

UNIVERSITY OF GHANA

**PRESSURE FOR HEALTH SERVICE DELIVERY AND EMPLOYEE
SAFETY BEHAVIOUR AMONG GHANAIAN HEALTH WORKERS**

BY

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DEGREE

JUNE 2016

DECLARATION

I do hereby declare that this work is the result of my own research and has not been presented by anyone for any academic award in this or any other university. All references used in this work have been fully acknowledged.

I bear sole responsibility for any shortcomings.

.....
ANUKA BRANDEN ELVIS

DATE



CERTIFICATION

I hereby certify that this thesis was supervised in accordance with procedures laid down by the
University

.....

.....

KWESI AMPONSAH-TAWIAH

DATE

(SUPERVISOR)



DEDICATION

This work is dedicated to God, my family most especially my mother who has always been my mentor, inspiration and best friend.



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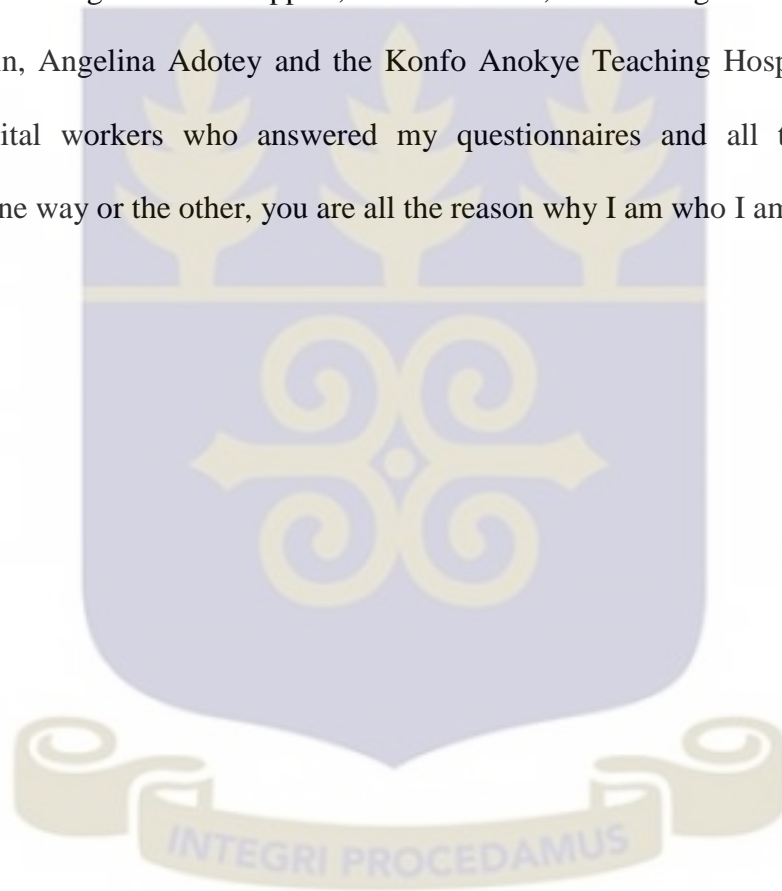


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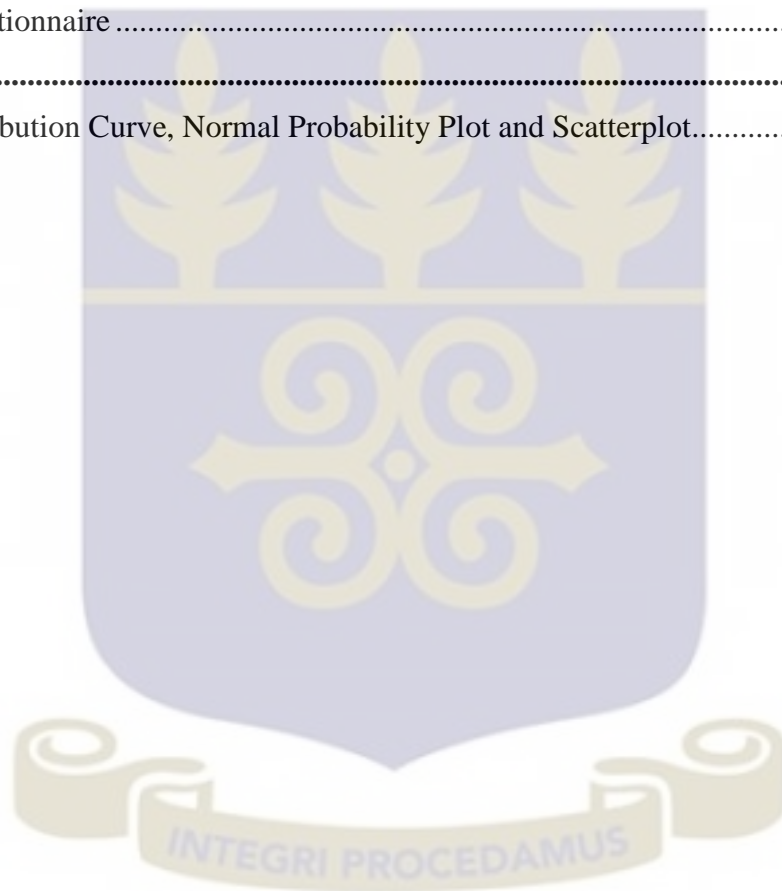
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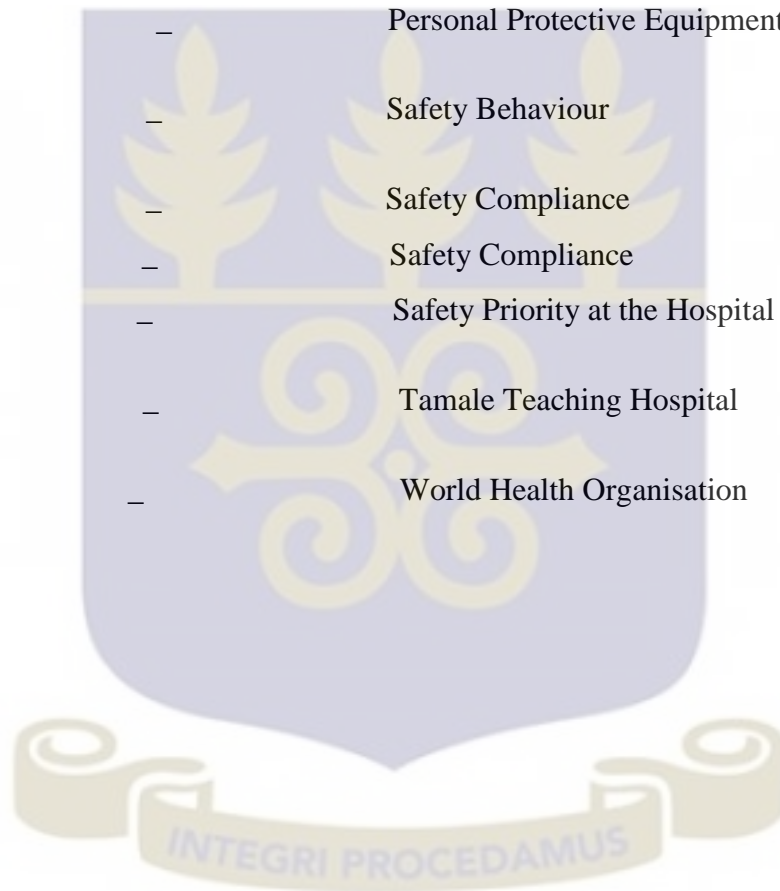
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LIST OF ABBREVIATIONS

HCW	–	Health Care Workers
KTH	–	Komfo-Anokye Teaching Hospital
MCS	–	Management Commitment to Safety
OHS	–	Occupational Health and Safety
PHSD	–	Pressure for Health Service Delivery
PPEs	–	Personal Protective Equipment
SB	–	Safety Behaviour
SBC	–	Safety Compliance
SBP	–	Safety Compliance
SP	–	Safety Priority at the Hospital
TTH	–	Tamale Teaching Hospital
WHO	–	World Health Organisation



ABSTRACT

The study examined the relationship between three dimensions of safety climate (management commitment to safety, priority of safety at the hospital, and pressure for health service delivery), and their impact on safety behaviour reported by employees. The study sought to examine if pressure for health service delivery affects the safety behaviour of healthcare workers. Using a quantitative approach, questionnaires were administered to a sample of 295 employees from two teaching hospitals in Ghana (Komfo-Anokye Teaching Hospital and Tamale Teaching Hospital). Pearson's Moment Correlation and simple linear regression analyses were carried out to test the relationship between the three dimensions of safety and safety behaviour. The results showed that, healthcare workers' safety behaviour was negatively related to pressure for health service delivery but related (safety behaviour) positively to management commitment to safety and priority of safety at the hospital. There was however no significant moderating effect of management commitment to safety and safety priority at the hospital between pressure for health service delivery and safety behaviour. These findings highlighted the importance of managerial commitment to safety in contexts where employees experience pressure for health service delivery and safety behaviour are concerned. The study ended by making some recommendations for management, further research and public policy.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The first chapter of every research introduces the various variables under study by way of given a brief background discussion. The chapter also encapsulates the main problems the study seeks to address. The research aim, significance, objectives, research questions, hypotheses of the study, and the scope within which the study was conducted are also discussed in this chapter.

1.1 Study Background

1.1.1 General Overview of Occupational Health and Safety (OHS)

Occupational health and safety (OHS) which is also referred to in some quarters as Occupational Safety and Health (OSH) or Workplace Health and Safety (WHS) is an area that borrows knowledge from different disciplines with the aim of addressing issues of health, safety and the general wellbeing of people engaged in work or employment (Abdulhameed, & Sirajo, 2015). Several definitions have been put forward in explaining OHS, however International Labour Organisation (ILO) and World Health Organisation (WHO) came up with a joint definition of Occupational health and safety which has become the most widely used definitions in most research works, it states that:

“Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the workers in an occupational environment adapted to their physiological and psychological capabilities; and, to summarize : the adaptation of work to man and of each man to his job”

The above definition thus emphasizes the notion that OHS strives to make the work environment as healthy and as safe as possible for all. Implying that work environment in its entirety should be wholesome for the worker.

As elucidated from the definitions given, the major quest of OHS is to address the factors that are responsible for making the work environment unsafe for employees. Although not all the factors responsible for these health and safety challenges can easily be identified and remedied. However, conditions in the physical work environment mostly referred to as the ergonomic/physical hazard are the most obvious to be identified as impediments to a sound healthy and safe work environment. There are also some factors that are more difficult to identify or even associate with employees' health and safety at the workplace. These include factors such as the employees' own workplace behaviour. The behaviour of the workers can predispose them to hazards at the work place, these factors are referred to as Occupational Health and Safety Behaviours (OHSB) (Adutwum, 2010). Unlike the ergonomic/physical factors that can easily be identified and remedied, the human components of the work system are not readily detected due to their intangible nature. Some constructs such as Production Pressure (PP) also sometimes referred to as Work Pressure (WP), Safety Awareness/Safety Knowledge (SA/SK) and Safety Climate (SC) (Jiang & Probst, 2015) have been researched into as a means of unearthing the human component which may contribute to understanding Occupational Health and Safety Behaviours (OHSB) of employees.

Studies have shown that working adults spend at least a quarter to a third of their waking life at work (Harter, Schmidt & Keyes, 2003), which means that the work environment can serve as a great point of contact as far as the health of employees are concerned, given the time they spend in that environment. Hence, Occupational Health and Safety (OHS) issues in organisations, that include the emotional, physical, chemical and biological hazards should be

of interest to all employers, due to its adverse effect on the work force which can affect output (Pouliakas & Theodossiou, 2013) if left unchecked.

1.1.2 General Impact of Occupational Health and Safety (OHS) Issues

The impact of work place health and safety issues over the past decades have drawn a lot of attention from academia, industry and the world economy at large. The notion that manpower is easily expendable (Stout, 1974) and that employers can easily replenish lost employees in no time, is fast becoming a thing of the past. Organisations are awakening to the reality that they can no longer afford to lose experienced and committed employees through ill-health. Given the cost involved in recruiting, selecting, developing, motivating and retaining new employees who take over from lost ones due to work-related ill-health and accidents (Amponsah-Tawiah & Dartey-Baah, 2011; Pouliakas & Theodossiou, 2013). The International Labour Organisation (ILO, 2000), for instance, has approximated that worldwide, over 2.2 million workers lose their lives due to work-related accidents and diseases, while another 270 million suffer from severe injuries and another 160 million fall to varying degrees of illnesses resulting from work-related causes. Furthermore, from the same report, it is estimated that the total costs of such accidents and ill health amount to approximately 4% of the world's Gross Domestic Product (GDP) (ILO, 2000).

The consequences of work-related accidents, injuries and varying defects cannot be over emphasised, be it on the individuals and their families, the society or the nation at large. Work-related accidents and ailments leave an enormous amount of psychological, physiological and social as well as economic burden on workers and their families. Especially if the bread winner is the one who has been rendered incapacitated. Studies have also opined that there are incalculable economic and human costs that have become burdensome on industries as a result of work-related injuries and diseases especially those in developing countries (Adutwum, 2010;

Camm & Girard-Dwyer, 2005; Seo et al, 2004). The most direct ones may include; costs related to medical care, workers' compensation claims, decreased productivity and sometimes the development of permanent disabilities and even death (Adutwum, 2010; Landers & Maguie, 2004; Hockey & Miles, 1999). Amponsah-Tawiah and Dartey-Baah (2011) reiterate that, a significant contributory part of the general death rates of the global population is work related. These factors have culminated in the growing attention that OHS has enjoyed over the years in developed countries, with dominating sectors of research being the oil and gas sector, mining, agriculture, nuclear reactor stations, health sector and the likes (Hossain, Hossain, Tarannum, & Chowdhury, 2015). This research however concentrates on the health sector within a developing economy, specifically Ghana where issues of OSH are still at their teething stages (Amponsah-Tawiah & Dartey-Baah, 2011; Puplampu, & Quartey, 2012).

1.1.3 The Health Sector and OHS

Globally, the healthcare workforce represents a significant amount of the working population which is pegged at 12% worldwide (Goniewicz et al 2012; Ndejjo et al 2015). The work environment of the healthcare worker is considered to be among the riskiest occupational environments at par with that of the mines, oil and gas, nuclear reactor stations and the likes (Moore & Kaczmarek, 1990; Ndejjo et al 2015; Salvage, Rogers & Cowell, 1998; Triolo, 1989). For instance, in addition to the usual work-related health risks, healthcare workers are still predisposed to a variety of hazards that are peculiar to their work environment (Manyele, Ngonyani, & Eliakimu, 2008; Ndejjo et al 2015; Nsubuga, & Jaakkola, 2005). In spite of this knowledge, Lipscomb and Rosenstock (1997) opined that governments and organisations still pay little attention to the healthcare work's precarious work environment situation. Compared to other occupational groups, healthcare workers are reported to have a higher annual prevalence of back pain (Lipscomb and Rosenstock, 1997). These sorts of injuries have huge

financial cost resulting. In the United States, for instance, back injuries are related with a direct cost estimated at \$37,000 and an indirect cost that fall within the range of \$147,000 to \$300,000 (Andersen, et al 2012). Closely related to back injuries is also ergonomic injuries which also pose a substantial risk to healthcare workers (Kuzma & Bohnenblust, 2005). Also peculiar to the healthcare workers' occupational environment are exposures to air and blood-carrying infections such as Human Immunodeficiency Virus (HIV), Hepatitis B, Hepatitis C and Tuberculosis (TB) (Goniewicz et al 2012). These diseases overshadow chemical hazards that also pose a significant health threat to healthcare workers (Steege, Boiano, & Sweeney, 2014). Some of these chemical hazards include antineoplastic drugs which are used in treating cancer, aerosolised medicines used in respiratory therapy, highly concentrated disinfectants used for cleaning reusable medical and dental devices, anaesthetic gases, surgical smoke, chemical sterilants used in cold sterilization of medical equipment and supplies and laboratory chemicals (Connor et al., 2010; Condon et al., 2009; McDiarmid et al., 1993; McDiarmid and Leone, 2009; NIOSH, 2007, 2012; OSHA, 2008, 2013; Rideout et al., 2005; Rosenman et al., 2003; Winstin, 1994). These above mentioned risks if left unchecked can have dire consequences such as high mortality rates and incapacitation of healthcare workers which can directly lead to drastic reduction of skilled personnel in the health sector. Which can negatively affect the effectiveness and efficiency of healthcare services in many low and middle income countries which are already overburdened (Ndejjo et al 2015).

1.1.4 Health Service Human Resource & OHS situation in sub-Saharan Africa

The sub-region is said to be experiencing a 'humanitarian resource crises due to the insufficient human resource available for healthcare delivery (WHO, 2014). The situation can partly be explained by the emigration of trained professionals to the developed world in search of better working conditions, such as better salaries, higher motivation, and less burden of infectious

diseases, such as HIV/AIDS and TB (Dovlo, 2004; Dovlo, 2005; WHO, 2006). Nsubuga & Jaakkola (2005) as well as Tinubu (2010), are of the view that healthcare workers within the sub-region are frequently exposed to biological, chemical, physical, and psychosocial hazards. Healthcare workers are constantly in contact with patients with varying infectious diseases, which predisposes them to a wide range of infections. Given this precarious work environment, it would be required that the optimum measures are put in place to safeguard healthcare workers' health. The Ebola outbreak in some sub-Saharan African countries such as Liberia, Guinea, Sierra Leone and Nigeria, which claimed the lives of some health personnel in their line of duty lays credence to this assertion. For instance, a Ghanaian born doctor by name Dr. Adadevoh contracted the Ebola Virus Disease (EVD) while attending to Patrick Sawyer in a Nigerian hospital (Lampsey & Awojobi, 2014). The health environment of the sub-region can thus be said to leave much to be desired as far as occupational health and safety of the healthcare worker is concerned. For instance, Ndejjo et al, 2015, allude to the notion that healthcare workers are still under so much risks due to the scarce measures put in place by management to safeguard them from work related risks of most sub-Saharan Africa countries (Lampsey & Awojobi, 2014; Ndejjo et al, 2015) of which Ghana cannot be precluded.

1.1.5 Human Resource Crisis in the Ghanaian Health Sector

Ghana's health sector like that of many other developing countries' is plagued with a number of challenges, chief among them is inequalities, misdistribution, external migration and inadequate number of personnel being trained (GHS, 2014).

The country's doctor and nurse population ratio is 1:10,452 for doctors and 1: 1,251 for nurses, as per the 2012 annual report on the Ghana Shared Growth and Development Agenda (GSGDA, 2013). Although, the doctor and nurse to population ratio has improved in many regions the issue of inequity in doctor distribution continues to linger on. There has been a

marginal improvement in the doctor population ratio from 1:10,000 in 2013 to 1:9043 in 2014 per the 2014 annual Ghana Health Service report (GHS, 2014). Though this situation seems to be impressive it still calls for much more health personnel to close the wide gap. The doctor-to-patient ratio gap is said to be widening as one moves from developed countries to underdeveloped countries (www.gmu.ac.ae/careandshare/worldwide.html, retrieved on 5th January, 2016). The situation in Ghana is further worsened by the dwindling medical colleges, poor infrastructure, inefficient government planning, poor remunerations opportunities following course completion. For instance, out of the one hundred and fourteen (114) medical officers who were posted during the 2014 administrative year, reports from the regions appear to suggest that about twenty (20) of them did not report at their regions of postings (GHS, 2014). Although there are no agreed standards for overall staffing healthcare workers in a given country (Willcox et al, 2015) however, the WHO indicates that countries are said to be having a “critical shortage” of healthcare workers if they had less than 2.28 doctors, nurses and midwives per 1000 population (WHO, 2006). It is quite obvious from the GHS report (2014) that Ghana is still in critical shortage of health personnel per the criteria given by the WHO.

This situation is further exacerbated by the introduction of the National Health Insurance Scheme (NHIS) which is making healthcare more affordable thus increasing the attendance rate at the various health centres across the country (Alatinga, 2014; Fusheini, Marnoch, & Gray, 2012). In spite of this ill-proportion of healthcare personnel to the populace, there is also a substantial amount of health personnel who are exiting the country due to difficult working conditions, poor salaries, low motivation, and high burden of infectious diseases, particularly HIV/AIDS (Dovlo, 2004; Dovlo, 2005; WHO, 2006). These factors are all contributory in the notion held by WHO that most African countries are facing a “humanitarian crisis” (WHO, 2006) when it comes to the needed human resource in the healthcare services.

This all stand to build an argument that the hand full of healthcare personnel in the country are under enormous pressure to deliver healthcare to the teaming number of patients at the various public and teaching hospitals. This situation is a source of high health service delivery pressure on healthcare personnel as they engage in frantic efforts to cater for the health needs of the populace across the country.

1.1.6 The most Exposed Personnel in Health Service Delivery

Doctors, nurses and biomedical scientist seem to be in constant contact with patients at the various health centres (Prüss-Üstün, Rapiti, & Hutin, 2005). This might put them at the forefront of exposure to OHS hazards, which invariably might further be worsened by the increasing workload at the various health centres across the country. These situations might influence healthcare workers to compromise their own health and safety in the line of duty. Under such intense pressure to deliver excellent healthcare to meet the ever increasing demands, how would the workload pressure affect the healthcare workers' ability to adhere to safety practices and procedures? And how would safety specific dimensions such as management commitment to safety (Han et al., 2014), safety climate and priority on safety (Bosak et al., 2013) moderate between pressure for health service delivery and healthcare workers' safety behaviour outcomes? Unearthing the likely factors that contribute to occupational hazards among healthcare workers is thus needed to deepen the knowledge base on OHS in healthcare service in Ghana. It would also significantly help in making informed par excellent decisions concerning occupational health and safety policy and programs for the healthcare workers' in Ghana and the sub-region in general.

