workplace accidents and injuries, organisations have adopted occupational health and safety measures as way of improving safety.

Occupational health and safety are multidisciplinary concept that concentrates on the promotion of health, safety, and welfare of people engaged in work or employment (Bhagawati, 2013). According to Amponsah-Tawiah et al (2011), occupational health and safety encapsulates the mental, emotional, and physical well-being of the worker in relation to the conduct of his/her work and, as a result, marks an essential subject of interest impacting positively on the achievement of organisational goals. Bhagawati, (2013) assert that Occupational Safety and Health (OSH) is an effort to prevent and reduce the risk of accidents and occupational diseases by recognizing things that could potentially lead to work-related accidents and diseases as well as anticipatory actions in the event of accidents and occupational diseases. Muchemedzi and Charamba (2006)

Work safety and work health are efforts to ensure and maintain the physical and integrity of the workforce, especially humans, towards a just and prosperous society (Idaman, Rahmat, & Rina, 2019). The implementation of an occupational safety and health program for employees is very important because it aims to create a work safety and unity system that involves elements of management, workforce, conditions and integrated work environment in order to reduce accidents. The issue of occupational health and occupational safety is not solely the responsibility of the government but the responsibility of all parties, namely employers, workers and the community

(Busyairi, 2014). For employers to achieve health safety through several policies. Hayes, Perander Smecko and Trask, (2014) proposed five constructs of assessing workplace safety. These authors are of the view that management commitment to safety, supervisors' safety practices, co-worker safety practices, job safety, and safety programs are some of the critical issues that could be looked at in terms of safety at the workplace. Hence, these dimensions are adopted for this study.

Management commitment to safety indicates the extent to which the Organisation 's top management demonstrates positive and supportive safety attitudes toward their employees' safety (Liu et. al, 2014). Yule, Flin and Murdy (2014) noted that employees' perception of dedicated management's action to safety resulted in accident reduction. Similarly, supervisors' safety practices describe the extent to which a supervisor keeps track of unsafe practices as well as acknowledges the workers who adopt safe work behaviours. Another interesting element in health and safety management that could be used to increase safety performance at the workplace is co-worker safety practices. Co-worker safety concerns the extent to which workers perceive their colleagues as valuing safety. Additionally, according to the Occupational Safety and Health Administration (2014), job safety analysis is a technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. The last dimension is the safety training given to employees in order for them to work safely and with no danger to their wellbeing. Cole (2013) posits that employees who are healthy and feel safe at

work are those who can fully invest their capabilities and exploit the best of their potentials to work.

Employee performance is a very important thing in the company's efforts to find its goals (Rivai et al., 2019). According to Zin et al. (2013), performance can be interpreted as what is done or not done by an employee in carrying out his main tasks. Mangkunegara (2011) states that, "performance is the result of quality and quantity of work achieved by an employee in carrying out their duties in accordance with the responsibilities given to him." The quality intended here is smoothness, cleanliness, and accuracy in terms of work results, while the quantity is measured by the number of jobs completed by employees. Junaidi and Shabri (2020), explained performance as "the record of outcomes produced on a specified job function or activity during a specified time period". In this definition, the aspect emphasized by the two authors is a record of the outcome or final results obtained after a job or activity is carried out for a certain period of time. Thus, performance entails a series of results obtained by an employee during a certain period. In practical terms performance within an organisational environment is determined by the quantity of work achieved, the quality of work achieved, the time period to achieve the work, attendance and activities while present at work and ability to work together (Nawawi, 2006).

Sinclair, Tucker, Wright and Cullen (2017), are of the view that when Organisation s fail to address poor working conditions such as health and safety issues, workers are more likely to judge the costs of staying with the firm as exceeding the costs of leaving. Grawitch, Trares and Kohler (2016), explored the relationship between employee satisfaction with different

workplace practices (i.e., employee involvement, growth and development, work-life balance, recognition, health and safety) and employee outcomes such as performance. Overall, regression results indicated that satisfaction with healthy workplace practices was predictive of employee outcomes. In China, Siu (2012) found a positive relationship between affective commitment and physical wellbeing of employees. To have committed employees, management must show concern for the health, safety, and welfare of people engaged at work.

The main theories used to guide this study include risk theory/defence in-depth theory and accident model based on systems theory. Risk theory/defence in-depth theory indicates that a defence in-depth approach acknowledges that all systems are fallible and that by lining up layers of defence in depth, organisations are presented with the opportunity of catching, retarding or retiring risk prior to failure. Therefore, if organisations develop and implement occupational health and safety practices, it mitigates potential accidents that might occur. The accident model based on systems theory posit that accidents occur when external disturbances, component failures, or dysfunctional interactions among system components are not adequately handled by the control system, that is, they result from inadequate control or enforcement of safety related constraints on the development, design, and operation of the system. This theory is relevant to the study because it postulates that, to ensure safety and positive employee outcomes, Organisations are expected to implement comprehensive occupational health and safety practices to protect employees.

Statement of the Problem

The relationship between organisational health and safety practice and employee performance hasn't been adequately studied within Tarkwa Goldfields. It's unclear how unsafe work conditions, accidents, and injuries affect employee morale, motivation, and productivity. This lack of understanding hinders the development of targeted interventions to improve both organisational health and safety practice and employee performance.

The Inspectorate Directorate of the Minerals Commission (2020) reports that the mining sector contributed an income of Gh 3,596,960,368 to the gross domestic product. This translates to a 14.9% contribution to GDP. However, despite these positive contributions, the industry is typically associated with hazardous working conditions, which affect the health and safety of workers. The International Labour Organisation estimates that mining employs around 1% of the global workforce; it accounts for 8% of the global work-related fatalities. In the United States, Marse and Layne's analysis of 16-year fatality data indicated that the industry had the highest fatality rate of 30.3 per 100,000 workers. Similarly, in Australia, Safe Work Australia acknowledged that despite the reduction in fatality rate from 12.4 in 2003 to 4.4 in 2015, the number of deaths in the industry still remains high at a yearly average of 9.

According to the inspectorate division of mining commission, average annual fatality of five and serious injury of 51, with the highest figures recorded in 2011 and 2012 for fatality and 2010–2012 for serious injury. The figure shows that there has been a decrease in the frequency rate of serious injury against that of fatality. The difference between the highest and the

lowest serious injury rate is 1.54, representing 86% reduction, whereas that of fatality is 0.1, representing a 75% reduction. The reduction in serious injury rate is more than 10% better than that of fatality. In addition, comparing the fatality frequency rate of Ghana with that of other major mining countries indicates that Ghana's rate is relatively higher than that of the other countries. For instance, the 10-year fatality frequency rate of Ghana (0.0711) far exceeds that of Australia (0.0279) and the USA (0.0569). For half of the 10 years (2004–2013), the fatality rate of Ghana was consistently higher than that of Australia and the USA. It can be observed that Ghana's minimum frequency rate (0.0353) exceeds that of Australia (0.0131) and that its maximum frequency rate (0.1471) exceeds that of both Australia (0.0556) and the USA (0.085). The data depicts that despite the measures to ensure safety, the fatality is still high.

However, despite these startling figures on occupational health and safety, only a small number of empirical research studies on occupational health and safety practice have been conducted in sub-Saharan Africa specifically, Ghana, where the majority of the citizens are engaged in jobs classified as hazardous such as mining, quarrying, lumbering, farming, and fishing. Arguably, few studies have examined the relationship between occupational health and safety practices (such as management commitment to safety, supervisors' safety practices, co-worker safety practices, job safety, and safety programs) and employee outcomes such as performance, particularly in the mining industry (Kim, Park, & Park, 2016). In light of the provocative issues on the extraction of ore from the earth in recent times, this study sets out to investigate occupational health and safety management from

the employees' perceptions and its implication on employees' outcomes, specifically their performance.

There has been an upsurge in Material unwanted events (MUEs) or challenges in safety and health in Gold Fields' operations. Gold Fields' major safety challenges have been identified, amongst others, as explosives, vehicle incidents, fire, hazardous materials, slope stability, machinery and guarding and underground ground control. The major health material unwanted events identified are tailings facility incidents and exposure to hazardous chemicals, particularly cyanide. Therefore, despite the behavior-based safety programs that are in place across operations, the available data indicates that Goldfield's safety performance reduced after years of steady improvement. For example, the safety delivery report (2017) indicates that the number of recordable injuries rose to 138 in 2017 from 124 in 2016. Out of the 138 injuries, 75 were employee injuries and 63 were contractor injuries. For instance, in October 2017, a contractor at the Tarkwa mine was crushed by equipment in a scaffold storage shed. Therefore, a study must be conducted to evaluate occupational health and safety practices and their impact on employee outcomes such as performance.

Purpose of the study

The purpose of the study is to evaluate occupational health and safety and employee performance at Tarkwa Goldfields.

Research Objectives

1. To examine the effect of management commitment to safety on employee performance at Tarkwa Goldfields.

2. To examine the effect of supervisors' safety practices on employee performance at Tarkwa Goldfields
3. To examine the effect of co-worker safety practices on employee performance at Tarkwa Goldfields
4. To examine the effect of job safety on employee performance at Tarkwa Goldfields
5. To examine the effect of safety programs on employee performance at Tarkwa Goldfields

Research Questions

1. What is the effect of management commitment to safety on employee performance at Tarkwa Goldfields?
2. What is the effect of supervisors' safety practices on employee performance at Tarkwa Goldfields?
3. What is the effect of co-worker safety practices on employee performance at Tarkwa Goldfields?
4. What is the effect of job safety on employee performance at Tarkwa Goldfields?
5. What is the effect of safety programs on employee performance at Tarkwa Goldfields?

Significance of the Study

The significance of the study was to be seen in diverse ways. The research was to serve as the basis for increasing the awareness of health safety as well as identifying the weaknesses of the various strategies that employers adopted to enhance health and safety standards and to recommend achievable ways of improving them. It was also to provide some basis for other facilities

or Organisations to adopt the recommendations and use them. It was to make employers know the consequences that occupational health and safety had on employees' performance. The study would further help policymakers in their amendments as well as management in their decision-making and serve as a reference point for all including the Government. It was to provide the management of Tarkwa Goldfields with the extent to which occupational health and safety could add more value to the image of the company. This was to help employers know how to invest in employees' health and safety rather than other alternative attempts to solve their productivity problems by application of various management techniques.