1.2 Statement of the Problem

OSH practices have generally attracted little research attention in underdeveloped and developing countries (Amponsah-Tawiah & Dartey-Baah, 2011). The subject thus continues to remain at the periphery of organisation and human resource management research (Barling et al. 2002; Benach, et al, 2016; Zacharatos & Barling, 2000). Occupational health and safety issues are not considered by most countries and industries as crucial determinant of national development. The situation is further exacerbated by an acute amount of literature on matters of OHS (Amponsah-Tawiah and Dartey-Baah, 2011). Though few attempts from the industries and the governments are notable, the majority of African countries are now trying to find their feet as far as issues OHS are concerned (Meredith, 1986; Ndejjo et al 2015; Regional Committee for Africa Report, 2004). Hence, inculcating occupational health and safety into both organisational and national policies is an imperative not only for developed countries but also for the underdeveloped and developing countries once too (Katsoulakos & Katsoulacos, 2007). In the same vein, irrespective of the numerous occupational health and safety advances in recent years, several occupational health and safety issues still persist in most African countries, to which Ghana is no exception. This study would thus peruse papers as well as constitutional provisions aimed at unearthing key issues on occupational health and safety practices in Ghana, most especially the health sector to demonstrate the level of attention given to OHS in Ghana.

In a WHO 2014 report, developing countries constitute 75% of the global workforce. Unfortunately, however, most developing and underdeveloped countries pay little attention to issues that affect the health and safety of their ever growing workforce (Adutwum, 2010; Ndejjo et al 2015). This might be due to the relaxed nature of laws governing OHS in these countries as well as the high rate of unemployment they are bedevilled with which leaves employees with no option. There are however a few exceptions, multinational ventures in high

risk industrial sectors such as mines, oil and gas refineries are bound by international laws to adhere to OHS standards. Meanwhile state run agencies such as the health and the security services are at the mercy of the constitutional provisions and management efforts when issues of OHS are in question.

The same WHO (2014) report also points to the fact that only 5-10 % of the entire workforce found in developing countries have adequate access to OHS services although every worker in any occupation regardless of the nature of their jobs or industries are entitled to a healthy and safe work environment. This draws the need to evaluate the OHS services available to health personnel in Ghana.

Some studies have indicated that employees' safety behaviour is influenced by their perception of the prevailing safety climate (Adutwum, 2010; Bosak et al., 2013; Zhu et al., 2010). It then stands to reason that for organisations to influence the safety behaviour within which they operate, they need to pay attention to the prevailing safety climate as perceived by the employees as is indicated by Zohar (2008). When safety climate is thus maintained at a positive threshold employees comply with health and safety practices and policies (safety compliance hence is sustained), the workers would also take it upon themselves to safeguard themselves and others against hazards at the workplace thus increasing safety participation of employees.

There is a wide research gap in Sub-Saharan Africa specifically Ghana concerning safety climate and its impact on safety behaviour in various industries as the bulk of the studies are thus reviewed were done in developed countries. This sorts of situation do not only call for the studies of such phenomenon in the country, but also to replicate some studies in other to see if context can also be a factor to some variations identified in other related studies. It is not then out of place to investigate the relationships between the safety climate dimensions and how they relate to safety behaviour using healthcare workers. The study also delves into indicators of Occupational Health and Safety (OHS) in healthcare provision within the Ghanaian context.

1.3 Aim of the Study

The study aimed at understand the state of health and safety among health practitioners in Ghana. Specifically, the study sought to examine the safety behaviours of front-line healthcare workers in Ghana and the extent to which their safety behaviours was influenced by the pressure on service delivery. The study also looked at how specific safety climate dimensions such as management commitment to safety and Priority of safety at the hospital environment play a moderating role between Pressure for Health Service delivery and the Safety Behaviour of health personnel in the Ghanaian health sector.

1.4 Research Objectives

The major objectives of the study are to examine the relationship between Pressure for Health Service Delivery (PHSD) and employee Safety Behaviour (SB). The study hence sought;

- a. To assess the SC in some selected Ghanaian teaching hospitals (KATH and TTH).
- b. To determine the SB of health personnel in some selected teaching hospitals in the country (KATH and TTH).
- c. To determine the relationship between PHSD and healthcare workers SB (Safety Compliance (SBC) and Safety Participation (SBP)).
- d. To determine whether MC to safety moderates the relationship between PHSD and healthcare workers' SB.
- e. To determine whether Priority of safety at hospital environment moderates the relationship between PHSD and the health personnel SB in some selected teaching hospitals in Ghana.

1.5 Research Questions

In addressing the above objectives, the following questions engaged the attention of the researcher.

1. What is the prevailing safety climate within the Ghanaian Health Sector?
2. Is PHSD a predictor of SB among Ghanaian health workers?
3. Is the relationship between PHSD and SB moderated by MC to Safety?
4. Is PHSD and SB moderated by Priority of safety (PS) at the hospital environment?

1.6 Research Hypotheses

It was hypothesized that:

H1: There is a significant negative relationship between PHSD and employee SB.

H1_a: There is a significant negative relationship between PHSD and Safety Compliance (SBC).

H1_b: There is a significant negative relationship between PHSD and Safety Participation (SBP).

H2: There is a significant positive relationship between MC to safety and SB.

H3: There is a significant positive relationship between Priority of Safety (PS) at hospital environment and SB of healthcare workers.

H4: MC to safety will moderate the relationship between PHSD and SB.

H5: Priority of Safety (SP) at hospital environment will moderate the relationship between PHSD and SB.

1.7 Significance of the Study

The study would be relevant in three areas; increase in research knowledge, giving a better perspective to practice and aid in making informed policies on OSH in the country.

Literature on pressure for production as a predictor of Safety Behaviour (SB) is non-existent in Ghana and arguably Sub-Saharan Africa. The study sought to look at the concepts of safety climate and its relationship with safety behaviour with the end goal of unearthing some knowledge in research, especially so in Ghana where little research attention is given to OSH.

The study also looked at how healthcare workers' safety behaviours was affected by the perceived climate. The study extended its tentacles further in literature to lucubrate the moderating relationship that Management Commitment (MC) to safety and Priority of Safety (SP) at the hospital environment have between PHSD and SB.

The study would also contribute to health and safety practices at hospital environment to better safeguard the lives and wellbeing of healthcare workers. For instance, the findings could serve as a guide to implementing policies in the health sector on the influence of healthcare service delivery pressure on the safety behaviour among healthcare workers as well as bring to bear the moderating role of MC to safety and SP at the hospital environment. The study outcomes could lead to some suggestions to help in establishing and implementing OHS strategies. Such strategies could help in safe guarding the limited health personnel against health hazards such as disease out breaks like Ebola virus disease. Every person would want to work in an environment where they are secured health and safety wise, hence a good OSH policy which can also result in the right perception of a good safety climate would also contribute to attraction and retention of the right calibre of employees'. At the national level this study would also add its voice to advocating for a national policy on OHS. This is against the backdrop that Amponsah-Tawiah and Datey-Baah (2011) had pointed to the fact that as a democratic dispensation, it is imperative for us to have a comprehensive preventive rather than a reactive OHS policy. This will serve as a framework for OHS practices which are enforceable by law. Workplace health and safety behaviour remain a critical issue as at present, attempts to hence better them would inure to the benefit of the firms or industry concerned. Commitment and employee loyalty will be whipped up, while the incidence rates of work-related accidents and injuries will be reduced. The current study adds to growing efforts made to promote optimal safety climates which would nurture the right safety behaviour among employees.

With regards to policy, the study out of its findings would propose some guidelines in policies formulation and implementation. These guidelines if implemented will encourage employee to put up the best of safety behaviours considering the impact of pressure for health service delivery in an era where there is a wide ratio of patient to health personnel. The study will also serve as a medium through which both domestic as well as international policies concerning matters of safety climate and safety behaviour would be made based on the realities on the ground than assumptive policy implementations. The study outcomes may also have an impact on already existing OHS policies in the health sector, and other similar institutions nationwide, especially the Ministry of Health (MoH) and all teaching hospitals in Ghana. These contributions to policy would indeed become cardinal for the establishment of more workable and efficient safety systems in the healthcare services in the country.

1.8 Scope of the Study

The focus of the study is on pressure for health service delivery and employee safety behaviour in the Ghanaian health sector, (Komfo Anokye Teaching Hospital (KATH) and Tamale Teaching Hospital (TTH) were chosen for the study. Particularly, it concentrates on how pressure for service delivery relates to safety behaviour. These hospitals were suitable for the research because they serve their entire regions as major referral points thus always having high patronage which creates an appreciable level of intense pressure to deliver health services. They also double as teaching units for producing health workers within a practical setting, this also afforded the study the opportunity to see how issues of OHS are inculcated into the under schooling health personnel.

1.8.1 Komfo Anokye Teaching Hospital (KATH)

Komfo Anokye Teaching Hospital (KATH) was converted into a teaching hospital in 1975 for the training of medical students. KATH is located in Kumasi, the Regional Capital of Ashanti

Region. The hospital serves as a referral point for the entire region with a population of 4,780,280 (Ghana Statistical Service, 2010). The geographical location of the 1200-bed hospital, the road network of the country and commercial nature of Kumasi makes the hospital accessible to all the areas that share boundaries with Ashanti Region and others that are further away. As such, referrals are received from Brong Ahafo, Central, Western, Eastern and parts of the Volta Regions. The vision of the hospital is; “to become a medical centre of excellence offering Clinical and Non-Clinical services of the highest quality standards comparable to any international standards', within 5 years”. The mission statement is; “to provide quality services to meet the needs and expectations of all its clients. This will be achieved through well-motivated and committed staff applying best practice and innovation”.

1.8.2 Tamale Teaching Hospital (TTH)

The Tamale Teaching Hospital is a regional hospital in Tamale in the Northern region of Ghana. It serves as a referral hospital for the three northern regions of Ghana. It cooperates with the University for Development Studies in Northern Ghana to offer undergraduate and graduate programs in medicine, nursing and nutrition. It is the third teaching hospital in Ghana after the Korle Bu Teaching Hospital and the Komfo Anokye Teaching Hospital. In 2005 the Northern Regional Coordinating Council decided to partner the Ghana Health Service to upgrade the hospital to the status of a Teaching Hospital. The upgrade made the hospital the third teaching hospital in the country. The mandate of the hospital is set by Act 525 of the Ghana Health Service and Teaching Hospitals Act of 1996. The stipulations of the mandate empower the hospital to function in three critical areas namely, the provision of advanced clinical health services, supporting the training of undergraduates and postgraduates in medical sciences and finally, undertaking research into health issues for the purpose of improving healthcare. The vision of the hospital is to become the centre of excellence for quality tertiary

healthcare, medical education and research. The mission of the hospital is to provide quality and affordable healthcare: delivered by well trained, highly motivated and client-friendly professional health staff.

1.9 Definition of Terms

Healthcare worker in the current study refers to medical doctors, nurses and biomedical scientists of the two selected teaching hospitals in Ghana (Komfo Anokye Teaching Hospital (KATH) and Tamale Teaching Hospital (TTH)).

Safety climate in the current study is defined as ‘individuals’ reported perceptions of safety policies, procedures, practices and behaviours in the work environment that indicate the true priority given to safety relative to other organisational goals’ (Bosak et al, 2013).

Pressure for Health Service Delivery in the present study is defined as employee’s perception that the organisation encourages him or her to work around safety procedures in order to deliver health services to the teaming patients in the hospitals under study (Brown et al., 2000; Bosak et al., 2013).

1.10 Chapter disposition

This thesis comprises of six chapters that seeks to discuss various aspects of the study.

Chapter one introduces the reader to the thesis. It consists of the background to the study, research problem, research aim, research objectives, research questions, hypotheses behind the study and scope of the study. The significance of the study was also outlined in this chapter.

Chapter two addresses and fully discussed all the various papers that have been published in the study area. Looking at agreements and disagreements in findings and how that shapes the current study. Theoretical and empirical studies relevant to the research, published by authors in peer reviewed journals, books and credible websites were critically examined. The

conceptual framework of the research was outlined in this chapter with a diagram to pictorially explain the interrelationships between the various variables under study.

Chapter three discussed the method that was adopted for the study. It dealt with the research design, population of the study, sampling technique and sample size, instrumentation and mode of data collection. Concise information on how the gathered data was analysed was also explained in this chapter.

Chapter Four presented the results that were generated from the data analysis with some few brief interpretations.

Chapter Five discussed the findings of the study. The results generated from the hypotheses tested were discussed based on relevant literature of published works with similar objectives which have been earlier visited in chapter two. The chapter also point to the implications of the findings in the light of literature as well as argues out some reasons for the results.

Chapter Six summed up the major findings. There are general recommendations on how other studies can be conducted based on the findings of this study. As well as some short falls that have affected some results and the way forward in subsequent studies.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Occupational health and safety is a very important but green area as far as human resource management is concerned especially in developing countries (Puplampu, & Quartey, 2012). The traditional human resource managers had mainly concerned themselves with the issues of recruitment, training, remuneration, motivation and the like (Armstrong, & Taylor, 2014). But in recent times there are new schools of thoughts within strategic HRM circles that have looked at both the economic and social impact of personnel who are lost through accidents at the work place (Dembe, 2001). The drive towards OHS has brought in its wake issues such as occupational burnout or work related stress (Hu, Schaufeli & Taris, 2016), work pressure, safety climate, health and safety behaviour and occupational fit among other constructs all in frantic efforts to reduce hazards emanating from work settings (Su, 2015). This chapter concerns itself with reviewing both theoretical and empirical literature in the area of occupational health and safety, with a prime focus on the concepts of Pressure for Health Service Delivery (PHSD), Safety Climate (SC) and Occupational Health and Safety Behaviours (OHSB) which is in two strands; Safety Compliance Behaviour (SCB) and Safety Participation Behaviour (SPB). The review also considered some aspect of Safety Climate which might serve as moderators between PHSD and OHSB. From the theoretical and empirical review, a conceptual framework was constructed to depict the relationships between the various variables under study. This chapter also considered the current disposition of OHS issues in Ghana, with more emphasis on developments of OHS in the health sector.

2.1.1 The Concept of Occupational Health and Safety

Occupational health and safety (OHS) is a multidisciplinary concept touching on issues relating to such disciplines as medicine, law, technology, economics and psychology (Leka, 2003 cited in Amponsah-Tawiah & Dartey-Baah, 2011). As a broad based concept, occupational health and safety encapsulates the mental, emotional and physical well-being of the worker in relation to the conduct of his work (Amponsah-Tawiah & Dartey-Baah, 2011, p. 120). The concept hence takes into account the totality of the wellbeing of the worker in the line of duty, as well as how the workplace affect the ability of the worker to function to their optimum without compromise to their health and continuous survival. Health is a positive concept that includes social and personal resources as well as physical capabilities (Nutbeam, 1990). It has been conceptualised as the ability to have and to reach goals, meet personal needs and cope with everyday life (Raphael, Brown, Renwick & Rootman, 1997). Thus work can be said to be occupationally safe and healthy if it sustains and maintains the ability of workers to reach goals being organisational and personal wise. WHO (1986), shares in this thought by seeing health as a state of complete physical, mental and social wellbeing and not just the absence of disease. The concept thus goes beyond just observable defect resulting from work to envelop all facets of the worker's life. Amponsah-Tawiah and Dartey-Baah, (2011) supported this notion by opining that the concept of OHS is a broad based concept, encapsulating the mental, emotional and physical well-being of the worker in relation to the conduct of their work. This therefore makes it an important discipline contributing to the success of any organisation.

OHS with wide expanse still receives little attention, Amponsah-Tawiah and Dartey-Baah (2011) reiterate this point when they indicated that:

... considering the multiplicity of disciplines subsumed in it, it has been treated as a —throw-away subject with all the other disciplines such as law, economics, medicine, technology, psychology among others feasting on it when —hungry. Thus not only do the various disciplines

focus on aspects of the concept but they also make reference to it only during critical situations. For instance, the law discipline makes reference to the concept only when employers are to pay compensations for health and safety failures (p. 120).

Over the years the concept of OHS has metamorphosed from the traditional focus on chemical, biological and physical exposures or hazards, diseases, disorders and injuries to drawing some attention to psychosocial risks and some employer-employee relationships, this predisposes workers' to hazards at the work place. This reorientation has not however caught up well with most developing countries, due to the insufficient understanding of OHS issues as they pertain in the developing countries' context (WHO, 2007). However, health issues involving the physical space of work; types of occupation and their effect on health; job stress, work schedules, and other psychosocial issues in the work environment affecting work (Warr, 1987 cited in Amponsah-Tawiah & Dartey-Baah, 2011) are all being given some attention in recent OHS initiatives particularly in developed countries. OHS though a very young concept in its development, has been with man since the day work was realised. The concept hence should not be new to practise as it is to theory. It is against this backdrop that this study wishes among other things to see how issues of OHS handled in the health sector depict a vibrant embrace of the underlining concepts on the subject matter or otherwise.

2.1.2 Occupational Health and Safety Issues in Africa

Africa is plagued with high incidence of work related accidents and health challenges as a result of the little attention that is accorded to OHS by employees, industries and national policies (ILO, 2002). Stein (1995), has also pointed out that African countries are known for having a deplorable health and safety culture. Muchiri (2003) looked at the challenges that impede OSH in Africa acknowledge that “lack of comprehensive OHS policies, poor infrastructure and funding, insufficient number of qualified occupational health and safety practitioners, and the

general lack of adequate information are among the main drawbacks to the provision of effective enforcement and inspection services in most African countries” (Muchiri, 2003 p. 11).

African economies are also bedevilled with high unemployment rates in the mist of high competition and a search to increase profitability while cutting cost (ILO, 2005). Most often than not, in such situations health and safety standards, procedures and policies are overlooked (Meredith, 1986). The continent is also fast drawing towards industrialisation which also comes with it more health and safety issues when care is not taken. In light of all the challenges facing the continent, if there would be any hope for a more sustainable workforce, African countries need to invest heavily in OHS practices. Puplampu (2012) adds his voice to this assertion and he argued that, with many African countries being financially challenged and faced with both local and international competition, the continent hence requires competitive investment in the area of creating a wholesome continent for foreign direct investments. This assertion is made on the backdrop that multinational companies which are prospecting to invest in any country look at OHS issues as very cogent in predicting their survival. For instance, the ILO, (2005) and World Economic Forum (2002) have identified countries with competitive industries to also have a high health and safety culture. Industries in Africa would thus stand to gain if they inculcate OHS policies into their strategic plan (ILO, 2003).

African countries which are predominantly emerging economies, are faced with a lot of challenges in areas such as poverty reduction, and the bid to reach internationally accepted standards of doing business while gauging to increasing profitability and productivity. This situation invariably has a high tendency of sacrificing issues of OHS. Nuwayhid (2004) concluded that, OHS remains a relegated issue in developing countries due to competing national and international challenges that they are confronted with.

2.1.3 Occupational health and safety in the Ghanaian context: from legislature to practice

Ghana, like most African countries, is still grappling to find its feet when it comes to matters of OHS. For instance, there is no complete legislative document that addresses OHS in the country. A draft on occupational services policy jointly developed by the Ministries of Manpower Youth & Employment, Health and Lands, Forestry & Mines as far back as the year 2000 is yet to be adopted as law (Amponsah-Tawiah & Dartey-Baah, 2011). The pieces of laws used by various ministries, departments and agencies for enforcement and complementary roles on OHS are outmoded and scatted within the constitution. These are the Factories, Offices and shops Act 1970(328) and the Mining Regulations 1970 LI 665, Workmen's Compensation Law 1987(PNDC 187), Environmental Protection Agency Act 490 1994, the Ghana Health Service and Teaching Hospital Act 1990 (526), the National Road Safety Commission Act 567 1999, not forgetting Labour Act 2003 (651) with sections 118 to 120 directing employers and employees in their roles and responsibilities in managing Occupational Health, Safety and Environment in the nation, but not specifying any reporting structure in case of accident (Clarke, 2005). Amponsah-Tawiah and Dartey-Baah (2011) revealed that:

“the lack of a comprehensive OHS policy, poor infrastructure and funding, insufficient number of qualified occupational health and safety practitioners, and the general lack of adequate information as among the main drawbacks to the provision of occupational health and safety services in the country” (p.119).

Unlike in the developed world where there are recognised institutions that are established with the sole duty to enforcing OHS in the work environment, the same cannot be said in Ghana. So far it is the Factories, Offices and Shops Act (FOSA) that is a recognised body in Ghana by the International Labour Organisation (ILO) on OHS. Among its functions are inspections of workplaces to ensure maintenance of reasonable standards of safety and health, prosecutions of offences under the Factories, Offices and Shops (Act 328), and investigation of reportable

occupational accidents and dangerous occurrences. But companies hardly report such events to the inspectorate for investigation and correction for obvious reasons and rightly so, nobody trails them. The ministry of employment and labour relation also plays the executive role in the management of OHS of employees. The Department of Factories Inspectorate and the Labour Department has been tasked under the ministry. As it stands now, there are numerous flaws in the constitutional provisions on OHS in Ghana. The Factories Act and Mining Regulations is limited in scope in providing a guide to issues relating to OHS. The majority of the public sector, including agriculture, health services, and security services not precluding the informal sector are not specifically covered (Clarke, 2005 p. 65).

A good look at the constitutional provisions on OHS shows an inclination more towards curative measures than preventive measures. Strategies such as research on health and safety, risk assessments and hazards control are not catered for in the constitution. The agencies provided by the various ministerial department also seem to be overlapping in their operations. For instance, both the Environmental Protection Agency (EPA) Act and Factories Act mandate entry into factory premises by both agencies inspectors. The same situation prevails among the Factories' and Mines 'Inspectorates regarding the inspection of explosives stores (Factories Offices and Shops Act, 1970). There is some disagreement as to how safety services should be measured as well. For example, the stipulated compensation packages by the Workmen Compensation Law has no bearing on the level of risk to which employees are exposed. Budgetary allocations are also not indicative in the constitutional provisions as is the case in other jurisdictions. There are hence insufficient funds available for OHS activities, which clearly depicts the low priority accorded by government (Workmen's Compensation Law 1987).