Delimitations of the Study

The study sought to evaluate the occupational health and safety practices and employee performance at Tarkwa Goldfield, a subsidiary of the Goldfields group of companies. The population of the study includes all engineers, mining and civil contractors, and employees at the mineral processing unit. All administrative staff are exempted from the population. Data will be gathered with a structured questionnaire.

Limitations of the Study

The study was quantitative in nature and prioritized quantifiable data, often through surveys, experiments, or data analysis. This provides valuable insight into patterns and trends but struggles to capture the "why" behind them. The motivations, thoughts, and experiences of participants remain relatively unexamined. Additionally, focusing on numerical data, quantitative studies can overlook the context in which the data was collected. This can lead to incomplete or even misleading interpretations.

Also, drawing valid conclusions from a small sample size can be challenging. To ensure accuracy, quantitative studies often require a large, representative sample, which can be costly and time-consuming to obtain.

Definition of Terms

Occupational health and safety (OHS): is a broad field dedicated to protecting the physical, mental, and social well-being of workers in all occupations. It's vital for both preventing harm and promoting well-being in the workplace.

Employee performance: is the measurement of how well an employee fulfills their job duties and responsibilities.

Management commitment to safety: is the cornerstone of any successful safety program. It refers to the active leadership and support demonstrated by managers and supervisors in prioritizing worker safety and health.

Supervisors' safety practices: Supervisors play a crucial role in shaping workplace safety culture and ensuring the well-being of their team. Effective supervisors actively engage in a variety of safety practices that go beyond simply enforcing rules.

Job safety: refers to the conditions and practices in a workplace that protect employees from physical, mental, and social harm.

Organisation of the study

The study is divided into five chapters. The first chapter consists of an introduction that includes the background, problem statement, objectives, research questions, significance, scope, limitations, and Organisation of the study. Chapter two provides a review of related literature of the study with

emphases on a theoretical framework as well as an empirical analysis of the study while the third chapter outlines the methodology of the study which includes population, research design, sampling and sampling procedures, sources of data, data collection and procedures for data presentation and analyses. Chapter four analyses as well as discuss the results of the data while the final chapter, summarizes and offers recommendations and a conclusion for the study.



CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter of the study includes the theoretical review, conceptual review, empirical review and conceptual framework. The theoretical review explains the principles and the relevance of the theories underpinning this study. The conceptual review captures the concepts of occupational health and safety [OHS], dimensions of OHS, employee performance, nexus between OHS and employee performance. The empirical review captures recent studies that explains the links among the variables considered in this research. Lastly, the conceptual framework captures the pictorial presentation of the links among the constructs.

Theoretical Review

The main theories used to guide this study include risk theory/defence indepth theory and accident model based on systems theory. These were selected for the study because of their practicability in the field of occupational health and safety.

Risk/ Defence in Depth Theory

According to Reason (2010), risk has a trajectory, which passes through corresponding holes in the layers of defence, barriers and safeguards and if it achieves a 'direct flow through', will result in a failure. Bryers, and Van Teijlingen, (2010) indicates that a defence in-depth approach acknowledges that all systems are fallible and that by lining up layers of defence in depth, organisations are presented with the opportunity of catching, retarding or retiring risk prior to failure. Human risk factors essentially follow a similar

trajectory in that there are both active failures and latent conditions (over a period of time combined with degenerative conditions) that coexist within the workplace and when these factors come together, they often lead to poor health and result in poor productivity outcomes. To apply the Defence in Depth theory in an occupational health setting, there is the need to explore four critical health defence layers that can improve the ability to control health risks.

These are pre-employment health screening; health management (including health surveillance and assessments, wellbeing and absenteeism); injury management/rehabilitation (Workers Compensation); and exit medicals. Each of these four key defence layers has the ability to “catch, retard or retire risk” so that an error trajectory is not achieved and more importantly, the likelihood of a failure is reduced significantly (ILO, 2010). For many organisations the four critical health layers tend to be managed by separate departments and as such the information tends to remain in its “silo” and not used in a holistic view for improving health. In many industries a number of health defence layers already exist. Examples of these include Pre-Employment Medicals, Periodic Medicals, Health Surveillance Activities, Health Risk Assessments, Wellbeing Programmes, Flu Vaccinations, and Employee Assistance Programmes (EAP) and Exit Medicals.

Whilst they may exist in different combinations, a common challenge is that they tend not to form part of an overall health risk management strategy. Lining all of the health components up and having a conduit between them becomes the key to releasing valuable, risk-based information that can greatly enhance any organisation’s ability to identify health risk trends and then use

this information in a positive way to reduce the likelihood of poor health outcomes and deliver measurable business and employee benefits. The Defence in Depth model when used in an occupational health setting allows any organisation to build in layers of defence to safeguard against failure. Failure in this context can mean identifiable injuries, a loss in productivity due to ill-health or postemployment claims.

Accident Model based on the system theory

The philosophy underlying the new model, called Systems-Theoretic Accident Model and Processes (STAMP) is that, system theory is a useful way to analyze accidents, particularly system accidents. In this conception of safety, accidents occur when external disturbances, component failures, or dysfunctional interactions among system components are not adequately handled by the control system, that is, they result from inadequate control or enforcement of safety related constraints on the development, design, and operation of the system (Xing, Meng, & Meng, 2020). In this context, the organisation under study is referred to as the system. Safety then can be viewed as a control problem, and safety is managed by a control structure embedded in an adaptive socio-technical system (Leveson, 2004). The goal of the control structure (management of the mining company) is to enforce constraints on system development (including both the development process itself and the resulting system design) and on system operation that result in safe behaviour (Jianyu, & Zhang, 2021). In this framework, understanding why an accident occurred requires determining why the control structure was ineffective. Preventing future accidents requires designing a control structure that will enforce the necessary constraints.

In STAMP, systems are viewed as interrelated components that are kept in a state of dynamic equilibrium by feedback loops of information and control. A system in this conceptualization is not a static design but a dynamic process that is continually adapting to achieve its ends and to react to changes in itself and its environment. The original design must not only enforce appropriate constraints on behaviour to ensure safe operation but the system must continue to operate safely as changes occur. The process leading up to an accident (loss event) can be described in terms of an adaptive feedback function that fails to maintain safety as performance changes over time to meet a complex set of goals and values. Instead of defining safety management in terms of preventing component failure events, it is seen as a continuous control task to impose the constraints necessary to limit system behaviour to safe changes and adaptations. Accidents can be understood, using this model, in terms of why the controls that were in place did not prevent or detect maladaptive changes, that is, by identifying the safety constraints that were violated and determining why the controls were inadequate in enforcing them. The basic concepts in STAMP are constraints, control loops and process models, and levels of control. This model shows the study as to how management in an organisation enforces behavior change to prevent accidents among its workers.

Concept of Occupational Health and Safety

The concept of health has been defined variously; Buck Consultants (2009) define health as the protection of workers in their employment from risks resulting from factors adverse to health. Another definition by Alfes (2010) thinks the placing and maintenance of the worker in an occupational

environment adapted to his or her physiological and psychological capabilities is health. Muchemedzi and Charamba (2006) define occupational health as a science concerned with health in its relation to work or working environment. Occupational health programs are thus primarily concerned with the prevention of ill health arising from workplace conditions, whereas safety programs deal with the prevention of accidents and with minimizing the resulting loss and damage to lives and properties.

Boyle posits that the process of managing occupational health and safety is the same as other management activities, but the distinction lies in the complex nature of occupational health and safety. However, according to Burke, Clarke and Cooper (2011), the management of OSH is in many respects exactly the same as managing productivity or other functional areas of operations. This shows that the management of safety at the workplace is not just about prevention of repetitions of accidents that have already occurred but rather must be integrated into the general management system that relates to quality management and protection of the working person and the environment. Therefore, Hayes et al (2022) proposed five constructs of assessing workplace safety and health. These authors are of the view that management commitment to safety, supervisors' safety practices, coworker safety practices, job safety, and safety programs are some of the critical issues that could be looked at in terms of safety at the workplace. Hence these constructs are adopted for this study and discussed subsequently.

Management Commitment to Safety

The management of Organisation s determines the quality of health and safety measures at the workplace. Similarly, Armstrong (2009) claims that workers' well-being is based on the work-life quality offered by their employer's job description and internal safety and health standards. Workers, thus, expect their employers to take due diligence to guarantee their safety at the end of the workday. However, work-related accidents, injuries, and deaths continue to crop up at an alarming rate (Zacharatos et al., 2005). Management commitment to safety indicates the extent to which the Organisation 's top management demonstrates positive and supportive safety attitudes toward their employees' safety. Cooper (2006) defines management commitment to safety as employers' and workers' involvement and engagement in activities to attain safety goals. Yule et al noted that employees' perception of dedicated management's action to safety resulted in accident reduction.

Involvement of management in workplace safety is critical to the acceptance of workplace safety practices by employees. To guarantee workplace safety and acceptance from other stakeholders, management must express safety concerns and ensure that everyone in the workplace understands their health and safety obligations (Brauer, 2016). Hence, management safety practices denote the extent to which management shows full concern and support for employee protection in performing their jobs and put in measures that reduce or eliminate incidences and hazards from the work environment. Fernández-Muñiz *et al.* (2017) believe that this can be achieved when management is proactive in safety at work. Thus, management should be enthusiastically involved in safety practices. This is fruitful when managers

conduct safety meetings with employees to dialogue on risks and hazards detrimental to their lives. Worker safety and danger identification can be recognized by managers visiting locations regularly. Management assists in developing safety plans and ensures that the resources necessary to maintain a safe working environment are accessible.

Supervisor's Safety Practices

Supervisors' safety practices describe the extent to which a supervisor keeps track of unsafe practices as well as acknowledges the workers who adopt safe work behaviors. Supervisors' occupational safety practices express the extent to which supervisors of an Organisation prioritize occupational safety during the decision-making process and how much resource is allocated for it. Particularly, the importance attached by an Organisation to the issue of safety is represented by three basic elements, compliance with the organized safety principles such as training requirements, handbook and procedures and equipment maintenance, and priority given during the allocation of Organisation s sources (equipment, staff time) to ensure health and safety practices (Sánchez, Peláez, & Alís, 2017).

Coworker Safety Practices

Co-worker safety practices has been defined as a type of social support given by workers to their colleagues in workplaces, focusing on their safety behaviors and performance (McFadden, 2015). Such safety-related assistance offered by colleagues was derived from the concept of Active Caring in Geller's (1991) study, where the authors suggested that "workers could remind their peers not to perform an unsafe act" (p. 607). Co-worker safety support was further defined as a set of explicit approaches in later studies

(Halbesleben, & Wheeler, 2015; Tews, Michel, & Ellingson, 2013). For example, Burt et al. (1998) designed the considerate and responsible employee scale with 21 co-worker-support approaches, including “workers should point out hazards to co-workers” and “assist each other with tasks to ensure safety”.