OSH challenges are tackled as a collaboration between government, society, industry and the worker. Their joint efforts aid in the promotion of OHS issues to which Ghana is no exception.

A strong collaborative spirit is thus needed to whip up the legal strength as well as the conducive safety culture necessary to support OHS in the country. As it stands, Ghana cannot boast of any comprehensive health and safety policy which would provide standards or guidelines to be adhered to by industry (Amponsah-Tawiah & Dartey-Baah, 2011, p.124). The health and safety bill is still before parliament.

The public sector suffers when it comes to issues of OHS due to the insufficient nature of supervision. For instance, the existing laws make provision for safety inspectors but the reality on the ground is far from the ideal. This cuts across all public sector not precluding the health sector. Annan (2010) opined that the porous legislative provision on health and safety, are flouted easily due to the insufficient supervisory backing available with insufficient sanctions available to deter perpetrators. Anang (2008) also reiterated that, there is an appalling safety climate in the country. Given these situations employers and management breach safety rules and regulations with impunity thus exposing employees to avoidable hazards.

On the facilities put in place to respond to OHS, Amponsah-Tawiah and Dartey-Baah, (2011) captured it succinctly in their paper titled: *Occupational Health and Safety: Key Issues and Concerns in Ghana*:

“... facilities for providing occupational health services in Ghana consist basically of government and private and faith based health facilities in the communities. However, a few companies have their own facilities that cater for the health and safety needs of their employees. Services provided by the existing facilities are very limited as compared to those prescribed by the ILO Convention No. 161 on Occupational Health Services. Primary medical care is the norm with the provision of basic curative care and first aid becoming the order of the day. With the exception of a few multinational companies who undertake comprehensive preventive occupational activities, these are grossly lacking in the country ...” (p. 124).

There is also the situation where the actions and inactions of employees themselves put their very health and safety on the line. For instance, employees may be hesitant to report accidents at the workplace due to the risk of losing their jobs. Again with rapid industrial growth in the sub-region, if the MDGs are to be realised, then it will be necessary to have a health and safety culture that is preventive and all encompassing (Anang, 2008). Moreover, organisations according to (Gaba, 2000; Battle & Lilford, 2003) could better ensure employee safety if management put in place workable and well-designed guidelines to ensure a sound OHS implementation in the country. It is against this backdrop that this study sought to explore the safety climate within the health sector with much emphasis on management commitment to safety, priority of safety at the hospital in the midst of the pressure on personnel and how all these affect healthcare workers' safety behaviours.

2.2 Review of theoretical literature

Most research in the social sciences are hinged on some assumptions that are put together to explain a phenomenon which are known as theories or laws. In selecting a theory, the following cardinal points need to be considered; appropriateness, ease of application, and explanatory power. Articulating the theoretical assumptions of a research study helps to address questions of why and how. It also permits a researcher to intellectually transition from simply describing a phenomenon observed to generalizing about various aspects of that phenomenon. A theoretical framework specifies which key variables influence a phenomenon of interest and highlights the need to examine how those key variables might differ and under what circumstances. By virtue of its application nature, good theory in the social sciences is of value precisely because it fulfils one primary purpose: to explain the meaning, nature, and challenges associated with a phenomenon, often experienced but unexplained in the world in which we live, so that we may use that knowledge and understanding to act in more informed and effective ways. This study employs three theories namely; Blau's (1964) Social Exchange

Theory (SET), Karasek's (1979) Demand-Control Model (JDC) and Hobfoll's (1989) Conservation of Resources Theory (CRT) in explaining the key concepts under study and how they interrelate in the study.

2.2.1 Karasek's (1979) Job Demand-Control Model (JDC)

Karasek's (1979) job demands-control model is one of the most widely studied models of occupational stress (de Lange, Taris, Kompier, Houtman, & Bongers, 2003). The key idea of the job demands-control model is that control buffers the impact of job demands on strain and can help enhance employees' job satisfaction with the opportunity to engage in challenging tasks and learn new skills (Karasek, 1979).

According to Karasek (1979), the relationship between job demands placed on the discretion available to the employee to decide how to meet these job demands (job requirements) contributes importantly to the prediction of job satisfaction and active learning. The argument raised here is that the intensity or otherwise of one's work pressure or job demands and how well one can deal with them affects the employee in diverse ways such as how satisfied or not one is on the job, as well as how well one can actively learn on the job. A classic example of this type of phenomenon would be that of a production line worker. This type of worker might have a difficult production quota to meet, but at the same time have little if any control over the pace of the production line or how the product is produced. Karasek (1979) proposed that high demand, high control, or "active" jobs help to enhance employees' job satisfaction and provide the opportunity to engage in challenging tasks and learn new skills.

In Karasek and Theorell's model, psychological job demands refer to a task's mental workload and mental alertness or arousal needed to carry out a job under the given circumstances (Karasek & Theorell, 1990). Theoretically, in the JDC model an interaction effect has been described as a joint effect of job demands and decision latitude (Karasek, 1989). Two

perspectives, also known as the dissatisfaction and buffer theory (van der Deof & Maes, 1999), can be distinguished. According to the first perspective, the most adverse performance effects are expected in a high-demands-low -control work situation. The argument raised here is boarded on the assumption that when one's work demands are higher (under a lot of pressure) than the available control, it would have some adverse effect on the worker, which can lead to some maladaptive behaviours on the part of the worker. The Job Demand-Control (JDC) model of job stress suggests that the combination of high job demands and low job control, defined as job strain, is strongly associated with adverse health consequences (Söderfeldt et al, 2000) and invariably this can affect the safety behaviours of the worker.

The second perspective proclaims that (high) control can act as a buffer and thus minimize the potentially negative impact of high demands on employee's performance such as negative health and safety behaviours (Clarke et al, 2015). While these perspectives are not mutually exclusive, they have different statistical implications. Karasek (1979) found an interactive effect between job demand and job control. By extension, this implies that there would be an interactive effect between work pressure and the behaviour of the worker in terms of how well they can effectively and efficiently manage tasking situations.

The hypothetical argument which is cogent in this model is that individual physiological dissatisfaction results from the interactive effects of one's job demands (work pressure) and the amount of job control available at the workplace (organisational climate in this respect safety climate). Particularly, Karasek's theory posits that in order to minimize physiological dissatisfaction, job demands should be coordinated with job control so that where ever job demands are high, job control should match the requirement. High job control enables participants to handle the job demands by developing appropriate behavioural response patterns to improve the job performance. Karasek's model has largely focused on job demands such as workload and work pace (Fox et al., 1993; Van Yperen and Hagedoorn, 2003). Karasek

proposed that job strain results from a combination of high psychological demands (such as having to work hard and fast).

This research seeks to however extend the argument to cover the angle of learning in high job demands with low control. From the theoretical underpinnings of Karasek's model, its emphasis is on dissatisfaction and inhibition of learning due to high job demands. Learning however is varied and complex phenomenon (Mezirow, 1991). Some situations of high demand jobs can even cause people to unlearn (Fiol & Lyles, 1985). Where learning itself is a relatively permanent change in behaviour due to experience (Kalat, 2016). The behaviour could be adaptive or maladaptive. The theory implicitly has pointed to the idea that employees' workload can cause them to put up behaviours which in a long run can affect them personally and their co-workers as well. It is against this backdrop that this study wants to investigate the relationship that exists between PHSD and SB of health personnel in two Ghanaian teaching hospitals.

2.2.3 Social Exchange Theory

Social Exchange Theory (SET) has been employed heavily in social science research and more especially in understanding the interactive behaviour of employers-employees at the workplace (Cropanzano, & Mitchell, 2005). SET has enjoyed prominence in disciplines such as anthropology (Firth, 1967), social psychology (Gouldner, 1960), and sociology (Blau, 1964). Though the theory has been explained from varying angles depending on the discipline concerned and the aspect most prominent to a study, it is however agreed that SET argues that every human setting imbibes in it some ranges of interactions that creates some level of obligations among the actors (social actors) (Emerson, 1976). Four figures have largely been held responsible for the consolidation of SET in both sociology and social psychology: George Homans, John Thibaut, Harold Kelley, and Peter Blau. However, the social exchange theory is

largely associated with Blau (1964). The theory says that an embedded obligatory reciprocity is created when one actor puts up a behaviour that is perceived by another actor to be beneficial. The embedded obligation to returning the kind gesture by the benefiting actor(s) over time will in return benefit the initiating actor(s) (Adutwum, 2010). In this vein and relating it to organisational behaviour, Tsui et al (1997), explained that, workers are more inclined to reciprocate in behaviour and deeds the benefits they enjoy through the performance of their core mandates with higher accuracy and would even go an extent further to carry out some activities that fall out of their core task that will inure to the benefit of the organisation. Based on the premise established, it would hence stand to argue that, employees would put up behaviours that commensurate the level of treatment they perceive management to be meting out to them. For instance, if the employees perceive management to be giving them their due benefits in terms of salaries and other remunerations, the employees in turn would put in extra efforts to accomplish their given tasks to meet set standards and at some instances employee even go the extra mile to put up organisational citizenship behaviours like helping colleagues in performing their tasks.

Like many workplace engagements, the priority and commitment given to any aspect of the organisation are evident from the rigour in policy and practice. The workers' perception with regards to what is relevant and prime hence hinges on the level of devotion that management accord to the aspect under consideration. For the sake of this study, the SET theory is employed to explain the interaction effect of management and employees on perceived safety climate and how that interaction also affects the reported safety behaviour of healthcare workers. Now bringing the argument home, it would be said that workers would conclude based on the policies and practices that exists in the workplace on issues concerning OHS to infer the level of seriousness accorded health and safety in the organisation. In so doing, workers come to terms with the extent to which managers, supervisors and co-workers value their safety (Opata,

2015). Inferring from SET, 'it could be assumed that workers who hold the perception that management and their co-workers are concerned with their safety, would reciprocate safety related exchanges like complying with established safety standards as well as actively caring for the safety of their colleagues' (Opata, 2015, p. 22). Blau, (1964) in his research on SET also pointed out that the tendency for reciprocity in a social exchange phenomenon also relies of the norms and precepts of what constitute acceptable and appropriate behaviour.

Mearns et al. (2010) observed that based on the orientation of workers with regards to their normative and cognitive exchange, it would be expected that employees who perceive that management invest in their health and safety would in return indulge in less risky behaviour but would instead engage in safety compliance behaviours instituted by the organisation. DeJoy et al. (2010) also observed that when management are seen by workers to be demonstrating a high level of commitment and support towards the safety of workers, workers would be expected to reciprocate this gesture by putting in greater efforts in following safety policies and practices. This arguments points to the role psychological contract plays in ensuring harmony and cooperation at the workplace. Psychological contract focuses on what each part to a work engagement expect from each other and how this expectation in turn affects the behaviour of both parties (i.e. management's expectations and employee expectations). Psychological contract which also dwells on perception deepens the understanding of SET on the interactional relationship between management and employees and how it ultimately affects the behaviour they put up.

Mearns et al. (2010) in a study looking at SET and how it relates to organisational safety drew the conclusion that, when organisations are perceived by its employees to be investing in employee health and well-being it might compel workers' to reciprocate this gesture by complying with safety rules and regulations that inure to their benefit and that of the entire organisation. This draws attention to the essence of perceived organisational climate and its

impact on safety behaviour of employees. For instance, in a study by DeJoy et al. (2010), it was mentioned as part of their findings that, perceived organisational support was culminated in a positive safety climate. Therefore, it can be concluded from the SET, that the Safety Climate (SC) at work can have a significant impact on employees' safety behaviour in the midst of workload which can cause workers to easily compromise their safety in order to meet work demands. This point raised would suffice to argue that SC especially MC (management commitment) to safety and PS (priority on safety) might moderate between PHSD (pressure for health service delivery) and SB (safety behaviour).

2.2.4 Conservation of Resource Theory (CRT)

Conservation of Resources Theory (CRT) as formulated by Hobfoll (1989) postulates that humans as rational economic actors are more inclined towards conserving resources. This notion is constructed on the backdrop that, human beings in general would rather preserve their personal resource where possible in any engagement, especially where it is evident that there would be no mutual gain in the expending of one's own resources.

Drawing from CRT theory, it can be argued that safety participation demands that employees make use of their personal resources in the form of time and energy and in some cases money. This then requires that employees forgo some other demands in order to meet safety and well-being demands on their personal resources in the form of time and energy. For instance, in the healthcare industry especially in developing countries where healthcare workers are hard-pressed for time in their line of duty. They would often have to opt between saving dying patients rather than following through all safety precautions. There could however be some exceptions to this argument. For instance, if management is so keen on health and safety practices even when tasks are so demanding, there would still be some greater efforts to pay attention to established rules of conduct.

Borrowing from the expectancy – valence theory by Vroom (1964), which is in line with the CRT theory, Adutwum (2010) pointed out that employees are more likely to adhere to safety rules and regulations if they can directly perceive such behaviours to have a valuable bearing on important organisational outcomes. It could thus be argued that work environment where the safety climate is high would more likely put up safety oriented behaviour than in organisations where the safety climate is comparatively low. This would probably be the case if management commit resources to issues of OHS. Hence, it can be concluded that employees would participate more in safety oriented behaviour if they are encouraged by management as well as co-workers. This invariably points to the idea that safety climate might have some positive relationship with safety behaviour (safety participation and safety compliance).

2.2.5 Synchronisation of Theories and the Framework

This study sought to investigate whether a relationship exists between Pressure for Health Service Delivery (PHSD) and Safety Behaviour (SB) of targeted health personnel (Medical Doctors, Nurses and Biomedical Scientists) who were found in the two identified teaching hospitals in Ghana. The research also considered the prevailing safety climate in the respective hospitals and how some of the safety climate dimension played a moderating role between PHSD and SB. It is against this backdrop that the study employed the three theories above to guide the research and consequently developed a theoretical framework.

The JDC basic argument which was relevant to the study was the idea that when job demands (PHSD) are more than the resource that workers have it might result in job dissatisfaction and impede workers' learning ability. The ability to learn would be in this regard how to adjust behaviour to enhance skills and further improve efficiency. This invariably means learning to put up such behaviours such as healthy occupational health and safety practices. Hence this

theory sufficed for this study in reasoning that if the PHSD is high it may relate negatively to the SB that the health personnel are likely to exhibit and vice versa.

The Social Exchange theory on the other hand looked at the interplay of the relationship between colleagues' and the management in general and how that can influence the behaviour of workers in a particular direction. The theory thus explained the relationship that exist between prevailing perceived safety climate within the health sector and how that intend influenced the safety behaviour of the health workers.

The Conservation of Resource theory (CRT), explained how difficult it would be to apportion personal resources to safety in the mist of other competing demands. This theory also gave support to the arguments that was raised in the light of PHSD and SB. This participatory angle of the theory best fits the Safety Participation portion of employees SB when under pressure.

2.3 Review of empirical literature

The empirical review looked at already existing research works that have a relationship with the current study. The perusal was done with the intent to bring out the most relevant findings that supported or gave a stronger direction to the study. Empirical review also helps to identify research gaps that exists and needs to be remedied. These gaps may be in the area of methodological approach, analytical approach and limitations identified in other works and recommendations made to further advance the frontiers of knowledge. In some cases however, the empirical review can also draw attention to the need to replicate the study within other settings, or the same settings even to see whether the previous findings can be supported, modified or refuted all together. For this study, review was on works that looked at occupational health and safety within the health sector. The variables considered are; the three safety climate dimensions (management commitment to safety, pressure for health service delivery and priority of safety (Bosak et al, 2013) and safety behaviour.

2.3.1 The Health Sector Human Resource Situation in the Sub Region: An avenue for increased Pressure for Health Service Delivery.

The human resource of a country has been described as “the heart of the health system in any country” (Lehmann, Friedman, & Sanders, 2004). Scholars have pointed out that, there is the need to pay more attention to the development and maintenance of the major health-system component which is the human resource, which has been neglected in the sub-region (Hongoro, & McPake, 2004). This situation gives course to reason that issues of health and safety might suffer the same fate. Hongoro and McPake, (2004) have also asserted that virtually all of the MDGs are tied to the development of vibrant health systems. This implies that the promotion of the development and maintenance of the healthcare worker cannot be compromised since they are the backbone to the health systems. Anand and Baernighausen (2004), points to the fact that the healthcare worker matters greatly in the rate of maternal deaths, infant deaths, and children under 5 years death rates as well. From the ensuing arguments raised, it is quite evident that to pay great attention to the Human Resource in the healthcare sector is paramount for establishing an effective and efficient health system in the sub-region Ghana inclusive.

Hongoro, & McPake, (2004) have pointed out that the Human Resource supply in the sub-region are in short supply due to factors such as ‘*deaths, attrition, and, increasingly, emigration*’ (p. 1452). The capacity to train new health professionals in the sub-region are very limited, although there have been some efforts by government to improve the situation there is still much room for improvement (Connell, Zurn, Stilwell, Awases, & Braichet, 2007). The paradox of the situation is also that government efforts are concentrated on highly skilled health personnel who are easily exportable (Glenngård, 2003). The bulk of the health professionals that are trained end up migrating to other countries after completion. This situation is inimical to government efforts to close the wide doctor patient ratio faced by most developing countries. The unfavourable working conditions and remuneration have been identified to be the major

factor that creates the brain drain situation in the sub-region (Glenngård, 2003). In a study by Vujcic et al (2004), found that

‘...20.55% of healthcare workers in Cameroon stated that they might stay by improvements in healthcare system management, and 64%, 68%, and 36% of health workers in Ghana, South Africa, and Uganda, respectively, stated that improvements in the work environment might persuade them to stay...’ (p.10).

Marchal and Kegels (2003) also reported that 27 000 highly qualified Africans, including doctors, emigrated between 1960 and 1975, an average of 1800 people per year. In Ghana, 42.6% of doctor posts and 25.5% of nurse posts, and in Malawi 36.3% and 18.4% of doctor and nurse posts, respectively, are vacant (Bach, 2003).

A minimum of 5 years is required to train a medical doctor, while it take at least 3 years to train a nurse; this is a long time giving the immediate need for healthcare personnel, especially in sub-Saharan Africa (Vujcic et al, 2004). This situation is further worsened by the economic challenges that befall the region. For instance, over the past decade’s most countries within the sub-region, are grappling with economic challenges, which have affected government budgetary allocations to the health service sectors (Gilson, & Mills, 1995). Hongoro and McPake (2004) conclusively paints a picture of the healthcare human resource crisis when they pointed out that an approximated 720 000 medical doctors and 670 000 nurses are needed in sub-Saharan Africa to meet the healthcare demands of its populace. This situation thus put a lot of workload or pressure to deliver health services on the hand full of health personnel remaining in most African countries to which Ghana cannot be precluded.

2.3.2 OHS Findings in the Health Industry of sub-Saharan Africa

The study used search engines and available journal sites as well as library documents to find some relevant and up to date research on OHS in the sub-region. From the search it was realised

that just a handful of researches have attempted looking at OHS in the health sector within the region. The bulk of the studies found emanated from Nigeria, with virtually no published work from Ghana but some unpublished graduate studies thesis. The handful of works that were also found did not pay critical attention to issues relating to safety climate and how that affects the safety outcomes of healthcare workers. Some of the studies found are reviewed below.

In a research by Abdulraheem, Amodu, Saka, Bolarinwa and Uthman (2012) *to assess knowledge, awareness and compliance of universal precautions among health workers' in north eastern Nigeria*. It was found that less than one-fifth (13%) of the sample had adequate knowledge of universal precautions. They concluded that the deficient knowledge base among some of the health workers may be due to a lack of investment in staff training by their employer or to limited understanding of healthcare workers' safety behaviour in the clinical setting or complacency. This point to the reality that priority of safety in the health sector of most African countries are neglected by management. In addition, non-compliance among health workers was associated with insufficient knowledge, workload, forgetfulness, workplace safety and the insight that colleagues also failed to follow safety procedures.

Non-compliance among healthcare workers could also be due to their belief that their workload is increased by adhering to universal precautions and therefore, these procedures are difficult to accommodate due to day to day clinical pressures. An increase in workload might imply that management compromise on safety, hence calling for healthcare workers to go around safety procedures and policies in order to achieve targets. This situation has among other reasons given the current study the edge to virtually replicate the work of Katz-Navon, Naveh and Stern (2005) in the same health industry but within the African context which is plagued with economic and managerial challenges.

Okwara¹, Enwere, Diwe, Azike, and Chukwulebe, (2012) in an attempt to assess the level of awareness of HBV and hepatitis C virus (HCV), HBV vaccination and adoption of safety

measures by theatre and laboratory workers. Administered structured questionnaires to respondents' which assessed level of knowledge of the viruses, practice of barrier protection and level of HBV vaccination. Among their findings it was realised that only 67.5% (114) use safety measures consistently. It was concluded that most (94%) workers were aware of the risk of HBV and HCV and HBV vaccine (92.9%) but only few (29.78%) completed vaccination. Unfortunately, only 2/3 use protective measures consistently. This finding point to the need for management of hospitals to encourage safety as well as prioritise health and safety policies and procedures such as vaccinations.

In another study by Isara, and Ofili (2012) to determine the prevalence of needle sticks and other occupational exposures among Health Care Workers (HCWs) in a Nigerian tertiary hospital. They used a descriptive cross sectional design involving all doctors, all laboratory workers and a selection of nurses. A structured, pre-tested, self-administered questionnaire was used as the tool for data collection. A total of 167 HCWs made up of 47 (28.1%) doctors, 100 (59.9%) nurses and 20 (12.0%) laboratory workers were interviewed. A total of 89 (53.3%) of participants had had blood splashes. A higher proportion of nurses 54 (54.0%) had cuts from drug ampoules than doctors (34.0%) while 16 (36.2%) doctors had glove perforation during surgery compared to nine (9.0%) nurses. Only 43 (25.7%) HCWs reported to the staff clinic after sustaining accidents/injuries. The prevalence of needle sticks and other occupational accidents/injuries among HCWs in the Federal Medical Centre, Asaba, Nigeria was found to be high. The study also identified a high rate of non-reporting of these injuries to relevant authorities. They recommended that health facilities should have a written injection safety policy and a post-exposure protocol and HCWs should be continually educated on them.