Based on the findings of these studies, the approaches of co-worker safety practices can be categorized into three types: emotion-based, communication-based, and action-based.

Emotion-based safety support aims to enhance the safety awareness of co-workers through giving emotional care, which can involve workers giving positive feedback for working safely, encouraging safe working practices, and reminding one another to adhere to safety guidelines (Roberts & Geller, 1996; Tucker, et al., 2008; Tucker et al., 2010). Unlike emotional-based support that emphasizes spirit caring, communication-based support is to enhance the safety awareness of co-workers through daily communications among workers, such as regularly scheduled discussions of changes that might prevent accidents and discussions of accidents and near misses that had happened previously (Brondino et al., 2012; Burt et al., 1998).

Above two types of support aim to enhance the safety awareness of co-workers by either emotional care or communications, while action-based support emphasizes the specific actions provided by workers to prevent their coworkers from workplace hazards. For example, Tews, Michel, and Ellingson (2013), proposed several actions that could be offered by co-workers in the workplace, including “point out hazards to co-workers” and “warn the co-workers whose behaviors are unsafe”. More recently, “remind

coworkers to use personal protective equipment” was highlighted in the study of Tucker et al. (2008) as a typical type of action-based support.

Job Safety

In recent years, there has been a growing agreement in the literature on the need to address significant workplace consequences on worker safety and well-being (Karanika, Murray & Weyman, 2013). It must be noted that current jobs contain many physical hazards to employees’ emotional and psychological well-being (Andel et al., 2015). Job safety is the level of protection embedded in the job assigned to employees that eliminate risks (Gyekye, 2006). Employers that provide unsafe work contribute to accidents and ill-health effects to both individuals and Organisations as a whole. Factors contributing to safety at work are safe acts on individuals and conditions prevalent to the job being done. Workers' injuries and illness can cause enormous interferences and cost to employers, emotional trauma to the workers themselves and their families. These can impair workplace morale, reduce productivity, increase the rate of quitting, and a stained reputation. Therefore, it is imperative for employers to secure the work and ensure employees are protected while performing duties. Hence, employers' obligation is to offer appropriate exercise in the form of training to employees, offer safe working conditions, and reduce to a minimum any hazards connected with jobs that are hazardous to employees' health and safety.

Therefore, job safety is breaking down the task into various components to identify risks in each step and implement measures to eliminate those risks that can cause harm to employees. Thus, informing and training employees on the risk associated with their jobs. This requires providing a safe

method of working for all jobs, which can threaten the safety of employees by taking into account the people who will do the job, the equipment to be used, the material, and the environment within which the job will be carried out.

Safety Programs

Implementing a workplace safety and health policy is a critical step in safeguarding an Organisation's most precious asset, workers. A safety and health program are a management strategy used to decrease the risk of occupational injury and disease (LaTourrette & Mendeloff, 2008). Employers, in other words, take steps to prevent injury and sickness in the workplace. Effective programs include establishing provisions for the systematic identification, assessment, and avoidance or control of general workplace exposures, specific occupational hazards, and potential hazards that may emanate in foreseeable conditions (Lewis, 2016). Consequently, good training driven by safety programs aids employees in developing a sense of belonging and, as a result, increases their responsibility for workplace safety. Employee knowledge of workplace safety and health develops as a result of safety awareness created through safety programs.

Concept of Employee Performance

When employees are knowledgeable about health and safety at the work environment and believe that it is their limbs that are cut off in case of work place accidents, they tend to modify their attitude to safety issues at work. This eventually makes them stay healthy and reduce absenteeism at work. They become productive because healthy employees are able to meet their set production targets. Employee performance has been defined as the achieved results of operations with the capabilities of the employee who acts

in certain situations (Premalatha, 2013). It also represents the level of productivity of an individual employee, relative to his or her peers, on several job-related behaviours and outcomes (Sarwar, Ketavan, & Butt, 2015). Performance is the achieved outcome of task measured in accordance to preset standards. It is a combined result of effort, ability, and perception of tasks. High performance is a step towards the achievement of organisational goals (Premalatha, 2013).

Dimensions of Employee Performance

To achieve superior performance, employees have to deliver efficiently and effectively. Effective performance covers the evaluation of the main tasks completed and the accomplishments of the employee in a given time period in comparison with the goals set at the beginning of the period. It also encompasses the quality of the accomplishments, the compliance with the desired, standards the costs involved and the time taken in achieving the results. In order to minimize subjectivity, the rating scales used to evaluate jobs must be clearly defined, and evaluators should be thoroughly trained of how to use them.

Ogboso and Amah (2016) opines that efficiency refers to the accomplishment of goals with minimum resources or waste. It includes measures such as time minimization, cost minimization, and waste minimization. Speed and time are important resources for any Organisation and must be seen to seek to maximize speed and minimize time. The way an Organisation does this indicates how efficient and productive their employees are. Speed and time were the essence of time and motion studies since the day of scientific management introduced by Taylor that led to management

efficiency. They are sources of competitive advantage. Doing the right thing in corporate governance terms is an important, but not a sufficient, condition for performance. And doing the wrong thing (e.g. an ineffective audit committee, or lack of independence among the executives) will make it more difficult for an Organisation to perform.

Nexus between Occupational Health and Safety and Employee

Performance

Studies conducted in different sectors on the influence of health and safety practices on employee performance reported a positive relationship between the variables. For instance, Gyekye (2005) found a positive association between employee and safety climate. Workers who expressed more satisfaction at their posts had positive perceptions of safety climate and displayed greater emotional attachment, involvement and expressed stronger feelings of allegiance and loyalty to their Organisation. Cole (2002) asserted that among the key factors that affect employees' productivity and performance include health and safety factors which include the development of organisation plans, shift-working, health and safety policies, including the provision of training, development of safe working practices and the adequate supply of protective clothing and equipment. Additionally, Ofoegbu et al. (2013), shows that employees' exposure to occupational hazards, accidents and violence affect productivity. The finding also proves that there is a direct link between output and health and safety practices at work. Therefore, to boost productivity, companies must constantly train their employees on safety.

Mohammad and Susanty (2016), and Umugwaneza et al. (2019) show that there is a significant influence of safety and health on the employee

performance; the study confirms that poor or absence of health and safety management decreases employee productivity. According to Sgroi (2015), happiness makes people more productive at work, investing in health promotion is a way of increasing employee performance and reducing absenteeism. Roberto et al. (2014) identified the current status and challenges of global occupational safety and health and the needs for preventive action and suggested regulation to interdict and control transfer of hazards products in developing countries. Similarly, Gyekye (2010) reported those Organisation s and small industries are still struggling to adopt risk prevention measures in the workplace and most African countries are known for their poor health and safety practices.

Empirical Review

Umugwaneza, Nkechi and Mugabe, (2019) investigated the effect of workplace safety and health practices on employee commitment and performance in Steel Manufacturing companies in Rwanda. The target population of this study was 533 people, which comprised of Managers, Supervisors and employees. A simple random sampling technique was used to select a sample size of 229 respondents from the target population. The data was collected using questionnaires, interview guide and personal observation. The Statistical Package for Social Science (SPSS) software, version 21.0, was used to process data while descriptive statistics such as the means, modes, standard deviation, variances and inferential statistics were used to analyze the data. The findings of the study indicate that most workers are aware of the dangers of occupational health and safety in the workplace. Also, the study found that although employees are aware of the occupational health and safety

concerns, they neglect to put on the personal protective equipment saying that it is too hot. The study concludes that occupational health and safety significantly affects employee commitment and performance. This study recommends that management should ensure the workers and provide them with personal protective equipment to minimize workplace injuries and accident. The study also recommends that management provide regular education and training on occupational health and safety concerns to prevent workplace injuries, hence, promote productivity.

Kaynak, Toklu, Elci and Toklu (2016) investigated the effects of occupational health and safety practices on organisational commitment, work alienation, and job performance. The study population was comprised of small and medium scale production and services sector workers operating in Kocaeli. The survey was conducted by voluntary participation of white-collared employees who have a global perspective, are easily accessible and better represent their organisational facts. 439 out of 500 questionnaires were returned, but 50 questionnaires were excluded due to several problems. Hair's (2010) approach was adopted in the selection process. Finally, the study was conducted upon the analysis of questionnaire data replies by a total of 389 employees. Occupational health and safety practices scale was adapted from the article of Christopher et al. (2012) and the safety climate survey by Glendon and Litherland (2001). The scale as developed by Goris et al. (2003) was used for job performance. Safety and health programs were found to be significant and positively related to job performance. Additionally, supervisor's safety support was found significant and positive effect on job performance.

Gbadago, Amedome and Honyenuga, (2017) conducted a study to investigate the impact of occupational health and safety measures on employee performance at the South Tongu District Hospital. The study was descriptive in nature. The study used questionnaires and observation as qualitative tools to gather data for the study. The target population for the study is the staff members of the district hospital. the sample was drawn from the district hospital three sampling methods were used. These are purposive/judgmental, stratified and simple random sampling method. The stratified sampling method was used to divide the population into three sub-groups based on their unique characteristics. the three strata are management, doctors and nurses, and other workers. The purposive sampling was used to select all five (5) management members because they are the key individuals who make decisions on OHS in the hospital. The simple random sampling method was then to select members from the remaining two strata. the simple random sampling method was used to give members of each strata a known and equal chance of being selected in assessing the impact of OHS on employee performance, all the respondents agreed that the practice of ohs impact on performance.

Iskamto, Ghazali, Afthanorhan and Narti, (2020) conducted a study on the effect of occupational safety and health on performance. The study was quantitative in nature and data was gathered with a structured questionnaire. The population and sample used was 50 respondents. The sampling technique was census. Data was analyzed with descriptive and inferential statistics. Based on the results of the study, it can be concluded that the work safety and occupational health have a positive significant effect on performance.

Similarly, Opoku, Kosi and Degraft-Arthur (2020) conducted a study on enhancing workplace safety culture in the mining industry in Ghana. The study adopted a quantitative research design. The population of this study comprised all the 3,980 non-managerial employees of the three large scale mining companies in the Tarkwa Nsuaem Municipality.