Most of the studies review thus far identified medical doctors, nurses and laboratory technicians (biological scientists) as the main constituent of HCWs as far as issues of health and safety are concerned. It can be reasoned that by virtue of their frequent contacts with

patients and the use of hospital equipment and drugs, they remain the most exposed to health and safety challenges in the hospital setting. This study hence also targeted these three category of healthcare workers as its respondents to see how they perceive the safety climate in their work environment and how that in turn affect their safety behaviour. The scantiness of research on OHS with regards to the health sector needs to be increased to make available knowledge for policy and practice.

2.3.3 Safety Behaviour (SB)

Burke, Sarpy, Tesluk and Smith-Crowe (2002, p. 432) defined Safety behaviour as “actions or behaviours that individuals exhibit in almost all jobs to promote the health and safety of workers, clients, the public, and the environment”. This definition points to the reasoning that SBs are conspicuous behaviour and their impact affect a wide range of players in and out of the work environment. It thus behoves on every well-meaning organisation to promote a healthy occupational health and safety atmosphere to encourage employees to put up the best of OHS behaviour (Zohar, 2008). This can partly be done through making employees’ safety compliance more rewarding. This would increase their engagement in work place safety activities such as going the extra mile to abide by safety rules and engaging in safety initiative behaviour.

Psychologist who study the behaviour of humans look at the observable conduct of an individual in relation to others and their environment at large (Kalat, 2016). Zin and Ismail (2012) however, in their definition of behaviour went further to see behaviour not only as the observable conduct of persons but also the aspect of that conduct that can be measured or quantified directly or indirectly. With this understanding, Safety Behaviour (SB) can be seen as all observable and quantifiable conducts (actions and inactions) that inure to promoting safety at work (Lee & Dalal, 2016). These could include actions such as the provision of safety

training and strict adherence to safety policies, practices and procedures accompanied with reward systems of best behaved employee of the year.

The end goal for promoting safety behaviour at work is to create a wholesome work environment for all, devoid of hazards. Johnson (2007) concurs to this assertion when he opined that safety behaviour is a critical component in reducing if not eliminating completely accidents and injuries within the work environment.

In this current study, safety behaviour is theorized and operationalized as all-inclusive actions, conducts and activities embarked on by employees in their workplaces to guarantee their individual safety, the safety of their colleagues and the entire institution as a whole. This study is thus benched on the assertion that all are affected by the behaviour of individual workers.

In an organisational setting it is the measurable conducts that can be termed as SBs as far as research can argue on whether or not a behaviour put up is SB related. Burke, Sarpy & Smith-Crowe (2002) in their studies on general safety performance where they looked at testing grounded theoretical model postulated that safety behaviour is a measurement of the safety performance within an organisation. They came up with four specific components of safety behaviour, namely, the use of Personal Protective Equipment's (PPE's), involving in Practices that Reduce Risk (PRR), Communication of Health and Safety Information (CHS) and Exercise of their Rights and Responsibilities (ERR) (Burke, Sarpy and Smith-Crowe, 2002).

The general constructs under which SB has been conceptually and operationally grouped under two categories; Safety compliance and Safety participation, sometimes referred to as initiatives (Aduwum, 2010; Bosak et al., 2013; Dahl & Olsen, 2012; Neal, Griffin, & Hart, 2000). Christian et al. (2009) also conceptualized safety behaviour (performance) as a metric for safety-related behaviours of individual behaviours specifically compliance and participation.

This study has thus adopted these two categories of SB in assessing the SB in the Ghanaian health industry.

- **Safety Compliance**

Safety compliance “involves adhering to safety procedures and carrying out work in a safe manner” (Neal et al., 2000, p. 101). Safety compliance has been conceptualised as the obligatory action or conducts which employees ought to undertake in ensuring safety within the work environment for themselves and others (Neal et al., 2000). Employees who are said to be complying with institutionalised safety regulations, are those who are found to adhere to such rules and regulations such as putting on the right Personal Protective Equipment (PPE), following through the right rules and procedures when they are exposed to an infection among others.

Regular non-compliance with policies, procedures and safety rules are considered a major cause of accidents as it can make the entire system more vulnerable to failure (Reason, 1997; Neal & Griffin, 2006; Baysari et al., 2008).

In a study by Dahl and Olsen (2012) where they identified violations of rules and procedures as an important causal factor in workplace accidents. Their study also revealed that human risk management systems allows a greater responsiveness to employee safety compliance. The assumptions for safety compliance stems from the reasoning that in the development of a work environment the rules and regulations therein instituted are to serve as checks for the efficient functioning of all aspects of the organisation in reaching held goals. These established regulations invariably would include the efficient protection of employees from harm. For instance, the disregard for safety regulations has been acknowledged as the central contributing factor of accidents in the petroleum industries (PSA 2005, 2007). Hopkins (2011), however argues that the relationship between safety compliance and accidents at the work place can not

only be limited to the extraction industries rather a regular verdict in all general occupational accident inquiries

- **Safety Participation**

Safety Participation which is also referred to as ‘safety specific citizenship behaviours’ (Neal & Griffin, 2002: 68), unlike safety compliance which is obligatory, are voluntary acts on the part of employees. Here it behoves on the individual workers to go the extra mile to ensure that their actions and inaction inure to the safety of themselves and others. Neal and Griffin (2002), see safety participation as all actions, conducts and activities which may implicitly contribute in creating a work environment that encourages safety. These actions are mostly voluntary thus undertaken by the workers’ own discretions. These actions may include the identification and voluntary reporting of hazards, giving submissions to develop workplace safety, and correcting co-workers when they engage in unsafe conducts or activities.

This study hence looks at measurable SBs and its sub categories (safety compliance and safety participation) and its relationship with safety climate.

2.3.4 Pressure for health service delivery and Safety Behaviour: The nexus

People have an endurance threshold, which vary from person to person. Employees are sometimes met with work challenges that exceed their abilities. And when the situation occurs, they are then said to be having workload challenges (work pressure). The term “work pressure” connotes situation where employees are overburdened. The terms “work pressure” and “work stress” are still used interchangeably. Though the latter is more of the physiological and psychological impact on the individual as a result of their appraisal of a situation at hand. Work pressure which is more occupational specific is for the sake of argument and practicality is not always burdened with a negative connotation. A person can be said to be guided to achieve a

set target due to the demand that is made on the set objective. It can thus be said that work load or work pressure is dependent on the amount of workload at hand and the time allotted to complete the task. The ability of the person too should be taken into consideration, since there are differences in the ability of persons. It stands to reason that we are said to be under pressure when we are either hard pressed for time or limited in resources to accomplish a task. This situation elicits some behavioural alterations which would either inure to the benefit of the person or would have adverse effects on them. For the sake of this study, it would be of prime concern to consider the impact of pressure for health service delivery on the safety behaviour of health workers.

Some scholars in defining work pressure however draw on consequent behaviour to explain the phenomenon. For instance, Gaba, Howard and Jump (1994) define Work pressures as the “overt or covert pressures and incentives on personnel to place production, not safety, as their primary priority”. From the definition, there is a straight linkage between the demands placed on a worker by virtue of their work load to put production before safety and how that affects their safety behaviour. Brown and Holmes, (1986) state that employees from diverse work environments in different sectors are always torn between two paths when it comes to either strictly adhering to safety standards or meeting production targets or demands (Ray, Bishop, & Wang, 1997). This dilemma invariably affects their behaviour as well. The situation is more problematical when management condone with going around safety practices and procedures in an attempt meet set outputs. The supportive systems that are available in the workplace also plays a greater part in how well one can deal with production pressure (Dejoy et al, 2004). In a work environment where management and co-workers and other superiors are supportive, then workers would feel less pressured to deliver.

The composition of work, its organisation and the amount of work at hand are work-related factors that can contribute significantly to production pressure. For example, challenging tasks

that are accompanied with stricter deadlines are likely to more pressure on a worker than tasks that are less challenging with flexible deadlines. In line with the work-related factors is the ability of the employee to take charge and control the task at hand. For instance, when a task is assigned with commiserating authority and ample resources, one is likely to wield more control in discharging the task than where the authority assigned is below the task at hand. It is assumed that when employees are given ample time accompanied with the right skills and resources, then they would adhere more to safety procedures and precautions. Meaning if employees are able to alter the way and manner in which tasks are performed, delegate some tasks under ample time, then the pressure for production can be lessened (Karasek, 1979). This point to the notion that work-related factors if are intense leaving no room for adequate control, flexibility will mean there would be little room left to consistently follow through safety practices at the workplace (Karasek, 1979).

Production pressure though intended to get the best out of employees at their own peril can also lead to ineffective workforce or affect their safety. Studies on safety behaviour have shown that persistently employees had tended to compromise on safety standards when they perceive that attaining production targets were of paramount importance to management (Langford, Rowlinson, & Sawacha, 2000). However, Rundmo (1998) was of the contrary view that the perceive work pressure may not in itself result in industrial accidents and injuries but employees perceived work pressure to disregard safety standards and procedures. He found out that the attitude of workers to accept rule violation of safety standards and procedures was the strongest predictor of risk behaviour. In other findings however, some aspects of workload such as time pressures, higher work pace and excessive workload have been identified as a factors that can contribute to both workplace injuries and accident and unsafe work behaviour (Brown et al., 2000; Christian et al., 2009; Goldenhar et al., 2003; Hofmann & Stetzer, 1996; Wright, 1986).

Pressure for production can further have an impact on the atmosphere in the workplace, the quality of the work produced, the safety behaviour of workers and so on. The causes of production pressure may also be embedded in the work itself, in the employee's private circumstances, or in a combination of both. Whatever the reason, the problem affects employee behaviour in general. In many cases, the solution lies in response of management and the individual employees.

The Agency for Healthcare Research and Quality (AHRQ) enumerated some factors that contribute to pressure for health delivery

"...a variety of organisational, systematic and personal factors may be contributing to production pressures in a particular healthcare environment, including unrealistic workload planning, inadequate staffing, disorganisation, duplicative efforts, delegation problems, personal financial needs and a culture that does not value safety over production..." (AHRQ, 2007 p.23).

Health workers adapt to health service delivery workload in many ways some are positive others result in maladaptive behaviours. Some of these behaviours include; working around OHS practices and procedures designed to safeguard employees' safety and wellbeing. DeMaria, & Neustein, (2010), asserted that in order to meet work demands some employees end up tackling assigned tasks in a haste without adequate amount of attention to quality and safety.

Wills, Biggs, and Watson (2005) indicated that production pressure and safety standards were significant in predicting safety behaviour among occupational drivers and construction workers. Their findings concurred with that of Flin, Mearns, O'Connor, and Bryden's, (2000) off-shore study where unsafe behaviour was significantly predicted by the perceived production pressure on the rigs.

Flin et al, (2000) opined that the rising global trend of rapid and fluid competition, the desire to cut cost and institutional restructuring predominantly induce production pressure which consequently influence the safety climate at the work place since time and resources are hard-pressed. It is against this backdrop that pressure for health service delivery is evaluated on safety climate.

In line with the definition given by Brown et al., (2000) and Bosak et al., (2013) this study can thus define pressure for health service delivery as the perception that is held by health workers in their various hospital, as to whether they are encouraged by management to work around safety standards, practices and procedures so as to attain job demands, health service quotas, meet important deadlines or not interrupt the systematic flow of health delivery.

2.3.5 Organisational Climate General Overview

Organisational Climate (OC) has been used in varied academic disciplines to describe the existing perceptual situation that pertains to some facets of an organisation. Adutwum (2012) defined OC as the “*shared perceptions of employees concerning the psychologically relevant facets of their work environment*” (p.3). Organisational climate typically includes a number of different people’s outlook of the workplace situations (James & James, 1989 cited in Dejoy, et al, 2004:82). Organisational Climate (OC) therefore can be said to be the shared descriptions and gauged characteristics of what employees perceive to be prevailing in the environment. The perceptive component of OC lays emphases on the assumption that employees within an organisation would place more value on the dominating facets within the work environment. This would cajole them to channel their strength and capabilities in attaining the desired climate goals Adutwum (2010). OC in itself plays the role of an intermediary between the working environment of employees and their resulting response behaviour. The OC of the day with regards to a particular facet within the organisation can cause output of a certain behaviour.

The direction of the behaviour cannot however be predicted easily. This can be attributed to the variation in personality among other variations. It is however worth noting that some research has established some relationships between some OC and some behaviour such as Safety Behaviours (Lee & Dalal, 2016). It would be of great resource if there are many such studies to tailor OC to desired behavioural outcomes.

- **Constituents of Organisational Climate**

“*Sharedness*” throughout literature has remained a dominant construct in the definition of Organisational Climate (OC) (Parke, & Seo, 2016; Patterson, Warr, & West, 2004; Zohar, 2003). The structural perspective (Chen, & Huang, 2007) and the interactionist perspective (Schneider, 1981) explains how these “sharedness” is cultivated among employees.

Ashworth (1985), found climate to emanate structurally from the existing features or dimensions in an organisation. The existing features may include the intensity of centralisation, the size of the organisation, and as well as the basis for unit and subunit groupings (Ashworth, 1985). Such structures have been identified by Adutwum (2010) to stifle the inherent ability of employees to exhibit their unique views concerning the organisational conditions to the extent that a contact with similar conditions elicits similar perceptions. Dejoy, et al (2004), study concurred with the assertion that some relationship between some existing features within institutions and the prevailing psychological views of the group supports the structural perspective of OC.

The interactionist perspective is of the view that as people within an organisation identify some similarities in characteristics among themselves, these similar traits in character develop into likening and regular interactions (Blumer, 1969; Ashworth, 1985), which then create a fertile ground for the exchange of experiences. With each member tending to shirk off their individual idiosyncratic perceptions in a bid to embracing a common bond of understating of events in

the organisation. With persistent interactions, employees begin to develop converging connotations with respect to some organisational features and events. These collective values result in a sort of binding contract among employees as to what is commonly cherished in their organisation (Zohar & Luria, 2005).

- **Elements of Climate**

Several studies have made advances on the need to take a critical look at the conceptualisations and method of investigating climate either as a shared or individual employee's construct (Rousseau, 1985; Zohar, 2003). Bosak, Coetseeb and Cullinanea (2013) reiterated that there is a teeming amount of disputation among climate researchers as to what level safety climate can be conceptualized and subsequently analysed. Christian, Bradley, Wallace, and Burke (2009) have identified "*psychological safety climate*" as the individual employees' level of studying climate meanwhile, Zohar (2003) also terms the singular analysis that is placed above the individual level such as department, group, and organisation level as the *organisational climate*.

According to Beus, Payne, Bergman, & Arthur (2010) organisational climate based on its shared nature, has two essential attributes which they identified as the level at which climate is studied and its strength. The level of climate refers to the aggregated perceptions of individuals within a group (work environment) on what is considered relevant to the group, business unit, organisation or industry. But it is worth noting that shared nature could be leaning towards a desired behaviour or otherwise, depending on the said notions impact on the organisation. Some studies have found significant relationship between the level of climate in an organisation to safety outcomes such as safety behaviours (safety compliance) (Dejoy, et al 2004: Goldenhar et al., 2003; Lee & Dalal, 2016: Neal & Griffin, 2006), and near misses (Goldenhar, Williams, & Swanson, 2003).

The unstableness of individual safety perceptions also termed climate strength specifying the ‘sharedness’ of a climate has identified inconsistencies in employee behaviour (Beus et al, 2010). Schneider, Salvaggio and Subirats (2002) opined that a strong climate regardless of the level of the climate can be consistent in predicting group behaviour than a weak climate. Extending the argument, a workgroup or unit with more similarly connected perceptions should easily be predictive behaviour wise, than a less similarly connected work group. This follows the supporting assumption that individualistic perceptions in a strong climate will each be more related. Lindell and Brandt (2000) identified “climate consensus” as the inconsistencies in climate perceptions. They further argued that greater consensus would imply a likelihood in predictable behaviour among group members (Lindell & Brandt, 2000).

- **Shift from General Climate to Specific Climate as a Higher Predictor of Behaviour**

Burton, Lauridsen, and Obel (2004) see OC as “the attitude of the individuals concerning the organisation- its degree of trust, conflict, morale, rewards equity, leader credibility, resistance to change, and scapegoating as seen by the individuals”. (p. 69). The general organisational climate is a culmination of many facets of policies and attitude within the work environment. Every typical organisation will have specific policies and tactics to meet different objectives. These strategic apparatus (policies and tactics) will create some specific perceptions about different aspects of the work environment. It is in the light of these segmented perceptions that will call for specific climates. Specific climates have higher relationship with their specific outcome behaviours (Parke, & Seo, 2016).

Adutwum (2010) citing Schneider (1975, 1990) is of the view that rather than investigating climate from a universal viewpoint which merges all likely facets of the workplace, studies must be purposefully focused. Researchers are thus encouraged to strategically concentrate on specific goals of the organisation and examine them in the light of the specific climate rather than an all-inclusive organisational climate construct. The inclination to investigate climate in

a specific facet cannot be over emphasised. The predictive power which are related to specific domains are much better than using the general climate. For example, a specific climate construct concentrating on service is anticipated to significantly predict workers conduct in service delivery better than a more general one (Schneider, 1990; 2002).

The awareness on the use of climate specific constructs is gaining a lot of momentum due to its potency in predicting specific facets of behaviours. For instance; Ethical climate (Grojean, 2004; Peterson, 2002; Wimbush, & Shepard, 1994), Safety climate (Beus, et al., 2011; Cooper, & Phillips, 2004; Griffin, & Neal, 2000; Mearns, Whitaker & Flin, 2003; Zohar 1980; 2000), Service climate (Schneider, White, & Paul, 1998; Mikic, & Dean, 2006), and Innovation climate (Arvidsson et al., 2006; Hsu, & Fan, 2010). Although there is still some significant amount of studies that still consider general climate in their investigations (Parke, & Seo, 2016), facet specific climate has relegated organisational climate to be considered more as a concept rather than as a construct when used in literature (Adutwum, 2010). This has necessitated the use of safety climate in the current study to find out how it relates to safety behaviour within the health sector of Ghana.

- **Safety Climate**

The concepts of Safety Climate (SC) first appeared in Zohar's 1980 paper title; *Safety climate in industrial organisations: Theoretical and applied implications*. Since then, the safety climate construct has gathered momentum used in different work settings (Hon et al., 2014). SC is the specific aspect of organisational climate which strategically focuses on occupational health and safety within the work environment (Zohar, 1980). In a more exhaustive definition Zohar (1980) saw Safety Climate as “a summary of the molar perceptions that employees share about their work environments, and a frame of reference for guiding appropriate and adaptive task behaviours” (p. 96). This definition sums up the totality of the psychological as well as sociological undertone that SC poses. The psychological element is embedded in the “molar

perceptions” aspect of the definition. This can be said to be the mind-set persons hold about a particular phenomenon or event and in this case the safety climate. These held perceptions trigger a spiral of behaviours pertaining to the event under consideration. The sociological bit is encapsulated in the word “shared”. Society comprises of what people share in common through both their personal and distant interaction. It can thus be said that perception is brewed in the pot of interaction with others and the environment around to reaching a common held mind set of a phenomenon. This commonly held mind set can by implication elicit a shared (behaviour).

Adutwum (2010) holds this same view when he postulated that SC is a group level variable and could be explained as workers shared perceptions regarding their organisations safety policies, practices and procedures. Zohar (2003) buttressing on the same view, opined that SC is of two aspects. The first being the formally stated safety policies, practices and procedures which are often times in explicit statement or written documents. The second being the enacted which forms part of the day to day running of the work environment. Hence safety climate as examined in these sections of the study refers to either enacted or enforced safety policies and practices within the health industry.

It is assumed that through observation, employees become acquainted with the enacted practices and policies by virtue of how they and others relate with each other in terms of workplace safety. Some of such enactment and policies include but not limited to management commitment to safety (Hon, Chan, & Yam, 2012), the extent to which a safe work environment is prioritised, regular personal protective equipment replacement and strict adherence to safety rules and procedures (Garavan, & O'Brien, 2001). These policies and enactment then informs employees on the relevance attached to safety in their organisation in comparison to other priorities like meet set targets, work speed among others (Neal & Griffin, 2000). The appreciation of the importance that are attached to SC issues then prompts the individual

worker to put up safe behaviours that are expected, supported, and rewarded within the work environment thus guarding employees on the likely consequences of their safety behaviours (Adutwum, 2010). Among a sample of hospital workers, Neal, Griffin and Hart (2000) found support for a positive and significant relationship between perceptions of overall safety climate and workers' motivation to act safe as well as learn about safety. Climate perceptions were also found to be related to self-reported participation in safety activities like voluntarily carrying out tasks to improve safety. Similarly, Cheyne et al (1998) reported a positive relationship between climate perceptions and employee safety involvement.

This in effect implies that perceived safety climate creates a significant awareness among employees. This in turn whips up their safety behaviour in light of how much support is given to safety behaviours admitted either in pecuniary or non-pecuniary forms.

Some researchers are of the view that, SC is a construct which has been used across studies to serve as a tool or framework in evaluating safety at work environments (Cui, Fan, Fu, & Zhu, 2013). It is in line with this that this study adopted SC in investigating the safety environment within the Ghanaian Health Service Industry and how that relates to safety behaviour.