A survey questionnaire was administered to the 350 sample members. The structural equation modelling (SEM-PLS) technique was performed to establish the relationship between safety culture and the five dimensions of workplace safety. Workplace safety was measured using Hayes et al. (1998) Workplace Safety Scale to assess employee perception of safety in the organisation. The scales measure five dimensions of workplace safety: work safety; co-workers' safety; supervisor safety; management's commitment to safety; and satisfaction with the safety programme. The items were on a five-point Likert Scale with anchors 1 = Least Agreement to 5 = highest Agreement. It was found that safety culture is a significant positive predictor of work safety ($R^2 = 0.039$), management safety practices ($R^2 = 0.272$), safety programmes ($R^2 = 0.159$), co-worker safety ($R^2 = 0.225$) and supervisor safety ($R^2 = 0.199$). The study concluded that workplace safety can be improved by enhancing the safety culture in the mining industry in Ghana. The study recommends that in order to curb the incidence and occurrence of accidents and injuries in the mining industry in Ghana, human resource (HR) managers should lay more emphasis on ways that would enhance the safety culture of all employees in the industry.

Adhika, Rihayana and Salain, (2020) examine the effect of work safety and work health (OHS) on performance with job satisfaction as an intervening

variable on employee's performance with the contract status of the Technical Implementation Unit of the Fire and Rescue Office of Badung Selatan. The sample in this study were contract employees in the technical unit of the South Badung Fire and Rescue Service as many as 63 respondents. The analytical tool used is path analysis (path analysis). The results of the analysis explain that the variable of work safety and work health has a positive and significant effect on employee performance, in addition to directly affecting this variable also influenced by job satisfaction as an intervening variable which can be explained that job satisfaction as an intervening variable that links the variables of work safety and work health has a significant positive result on employee performance partially.

Katunge Jonathan and Wahu Mbogo, (2016) The study thus sought to establish teachers' perspectives on their role in ensuring health and safety workplaces in secondary schools. The study targeted all teachers and deputy principals working under Teachers Service Commission (TSC) and those working under the secondary schools' Board of Management (BOM). Although the study aimed survey principles, they were not available during the data collection period. The study was conducted using the descriptive research design. A questionnaire guide was used for data collection which was then analyzed by the use of Statistical Package for Social Science (SPSS) version 20.

Frequency tables and charts were used for data presentation. From the findings, it emerged that majority of the teaching staff were not involved in the training programs that would equip them with safety skills in their workplace. Most of them were not involved in discussing safety policies in the workplace.

This to a large extent jeopardized the safety of teachers at workplace affecting their preparedness on matters pertaining health hazards and thus their general performance. It is recommended that the Ministry of Education, Science and Technology, in conjunction with the school administrations organize training programs for the teaching staff, involve teachers in discussion of safety policies to align them with the institutions strategic plans as far as Health and Safety at workplace is concerned.

Ji,Wei and Chen,(2018) conducted a study on the effect of co-worker support on construction safety performance from the perspective of risk theory: an agent-based modeling approach. This study adopts agent-based modeling (ABM) to understand the effectiveness of two distinct co-worker-safety-support actions on the safety performance of a construction project. Based on the risk theory, the ABM model simulates a construction site where worker agents reinforce steel bars with the likelihood of suffering crane-related incidents. The results indicate that both co-worker-support actions can significantly reduce the occurrence of nonfatal incidents but shows little influence in fatal incidents, and in reducing high-severity incidents, the action of warning peers to leave the hazardous area has the same effectiveness as reminding peers to wear Personal Protective Equipment. The study provided an insight into the safety-related role of coworkers.

Bayram, (2018) conducted a study to analyse the relationship between management commitment to OHS, employee satisfaction and safety performance. For this purpose, data were collected from 171 firms that operate in Turkey and analyzed through exploratory factor analysis (EFA) and structural equation modelling. It was found that management commitment to

OHS has a positive effect on employee satisfaction, and employee satisfaction has a direct significant impact on safety performance. Also, management commitment to OHS affected safety performance indirectly via employee satisfaction.

Lessons from Empirical Review

It is evident from the review that occupational health and safety and employee performance research within the mining sector is limited as previous largely targeted dependent variables such as safety performance and safety culture and the health and the educational sector. Additionally, there is no empirical investigation into the spike in OHS at Tarkwa Goldfields. Previous studies were quantitative and therefore this study adopted the quantitative approach. Primary data was gathered with a structured questionnaire and validated items were used. Therefore, this study adopted questionnaire as data collection instrument. Validated scales from Hayes et al. (1998) were adopted to measure OHS and the scale as developed by Goris et al. (2003) was used for job performance. SPSS was used by most of the studies for coding and entry of data and same is applied in this research.

Conceptual Framework

The conceptual framework is a diagrammatical representation of the relationships between the independent and the dependent variables. The dimensions of the independent variable are management commitment to safety, supervisors' safety practices, co-worker safety practices, job safety, and safety programs and the dimensions of the dependent variable are efficiency and effectiveness. The links among the variables are depicted in Figure 1.

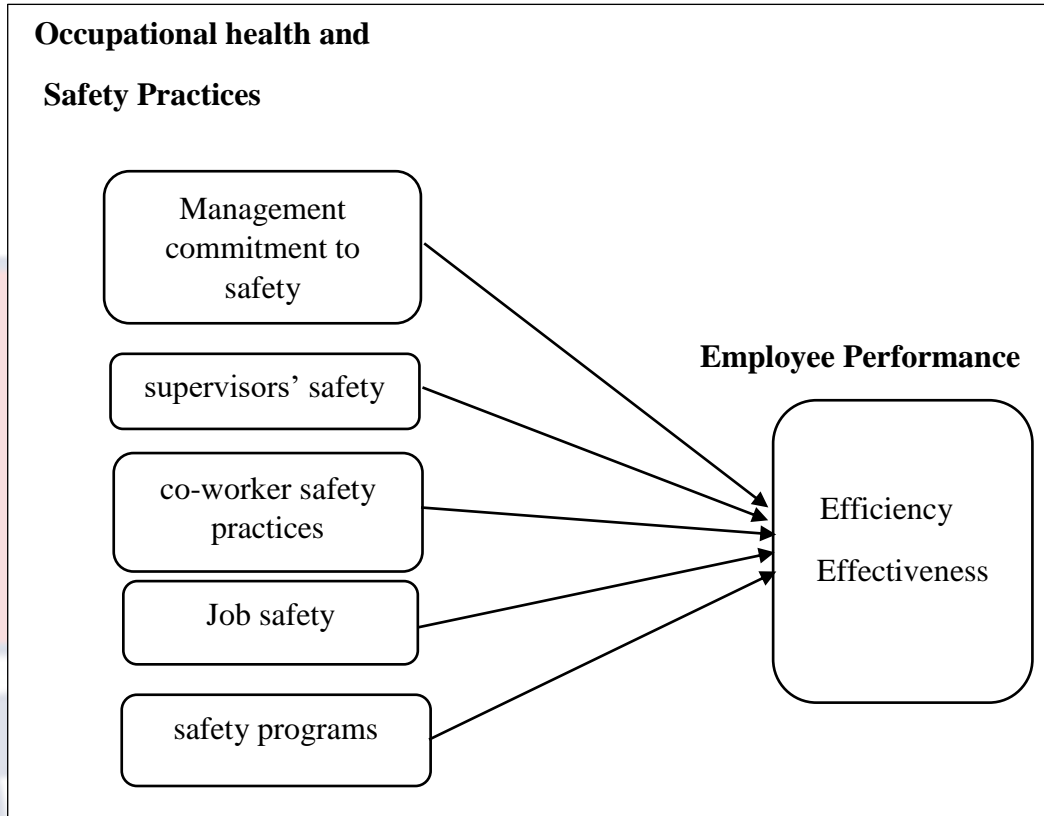


Figure 1: Conceptual Framework

Source: Author's Construct

The conceptual framework depicts that employee performance is influenced by the dimensions of occupational health and safety practices. Therefore, any positive improvement in these dimensions will improve performance and the poor state of OHS will deteriorate employee performance.

Chapter Summary

The chapter captured the theories adopted for the study and their relevance. It was explained that the defence in Depth model when used in an occupational health setting allows any organisation to build in layers of defence to safeguard against failure. Additionally, four dimensions of OHS was explained and their linkage to employee performance were elucidated.

CHAPTER THREE

RESEARCH METHODS

Introduction

Chapter three focused on the methodology employed in analyzing the data gathered for the research objectives and questions. The chapter specifically focused on the research design of the study, research approach, research instrument, study area data collection, analysis of data, population and sampling technique, ethical consideration, and the chapter summary.

Research Design

According to Sekaran and Bougie (2016) and Saunders and Lewis (2007), research design can be categorized into three parts depending on the study's purpose: exploratory, descriptive, and explanatory designs. As opined by Creswell (2014), research designs are forms of analysis used in qualitative, quantitative, and hybrid methods research studies that provide detailed guidance for procedures. A research design, per the assertion of Paquot and Plonsky (2017), also stipulated that, the research design is a blueprint that specifies the exact data procedure or strategy that the researcher will go through to achieve the objectives of the study. Research design is the overall plan for connecting the conceptual research problems to the pertinent (and achievable) empirical research. Saunders and Tosey (2013), emphasize the appropriateness and use of the three main forms research designs, namely; exploratory research design, descriptive design and the commonly used explanatory research design. It was stressed that each research design has its unique usage. Creswell and Creswell (2003), asserted that exploratory research designs are specifically established for research studies where an

enquiry is made into nature such that new knowledge and findings are to be discovered. And such exploratory design is commonly used with qualitative studies as an enquiry is made with respect to the unknown.

Similarly, Nassaji (2015) buttressed the stands of Dulock (1993), Lans and Van der Voordt (2002) and Cantrell (2011), that the descriptive research design is mostly suitable for studies that seeks to arrange and summarize data more effectively. The descriptive nature often helps researchers find, describe, and consider the characteristics of a community of individuals in each situation (Simon, 2011). Lastly is the explanatory design which appropriate research studies that seeks to find cause-and-effect relationships among study concept or variables (Subedi, 2016). Due to the nature of the research problems, study objectives and the research questions, the study's rationale was to investigate the cause-and-effect relationship between occupational health and safety and employee performances in Tarkwa Goldfields, the study subsequently employed the explanatory research design. As postulated by Hardy and Williams (2011), the research design chosen should be based on the research context, research problem, potential limitations, and the study's underlying paradigm. An explanatory design was used in this research. The explanatory design was used to coming out with the study's results.

According to Kekeya (2016), explanatory analysis entails more than just data collection. It has an effect on the problem definition, instrument selection for data processing, data analysis, and evaluation in order to address study questions and draw concrete conclusions. By reducing data to an accessible form and including methods for explaining compilations of statistical findings, descriptive survey architecture allows to arrange and

summarize data more effectively (Simon, 2011). The explanatory nature often helps researchers find the causal effect among the study's variables.

Research Approach

Researchers believe that human behavior, like physical phenomena, can be quantified through natural and social science attributes (Debri, 2003). Osuala (2001) assumes that the epistemological basis of quantitative motifs is the existence of identifiable and quantifiable social facts. Therefore, this study adopts quantitative research methods based on the nature of the research object, specific goals, assumptions, and the main data to be collected and analyzed. believes that quantitative methods explain phenomena by collecting numerical data analyzed by mathematical methods (especially statistics). This approach usually starts with data collection based on hypotheses or theories, and then uses descriptive or inferential statistics (Tashakkori & Teddlie, 2003). Quantitative methods are often called deductive methods, because conclusions drawn from statistical hypothesis testing will lead to general conclusions about general characteristics. Quantitative methods are also often described as assuming the existence of a single "truth" independent of human perception (Lincoln & Guba, 1985). They also found that the results of quantitative research are predictive, explanatory and confirmatory (Williams, 2007).

Study Area

Gold Fields Ghana Limited (GFGL) was incorporated in Ghana in 1993 as the legal entity holding the Tarkwa concession mining rights. Gold Fields Ghana Holdings Limited holds 71.1% of the issued shares of GFGL. IAMGold, through its affiliates, holds 18.9% and the Government of Ghana holds a 10%

free carried interest, as required under the Mining Law of Ghana. Tarkwa is located near the southern end of what is commonly referred to as The Tarkwa Basin, 300 km by road west of Accra, the capital of Ghana. The Tarkwa mine operates under mining leases covering a total area of approximately 20,800 ha.

In 2009, Tarkwa produced 0.612 Moz of gold from heap leach and milling operations at a cash cost of US\$521/oz. Tarkwa employed a workforce of 3,982 as of 30 June 2009, including contractors. Like any other mine inherent risks associated with mining operations at Tarkwa Gold Mine.

There has been an upsurge in Material unwanted events (MUEs) or challenges in safety and health in Gold Fields' operations. Gold Fields' major safety challenges have been identified, amongst others, as explosives, vehicle incidents, fire, hazardous materials, slope stability, machinery and guarding and underground ground control. The major health material unwanted events identified are tailings facility incidents and exposure to hazardous chemicals, particularly cyanide. Therefore, despite the behavior-based safety programs that are in place across operations, the available data indicates that Goldfield's safety performance reduced after years of steady improvement. For example, the safety delivery report (2017) indicates that the number of recordable injuries rose to 138 in 2017 from 124 in 2016. Of the 138 injuries, 75 were employee injuries and 63 were contractor injuries. For instance, in October 2017, a contractor at the Tarkwa mine, was crushed by equipment in a scaffold storage shed. Therefore, it imperative for a study to be conducted to evaluate the occupational health and safety practices and their impact on employee performance at Tarkwa Goldfields.

Population

According to Curtis, Comiskey and Dempsey (2016), the population can be regarded as a target group of researchers interested in obtaining information and drawing conclusions. Robson (2002) also published a general application to all research cases. Robson also warned that population applies not only to people, but also to situations where someone can be interrogated, and when and where. The population for this study focused on all employees who work as engineers and planners, mineral processing units, and mining and civil contractors comprising 190 staff (Human resource directorate of Goldfield Mines, 2023).

Sample and Sampling Technique

According to Malhotra, (2015), “sampling is the process of selecting a representative few or unit from a larger group or population, which is used as a basis of estimating certain characteristics or elements about the group or population”. Bassey and Ramsdale (1995) took a similar view and concluded that respondents who were selected in the most representative way for the entire population were sampled. Similarly, Mugo (2002) refers to a sample as a portion of the population that is selected for investigation. Sample and sampling procedures in research is very important because it help to limit a study to a relatively small portion of the population and also determine how respondents of a study are selected over whom the findings of the study apply and are generalized. A sample size of 129 respondents was subsequently made to participate in the study. The sample size was selected based on Slovin’s sampling formula. The formula is given as; $n = \frac{N}{1+N(e)^2}$

$$n = \frac{N}{1+N(e)^2}$$

Where n = sample size; N = sample frame; and e = margin of error. A margin of error of 5% as suggested by Slovin was applied.

$$N = 190 / 1 + 190(0.05)^2 = 129$$

A simple random sampling technique was used to select respondents from the sampling frame to participate in the study. The precise method was the lottery approach. Simple random sampling technique gives all the elements in the sampling frame equal chance of being selected (Zikmund, Babin, Carr & Griffin, 2009; Malhotra, 2015).

Data Collection Instrument

The study adopted a questionnaire for gathering primary data. Young and Javalgi (2007) pointed out that questionnaire surveys are probably the most widely used data collection technique in research and can be used to measure issues that are critical to business management and development. The research tool used for data collection is the questionnaire. A questionnaire is a set of formal questions used to obtain information from respondents (Malhotra, 2015). The questionnaire includes open-ended and closed-ended questions. Open-ended questions allow respondents to answer questions in their own words, and allow researchers to discover ideas they would not otherwise have heard. They are also useful in situations where more insight is needed and the researcher is not familiar with the topic and cannot provide specific answers (Salant, Dillman, & Don, 1994). However, the disadvantage is that open-ended questions are harder to answer and harder to analyze. Therefore, if you need data from a large sample, this is not recommended because analysis may be a problem.

The closed-ended question asks the participants to choose from a given set of answers and to check all possible answers independently of other choices. The closed element list used—the list of behaviors, characteristics, or other entities examined by the researcher—and the Likert scale—is more useful in continuously assessing behavior, attitudes, or other phenomena of interest (Leedy and Ormrod, 2010). In general, McColl et al., (2005) believes that using questionnaire surveys instead of interview methods has obvious benefits. One of the advantages is that questionnaires are cheaper and easier to process than personal interviews. In assessing the variables, the study adopted validated scales through literature review. Validated scales from Hayes et al. (1998) were adopted to measure OHS and the scale as developed by Ramos-Villagrasa, Barrada, Fernández-del-Río and Koopmans, (2019) was used for assessing employee performance. The opinion of the respondents was assessed on a five-point Likert scale where 1= strongly disagree to 5 = strongly agree.

Reliability and Validity

Reliability and validity are two key factors to consider when evaluating questionnaire. According to Bless and Higson-Smith (2000), reliability is related to the consistency of the instrument. If the instrument can reliably perform accurate and consistent measurements with a constant value, it is said to be highly reliable. The reliability test results of the variables are shown in the table. On the other hand, the effectiveness of a tool refers to the degree to which the tool measures the specific concepts it needs to measure (Saunders et al., 2009). In addition, some argue that the instrument must be reliable to be effective, which means that the instrument must always be repeatable; once this is achieved, the device can be thoroughly inspected to determine whether

it is claiming. The results show that all the variables were reliable with a Cronbach's alpha above 0.7. The reliability results are presented in Table 1.

Table 1: Reliability Results

| Construct | Cronbach's Alpha | Number of Items |
|--------------------------------|------------------|-----------------|
| Occupational Health and Safety | 0.95 | 39 |
| Employee performance | 0.82 | 10 |

Source: Field Survey, (2023)

To ensure the validity of the questionnaire, the researchers also studied other relevant documents that support the structure of the tool. Each element of the scale is a scientifically verified item. In addition, the questionnaire has been submitted to my supervisor for review, correction and approval before being distributed to the respondents.

Data Collection Procedure

Permission for the data collection exercise at Tarkwa Goldfields was sought from the management of the company by a letter issued by the Graduate Studies Unit of the College of Distance Education, University of Cape Coast. The outfit also informed its workforce about the intended study. The purpose of the study was explained to all participants. Date for questionnaire distribution to the participants were set on an agreed term. The questionnaire was self-administered to the respondents. In all hundred and fifteen questionnaires were issued to the respondents.

Data Analysis

Data analysis is the process of editing, cleaning, transforming, and modeling data, highlighting targeted useful information, recommendations, conclusions, and supporting decision-making (Adèr & Adèr, 2008). (SPSS version 25.0). The SPSS process system is configured in the main SPSS application. This simplifies the setup project. This statistical software is

recommended for social science research (Zickmund, 2000). Descriptive and inferential statistics were used to analyse data. Frequency and percentages were used to analyse the demographics of the respondents whilst linear regression was used to analyse the research objectives.

Ethical Considerations

Ethics means meeting accepted norms and being consistent with accepted principles of good ethical behavior (Vos, Strydom, Fouche, & Delport, 2005). First, the University of Cape Coast Distance Learning University received a letter of introduction from the Organisation that collected data from the respondents. Before selecting interviewees for data collection, their informed consent was solicited. This is achieved by explaining to them the purpose of the research and asking them to fill out an informed consent form. The purpose is to ensure that the interviewee is willing to participate in the research. Respondents were told that the information provided will be kept confidential and will not be disclosed to individuals or groups who are not expected to access the information collected from them. We will not disclose to third parties the names and other demographic characteristics of respondents who can personally identify them without their permission.

Chapter Summary

This chapter provides information about collecting, organizing, analyzing, and presenting key research data for easy understanding. This chapter also introduces information about research design and scientific methods, data requirements methods, statistical techniques, and systematic surveys of the surveys reviewed.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents the analysis of the data as well as its interpretation and discussion. This chapter will attempt to provide link between objectives and literature to the findings of this study. The findings were obtained through the analysis of the primary data with appropriate statistical techniques. The findings are presented on Tables.

Section A: Demographic Information of Respondents

The findings concerning the demographic data of the respondents are presented in this chapter. The chapter also provides information for further simple but meaningful analysis to be performed to establish facts on the state of affairs regarding the opinion, behaviour and attitude of the respondents. This section gives an overview of the background characteristics of respondents. This background characteristics include gender, age, working experience as well as the department and educational level of the respondents. The findings regarding the demographic characteristics are presented on Table 2.