Organisational climate has been synonymous to organisational culture and this effect of similarity has also cast a shadow on organisational safety climate and its safety culture. However, Mearns, Gordon and Fleming (2001) argue that SC is rather the "current-state reflection" or a "snapshot" of the safety culture within the work environment. Some scholars have also held the view that the two constructs though similar are not the same, with each holding to its peculiarity that distinguishes them from one another (Neal & Griffin, 2000; Guldenmund, 2000). In demystifying the view that SC and safety culture are the same, they explained that safety climate is an off shot of organisational climate whereas safety culture has its root in anthropology (Neal & Griffin, 2000; Guldenmund, 2000). From the above submissions, it will suffice to establish that SC is incorporated in organisational safety culture

which is considered a wider construct with added constructs such as attitudes and values. It must however be noted that there have been safety climate stains that have “tinted” the fabric of organisational safety culture. This situation can be attributed to reluctance on the part of scholars. Take for instance, scepticism and risk justification which relate to organisational safety attitudes have been stated in literature as dimensions of safety climate (Williamson, Feyer, Cairns, & Biancotti (1997). This study hence would want to add to the pioneers of scholars who are making efforts to make this distinction clear.

Safety climate can therefore be considered as an important variable for understanding safety performance and is used as a leading indicator of unsafe work conditions (Zohar, 1980; Flin et al., 2000; Cooper and Phillips, 2004; Hofmann and Mark, 2006; Bosak et al., 2013). However, despite its predictive validity, many authors emphasize the need for further research which explains how specific features of safety climate are associated with one another and consequently with safety behaviour (Bosak et al, 2013; Katz-Navon et al., 2005; Naveh et al., 2005; Prussia et al., 2003; Pousette et al., 2008). In line with this, Zohar (2010) argues that safety climate perceptions should move beyond an isolated focus on safety, toward an evaluation which incorporates the relative priorities among the various safety policies, procedures and practices and their competing domains.

2.3.6 Management Commitment to Safety (MC) and Safety Behaviour (SB)

Management Commitment to Safety (MCS) is the extent to which management recognises the primary worth of safety within the organisation and handles matters of safety with all urgency. A substantial amount of research has established that perhaps, MCS may be the most appropriate safety climate dimension (Cigularov et al., 2013; Flin et al., 2000; Seo, et al., 2005; Zohar, 1980, 2003) which relates to the safety behaviour of employees. Some studies have associated MCS to some safety outcomes (Jaselskis et al., 1996), safety behaviours (Aduwum,

2010; Bosak et al., 2013; Katz-Navon et al., 2005, Opata, 2015), and the wiliness of employees to participate in improving safety performance (Langford et al., 2000). Michael et al. (2005) in Haslam et al, (2016, p.100) for instance suggest that employee perceptions of management's concern for employee well-being through a dedication to safety may result in positive outcomes beyond improved safety performance. Perceived management commitment to safety has been linked to employee attitudes such as: job satisfaction, organisational commitment and turnover (Michael et al., 2005; Zanko & Dawson, 2012).

Management activities also have been found to play a significant role in the formation of a safer work environment (Shannon et al, 2008) and that how safe the work environment is has a positive effect on the behaviour of employees (Thompson et al., 1998). Arguing the relationship between MCS and the safety behaviour of employees, McLain and Jarrell (2007) in Bosak et al., (2013) explained that commitment of management whips up employees' confidence which may results in a decrease in workers divided attention while executing assigned tasks while taking into cognisance hazards in the workplace, and increases the dissemination of information on safety. The amount of budgetary allocation assigned to customs, standards and conducts within the work environment have the tendencies to reinforced or inhibit employees' behaviour (Morrow et al., 2010). This means that the climate that might persist in a work environment can be influenced by the resources that associated with certain targeted behaviour not precluding safety behaviour. Zohar and Luria (2005), have opined that MCS must permeate both policy and procedural stretching from senior management right down to the shop floor supervisors within the organisation and then confirmed in by lower level supervisors. Though literature so far reviewed have asserted to the idea that MCS by far influences employees' behaviour when it comes to safety, the lines are however blurred as to which specific level of management the onus lies to directly and strongly show commitment to safety.

The present study which targets senior management within the Ghanaian health sector will suffice a test to see if the onus lies on senior management to exhibit commitment to safety or otherwise. This assumption is made on the premise that since senior management “undoubtedly set the pace for organisational atmosphere, establish priorities and allocate resources” (Flin et al., 2000, p.186; Bosak et al, 2013) in addition to their conducts, standards and policies playing a vital role in benchmarking the degree of freedom of supervisors in terms of policy implementation (Zohar & Luria, 2005) as stated earlier. This study also adds to the body of knowledge by looking at how well MCS moderates between PHSD and SB.

2.3.7 Priority on Safety

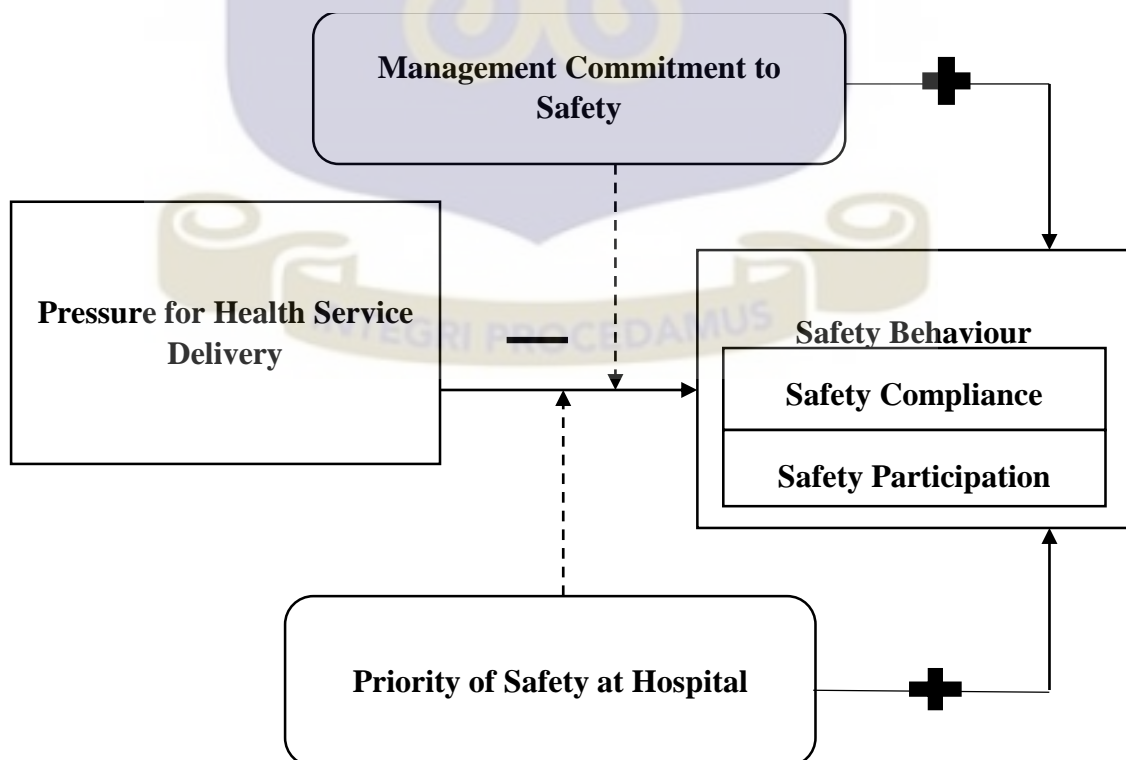
In an attempt to meet demand management would have to scale down on some aspects of the organisation. Sometimes this might affect the attention that is given to issues such as safety of personnel. Priority of safety is the perception of how important safety is of top priority for personnel (Naveh et al., 2005 cited in Bosak et al, 2013). When safety is seen as an important issue that must be given top focus irrespective of other competing demands, such as meeting strict deadlines and productivity, then it could be said that safety priority is high among employees and management as well (Bosak et al, 2013 p.258). When employees perceive that management puts their safety among the organisation’s most important outcomes they become responsible and consciously take charge of their own safety and that of others. On the other hand, if employees sense that their safety is not prioritised, they tend to regard safety-related policies and procedures as just being a whitewash on misplaced priorities. Fleming (1999), studying safety among off-shore personnel, revealed that 19% of subordinates’ self-reported safety behaviours were attributed to priority of safety in the work environment and the behaviour of supervisors. Dedobbeleer and Beland’s (1991) in their study also discovered workforce attitudes toward safety practices (i.e. likelihood of indulging in risky behaviour) was

accounted for by how management were perceived to be dedicated to issues that affected the safety and well-being of employees. Bosak et al (2013) have again found out that, employees' risky behaviours had an inverse relationship with priority of safety and management commitment to safety. This study looked at the relationship between healthcare workers' perceptions on priority that management place on their safety at work and how that affects their reported safety behaviour. Unlike Bosake et al (2013) who narrowed reported behaviour to only risk behaviour this study opens the continuum to both risky and safe behaviour hence referring to the construct in this sense as safety behaviour.

2.4 Conceptual framework

Based on both the theories and various literature reviewed a pictorial display of the various interrelationship between the variables under consideration is captured below as a conceptual framework in Figure 2.1:

Figure 2.1: "Health Service Pressure" Conceptual Framework



Source: Author's Construct (2016)

From the “Health Service Pressure” conceptual framework, it can be observed that there would be a negative correlation between Pressure for Health Service Delivery and the Safety Behaviour of health workers. Management Commitment to safety and Priority of Safety at Hospital Environment also would have a positive impact on Safety Behaviour of health personnel. The Management Commitment to safety and Priority of Safety at Hospital Environment would also play a moderating role between Pressure for Health Service Delivery and Safety Behaviour of the health worker. Safety Behaviour is also in two parts as illustrated by the conceptual framework above.

2.5 Conclusion on Literature Review and Conceptual Framework

The deliberations were aimed at raising supportive arguments in the light of existing theories and research works to help in generating a formidable path for the present study. The very essence of reviewing literature is also to help identify research gaps that needs to be filled to create knowledge in the field of study. The caution however is that a rush should not be made to focus on gaps only within research. Sometimes replications are also necessary to help in refuting or supporting previous findings that feed into theory. It is against this backdrop that the current study replicated some research works identified in the light of variations in geographical and developmental context as well as addressed some gaps in previous studies. For instance, the bulk of research on issues pertaining to OHS are in developed countries, which sometimes forces researchers and policy makers to draw conclusions to fit the developing context.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the approaches, procedures and techniques used to gather the data needed to achieve the research objectives. According to Saunders, Lewis and Thornhill (2007), research is carried out with the intent to find out things in a systematic or methodical manner, thus increasing knowledge. Hence, research is grounded on logical relationships and not just beliefs (Ghuri & Gronhaug, 2005). This chapter considered the research paradigm employed, the research design, sources of data, target population, sample size, sampling procedure, data collection instrument, and ethical considerations.

3.1 Research Paradigm

A research paradigm represents the researcher's worldview that serves as a yardstick to guide the study. This study sides with the Postpositivist philosophical worldview yielding from the tenets of objectivism. This philosophical worldview can also be referred to as empirical science. This is the typical form of research, and its features are similar to quantitative research and less of qualitative research (Creswell, 2009). Postpositivism is hinged on the assumption that the causes of a phenomenon are likely to determine outcomes or effects. The paradigm aims at simplifying idea into a small, distinct set of ideas that examines research questions and hypothesis (Creswell, 2013). The postpositivist paradigm looks at the world's existing reality objectively through careful observations and measurements to gain knowledge of a phenomenon. Which is made possible through the assignment of numeric qualities to observations as construct and also the behaviour of individuals. The postpositivist also acknowledge that the world is governed by laws and theories that can be unravelled through scrutiny. The postpositivist hence deems it necessary to test and verify these laws and theories to create a better understanding of the world. This worldview thus believes that the scientific

method to employ in research should start with a theory, which is then supported or refuted based on the analysis of collected data and then necessary revisions are made before additional tests are carried out (Creswell, 2009). This paradigm usually involves truth-seeking as opposed to perspective or opinion-seeking (Gray, 2009). This study hence hinges on this paradigm to come out with findings based on collected data which was gathered based on some theories and assumptions made with testable hypotheses.

3.3 Research Design

Gray (2009) defined research design as “*the overarching plan for the collection, measurement and analysis of data*” (p.132). He goes further to explain that a typical “*research design will describe the purpose of the study and kinds of questions being addressed, techniques to be used for collecting data, approaches to selecting samples and how the data are going to be analysed*” (Gray, 2009 p.132). The main purpose of research design is to suffice for an efficient way of collecting relevant data with barest amount of effort, time and money (Miles, Huberman, & Saldana, 2013). Research designs usually give directions and guidelines that lead to relevant sites and materials. This processes enhances the collection and analysis data that will inform the study (Creswell & Clark, 2007). The research design by far also makes the replicability of the work feasible.

The study was a quantitative research. Aliaga and Gunderson (2000) defined a research design as quantitative if numerically assigned data are collected and analysed to draw inferences in an attempt to explain a certain phenomenon. Quantitative design also makes it possible to use appropriate statistical tools to test hypothesis, which would inform the research whether to reject or accept a hypothesis. Yu and Cooper (1983) point out that quantitative research design is able to give a true picture of a phenomenon under study due to its rigorous procedures and processes which are capable of limiting the influence of the researcher. Quantitative research findings are also more accurate in prediction thus findings can be relied on to be generalised

on to the targeted population (Dudwick et al., 2006). This ability of projecting findings from a sample to an entire population is what is referred to as external validity in research parlance. This study hence wished to make use of the finding to explain a phenomenon within the Ghanaian healthcare services sector from the sample. When looking at studies that has to do with collecting data from large population, Smith (2007) suggest that it would be better to use a quantitative research design, since it has more propensity to capture a representative sample for future generalisations. These reasons enumerated above were the justification for the choice of research design chosen for this study, though it need be mentioned that no research is without faults. The most obvious reason should however be taken on the bases that research design chosen best suites the research to meet the desired aims and objectives of the study.

The researcher employed the cross-sectional survey approach since data was collected at a point in time. *“A cross-sectional survey produces a ‘snapshot’ of a population at a particular point in time”* (Cohen, Manion & Morrison, 2005 p. 141). A survey was used to gather data on safety behavioural perception of health workers as it relates to the perceived safety climate prevalent in the two selected teaching hospitals (KATH and TTH). A survey also gives the study leverage with regards to time saving and is also financially economical as compared to a longitudinal study. Surveys also help in reaching larger sample within a limited time. Miller and Salkind (2002) have emphasised that survey is the most efficient and widely used method of collecting data from participants in a research (primary data). Creswell (2009) describes a survey as a method of gathering data from a targeted group of persons through the use of a questionnaire. This study employed the survey to help in the data collection since the study gathered its data using a closed ended questionnaire.

3.4 Type and Source of Data

In research, there are two main types of data which are primary and secondary. Secondary data as the name implies is gotten or sourced from a person either than the current

user of such data, sometimes such source of data is already analysed and ready for drawing inferences (Dey, 2003). Some sources of secondary data that are employed in research works include censuses, information collected by government departments, organisational records and data that was originally collected for other research purposes.

Primary data, by contrast, are collected by the investigator conducting the research or an assistant to the investigator for the purpose of same. Primary data were collected from two selected teaching hospitals (KTH & TTH) in Ghana. Data was obtained through well outlined questionnaires which sought the perception of healthcare workers on the safety climate within the hospital as against their safety behaviours.

3.5 Targeted Population

The entire number of units of a phenomenon under study in an area of investigation is referred to as a population of a study (Kumekpor, 2002). The population of a study especially in the social sciences are usually too large to be captured under a study. Against this knowledge Nachmias and Nachmias (1996) defined a population as the average of all units that fall within the parameters of some designated set criteria. The study population consists of healthcare workers in KTH and TTH. These healthcare workers are made up of medical doctors, nurses and biomedical scientists (laboratory workers). These group of healthcare workers are mostly at the forefront of health delivery, the study hence based on literature reviewed targeted them as prime focus in addressing health service safety climate and safety behaviour among participants. The foremost selected criterion was that the targeted hospitals should be a teaching hospital in Ghana.

3.6 Sampling Frame

The source material or device from which a sample is drawn is what is referred to as a sample frame. Hypothetically it can be construed as the list members of a population from which a

sample can be drawn from (Swensson & Wretman, 1993). The sample frame for this study was healthcare workers in the two selected teaching hospitals KTH and TTH. According to Särndal et al (1993) identified some important features that a sample frame should have in order to stand for a representative measure of the entire population: all units have a logical, numerical identifier, all units can be found via contact information, or other relevant information is present and every element of the population of interest is present in the frame, every element of the population is present *only once* in the frame and also no elements from outside the population of interest are present in the frame.

3.7 Methods of Sampling

The statistical process of drawing a representative subset from a population of interest is referred to as sampling. Samples are selected with the mindset of making projections or statistical inferences on to the population (Levy, & Lemeshow, 2013). To be able to draw relevant inferences from a sample onto a population, means that the selected sample must reflect or represent as close as possible the characteristics that are present in the population (Creswell, 2012). In practicability, the desire to have a representative sample size is constrained by the cost and feasibility of the data to be collected. Bartlett, Kotrlík and Higgins (2001) point out that in determining a sample size, the researcher can employ various sample size statistically approved formula determinants or use reference sample size tables based on the actual or estimated population size. This suggestion is however feasible when the entire population under study is known. But in real life situations, that is not always the case. It thus behoves on the researcher to also employ sampling techniques that would give units within a population equal probability of being selected into a study. This is normally referred to as randomisation of the sampling technique.

Krejcie and Morgan's (1970) sample size determinant table was employed by the researcher in the determination of the sample size. The table gives a range of populations with their

appropriate samples that will suffice for a representative number. The entire table is given in Table 3.3 bellow.

Table 3.1: Krejcie and Morgan Sampling Table

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Based on information gathered from the Human Resource department of the two hospitals KTH had an estimated population of 800 health personnel while TTH had 600 health personnel, making a total of 1400. Based on this figure, the researcher pegged the sample size at 310 which is above the minimum sample size given by Krejcie and Morgan's (1970) sample size table. The sample size also took into cognisance the assumption that some of the questionnaires might be discarded due to incomplete responses and multiple ticking. Out of the 310 questionnaires administered 300 were retrieved from respondents. Five (5) questionnaires out

of the total retrieved were discarded because they were incomplete and improperly filled. The response rate was hence 95.16 %. Babbie (1989) argues that for a survey, a response rate of at least 50% is adequate, 60% is good, and 70% is very good whilst 90% raises no doubts for analysis and reporting.

3.8 Sampling Procedure

Every research needs to meet its internal as well as external validity in order to be classified as a standardised research (Creswell, 2013). Internal validity is how apt a research helps in explaining the causes and effects within a study whereas external validity denotes the extent to which the findings of a study can be generalised to other situations and to other people. According to Shavelson (1988), internal and external validity depends greatly on the ability to draw a representative sample from a population. The current study employed a non-probability sampling technique which is the purposive sampling technique. This technique helps to draw from a population which is heterogeneous in nature a target population within a larger population. The selection considered Medical doctors, Nurses and Biomedical scientists (Laboratory workers) to be the most exposed to both health hazards and workload, hence would be more likely to succumb to pressure for health service delivery among other healthcare personnel. The convenient sampling techniques which allows the researcher to sample from the readily available members of a targeted population was conjunctively used since the questionnaire was given to those participants who were readily available and also willing to participate in the study.

The two teaching hospitals were chosen based on two cardinal reasons. The first is that, most teaching hospitals that are found in their regions are the main referral points for healthcare, this situation thus would mean that teaching hospitals attend to more patients in the regions than other health facilities. This situation would also imply that workload is highest in teaching hospitals as compared to other public health facilities. The second reason for selecting teaching

hospitals for this study is to also give the study a feel of how healthcare training is carried out with more focus on health and safety practices are inculcated into the under schooled to be health professionals.

3.9 Data Collection Instrument

A questionnaire is a research instrument that aids in soliciting data from participants on a particular issue of interest (De Leeuw, & Dillman, 2008). Questionnaires are basically composed questions with provided spaces for participants' response to questions asked, provisions are also made instructions on how to answer the questions as well as a brief introductory remark (Dörnyei, & Taguchi, 2009). Questionnaires have a direct bearing on the objectives of a research as well as the how data gathered would be used in achieving set objectives (Kothari, 2004). In questionnaire administration the participant need to be in the known on what the questionnaire is intended for which in line with the ethical principle of full disclosure (Henwood, & Pidgeon, 1992), and if need be there should be a debriefing after administration is done (King, 1994). The study thus employed the use of a closed ended questionnaire in data gathering on safety climate dimensions and safety behaviour among participants. Questionnaires have cost and time advantage over some other types of surveys such as verbal or telephone surveys, and simpler to compile (Jasemi, Mahmoodi, Jahanbin, Mahmoodi, & Piri, 2013).

The first scale was an adaptation from Neal and Griffens' (2008) general safety climate scale which was measured on a 5-point Likert scale, ranging from 1= strongly disagree to 5= strongly agree. The specific safety scale also adapted from Bosak et al (2013) was also measured on a 5-point Likert scale, ranging from 1= strongly disagree to 5= strongly agree. Safety compliance and safety participation was measured on a 4-point Likert scale, ranging from 1-never to very 4-very often. Ideally, the Cronbach's alpha coefficient of a scale should be above 0.7 (Pallant, 2001). The structured survey questionnaire was adaptation of Neal and Griffen (2008) general

safety climate scales, Bosak et al. (2013) specific safety climate scale and the safety behaviour scales by Neal and Griffin (2008).

These scales were adapted for the study in that the items had a direct relation with the objectives of the study but with a few modifications to suit the context of the current study. The modification had to do with change of terms to suit the current study area, for instance “*production pressure*” in the original scale was modified to “*pressure for health service delivery*” detailed modification of the questionnaire can be found in appendix A.