Table 2-Demographic Information of Respondents

| Variable | Options | Frequency | Percentage |
|--------------------|--------------------------|-----------|------------|
| Gender | Male | 97 | 75.19% |
| | Female | 32 | 24.81% |
| Age Group | 18-24 years | 24 | 18.6% |
| | 25 – 29 years | 45 | 34.88% |
| | 30 – 34 years | 46 | 35.66% |
| | 35 – 39 years | 5 | 3.88% |
| | 40 – 44 years | 9 | 6.98% |
| Working experience | Below 1 year | 10 | 7.75% |
| | 1 – 5 years | 52 | 40.3% |
| | 6 – 10 years | 47 | 36.43% |
| | 11 – 15 years | 18 | 13.95% |
| | 16 years and above | 2 | 1.55% |
| Department | Engineers/planners | 50 | 38.75% |
| | Mineral Processing | 56 | 43.41% |
| | Mining/civil contractors | 23 | 17.83% |
| Educational level | SHS | 20 | 15.5% |
| | Diploma | 30 | 23.26% |
| | Degree | 76 | 58.9% |
| | Postgraduate | 3 | 2.33% |

Source: Field work, (2023)

The researcher sampled 129 officers of the employees at Tarkwa Goldfields. The respondents that participated in the study included 97 (75.19%) males and 32 (24.81%) females. This gave a balanced representation of both men and women so as to assess their opinion on the study. This also created the avenue for more in-depth comparative analysis to be conducted based on gender-oriented approach. The age distribution of the respondents was also obtained from respondents. This distribution indicated that 24 (18.6%) of respondents were between 18-24 years, 45 (34.88%) representing the highest age group with respondents. Nine respondents representing 9.7%

of respondents were 25-29 years, 46 (35.66%) were 30-34 years, 5 (3.88%) were 35-39 years and 9 (6.98%) were 40-44 years.

This age distribution of the respondents suggests that the institution has relatively younger workforce and they have the potential to remain in the firm for relatively longer period of time. This finding again reflects the nature of caliber of people needed for mining services in Ghana. It is particularly peculiar for the extractive sector of the economy to employ the youth because they have the stamina to execute the hazardous tasks involved in mining services. The distribution indicated that 10 (7.75%) had a working experience below 1 year while 52 (40.3%) had a working experience of 6 – 10 years. 18 respondents, representing 13.95% respondents had a working experience 11-15 years, 2 (1.55%) had a working experience between 11 years and 15 years. 10 (10.8%) respondents also had a working experience between 16 years and above. It can be inferred from the working experience of the participants that majority of the respondents have worked with Tarkwa Godlfields between 1-15 years and therefore have the necessary job experience to be able to provide the needed information concerning how occupational health and safety practices affect their job performance. Concerning the educational level of the respondents, it was figured out that majority of the respondents (76), representing 58.9% had diploma certificates, indicating their current and highest level of education. 20 (15.5%) of the respondents had SHS certificate, 30 (23.26%) and 3 (2.33%) had obtained postgraduate certificate.

Effect of Management Commitment to Safety on employee performance at Tarkwa Goldfields

The first research objective sought to assess the effect of management safety practices on employee performance at Tarkwa Goldfields. To achieve this, a standard multiple regression analysis was conducted. The findings are presented in Tables 3, 4 and 5.

Table 3: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | F Change | df1 | df2 | Sig. F Change |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
| 1 | .871 ^a | .759 | .759 | .557 | .759 | 1082.193 | 1 | 343 | .000 |

Predictor, Management Safety Practices

Dependent: Employee Performance

Source: Field Survey, (2023)

The R in the second column of table 3 explains relationship between the dependent variable (management safety practices) and the independent variable (employee performance) among the employee at Tarkwa Goldfields. It was established there was a strong positive correlation ($r=0.871$) between management safety practices and employee performance at Tarkwa Goldfields. This means that better management safety practices lead to improved performance. The model also reported the predictive capacity of the model and discovered that management safety practices caused 75.9% positive variance in employee performance ($R^2=0.759$). This means that the extent to which management shows full concern and support for employee protection in performing their jobs and put in measures that reduce or eliminate incidences and hazards from the work environment enhances employee performance. It

thus means management safety practices has a positive influence on employee performance at Tarkwa Goldfields. This confirms the earlier study of Cooper (2006) who posit that management commitment to safety through the employers' and workers' involvement and engagement in activities to attain safety goals results in accident reduction.

Table 4: ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|----------|-------------------|
| 1 | Regression | 336.205 | 1 | 336.205 | 1082.193 | .000 ^b |
| | Residual | 106.560 | 343 | .311 | | |
| | Total | 442.765 | 344 | | | |

a. Dependent Variable: Employee Performance

b. Predictor : Management Practices

Source: Field Survey, (2022)

The results in table 4 is for the purpose of determining the significance of model in table 3. Based on the results in table 3, it was found that management safety practices positive variance of 75.9% in employee performance was statistically significant ($p=0.000$: $p<0.05$). Thus, it can be suggested that users of the findings of this study can rely on the model to predict changes in employee performance given same conditional changes in management safety practices because the claim is scientifically supported and not mere due to chance.

Table 5: Coefficients

| Model | Unstandardized | | Standardized t | Sig. | 95.0% Confidence | | | |
|-------|----------------|-----------------|----------------|-------|------------------|-------------|------|------|
| | Coefficients | | | | Interval for B | | | |
| | B | Std. Error Beta | | | Lower Bound | Upper Bound | | |
| 1 | (Constant) | .663 | .117 | 5.683 | .000 | .434 | .893 | |
| | MSP | .838 | .025 | .871 | 32.89 | .000 | .788 | .888 |

a. Dependent Variable: Employee Performance

Source: Field Survey, (2022)

The results in table 4 are for predicting the changes in the dependent variable for a unit increase in the predictor. The linear regression equation is depicted as $Y = a + bx$, where the a is the constant in the first row with a corresponding beta under sub-column B. The 'b' in the equation is coefficient of the independent variable (management safety practices) which is denoted under sub column B in table 6. Based on these figures, the linear regression equation is determined as Y (Employee Performance) = 0.663 + 0.838 (Management safety practices). The equation can be interpreted that, the employees' performance stood at 0.427 even if there are management safety practices. However, when management safety practices are considered in the model, it can be inferred that a unit increase in the management safety practices increases employee performance by 83.8%. This means that management should be enthusiastically involved in safety practices because if for example management of Tarkwa Goldfields conduct safety meetings with employees to dialogue on risks and hazards detrimental to their lives, they will ably put in measures that will make them feel safe and achieve their assigned task.

Effect of supervisors' safety practices on Employee Performance at Tarkwa Goldfields

The second objective sought to assess the effect of supervisors' safety practices on employee performance at Tarkwa Goldfields. This objective was analyzed with a linear regression and the findings are presented on Tables 6, 7 and 8.

Table 6: Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change in R Square | F Change | df1 | df2 | Sig. F Change |
|-------|-------------------|----------|-------------------|----------------------------|--------------------|----------|-----|-----|---------------|
| 1 | .473 ^a | .224 | .223 | .18791 | .224 | 252.668 | 1 | 875 | .000 |

a. Predictors: (Constant), supervisors' safety practices

Source: Field Survey, (2022)

The relationship between the dependent variable (employee performance) and the independent variables (supervisors' safety practices) among the employee at Tarkwa Goldfields. This relationship was established through the R in the model. It was established there was a positive correlation ($r=0.473$) between supervisors' safety practices and employee performance at Tarkwa Goldfields. This means that the more the supervisors at Tarkwa Goldfields adhere to safety practices, the higher the performance of the employees.

The model also reported the predictive capacity of the model and discovered that supervisors' safety practices caused 22.4% positive variance in employee performance at Tarkwa Goldfields ($R^2=0.224$). It thus means that supervisors' occupational safety practices such as training requirements, handbook on procedures, equipment maintenance, and priority given during

the allocation of Tarkwa Goldfields' resources to guarantee the safety of the employees enhance their performance. However, other factors not captured in this model accounts for the remaining 77.6% variance in employee performance in Tarkwa Goldfields apart from supervisors' safety practices considered in this model.

Table 7: ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1 | Regression | 8.921 | 1 | 8.921 | 252.668 | .000 ^b |
| | Residual | 30.895 | 875 | .035 | | |
| | Total | 39.816 | 876 | | | |

a. Dependent Variable: Employee Performance

b. Predictors: (Constant), supervisors' safety practices

Source: Field Survey, (2023)

The results in table 7 seeks to justify the significance of the model in table 6. It was found that supervisors' safety practices made a statistically significant positive predictor of employee performance at Tarkwa Goldfields ($p=0.000$: $p<0.05$). Thus, it can be suggested that users of the findings of this study can rely on the model because the changes in employee performance caused by supervisors' safety practices was through the scientific interaction among the variables. Therefore, it is concluded that supervisors' safety practices influence employee performance.

Table 8: Coefficient

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
|-------|-----------------------------|------------|---------------------------|--------|--------|---------------------------------|-------------|
| | B | Std. Error | | | | Lower Bound | Upper Bound |
| 1 | (Constant) | 1.748 | .022 | 78.783 | .000 | 1.705 | 1.792 |
| | SSP | .105 | .007 | .473 | 15.896 | .000 | .092 |

Source: Field Survey, (2022)

The results in table 8 are for predicting the changes in the dependent variable for a unit increase in the predictor. The linear regression equation is depicted as $Y = a + bx$, where the a is the constant in the first row with a corresponding beta under sub-column B. The 'b' in the equation is coefficient of the independent variable (supervisors' safety practices) which is denoted under sub column B in table 5. Based on these figures, the linear regression equation is determined as Y (Employee Performance) = $1.748 + 0.105$ (supervisors' safety practices). The equation can be interpreted that, the employees' performance at stood at 1.748 even if there are no supervisors' safety practices. However, when supervisors' safety practices are considered in the model, it can be inferred that a unit surge in the supervisors' safety practices increases employee performance by 10.5%. This supports earlier study by Ofoegbu et al. (2013), which revealed that health and safety practices such as supervisors' safety practices improves output of employees.

Effect of Co-worker Safety Practices on Employee Performance at Tarkwa Goldfields

The third objective sought to assess the effect of Co-worker Safety Practices on Employee Performance at Tarkwa Goldfields. The findings are presented on Tables 9, 10 and 11.

Table 9 : Model Summary^b

| Model | R | Adjusted Std. Error Change Statistics | | | | | | | |
|-------|-------------------|---------------------------------------|------------------------|-----------------|----------|---------|-----|---------------|------|
| | | Square R | Square of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .777 ^a | .604 | .602 | .55398 | .604 | 440.068 | 1 | 289 | .000 |

a. Predictors: (Constant), Co-worker Safety Practices

b. Dependent Variable: Employee Performance

Source: Field survey, (2023)

The results as presented in table 9 reveals that there is a strong positive relationship between co-worker safety practices and employee performance at Tarkwa Goldfields ($R=.777$). This means that the higher the co-worker safety practices, the higher the employee performance and the lower t co-worker safety practices the higher the employee performance. It was further revealed that co-worker safety practices caused a positive variance of 60.4% in employee performance at Tarkwa Goldfields ($R^2=0.604$). It thus means the social support given by workers to their colleagues in workplaces, focusing on their safety behaviors enhances their performance as articulated by McFadden, (2015). However, other factors not captured in this model accounts for the remaining 39.6% variance in employee performance were not considered in this model.

Table 10: ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. | |
|-------|----------------|---------|-------------|---------|---------|-------------------|
| 1 | Regression | 135.054 | 1 | 135.054 | 440.068 | .000 ^b |
| | Residual | 88.692 | 289 | .307 | | |
| | Total | 223.746 | 290 | | | |

a. Dependent Variable: Employee Performance

b. Predictors: (Constant), Co-worker safety practices

Source: Field Survey, (2023)

The results in table 10 seeks to justify the significance of the model in table 9. It was found that co-worker safety practices made a statistically significant positive variance in employee performance at Tarkwa Goldfields ($p=0.000$: $p<0.05$). Thus, it can be suggested that users of the findings of this study can rely on the model because the changes in employee performance caused by co-worker safety practices was not by chance but through the scientific interaction among the variables.

Table 11: Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
|----------------------------|-----------------------------|------------|---------------------------|--------|------|---------------------------------|-------------|
| | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| (Constant) | 1.185 | .107 | | 11.063 | .000 | .974 | 1.396 |
| Co-worker safety practices | .674 | .032 | .777 | 20.978 | .000 | .610 | .737 |

a. Dependent Variable: Employee Performance

Source: Field Survey, (2023)

The results in table 11 are for predicting the changes in the dependent variable for a unit increase in the predictor. The linear regression equation is depicted as $Y = a + bx$, where the a is the constant in the first row with a corresponding beta under sub-column B. The 'b' in the equation is coefficient of the independent variable (Co-worker safety practices) which is denoted under sub column B in table 5. Based on these figures, the linear regression equation is determined as Y (Employee Performance) = 1.185 + .674 (Co-worker safety practices). The equation can be interpreted that, the employees' performance stood at 1.185 when there are no co-worker safety practices. However, when co-worker safety practices are considered in the model, it can be inferred that a unit improvement in co-worker safety practices improves performance by 67.4%. This means that coworker safety support to enhance the safety awareness of co-workers through giving positive feedback for working safely, encouraging safe working practices, and reminding one another to adhere to safety guidelines leads to improved employee performance (Tucker et al., 2010).

Effect of Job Safety on Employee Performance at Tarkwa Goldfields

The fourth research objective sought to assess the job safety on employee performance at Tarkwa Goldfields. This was measured through the application of standard multiple regression. Composite variable was formed for the dependent variable through data transformation process. Same was computed for the predictor. The findings are presented on Tables 12, 13 and 14.

Table 12: Model Summary^b

| Model | R | Adjusted Std. Error of Change Statistics | | | | | | | |
|-------|-------------------|--|----------|--------------|----------|---------|-----|-----|--------|
| | | Square | R Square | the Estimate | R Square | F | df1 | df2 | Sig. F |
| | | | | Change | Change | | | | Change |
| 1 | .833 ^a | .694 | .693 | .48704 | .694 | 654.232 | 1 | 289 | .000 |

a. Predictors: (Constant), Job Safety

b. Dependent Variable: Employee performance

Source: Field Survey, (2023)

The relationship between the predictor (job safety) and employee performance (dependent variable) was determined by the R. It was discovered that there was a positive relationship between job safety and employee performance ($R=.833$). It thus signals that, the better the job safety, the better the employee performance. Conversely, it can be adduced that lower levels of job safety are associated with lower levels of employee performance. Moreover, The R-square has been recognized as the most common effect size measure in path models (Garson, 2016). Hock and Ringle (2006) further prescribed some tentative cut-off points for describing R-square are as follows: Results above 0.67 (Substantial), 0.33 (Moderate) and 0.19 (Weak). Regarding the predictive capacity of the model, it was discovered that job safety accounted for 69.4% positive variance in employee performance at Tarkwa Goldfields ($R^2=0.694$). Thus, given all the other factors affecting employee performance, job safety only accounted for a substantial positive change in employee performance at Tarkwa Goldfields. This means that when employers ensure job safety by breaking down the task assigned to employees into various components to identify risks in each step and implement measures

to eliminate those risks that can cause harm, it motivates employees to give their best. This confirms earlier study by Kaynak, Toklu, Elci and Toklu (2016) who investigated the effects of occupational health and safety practices on organisational commitment, work alienation, and job performance and reported that job safety was significantly and positively related to performance.

Table 13: ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. | |
|-------|----------------|---------|-------------|---------|---------|-------------------|
| 1 | Regression | 155.192 | 1 | 155.192 | 654.232 | .000 ^b |
| | Residual | 68.554 | 289 | .237 | | |
| | Total | 223.746 | 290 | | | |

a. Dependent Variable: Employee performance

b. Predictors: (Constant), Job safety

Source: Field Survey, (2023)

A close observation of the significant value (Table 13) revealed that this predictive model is statistically significant ($p=0.000$: $p>0.05$) which shows that the 69.4% positive variance in employee performance by job safety was due to scientific interaction among the variables in the model. Management cannot therefore rely on this model to make predictive managerial decisions concerning job safety and employee performance.

Table 14: Coefficients

| Model | Unstandardized | | Standardized t | Sig. | 95.0% Confidence | |
|--------------|----------------|-----------------|----------------|--------|------------------|-------------|
| | Coefficients | | | | Interval for B | |
| | B | Std. Error Beta | | | Lower Bound | Upper Bound |
| 1 (Constant) | .372 | .119 | 3.129 | .002 | .138 | .606 |
| Job safety | .878 | .034 | .833 | 25.578 | .000 | .810 .945 |

a. Dependent Variable: Employee Performance

Source: Field Survey, (2023)

The information in Table 14 is relevant for the regression model. The first row has the constant of the equation and the second is the predictor of the model.

The corresponding figures are in the first column with sub column marked B. the regression model is therefore deduced as;

$$Y (\text{Employee Performance}) = .372 + 0.878X \text{ Job Safety.}$$

Based on the equation, it can be inferred that a unit increase in job safety will lead to an 87.8% increase in employee performance. Thus, providing a safe method of working for all jobs, which can elance the safety of employees by taking into account the people who will do the job, the equipment to be used, the material, and the environment within which the job is done tend to enhance their performance.

Effect of safety programmes on employee performance at Tarkwa

Goldfields

The last objective of the study sought to measure the effect of safety programs on employee performance at Tarkwa Goldfields. The key results interested in

this instance included the Model Summary, the ANOVA and the Co-efficient as presented in tables 15,16,17.

Table 15 : Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change |
|-------|------|----------|-------------------|----------------------------|-----------------|----------|-----|-----|---------------|
| 1 | .794 | .630 | .629 | .53496 | .630 | 492.831 | 1 | 289 | .000 |

a. Predictors: (Constant), Safety Programs

b. Dependent Variable: Employee Performance

Source: Field Survey, (2023).

The model summary results indicate that there was a strong positive relationship between safety programs and employee performance ($r= 0.759$). Additionally, a critical observation of the model summary revealed that safety programs accounted for 63% positive variance in employee performance (r -square= 0.630) at Tarkwa Goldfields. Thus, effective safety programs aid employees in developing a sense of belonging and, as a result, increases their performance.

Table 16: ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1 | Regression | 141.040 | 1 | 141.040 | 492.831 | .000 ^b |
| | Residual | 82.707 | 289 | .286 | | |
| | Total | 223.746 | 290 | | | |

a. Dependent Variable: Employee Performance

b. Predictors: (Constant), safety programs

Source: Field Survey, (2023).

The ANOVA results provide information that helps to substantiate whether the changes in the dependent variable is actually attributed to changes in the predictors in the model or not. A close observation of the findings indicates that, the 63% positive variance in employee performance is actually attributed to the scientific interaction among the variables ($p=0.0001$: $p<0.05$). In other words, one can conclude that safety programs have the capacity to predict the employee performance. It therefore suggests management of Tarkwa Goldfields must pay attention to the safety programs at work as it influences performance.

Table 17: Coefficients^a

| Model | Unstandardize | | Standardize | t | Sig. | 95.0% | |
|-------------------|----------------|------------|-------------|--------|------|---------------------------|-------------|
| | d Coefficients | | d | | | Confidence Interval for B | |
| | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| (Constant) | .608 | .126 | | 4.810 | .000 | .359 | .857 |
| 1 Safety programs | .799 | .036 | .794 | 22.200 | .000 | .728 | .870 |

a. Dependent Variable: Employee Performance

Source: Field Survey, (2023)

The information in table 17 are for the purpose of deducing regression model. The first column has named unstandardized coefficients with sub column B contains the figures that are necessary for coming up with the equation. The intercept is the constant on the first row with a figure of .608 whilst the beta for the predictor (safety programs) is 0. 799. Therefore, the regression model is deduced as; $Y = a + bx$, where y is the dependent variable, a is the intercept is

the coefficient of the predictor and x is the predictor. Thus, Employee Performance = $.608 + .779 X$ Safety Programs.

This means that every unit increase in the number of safety programs administered increases employee performance by 77.9 % (0.779) at Tarkwa Goldfields. This supports earlier finding that safety programs aid employees in developing a sense of belonging and, as a result, increases their responsibility for workplace safety and enhance their performance.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The study was conducted to assess the purpose of the study is to evaluate occupational health and safety practice and employee performance at Tarkwa Goldfields. This chapter presents information about the summary of the key findings, draws conclusions about the findings based on the specific research objectives and research questions and then offers recommendations to various stakeholders based on the findings of this study.

Summary of Key Findings

The first research objective sought to assess the effect of management commitment to safety on employee performance at Tarkwa Goldfields. It was established there was a strong positive relationship between management safety practices and employee performance at Tarkwa Goldfields. It was further discovered that management safety practices caused a statistically significant positive variance in employee performance. Additionally, it was found that, a unit increase in the management safety practices increases employee performance by 83.8%.

The second objective sought to assess the effect of supervisors' safety practices on employee performance at Tarkwa Goldfields. It was established there was a positive relationship between supervisors' safety practices and employee performance at Tarkwa Goldfields. The study further revealed that supervisors' safety practices caused statistically significant positive variance in employee performance at Tarkwa Goldfields. Similarly, it was inferred that,

a unit surge in the supervisors' safety practices increases employee performance by 10.5%.