The questionnaire was a structured and closed ended with four (4) sections. Section one (1) gathered demographic data of respondents. This covered six (6) questions. The first was on respondents’ age groups with five intervals; from below 21 years, 21 to 30 years to above 60. The second question was on gender of respondents. Question 3 gathered data on the educational level attained by respondents with five intervals; from secondary to postgraduate. Provision was made for other educational qualifications not specified. The fourth question gathers data on length of service with five intervals; ranging from less than 1 year to more than 20 years. Question 5 gathered data on terms of employment with 3 categories; from casual worker to full time worker. The sixth question gathers data on respondents’ job title; medical doctor, nurse and biomedical scientist (Laboratory technician)

Section 2 was organized into six (6) sub-sections.

This construct is an adaptation of Neal and Griffen’s (2008) General Safety climate scale which covered questions on Communication, Training, Physical Work Environment, Safety Systems, Knowledge and Motivation and is composed of twenty-five (25) items. Some of the items in this section include; “*There is frequent communication about safety issues in this hospital*”, “*Employees have sufficient access to workplace health and safety training program*”, “*Employees are frequently exposed to risky situations*”. “*The safety procedures and practices*

in this organisation are useful and effective". These constructs were piloted and had a Cronbach's alpha coefficient of 0.890 as against that of the original scale which was 0.93.

Section 3a which was an adaptation of Bosak et al., (2013) safety climate scale on Management Commitment to Safety (MCS) and covered five (5) questions. Some of the items include; *'If you say too much about safety they might query you'*; *'Hospital management will stop work due to safety concerns, even if it means they are going to miss targets.'* These items measured respondents' opinions on management commitment to safety in their respective institutions. The construct has a Cronbach's alpha coefficient of 0.750 and therefore was a reliable scale for measuring management commitment to safety.

Section 3b which was also an adaptation of Bosak et al., (2013) safety climate scale on Priority of Safety at Hospital and covered five (5) questions. Some of the items include; *'There are frequent checks to see if workers are all following safety rules'*; *'I am allowed to stop work if I feel the job is unsafe.'* These items measured respondents' opinions on priority of safety on at Hospital. The construct has a Cronbach alpha coefficient of 0.952 and therefore would be a reliable scale for measuring priority of safety at Hospital.

Section 3c which measured the three dimensions of safety climate by Bosak et al., (2013) safety climate scale on Pressure for Production and covered five (5) questions. Some of the items include; *'workers in this hospital are sometimes under pressure to put health delivery services before safety'*; *'Whenever we fall behind schedule and we are not achieving daily targets, my supervisor wants us to work faster rather than by the rules.'* These items measured respondents' reported perception on Pressure for health delivery in their respective institutions. The construct has a Cronbach's alpha coefficient of 0.820 and therefore would be a reliable scale for measuring Pressure for Health Service Delivery.

Section 4 gathered responses on respondent's safety behaviour. This was assessed using twelve (12) items that measures the extent to which respondents engaged in various safety- related behaviours such as '*wearing PPE*'; '*I attend safety meetings and briefings*'; '*I find it worthwhile to be involved in the development of safety standards*'; '*I report colleagues who break safety rules to supervisor*', etc. Ratings were done on a four point Likert scale ranging from Never (1) to Very Often (4). This construct which was piloted and had a Cronbach's alpha coefficient of 0.75.

3.10 Administration of Research Instrument

A cover letter and the proposal of the study was submitted to the research units of the two teaching hospitals for review and endorsement, after which an approval letter was then given by the research officer to the various units concerned. Stipulated dates for administering survey questionnaires at the selected teaching hospitals were then arranged. Following data collection, completed survey questionnaires were returned in bulk to the researcher for data entry and analysis. Respondents answered fifty-two (52) questions in all which cut across seven sections captured as sections 1, 2, 3, and 4.

3.11 Reliability Analysis for Pilot Study

The questionnaire was pre-tested on a small sample of respondents to measure the reliability (internal consistencies) of the scales and also to identify the tailbacks that may cause pertinent challenges during the data collection. The analysis was based on data gathered from a total of 30 respondents from the University of Ghana Hospital. It favourably turned out that, all the constructs had Cronbach's alpha values which were greater than 0.70. Ideally, the Cronbach's alpha coefficient of a scale should be above 0.7 (Pallant, 2001) in order for an instrument to be accepted as reliable. In effect, any analyses performed with these questions or responses were thus highly reliable. The Statistical Package for Social Sciences (SPSS) software was then used

to compute the Reliability scores for each section. Reliability and consistency tests were conducted on each of the variables so as to ensure a high sense of reliability or otherwise of the analysis. The result of the analysis is presented in Table 3.2 below:

Table 3.2: Cronbach Alpha of Instruments (Pilot Study)

Construct	Cronbach Alpha	No. of Items
Safety Climate Scales	0.890	25
Management Commitment to Safety	0.750	5
Priority of Safety	0.872	5
Pressure for Health Service Delivery	0.820	5
Safety Compliance	0.740	5
Safety Participation	0.750	7

Source: Field work, 2016

3.12 Data Analysis

Emory and Cooper (1991) are of the view that raw data that a researcher obtains from a study becomes useless unless such data can be transformed into information for decision making purposes. The data of this study was cleaned to ensure consistency across respondents. They were then coded by assigning numerical values and then analysed using the Statistical Package for Social Sciences (SPSS) version 20.

The study employed descriptive statistics to analyse the respondents' demographic data. Pallant (2001) opined that descriptive statistics express the characteristics of a given study by providing some summarised statistics such as mean, median or standard deviation for

continuous variables, or frequencies on the categorical variable responses. Before the testing of the various hypotheses a Pearson's Moment Correlation Matrix was done to see the relationship between the various variables, this test was used since the scale was on at least an interval scale which qualifies it as a parametric test. Hypotheses H1, H1a and H1b as well as H2 and H3 were all tested using simple linear regression. Simple linear regression enables a researcher to identify the amount (by percentage) that an independent variable contributes to the relationship with a dependent variable (Cohen, Cohen, West, & Aiken, 2013). When the relationship is established to your dependent variable, you can take information about all of the independent variables and use it to make much more powerful and accurate predictions about why things are the way they are.

Hypothesis H4 and H5 were tested using hierarchical multiple regression to determine the effects of the moderating variables (management commitment to safety and priority of safety at the hospital) between the independent variables PHSD and SB.

3.13 Ethical Consideration

To ensure acceptability, a cover letter was presented for appointment to administer the survey questionnaires. Information included in the cover letter were the name of the researcher, educational institution of the researcher, the research proposal and the intentions of the researcher. This made known exactly what the organisation was asked to do before agreeing to be part of the study so as to avoid any coercion and manipulations.

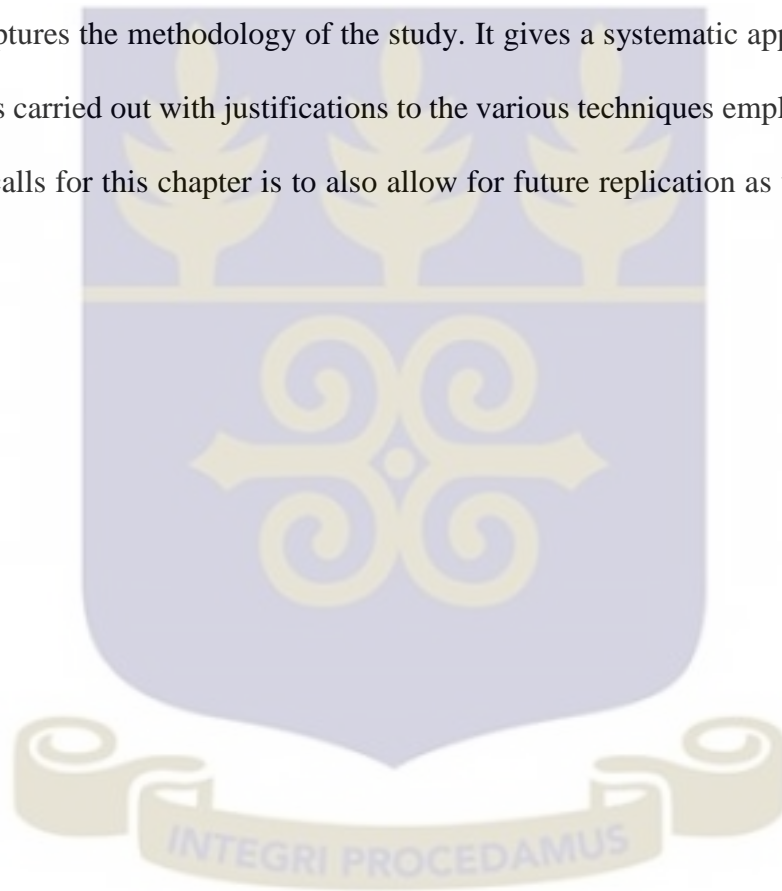
Also, respondents' anonymity and privacy were maintained by the exclusion of respondents' name, telephone number and social security number and any other personal details on the research instrument. This enforced Babbie and Mouton's (2001) assertion that to ensure confidentiality in the use of questionnaires, details such as names and addresses must be

excluded on the questionnaire. Respondents were also provided with box for them to drop in their responded questionnaire.

Respondents were also at liberty to complete the questionnaire or not. And they could also stop at any point in time if they felt they did not want to continue for whatever reason they may find.

3.14 Chapter Conclusion

This chapter captures the methodology of the study. It gives a systematic approach as to how the research was carried out with justifications to the various techniques employed. One of the reasons which calls for this chapter is to also allow for future replication as well as scientific scrutiny.



CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF RESULTS

4.0 Introduction

The fourth chapter of the study is dedicated to the analysis, presentation and interpretation of results. Analysis of data is a process of inspecting, cleaning, transforming, and modelling data with the goal of discovering useful information, suggesting conclusions, and by extension supporting decision-making (Rahm & Do, 2000). Data is collected and analysed to answer questions, test hypotheses or disprove theories (Judd, McClelland & Ryan, 2011). The presentation of the analysed data is the succinct display of information that help in meeting the aims, objectives and in answering the research questions in the light of testing the research hypotheses. The final part of this chapter which is the interpretation of results is the point at which presented results are accompanied with some brief explanations.

4.1.0 Descriptive Statistics

Descriptive statistics is the discipline of quantitatively describing the main features of a collection of information (Mann, 1995) or the quantitative description itself. Descriptive statistics are distinguished from inferential statistics (or inductive statistics), in that descriptive statistics are mainly aimed at summarising a sample, rather than use the data to learn about the population that the sample of data is thought to represent (Cowles, 2005). This generally means that descriptive statistics, unlike inferential statistics, are not developed on the basis of probability theory (Dodge, & Marriott, 2003). For this study the descriptive statistics presented are the demographics distributions.

4.1.1 Demographic Dynamics of Respondents

This sub-section of the chapter presents the frequency distribution of the age, gender, level of education, tenure and job title of the respondents and the variables of the study.

Table 4.1: Age Distribution of Respondents

Age	Frequency	Percent (%)
Below 21 years	3	1.0
21-30 years	229	77.6
31-40 years	58	19.7
41-50 years	3	1.0
51-60 years	2	.7
Total	295	100.0

Source: Field Data 2016

Table 4.1 above presents the age distribution of respondents. According to table 4.1, majority of the respondents in the study were between the ages of 21-30 (77.6%). Respondents between the ages of 31-40 years represented 19.7% of respondents. This was followed by those that fall between the ages of below 21 years and 41-50 years (1%). From the age distribution it clearly shows that the majority of the health workers' workforce are in their youthful age.

Table 4.2: Gender Distribution of Respondents

Gender	Frequency	Percent
Female	132	44.7
Male	163	55.3
Total	295	100.0

Source: Field Data 2016

Table 4.2 above presents the gender distribution of respondents. From the gender distribution table, it can be observed that the gap between males and female stood at 10.6%, though the males constituted 55.3% while the females making up for the remaining 44.7%.

Table 4.3: Level of Education of Respondents

Educational Level Attained	Frequency	Percent
SSCE/WASSCE/Technical Certificate	12	4.1
High National Diploma (HND)	59	20.0
Degree	137	46.4
Master's Degree	49	16.6
Other Health Qualification	38	12.9
Total	295	100.0

Source: Field Data 2016

Table 4.3 above presents a distribution of the levels of education of respondents. The majority of the respondents had attained a degree in their area of practice, which constituted 46.4% of the entire sample, 20% had an HND. 16.6% had a second degree (Master's Degree). 4.1% of them had a senior high school certificate or technical certificate, the remaining 12.9% had other health qualifications. This shows that virtually every respondent had some form of education. This is a leverage in the administration of the questionnaires since all respondent were literates and could easily comprehend the question asked with some appreciable level of precision.

Table 4.4: Work Tenure Distribution of Respondents

Length of Service	Frequency	Percent
below 1 year	112	38.0
1-5 years	126	42.7
6-10 years	38	12.9
11-15 years	15	5.1
More than 16 years	4	1.4
Total	295	100.0

Source: Field Data 2016

Table 4.4 above shows the distribution of respondents in terms of their length of service. This is the representation of how long they have worked in the hospital. 42.7% had worked with the hospital for 1-5 years. 38% had less than a year in the hospital. 12.9% had been with the hospital for 6-10 years. Those who had been with the hospital between 11-15 years constituted 5.1% of the entire sample. The least was those who had been with the hospital for 16 years or more, they made up for the remaining 1.4%.

Table 4.5: Terms of Employment Distribution of Respondents

Terms of employment	Frequency	Percent
Casual Worker	52	17.6
Contract Worker	81	27.5
Permanent Worker	162	54.9
Total	295	100.0

Source: Field Data 2016

Table 4.5 above depicts the distribution of respondents in relation to their terms of engagement. The bulk of the respondent were permanent workers constituting 54.9% of the entire sample. 27.5% were on a contractual engagement while the rest of the 17.6% were casual workers. The bulk of health workers within the public sector are mostly posted by the Ministry of Health to various health facilities as permanent staff though there are rotations and reengagement as and when the need arises.

Table 4.6: Job Title of Respondents

Job Title	Frequency	Percent
Medical Doctor	119	40.3
Nurse	117	39.7
Biomedical Scientist	59	20.0
Total	295	100.0

Source: Field Data 2016

Table 4.6 above shows the distribution of the various job titles of the sample. As shown above, majority of the respondents were Medical doctors 40.3%. 39.7% of the respondents constituted Nurses while 20% were Biological Scientist. The results show that all respondents were front liners in health delivery services.

Table 4.7: Descriptive Statistics of Variables in the Study

Variables	N	Mean	Std. Deviation
Management Commitment to Safety	295	3.0854	.81116
Safety Behaviour	295	2.5768	.52293
Safety Compliance	295	2.6047	.54421
Safety Participation	295	2.5569	.59189
Pressure for Health Service Delivery	295	2.8373	1.03429
Priority of Safety at Hospital	295	2.5573	1.03540

Source: Field Data 2016

Table 4.7 above shows the descriptive distribution of each of the variables used in the present study. From the table, MC to safety had a mean of 3.0854 with a SD = .81116 while PHSD recorded a mean of 2.8373 with a SD = 1.03429. Priority of Safety at Hospital recorded a mean of 2.5573 with a SD=1.03540. The dependent variable of the study being Safety Behaviour recorded a mean of 2.5768. These means depict the average response of the respondents on the given variables, while the SD represents the extent to which there are varying response about the mean (aggregated) response based on the Likert scale used.

4.2.0 Inferential Statistics in the testing of hypotheses

Inferential statistics is the process of deducing properties of an underlying distribution by analysis of data (Upton, & Cook, 2014). Inferential statistical analysis infers properties about a population: this includes testing hypotheses and deriving estimates.

4.2.1 Testing Hypotheses

The researcher proposed five hypotheses that would aid in achieving the set objectives. To test these hypotheses, analyses were done using some statistical tests such as Pearson-Product Moment Correlations, the standard multiple regression and hierarchical multiple regression.

In order to ensure that the variables used for the study qualify for parametric statistics, it was important to subject them to normality testing using Skewness and Kurtosis as well as normal distribution curve (for the independent variable) and Normal Probability plot and also scatterplot to test for normality and outliers respectively (dependent variable) to ensure that they meet all assumptions for the use of parametric tests.

Table 4.8: Skewness and Kurtosis Table

Variables	Skewness	Kurtosis
Management Commitment to Safety	-.545	-.242
Priority of Safety at the Hospital	.354	-.841
Pressure for Production	-.016	-.557
Safety Behaviours	.221	-.528
Safety Compliance	.165	-.282
Safety Participation	.017	-.408

Source: Field Data 2016

According to Tabachnick and Fidell (1996), the normality of data is achieved when kurtosis and skewness are between -2 and +2. From table 4.9 above, all the variables fall within the ranges for skewness and kurtosis. Hence, all the variables used were normally distributed in terms of skewness and kurtosis for appropriate conclusions of findings.

The normal distribution is the most widely known and used of all distributions. Because the normal distribution approximates many natural phenomena so well, it has developed into a

standard of reference for many probability problems. Referring to Appendix II (A) it is evident that our dependent variable has a normal distribution.

To check whether the independent variable is normally distributed the researcher can also make use of the normal probability plot in Appendix II (B). In the normal probability plot, if normality criteria are met, then the points will lie in a straight diagonal line from bottom left to top right (Tabachnick and Fidell, 1996).

To check whether there are outliers the researcher uses the scatterplot in figure 4.3 above. According to Tabachnick and Fidell (1996), outliers are cases that have standard residual of more than 3.3 or less than -3.3. Referring to Appendix II (C) it is clear that they were no outliers.

4.2.2: Testing Difference in the General Safety Climate Dimensions

The first objective was to see if there are any difference in the general safety climate dimensions within the hospitals chosen for the study to better appreciate prevailing climate. The descriptive statistics of the various dimensions were used with their standard deviations to see the disparities within the various element as well as those who were high, moderate and low.



Table 4.9: Descriptive Statistics of the General Safety Climate of the Respondents

Variables	N	Min	Max	Mean	Std. Deviation
Safety Communication	295	1.00	5.00	2.6915	.85692
Safety Training	295	1.00	5.00	2.6729	.94569
Physical Work Environment	295	1.00	5.00	3.6102	.70134
Safety Systems	295	1.00	5.00	2.9153	.95435
Safety Knowledge	295	1.00	5.00	3.7788	.87483
Safety Motivation	295	1.00	5.00	4.5559	.81370
Management Commitment to Safety	295	1.00	5.00	3.0854	.81116
Priority of Safety at Hospital	295	1.00	5.00	2.5573	1.03540
Pressure for Health Service Delivery	295	1.00	5.00	2.8373	1.03429

Source: Field Data 2016

From Table 4.9 above, safety motivation had a mean of 4.56 (SD=.81) being the highest dimension, safety knowledge followed suit with a mean of 3.78 (SD=.87) and safe physical work environment in this respect the hospital environment had a mean of 3.61 (SD=.70). Management Commitment to safety had a mean of 3.09 (SD=.81). Safety systems recorded a mean of 2.92 (SD=.95). PHSD recorded a mean of 2.84 (SD=1.03). Safety communications had a recorded mean of 2.69 (SD=.86). Safety training had a mean of 2.65 (SD=.95). Priority of safety at the hospital had the least mean recorded of 2.56 (SD=1.04). With specific dimensions as safety motivation, safety knowledge, safe physical work environment and management commitment scoring the highest means. The figure below throws more light on the meaning of the various score with regards to their strength and implications.

Figure 4.1: Rating of the scores on the Various General Climate Dimensions

✓ 5 point Likert scale

0-2.5 = Low 2.6-3.5 = Moderate 3.6-5.0 = High

Findings:		Means
High	Safety Motivation	4.56
	Safety Knowledge	3.78
	Physical Work Environment	3.61
Moderate	Management Commitment to Safety	3.09
	Safety Systems	2.92
	Pressure for Health Service Delivery	2.84
Low	Safety Communication	2.69
	Safety Training	2.67
	Priority of Safety at the Hospital	2.56

Figure 4.1 above is an extract from the descriptive statistics to show the degree of intensity of the mean scores of the various general safety dimensions. As can be seen the highest mean score in the dimensions as perceived by respondents is the safety motivation. This might be due to the intrinsic desire to keep one's self safe. Safety knowledge is the next with the highest mean score. This implies that respondents have above average knowledge on safety issues in their work setting. The physical work environment also scored a high mean; this implies that respondents perceived their physical work environment to be safe. Management Commitment to safety as well as safety systems and pressure for health service delivery and safety communication and training had moderate mean scores. Priority of safety at the hospital was the only dimension with a weak mean score. This implies that respondents perceived that there were no sufficient training programmes as far as safety is concerned. It could be observed from table 4.9 that the priority of safety at the hospital had low mean score.

4.2.3 Testing hypothesis H1, H1_a, and H1_b, H2 and H3:

To test for these hypotheses, the researcher first run a Pearson-Product Moment Correlation Matrix between the variables. To use Pearson Correlation, the following assumption must be

met: the scores on each variable must be normally distributed, the relationship between the variables must be linear and the scale of measurement should be on at least an interval scale and groups must be independent of each other (O'Brien, 1979) of which our variables meet these assumptions.

To test for normal distribution of the variables a histogram showing normal curve was used and all the tables showed that all variables were normally distributed this figures can be found in appendix II.

The Pearson-Product Moment Correlations Matrix table is presented below:

Table 4.10 : Pearson-Product Moment Correlations Matrix between the variables

	1	2	3	4	5	6
1. Safety Behaviour	-					
2. Safety Compliance	.867**	-				
3. Safety Participation	.945**	.657**	-			
4. Pressure for Health Service Delivery	-.310**	-.383**	-.218**	-		
5. Management Commitment to Safety	.313**	.240**	.317**	-.360**	-	
6. Priority of Safety at Hospital	.456**	.499**	.362**	-.214**	.393**	-

**Correlation is significant at the 0.01 level (1-tailed).

Results from Table 4.10 above indicate that all the independent variables related significantly with the dependent variable.

With the Pearson's Product-Moment correlation coefficient test whenever it was necessary to interpret the magnitude of findings presented as correlation coefficients, the descriptors developed by Davis (1971) were used as follows:

- .70 or higher indicated very strong association
- .50 - .69 indicated substantial association
- .30 - .49 indicated moderate association
- .10 – .29 indicated low association
- .01 - .09 indicated negligible association.