The third objective sought to assess the effect of co-worker safety practices on employee performance at Tarkwa Goldfields. It was further revealed that co-worker safety practices caused a statistically significant positive variance of 60.4% in employee performance at Tarkwa Goldfields. The regression equation revealed that, the employees' performance stood at 1.185 when there are no co-worker safety practices. However, when co-worker safety practices are considered in the model, it can be inferred that a unit improvement in co-worker safety practices improves performance by 67.4%.

The fourth research objective sought to assess the job safety on employee performance at Tarkwa Goldfields. It was discovered that there was a positive relationship between job safety and employee performance. Similarly, given all the other factors affecting employee performance, job safety only accounted for a substantial positive change in employee performance at Tarkwa Goldfields. Moreover, it can be inferred that, a unit increase in job safety will lead to an 87.8% increase in employee performance.

The last objective of the study sought to measure the effect of safety programs on employee performance at Tarkwa Goldfields. The results of the study revealed that safety programs accounted for 63% positive variance in employee performance ($r\text{-square}=0.630$) at Tarkwa Goldfields. Additionally, every unit increase in the number of safety programs administered increases employee performance by 77.9 %.

Conclusions

Based on the findings, the study concluded that, management commitment to safety enhances employee performance at Tarkwa Goldfields. This implies that in Tarkwa Goldfields, managers' positive attitude towards safety often encourages miners to pay more attention to the safety culture of the enterprise, and makes miners feel that the company pays attention to them. This will make the miners have a firm enthusiasm for their work and perform better. Additionally, management commitment to safety reduces human error, unsafe worker behavior to avoid unnecessary work stoppages due to accidents. Fewer accidents and injuries translate to lower healthcare costs, decreased absenteeism, and reduced potential for legal liabilities. Also, A safer work environment with healthier employees likely leads to improved focus, morale, and efficiency, impacting production and output. Commitment to safety can attract and retain skilled talent, improve public image, and strengthen investor confidence. Hence, Shared focus on safety fosters collaboration, trust, and positive communication within teams, boosting overall performance.

Secondly, the study concluded that supervisors' safety practices improve the performance of employee at Tarkwa Goldfields. This means that supervisor's safety practices including general health and safety measures such as conducting risk assessments, implementing the necessary procedures to keep everyone safe and ensuring that all the employees are aware of the correct safety procedures and protocols provide the employees with assurance that their safety is paramount and are motivated to give their best to the Organisation .

Thirdly, the study concluded that co-worker safety practices enhance employee performance at Tarkwa Goldfields. The implication is that when colleague workers look out for each other by ensuring that they wear safety gear, pay attention to their surroundings and operate equipment properly, participate enthusiastically in safety meetings, encourage your co-workers to do the same and promote a workplace culture that emphasizes safety, it provides a conducive working environment to achieve their assigned task.

Additionally, the study concluded that job safety practices have a positive impact on employee performance at Tarkwa Goldfields. This implies that the job safety practices offered by Tarkwa Goldfields such as appropriate exercise in the form of training to employees, offer safe working conditions, and reduce to a minimum any hazards connected with jobs that are hazardous to employees' health and safety and this ensures improved performance. Similarly, job safety practices such as identifying the dangers of specific tasks within jobs in order to meet safety standards, improve communication, aid in training, and prevent hazardous conditions so that employees can have a safe environment to perform their task.

Lastly, the study concluded that safety programs have positive effect on employee performance at Tarkwa Goldfields. This result implies that Tarkwa Goldfields have safety programs that are designed to outline all company safety policies and help decrease workplace injuries, illnesses and deaths. The safety programs also help in identifying all workplace hazards and provide a plan for prevention, but it should also illustrate what to do when an incident does occur to minimize workplace injuries and improve performance.

Recommendations

And, among various situational factors in the mining industry particularly Tarkwa Goldfields, management safety commitment is considered to be the key factor affecting miners' behavior. It is of great practical significance to promote miners' proactive safety behavior by improving the management safety commitment. Management commitment to safety is one of the factors that affect employee performance because the leadership is responsible for providing safe working opportunities for its employees. Therefore, management commitment to safety should be applied to all organisational levels to ensure that all areas have a high commitment to safety, as workers' pay careful attention to leaders' behaviors, attitudes, and actions on safety and then imitate them. Demonstrate visible commitment: Regularly communicate safety priorities, participate in inspections, and actively reward safe behaviors. Also, encourage reporting hazards, involve them in safety committees, and foster a culture of open communication, provide adequate safety training, PPE, and ergonomic equipment to support safe work practices.

It's the supervisor's responsibility to enforce safe work practices and procedures; failure to do so is an invitation for accidents to occur. Workers must be encouraged to identify unsafe or unhealthful workplace conditions or hazards and absolutely not be disciplined for doing so. Therefore, it is recommended that supervisors' must take immediate steps to correct unsafe or unhealthful workplace conditions or hazards within their authority and ability to do so. When an unsafe or unhealthful workplace condition or hazard cannot be immediately corrected, the supervisor must take temporary precautionary measures. Supervisors must follow-up to ensure that corrective measures are

completed in a timely manner to address the hazard. Supervisors are responsible for conducting accident investigations and for ensuring that all occupationally injured employees report to appropriate health institutions immediately.

The main goal of safety and health programs is to prevent workplace injuries, illnesses, and deaths, as well as the suffering and financial hardship these events can cause for workers, their families, and employers. Therefore, it is recommended that management should use a proactive approach to managing workplace safety and health. Traditional approaches are often reactive –that is, problems are addressed only after a worker is injured or becomes sick, a new standard or regulation is published, or an outside inspection finds a problem that must be fixed. These recommended practices recognize that finding and fixing hazards before they cause injury or illness is a far more effective approach. Management of Tarkwa Goldfields should begin with a basic program and simple goals and grow from there. They should focus on achieving goals, monitoring performance, and evaluating outcomes, to ensure Tarkwa Goldfields can progress along the path to higher levels of safety and health achievement.

Suggestion for Further Study

The study concentrated on the occupational health and safety practice and employee performance at Tarkwa Goldfields. This makes the generality of the study difficult. Since the extractive industry is generally faced with health and safety issues, further studies should consider other companies. Additionally, further study should consider mixed methods as the use questionnaire limited the responses of the respondents.

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APPENDIX A

QUESTIONNAIRE

This study is being conducted to investigate the occupational health and safety practice and employee performance at Tarkwa Goldfields. This study is for academic purpose only. Permission has been granted by management for the conduct of this survey. Your candid opinion concerning the responses to these questions are therefore anticipated. You are therefore encouraged to complete this questionnaire to make this study a success. Your privacy, security and confidentiality are highly protected. Thank You.

DEMOGRAPHIC INFORMATION

1. Sex a. Male b. Female
2. Age a. 18-24 b. 25-29 c. 30-34 d. 35-39 e. 40-44 f. 45-49 g. 50 and above
3. Working experience a. below 1 year b. 1- 5 years c. 6-10 years d. 11- 15 years e. 16 years and above
4. Department a. Engineers and planners b. Mineral processing unit c. Mining and civil contractors
5. Educational level a. SHS b. Diploma c. Degree d. Postgraduate e. Other

Section B : OCCUPATIONAL HEALTH AND SAFETY

Indicate your level of agreement with the statements below regarding information on the occupational health and safety at your institution. Your replies will be scored from 1 to 5, with 1= Strongly disagree, 2 = Disagree, 3= Neutral, 4 = Agree, 5 = strongly agree.

| Constructs | 1 | 2 | 3 | 4 | 5 |
|---|----------|----------|----------|----------|----------|
| Management Safety Practices | | | | | |
| Provides enough safety training programs | | | | | |
| Conducts frequent safety | | | | | |
| Investigates safety problems | | | | | |
| Rewards safe workers | | | | | |
| Provides safe equipment | | | | | |
| Provides safe working conditions | | | | | |
| Updates safety rules | | | | | |
| Trains workers to be safe | | | | | |
| Enforces safety rules | | | | | |
| Acts on safety suggestions | | | | | |
| Supervisor Safety Practices | | | | | |
| Praises safe work behaviors | | | | | |
| Encourages safe behaviors | | | | | |
| Keeps workers informed of safety rules | | | | | |
| Involves workers in setting safety goals | | | | | |
| Discusses safety issues with others | | | | | |
| Trains workers to be safe | | | | | |
| Co-worker Safety | | | | | |
| My colleagues ignore safety rules | | | | | |
| My colleagues don't care about other's safety | | | | | |
| My colleagues pay attention to safety rules | | | | | |
| My colleagues follow safety rules | | | | | |
| My colleagues look out for others' safety | | | | | |
| My colleagues encourage others to be safe | | | | | |
| My colleagues take chances with safety | | | | | |
| My colleagues keep work area clean | | | | | |
| My colleagues are safety-oriented | | | | | |
| Job Safety | | | | | |
| My job is dangerous | | | | | |
| My job is hazardous | | | | | |
| My job is risky | | | | | |
| My job is unhealthy | | | | | |

| | | | | | |
|--------------------------------|--|--|--|--|--|
| I could get hurt easily | | | | | |
| My chance of death is high | | | | | |
| My job is Scary | | | | | |
| Safety Programs | | | | | |
| Worthwhile | | | | | |
| Helps prevent accidents | | | | | |
| Useful | | | | | |
| Unclear | | | | | |
| Effective in reducing injuries | | | | | |
| Doesn't apply to my workplace | | | | | |
| Does not work | | | | | |

SECTION C: EMPLOYEE PERFORMANCE

To what extent do you attribute these indicators of employee performance to how satisfied you are in your institution? 1= Strongly disagree, 2 = Disagree, 3= Neutral, 4 = Agree, 5 = strongly agree.

| Performance Indicators | 1 | 2 | 3 | 4 | 5 |
|--|----------|----------|----------|----------|----------|
| I manage to plan my work so that I finished it on time | | | | | |
| I kept in mind the work result I needed to achieve | | | | | |
| I am able to set priorities | | | | | |
| I am able to carry out my work efficiently | | | | | |
| I manage my time well | | | | | |
| On my own initiative, I start new task when my old tasks are completed | | | | | |
| I take on challenging task when they are available | | | | | |
| I work on keeping my work skills up to date | | | | | |
| I work on keeping my job-related knowledge up to date | | | | | |
| I came up with creative solutions from new problems | | | | | |

Thank you!!