From Table 4.10;

H1: There is a significant negative relationship between PHSD and employee SB.

There was a moderately negative correlation between PHSD and SB, $r = -.31$, $p < .001$, $n = 295$.

Hence the first hypothesis was supported.

H1_a: There is a significant negative relationship between PHSD and Safety Compliance (SBC).

There was a moderately negative correlation between PHSD and SBC, $r = -.383$, $p = .001$, $n = 295$.

The second hypothesis was also supported.

H1_b: There is a significant negative relationship between PHSD and Safety Participation (SBP).

There was a low negative correlation between PHSD and SBP, $r = -.218$, $p = .001$, $n = 295$. The third hypothesis was also supported.

H2: There is a significant positive relationship between MCS and SB.

There was a moderate positive relationship between MCS and SB, $r = .313$, $p < .001$, $n = 295$.

This hypothesis was also supported.

H3: There is a significant positive relationship between Priority of Safety (PS) at hospital environment and SB of healthcare personnel.

There was a moderate positive relationship between PS at the hospital environment and SB $r = .46$, $p = .001$, $n = 295$. Hence hypothesis H3 was also supported.

The study went further to look at how much the predictors accounted for the change in the dependent variables individually by using a simple linear regression analysis. This is presented Table 4.11 below:

Table 4.11: Summary of simple linear regression for relationship between Pressure for Health Service Delivery and Safety Behaviour

Model		Unstandardized Coefficients		Standardized
		B	Std. Error	Coefficients Beta
1	(Constant)	3.021	.085	
	Pressure for Health Service Delivery	-.157	.028	-.310**

- a. Dependent Variable: Safety Behaviour
- b. Note: $R^2 = .096$
- c. $P < 0.01$

As shown in Table 4.11, there is a significant negative relationship between PHSD and SB ($\beta = -.310$, $p = .000$). 9.6% of the variation in safety behaviour was explained by pressure for health service delivery. This result implies that as healthcare workers perceive the pressure on health delivery to be high, they in turn work around safety procedures and practices to get the work done, thereby engaging in unsafe behaviours.

Having examined the effect of pressure for health service delivery on employee's safety behaviour measured on a composite scale, the study further examined the effect of pressure for production on the safety behaviour of employees using the facets of the safety behaviour scale (i.e., Safety compliance and Safety participation). These were also tested using the simple linear regression to see how much pressure for health service delivery contributed to their outcomes. The result is shown in Table 4.12.

Table 4.12: Summary of simple linear regression for relationship between Pressure for Health Service Delivery and Safety Compliance

Model	Unstandardized Coefficients		Standardized
	B	Std. Error	Coefficients
(Constant)	3.177	.086	
1 Pressure for Health Service Delivery	-.202	.028	-.383**

a. Dependent Variable: Safety Compliance

b. Note: $R^2 = .147$

c. $p < 0.01$

Table 4.12 shows a significant moderately negative relationship between pressure for health service delivery and safety compliance ($\beta = -.383$, $p = .000$). The table shows an R^2 value of .147 indicating that approximately 15% of the variation in safety behaviour specifically, employee safety compliance is explained by pressure for health service delivery.

The study further examined the effect of pressure for health service delivery on employee safety participation by using the simple linear regression. The result is presented in table 4.13

Table 4.13: Summary of simple linear regression for relationship between Pressure for Health Service Delivery and Safety Participation

Model	Unstandardized Coefficients		Standardized
	B	Std. Error	Coefficients
(Constant)	2.910	.099	
1 Pressure for Health Service Delivery	-.124	.033	-.218**

a. Dependent Variable: Safety Participation

b. Note $R^2 = .047$

c. $p < 0.01$

Table 4.13 shows a significant negative relationship between pressure for health service delivery and safety participation ($\beta = -.218$, $p = 0.000$). The table further depicted an R^2 value of .047 depicting that approximately 5% of the variation in safety behaviour, specifically safety participation was explained by pressure for health service delivery. This result hence gave further support to H1_b. The results give the indication that as employees perceive an increase in pressure to deliver on health services, they tend to reduce their “safety specific citizenship” behaviours with examples such as identifying and reporting hazards, making suggestions to improve safety and correcting colleagues who engage in unsafe acts.

The third objective of the study was to find out the effect of management commitment to safety on employee’s safety behaviours which has been tested using the Pearson correlation matrix, as presented in table 4.10 above, the study however went further with a simple linear regression to see how much management perceived commitment to safety accounted for the safety behaviour of healthcare workers. The results are in table 4.14 below:

Table 4.14: Summary of simple linear regression for relationship between Management Commitment to Safety and Safety Behaviour

Model	Unstandardized Coefficients		Standardized
	B	Std. Error	Coefficients
			Beta
	1.954	.114	
1	.202	.036	.313**

a. Dependent Variable: Safety Behaviour

b. Note: $R^2 = .098$

c. $P < 0.01$

Table 4.14 above shows a significant positive relationship between MCS and SB ($\beta = .313$, $p = .000$). The table further depicts that, 9.8% of the variation in safety behaviour was explained by management commitment to safety. The results point out that as employees perceive management to be committed to safety they in turn engage in safe behaviours (compliance and participation) within their companies.

The study also further examined the effect of priority of safety on safety behaviour as was hypothesized. The results are presented in figure 4.15 below

Table 4.15: Summary of simple linear regression for relationship between Priority of Safety at Hospital and Safety Behaviour

Model	Unstandardized Coefficients		Standardized
	B	Std. Error	Coefficients
1			
	(Constant)	1.988	.072
	Priority of Safety at Hospital	.230	.026
			.456**

a. Dependent Variable: Safety Behaviour

b. Note: $R^2 = .208$

c. $P < 0.01$

Table 4.15 shows a significant positive relationship between priority of safety at hospital and safety behaviour ($\beta = .456$, $p = .000$). The table further depicts that, 20% of the variation in safety behaviour was explained by priority of safety at the hospital. This by extension of argument implies that as respondent perceive the priority of safety at the hospital to be high they tend to exhibit positive safety behaviours (safety compliance and safety behaviour).

Again, the study sought to examine the moderating effects of MC to safety and PS at the hospital on the relationship between PHSD and SB respectively. To achieve this, the following hypotheses were proposed;

H5: Management Commitment to Safety will moderate the relationship between Pressure for Health Service Delivery and Safety Behaviour.

H6: Priority of Safety at the hospital will moderate the relationship between Pressure for Health Service Delivery and Safety Behaviour.

4.2.3 Moderation Analysis

Two major statistical tests are normally used to analyse hypotheses 5 and 6. These are the Pearson's Product-Moment correlation coefficient test and the Hierarchical Multiple Regression. But in this study the Pearson's-Moment correlation has already been run so this part will be compensated for.

The procedure proposed by Baron and Kenny (1986) was used to test for the moderation effects. According to Baron and Kenny (1986), testing for moderation effects requires four steps as follows:

1. Centre (standardize) both the predictor & the moderator. Centering is a linear transformation method which eliminates problems associated with multi-collinearity. It is achieved by subtracting the mean value for a variable from each score for that variable (Aiken & West, 1991; Lingard & Francis, 2006).
2. Calculate the interaction term (i.e. predictor X moderator) using the standardized values.
3. Regress the outcome variable on the predictor, moderator, and their interaction. That is, in the hierarchical regression analysis, the predictor should be entered in the first block, the moderator(s) in the second block and the interaction terms in the third block.
4. If the interaction effect is significant (i.e. if β of predictor X moderator is significant), then there is a moderation effect. However, if the interaction term is not significant, there is apparently no moderation.

H5: Management Commitment to Safety will moderate the relationship between Pressure for Health Service Delivery and Safety Behaviour.

Hierarchical multiple regression was conducted on this and the results are presented in Table 4.16 below.

Table 4.16: Summary of Hierarchical Multiple Regression for the Moderation Effect of Management Commitment to Safety on Pressure for Health Service Delivery and Employee Safety Behaviour

Steps		B	Std. Error	Beta
1	(Constant)	31.105	.359	
	PHSDcentred	-.365	.070	-.293**
2	(Constant)	31.105	.349	
	PHSDcentred	-.255	.073	-.205**
	MCcentredd	.389	.092	.245**
3	(Constant)	31.035	.375	
	PHSDcentred	-.247	.074	-.199**
	MCcentredd	.397	.094	.250**
	PHSD*MC	-.009	.018	-.029

Note. $R^2 = .086, .138$ and $.139$ for steps 1, 2, and 3 respectively, $\Delta R^2 = .086, .052$ and $.001$ for steps 1, 2, and 3 respectively. ** $p < .01$.

Pressure for Health Service Delivery has a significant negative relationship with employee safety behaviour as shown by the table 4.10 ($\beta = -.310, p = 0.000$). Following this it was hypothesized that management commitment to safety will moderate the relationship between pressure for health service delivery and employee safety behaviour. The interaction term between pressure for health service delivery and management commitment to safety on employee safety behaviour was however not statistically significant [$\beta = -.029, p = 0.606$]. Even though MCS did change the direction of the relationship between PHSD and SB ($\beta = -.310,$

$p=0.000$), it fails to show any impact on pressure for health service on safety behaviour ($\beta = -.029$, $p=0.606$) as the moderating effect was insignificant.

The last objective of the study was to find out the moderating effect of priority of safety at the hospital on the relationship between pressure for production and employee behaviour. The researcher hypothesized that;

H6: Priority of Safety (SP) at hospital environment will moderates the relationship between PHSD and SB.

To test for hypothesis 5, a hierarchical multiple regression was also employed as shown in table 4.17 below:

Table 4.17: Summary of Hierarchical Multiple Regression for the Moderation Effect of Priority of safety at the hospital on Pressure for Health Service Delivery and Employee Safety Behaviour

Steps		B	Std. Error	Beta
1	(Constant)	31.105	.359	
	PHSDcentred	-.365	.070	-.293**
2	(Constant)	31.105	.326	
	PHSDcentred	-.256	.065	-.206**
	PS at Hospitalcentred	.511	.065	.411**
3	(Constant)	31.022	.334	
	PHSDcentred	-.259	.065	-.208**
	PHSDcentred	.494	.066	.397**
	PHSD*PS at Hospital	-.015	.013	-.060

Note. $R^2 = .086$, $.247$ and $.250$ for steps 1, 2, and 3 respectively, $\Delta R^2 = .086$, $.161$ and $.003$ for steps 1, 2, and 3 respectively. ** $p < .01$.

Pressure for Health Service Delivery has a significant negative relationship with employee safety behaviour as shown by the table 4.17 ($\beta = -.310$, $p=0.00$). Following this it was hypothesized that priority of safety will moderate the relationship between pressure for health service delivery and employee safety behaviour. This prediction was also not supported by the data ($\beta = -.060$, $p=0.251$). The interaction effect between pressure for health service delivery and priority of safety on employee safety behaviour was statistically insignificant [$\beta = -.060$, $p = .251$]. The results however showed that the interactive effect showed a slight improvement on Safety behaviour but this however not statistically significant.



CHAPTER FIVE

DISCUSSION

5.0 Introduction

Chapter four presented the analysis of data gathered with some brief interpretations of the results therein. This chapter presents a more detailed discussion on the results taking into cognisance the study objectives. The discussions are also done in consonance with the reviewed literature.

5.1 The Socio-Demographic Analysis of the Data

Most of the respondents were aged between 21-30 (77.6%) years. These category of youth folks are also in demand and are easily tempted to look elsewhere for greener pastures. It explains why the predominant tenure was between 1 to 5 years (42.7%) of workers working with the respective hospitals. With this level of experience, the respondents would look up to management in responding to the order of the day as a result, being at the early stages of adapting to existing safety work rules, cultures and practices. Hence there could be a possibility of them compromising on safety when they perceive production pressures. It is also worth noting, that it is among such 'green horns' that management is likely to enjoy a high level of compliance to safety policies and practices (Bosak et al., 2013) if it is perceived that management is committed to their health and safety.

The gap between the gender of males (55.3%) to females (44.7%) of the study stood at 10.6%. this results are rather ironic given the gender distribution in the country's population. Ghana's population is female dominated as is evidenced in the 2010 population and housing census, out of a total population of about 24 million, females represented 51.2% while males constituted the remaining 48.8% (Ghana Statistical Service, 2010). Based on this information and holding

everything constant females would remain a dominant force in most industries but the reverse is true in the current study.

Out of the entire sample 46.4% of the respondents had a degree in their field of study followed by HND holders (20%) and those with master's degree constituted 16% of the entire sample. The least were second cycle certificate holders. From the educational distribution it is evident that most healthcare workers are up grading themselves. This kind of people aspire for better lives and hence would be very receptive to good treatment meted out to them and would likewise reciprocate the treatment by modelling their behaviour to fit treatment. By extension, a receptive workforce would model the attention given to safety at the work place and thus adopt behaviour in consonance with the prevailing climate as is shown from our study.

5.2 Findings on Hypotheses Testing

The preliminary analysis of the study looked at the various general climate dimensions to see how they were perceived by participants. It was discovered that safety motivation had a mean of 4.56 (SD=.81) being the highest dimension, safety knowledge followed suit with a mean of 3.78 (SD=.87) and priority of safety at the hospital had the least mean recorded of 2.56 (SD=1.04) With specific dimensions as safety motivation, safety knowledge, safe physical work environment and management commitment scoring the highest means, it is not out of place to argue that indeed there is some level of seriousness given to safety within these teaching hospitals, per the reported perceptions of the healthcare workers. The three leading dimensions of safety climate from the study have all through literature been suggested to be positive indicators of a healthy safety climate. Safety Knowledge was identified by Neal, Griffen and Hart, (2000) to have a stronger relationship with compliance among Australian hospital workers. They identified that an employee must comprehend how to perform work safely and must adequately have the skill to be able to do it in order to comply with safety procedures. Invariably it thus presupposes that how much an employee knows about safety will

result in how they behave safely. With a high mean of 3.77, respondents tend to allude to the fact that they are well knowledgeable on safety matters. This knowledge might be due to the recent occurrence of the Ebola virus disease which has created some need of safety awareness in health delivery. It is not surprising that safety motivation scored highest. Christian et al (2009) also confirmed a correlation between safety knowledge and safety compliance. Again, according to Flin et al., (2000), the safety system of an organisation encompasses aspects of the organisation's safety management system, including safety committees, safety officers, safety equipment and safety policies. These are all visible and operational in especially the teaching hospitals due to strict regulations that accompany the medical profession. Gard, (2002) posits that to a larger extent safety committee can be seen as an indirect measure of management commitment towards safety and a measure to which safety communication flows between workers and management (Cooper, 1998). It was however observed that management commitment to safety scored an average mean of 3.09. This could be as a result of the high knowledge level of respondents thus they would expect more from management than is currently done. The rather average mean score for MCS is not to say that management takes safety issues lightly (Gadd, 2002) it could even be that management may have insufficient insight into health and safety training and also do not take on refresher courses (Fuller, 1999). Most often, safety officers are not vested with the right authority and influence to improve health and safety issues on their own. This is especially so in this part of the continent where laws with regards to OHS are more curative in nature than preventive. Management therefore have to be mindful of how they treat issues of health and safety to create a better image for their subordinates and where necessary consultants should be consulted on the new trends in OSH practices.

The first hypothesis of the study was;

(H1): *there is a significant negative relationship between PHSD and employee SB.*

The results showed that there is indeed a significant negative relationship between pressure for health service delivery and safety behaviour. The results of the study imply that as employees perceive PHSD to be high their SB would fall. Meaning that healthcare workers in our current study lower their safety behaviours when they perceive that pressure for health service delivery is increasing.

This finding is in agreement with that of Bosak et al., (2013) who predicted that work pressure has a positive relationship with risk behaviour. A draft report by Dickety, Collins, and Williamson, (2002) within the foundry industry revealed that workload had a tendency of influencing employees' unsafe behaviours such as going around the normal procedures in completing tasks. The study results indicated a significant moderate negative relationship ($r = -.310$, $p < .01$). This does not however mean that healthcare workers have a habitual unsafe behaviour due to the prevailing perceived pressure for health delivery. The findings simply showed that pressure for health service delivery accounted for 9.2% ($R^2 = 0.092$) of all the constituents that accounts for a safety behaviour outcome in the negative direction. Seo's, (2005) study of machine-paced line workers in the grain industry suggested that bearing in mind their "low decision latitude" (p.42), employees' perceived pressure to produce would likely lead and not solely to an increase in psychological stress among them (Karasek & Theorell, 1990), which then can increase the probability of engaging in unsafe behaviours. Li et al., (2012) in a study aimed at assessing the effectiveness of the job demands–resources (JD–R) model in explaining the relationship of job demands and resources with safety outcomes, also found that under production pressure employees might utilize more 'short cut' work methods once they perceive that they were hard pressed for time to follow safety procedures, which may result in an increase in unsafe behaviour.

The moderately negative relationship could further be explained by borrowing from the social learning theory (Bandura, 1977). This theory states that people learn by cognitively processing

observed actions and information (Stride et al., 2012). The workload of workers might not necessarily be the precursor for unsafe behaviour, but that unsafe behaviour can also be learnt consciously or unconsciously from how work mates in similar circumstances behave. This might result in a disregard to follow laid down safety procedures and practices (safety compliance) as well as inhibit workers' voluntary acts of safety (safety participation). Hence the unsafe behaviour of workers in the mist of pressure to deliver health service should also consider the safety sub-culture that is subsumed in the safety climate of the day (Gadd, 2002).

The health sector of Ghana has over the years been bedevilled with some pertinent issues that put pressure on management and the health workers at large to deliver health services. The brain drain that has hit the health sector of African countries (Glenngård, 2003) coupled with insufficient hospital equipment pushes healthcare workers to a breaking point of improvisation. This is further worsened by a widening patient-health workers' ratio at the various public health facilities giving management little option to prioritise health delivery to the neglect of the safety of healthcare workers. Some health workers also engage in overtime work just to make up for the deficit created because of the lack of health personnel hence experiencing some workload. Seo (2005) opined that people who worked overtime had a roughly 50% greater chance of experiencing accident or industrial injuries as a result of their high tendencies to work around safety procedures to meet quotas. Lusa et al (2002) also confirmed the assertion of Seo's (2005) by revealing a high rate of unsafe behaviour among fire-fighters in Finland who worked overtime. It can hence be argued that the perceived pressure to deliver health services has a negative impact relation wise on the safety behaviour of healthcare workers in Ghanaian teaching hospitals.

To test for the relationship between pressure for health service and the two dimensions that make up safety behaviour, two hypotheses were formulated. H1_a and H1_b.

H1_a: *there is a significant negative relationship between PHSD and Safety Compliance (SBC).*

From the results H1_a was supported. This implied that as pressure for health service delivery increased, employees complied less with safety practices and procedures.

This hypothesis was based on the assumption that if there is any relationship between safety behaviour and pressure for health service delivery, the same should be for the subscales that make up the entire safety behaviour and the relationship at least should be in the same directions as well. This assumption was further backed by a study conducted by Brown et al. (2000), who looked at predicting safe employee behaviour in the steel industry. Their findings revealed that workers felt that if they followed safety procedures they would not be able to meet production bonuses, or they may risk losing their jobs. Workers acting out of a sense of job security are very prone to the neglecting safety procedures and practices when they associate job output to job security. This is normally the case in organisations where production pressure is high and job market is saturated. This results were also in line with the argument of Ray et al. (1993) and Brown (1996) that employees across several industries are always torn between following safety procedures against meeting operational targets. Opata (2015) is also of the view that the wearing of various personal protective equipment (PPE) used in most organisations take a lot of energy and time, which might compel healthcare workers who are hard pressured for time, coupled with pressure to deliver health services to compromise on some safety procedures such as wearing PPEs. It can also be argued that in the heat of the moment when healthcare workers by the nature of their job engage in frantic efforts to save perishing lives might unconsciously do without safety procedures.

H1_b: *there is a significant negative relationship between PHSD and Safety Participation (SBP).*

This hypothesis was also supported. The results from the simple linear regression analysis showed that indeed there was a negative relationship between perceived pressure for health service delivery and safety participation. This simply implies that employees' voluntary acts

that will inure to the safety at work is affected negatively when they perceive that there is pressure to produce. This finding is in consonance with Clarke and Cooper's (2004) who also discovered in their study that pressure to meet production target resulted in employees taking less safety care in executing their tasks to themselves and colleagues.

This finding also lays credence to the conservation of resource theory (CRT) by Hobfoll (1989), which postulate that generally human beings are more prone to conserving energy at liberty than expending it. Hence healthcare workers would be more reluctant to engage in voluntary safety act such as reporting colleagues who fail to put on their PPEs, since this requires the use of personal resources (time and energy), especially when they have competing demands for their limited resources (time and energy). There can however be some reservations to this finding due to the assumption that context wise the typical African acts in the best interest of the group (Chukwuemeka, 1989). That is to say the African by his cultural context is prone to communal living. This might compel employees to go out of their way to lend a helping hand to fellow workers in whatever regard not precluding safety care for fellow workers. Thus the findings do not reflect the classical African culture of inclusiveness as reflected in the concept of safety participation.

Hypothesis H2: *there is a significant positive relationship between MC to safety and SB.*

The simple linear regression ran on the data indeed showed that there is a significant positive relationship between management commitment to safety and employee safety behaviour. The findings implied that the more healthcare workers in the study perceived management to be committed to safety issues the more they put up good health and safety behaviours.

This finding supports other literature that revealed that management commitment to safety is a major predictor of safety behaviour (Cheyne et al., 1998; Griffin & Neal, 2000). McLain and Jarrel (2007) have explained, that management commitment to safety whips up employee trust

in management which in turn reduces diverted attention of employees from safety hazards in performing assigned duties and also increases the tendency for employees to share information about safety and safety actions. Provision of PPEs, 'walking the safety talk' (Opata, 2015), investing resources in creating a safe work environment sends a signal to employees as to which behaviours are encouraged and those which are not (Bosak et al., 2013; Morrow et al., 2010). Gershon et al., (2000) also found management commitment to safety as one of three safety climate dimensions that was positively associated with nurse's compliance with universal precautions. In the construction sector Sawacha et al., (1999) also found "top" management's attitudes towards safety to be a significant factor in safety behaviour.

From a theoretical point of view, the social exchange theory (Blau, 1964) which advocates a mutual influence between workers who perceive management as concerned with their safety would reciprocate in safety related exchanges like complying with established safety standards – compliance - as well as actively caring for the safety of their colleagues - participation (Adutwum, 2010; Blau, 1964).

Hypothesis H3: *there is a significant positive relationship between Priority of Safety (PS) at hospital environment and SB of healthcare personnel.*

Based on the simple linear regression ran the hypothesis was supported. The findings imply that as the priority of safety at the hospital is perceived to be higher, then the safety behaviour of participants was also increasing.

The study was in consonance with Fleming's (1999) study among offshore workers, his study revealed that 19% of the variance in employees' safety behaviour was explained by the priority of safety in the work environment. Naveh et al.'s (2005) assertion that a high priority of safety within an organisation results in a positive safety behaviour also lays credence to the findings. Bosak et al. (2013) had established that a high priority of safety on plant is likely to stimulate

employees to take superior responsibility for their personal safety and that of others. This points to the notion that priority of safety would by far also have a positive relationship between the sub dimension of safety behaviour (safety compliance and safety participation).

Indeed, priority of safety, sends a clear signal to employees as to the safety tolerance levels of management and hence gives direction to the safety behaviour that can be exhibited or inhibited.

Hypothesis H4: *MC to safety will moderates the relationship between PHSD and SB.*

This hypothesis was however not supported. This thus implies that management commitment to safety plays no significant moderating role between pressure for health service delivery and safety behaviour of participants of the study. The interaction term between pressure for health service delivery and management commitment to safety on employee safety behaviour was statistically insignificant [$\beta = -.029, p = 0.606$]. The results however showed that management commitment to safety has a diminishing effect on the relationship between Pressure for Health Service Delivery.

The current finding thus is in contrast with earlier studies by Fernandez-Muniz et al., (2011) which revealed that the more management is committed to safety the more likely it would be that they would ‘walk the talk of safety’ thereby increasing the support workers need to be able to do their work with optimum safety, which would in turn reduce pressure for health service delivery. The results hereby need more introspection in the form of further research in the Ghanaian context to either support or refute the findings. This result however implies that management commitment to safety might not necessarily reduce the relationship between pressure for health service delivery and safety behaviour. This might occur in situations where management act contrary to what they are really supposed to be doing to demonstrate commitment to safety. The situation could also arise when management are not well equipped

to handle safety issues thereby instituting policies that are out of touch with the real safety issues on the ground. It worth noting that the findings might be largely due to the critical nature of healthcare delivery, to the extent that irrespective of management commitment to safety, during emergency situations, which are largely the nature of cases dealt with at the teaching hospitals, the quest to save human lives overrides the strict application or adherence to sound health and safety practices.

There is hence the need for management to assess the capacity of employees and making realistic demands which would go a long way to demonstrate how committed management is to safety which has the potential of reducing employees' unsafe behaviours. Management must also be abreast with the dynamics at the various wards to be in touch with new health and safety development in order to properly 'walk the talk of safety'. Provision of the safety training such as how to quarantine during disease outbreaks, provision of user friendly PPE's and insisting on safe practice even in the face of pressure is likely to reduce unsafe behaviours (Dedobbeleer & Beland, 1991) even when health workers feel the strong sense to deliver due to management demands.

Hypothesis H5: Priority of Safety (SP) at hospital environment will moderates the relationship between PHSD and SB.

This hypothesis too was not supported. This imply that priority of safety at the hospital has no moderating effect on pressure for health service delivery and safety behaviour of participants. The interaction effect between pressure for health service delivery and priority of safety on employee safety behaviour was statistically insignificant [$\beta = -.060, p = .251$].

In the present study, the result in practice might be attributed to the fact that some managerial priority of safety might be misguided. For instance, DeJoy et al. (2010) in a Finnish survey discovered that, organisations where control-based methods and implementation strategies are

highly prioritised always achieved good safety behaviours. When management in the health sector keep safety procedures and policies high up in the day-to-day running of the work environment and invest more in safety, it might influence the perception of priority on safety thus sending out a clear message to healthcare workers about how serious safety is to management. Mearns et al. (2010) using the social exchange theory, explained that as employees perceive and conclude that their organisations are investing in the health and well-being of the workforce, they tend to reciprocate compliance (behaviour) with safety rules that benefit themselves and the worksite as a whole (Opata, 2015). It could be concluded that management priority of safety at the hospital needs a closer look to see its impact on safety behaviour in the midst of perceived pressure for health service delivery by management.

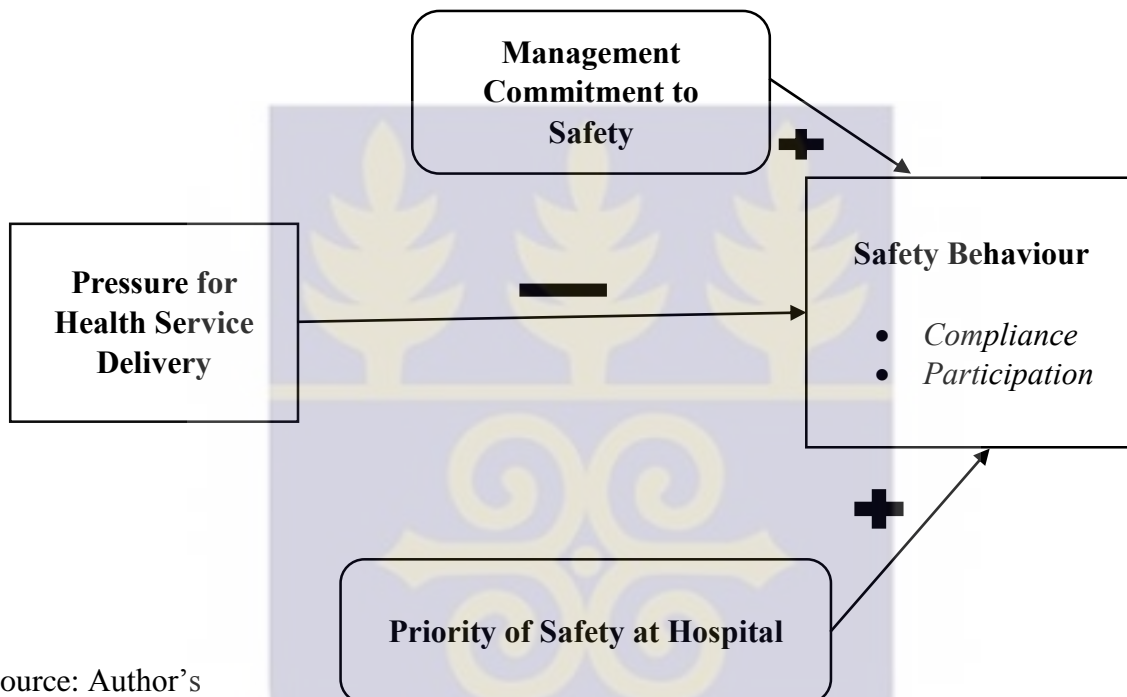
In light of all these deliberations, safety climate is assumed effective when there is an efficient and effective leadership, when employees build that spirit of teamwork where ideas are commonly sheared. Also when employees do not feel victimized for reporting near misses and accidents and finally when the management of the organisation sees the need for regular safety training and intensive education sensitising the employees on the importance of working in accident-free environment and also the need to practice personal safety at the workplace.

Finally, positive safety climate in its entirety could be achieved only when there is a strong and positive climate which is seen as the pivot around which safety culture could be successfully practiced.

5.3 Health Service Pressure Framework after Analysis

Based on the findings of the study the initial conceptual framework was modified. The final framework is presented below.

Figure 5.1: “Health Service Pressure” Framework after Analysis



Source: Author's

The figure 5.1 show the final framework for Health Service Pressure after analysis. The above framework shows that there is a negative relationship between pressure for health service delivery and safety behaviour. With the sub-dimensions of safety compliance and safety participation also showing the same negative relationship with pressure for health service delivery. Priority for safety at the hospital as well as management commitment to safety were positively related to safety behaviour and by implication to the sub-dimensions of safety behaviour. The results however failed to establish any moderating effect of management commitment to safety and safety priority at the hospital on the relationship between pressure for health service delivery and safety behaviour.

CHAPTER SIX

SUMMARY, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter is the last chapter of the study, which present a final summary of the entire thesis, with some concluding remarks as well as identifying the limitations within the work. The chapter ends with some recommendations for management and research.

6.1 Summary of Findings

The study examined the safety climate within two teaching hospitals in Ghana (Komfo-Anokye Teaching Hospital (KATH) and Tamale Teaching Hospital (TTH). The study explored the relationship between pressure for health service delivery and the safety behaviour of healthcare workers (medical doctors, nurses and biological scientist). Management commitment to safety and the priority of safety at the hospital were also considered to see if they played any significant roles in the relationship between pressure for health service delivery and safety behaviour. A total of 295 respondents participated in the study. The summary of findings is presented below.

The relationship between pressure for health service delivery and employee safety behaviour among healthcare workers was tested. Perceived pressure for health service delivery was found to have a significant negative relationship with healthcare workers' safety behaviour. The two facets of safety behaviour– safety compliance and safety participation also had a negative relationship with pressure for health service delivery.

The relationship between management commitment to safety and employee safety behaviour was also realised from the analysis to be a positive one, confirming the postulated hypothesis.

Then again, the study tested the relationship between perceived priority of safety at the hospital on healthcare workers reported safety behaviour and also found a positive relationship which confirmed the hypothesis.

The study finally examined whether the introduction of management commitment to safety and priority of safety at the hospital would act as moderating variables to influence the relationship between perceived pressure for health service delivery and safety behaviour of the healthcare workers. Findings revealed that the two dimensions of safety climate did not significantly moderate the relationship between pressure for health service delivery and safety behaviour.

6.2 Limitations of the Study

A major limitation to the study is that the lumping together of the various types of health workers (i.e. medical doctors, nurses and biological scientists) did not allow for the observations of peculiarities in the various groups of healthcare workers with respect to the findings if there were any. The cross sectional approach used did not also allow for accessing the safety climate in the two hospitals, if that was done it could help in understanding when pressure for health service is high depending on situations such as peak seasons.

6.3.0 Recommendations

The following recommendations emanated out of the findings.

6.3.1 Management and Practice

The sub-region has been identified to be experiencing a human resource crisis as a result of the wide doctor-patient ratio. This is also coupled with an increase in healthcare patronage due to the introduction of some government interventions such as the introduction of the national health insurance scheme (NHIS) which has made healthcare more affordable. This situation has caused the handful of healthcare workers to be demanded to give of their best sometimes compromising on the safety of the healthcare givers themselves. It is against this backdrop that

the study recommends that in order to have a sustainable work force management should make conscious efforts to exhibit optimal level of commitment to safety as well as prioritising safety. This can be achieved by deed and not just by word of mouth. Management hence must show a great sense of urgency when matters of safety crop up. For instance, the provision of PPEs and regular trainings and seminars on OSH issues should be dealt with the utmost level of urgency as well as not compromising on health and safety practices and procedures regardless of the situation at hand. Management are advised to keep up to date with the new trends in OSH issues within the health industry. Bosak et al., (2013) argue that these acts would send strong signals to workers that management are walking the talk of safety thereby whipping up their trust and hence eliciting safety behaviours from workers.

Management must also make use of the JDC model (Karasek, 1979) in the assignment of authority and capabilities that commensurate the task assigned, this would reduce the perceived pressure to deliver and hence increase the chance of putting up safe behaviours as revealed by the current study and others.

Last but not the least, management can introduce a safety buddy system, this is a concept which is used in the western world where colleagues at work are encouraged to keep an eye on one another with regards to safety issues such as checking and reminding one another to wear their PPEs properly as well as follow some other safety practices and procedures. With the demography showing a youthful population and with most of them being in the early stages of their career, the role modelling behaviours of management and senior colleagues become important in shaping the safety behaviours of colleagues.

6.3.2 Recommendations for Future Research

The study focused on safety climate and was limited to three main dimensions based on prior studies of Bosak et al. (2013), Cooper and Phillips (2004), Mearns et al., (1998) and Zohar

(2002). Future studies could consider other variables such as safety leadership (Lu & Yang, 2010), preventive planning (Fernandez-Muniz et al., 2007) and supervisor management (Flin & Yule, 2004).

6.3.3 Recommendation for National Policies on OSH

The OSH challenges are tackled as a collaboration between state, society, organisations and the employees who are the major stakeholders. Their joint efforts aid in the promotion of occupational health and safety issues to which Ghana is no exception. Therefore, to see to its implementation, there is the need for strong climatic and legal backings to enforce such essential idea as health and safety issues. This hence calls for the immediate passing of the Occupational Health and Safety bill into law. This would go a long way to ensure that issues of OHS are given more legal weight.

6.4 Conclusion

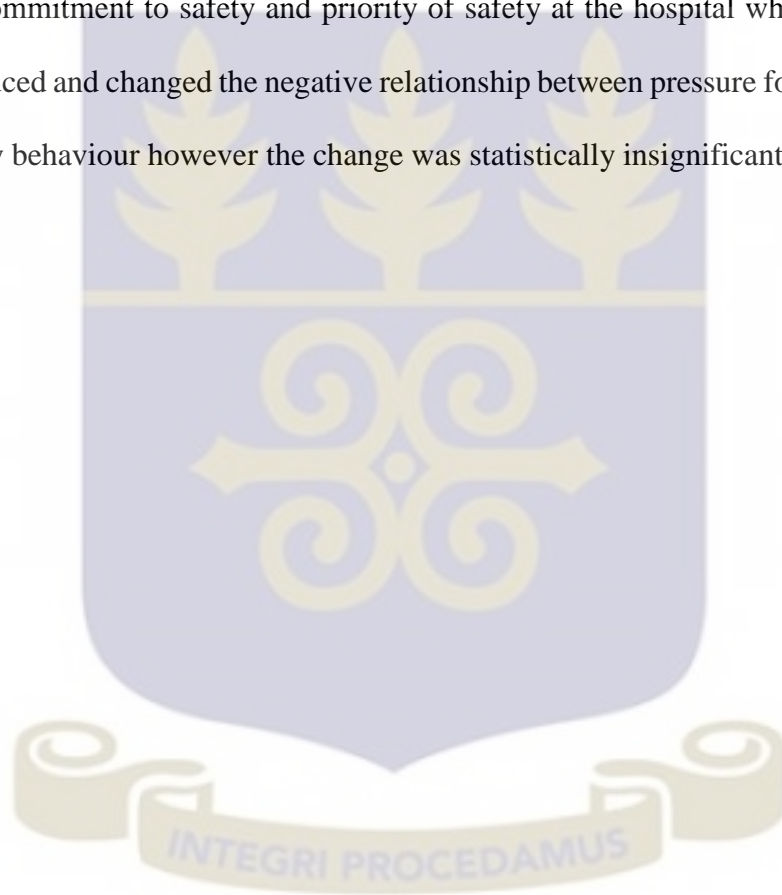
There is a significant amount of literature that have identified safety climate as having some influence on safety behaviour. Literature reviewed as well point to the argument that there is some amount of workload on healthcare workers within the Ghanaian health industry. It is with this notion that this research was conducted to explore whether the pressure placed on the healthcare workers in Ghana as a result of the pressure to deliver health services has implications for their safety behaviour and to what extent does management commitment to safety and safety priority at the hospital play relevant roles in this relationship.

The analysis of the general dimensions of safety climate by comparing means, showed safety motivation, safety knowledge, safe physical work environment and management commitment scoring the highest means.

Pressure for health service delivery had a negative relationship with healthcare workers' safety behaviour which comprised safety compliance and safety participation. This means that

healthcare workers would engage in unsafe work behaviour when they perceive that management put health service delivery above the safety of the health workers. Management commitment to safety and Priority of safety at the hospital had a positive relationship with health workers' safety behaviour. This results point to reason that as management is perceived to be committed to the safety of employees at the hospital it leads to healthcare worker exhibiting favourable safety behaviours and vice versa.

Management commitment to safety and priority of safety at the hospital when introduced as moderators reduced and changed the negative relationship between pressure for production and employee safety behaviour however the change was statistically insignificant.



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APPENDIX I

Sample Questionnaire

**University of Ghana Business School
Department of Organisational and Human Resource Management**

Dear Respondent,

This questionnaire aims at soliciting information for an MPhil thesis being undertaken to establish whether “Pressure for Production influences employees’ safety behaviour?” Your opinion is of most importance to the study and any information provided will be treated as **confidential and for academic purposes only**. This questionnaire will take less than 15 minutes to complete. There are **FOUR** sections. **Section 1** comprise Demographic Background; **Section 2**: General Safety Climate Scale (SCS) **Section 3**: Specific Safety Climate Scales (*Management Commitment to Safety, Priority of Safety in the Hospital, Pressure for Production*); **Section 4**: Safety Behaviour (*Safety Compliance and Safety Participation*).

Thank You.

Email: anukabrandenelvis@yahoo.com

Tel: +233243542322

Section 1: Demographic Background (Please tick [x] in the box that best describe you)

1. Age

Below 21yrs []	21 – 30yrs []	31 – 40yrs []	
41 – 50yrs []	51 – 60yrs []		Above 60yrs []

2. Gender:

Female []	Male []
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3. Highest level of education achieved:

SSCCE/WASSCE/Technical Certificate []	High National Diploma []
Bachelor Degree []	Master’s Degree []
other(s) []	Please specify:

4. How long have you been working with your Hospital?

Below 1 year []	1-5years []	6-10years []	11-15years []
More than 20years []			

5. Terms of Employment

Casual Worker []	Contract Worker []	Permanent Worker []
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6. What is your Job Title?

Medical Doctor []	Nurse []	Biomedical Scientist []
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Please specify:

SECTION 2

Listed below are a number of statements that could be used to describe a variety of factors relating to the general safety climate within your workplace. Please read each statement carefully and indicate the extent to which you AGREE or DISAGREE with each statement by ticking the appropriate number on the following scale.

1-Strongly Disagree

2-Disagree

3-Not Sure

4-Agree

5-Strongly Agree

<i>a) Safety Communication</i>		1	2	3	4	5
1	There is frequent communication about safety issues in this workplace					
2	Employees are able to discuss their concerns about safety issues with line management					
3	There is sufficient opportunity to discuss and deal with safety issues in meetings					
4	There is open communication about safety issues within this workplace					
5	Employees are regularly consulted about workplace health and safety issues					
<i>b) Safety Training</i>						
1	Safety issues are given a high priority in training programs					
2	Workplace health and safety training covers the types of situations that employees encounter in their job					
3	Employees have sufficient access to workplace health and safety training programs					
4	Employees receive comprehensive training in workplace health and safety issues					
<i>c) Physical Work Environment</i>						
1	There are significant dangers inherent in the workplace					
2	The physical work environment is safe					
3	Employees are frequently exposed to risky situations					
<i>d) Safety Systems</i>						
1	Safety procedures and practices are sufficient to prevent incidents occurring					
2	The safety procedures and practices in this organisation are useful and effective					
3	There are systematic procedures in place for preventing breakdowns in workplace safety					
<i>e) Safety Knowledge</i>						
1	I know how to perform my job in a safe manner					
2	I know how to use safety equipment and standard work procedures					
3	I know how to maintain or improve workplace health and safety					
4	I know how to reduce the risk of accidents and incidents in the workplace					
<i>f) Safety Motivation</i>						
1	I believe that workplace health and safety is an important issue					

2	I feel that it is worthwhile to put in effort to maintain or improve my personal safety					
3	I feel that it is important to maintain safety at all times					
4	I believe that it is important to reduce the risk of accidents and incidents in the workplace					
5	I believe that it is important to consistently use the correct personal protective equipment					
6	I believe that it is important to promote the safety program.					

SECTION 3

The following are a number of statements that could be used to describe a specific factors relating to safety climate within your workplace. Please read each statement carefully and indicate the extent to which you AGREE or DISAGREE with each statement by ticking the appropriate number on the following scale.

1- Strongly Disagree 2-Disagree 3-Not Sure 4-Agree 5-Strongly Agree

<i>a) Management Commitment to Safety</i>		1	2	3	4	5
1	Some safety rules/procedures are only there to protect management					
2	If you say too much about safety they might fire you					
3	Management listen to safety concerns, but nothing ever gets done.					
4	Hospital management will stop work due to safety concerns, even if it means they are going to miss targets					
5	My management does not act on safety concerns					
<i>b) Priority of Safety at Hospital</i>						
1	The standard of safety is very high at my work place					
2	I am allowed to stop work if I feel the job is unsafe.					
3	My supervisor frequently checks to see if workers are all following safety rules					
4	There are frequently checks to see if workers are all following safety rules					
5	There is insistence on wearing of personal protective equipment's (PPE) even if it is uncomfortable					
<i>c) Pressure for Health Service Delivery</i>						
1	Sometimes it is necessary to ignore safety rules/procedures to keep production going					
2	Personnel in this hospital are sometimes under pressure to put production before safety.					
3	As long as daily targets are achieved, my supervisor does not care whether we worked by the safety rules or not					
4	Taking short cut to get a work done quickly is accepted among members of my work crew as long as everything goes well and nothing happens					
5	Whenever we fall behind schedule and we are not achieving daily targets, my supervisor wants us to work faster rather than by the rules					

SECTION 4

The following are a number of statements that could be used to describe Safety Behavior of workers in response to the Safety Climate at the workplace. Please read each statement carefully and indicate the extent to which you often show with each statement by ticking the appropriate number on the following scale.

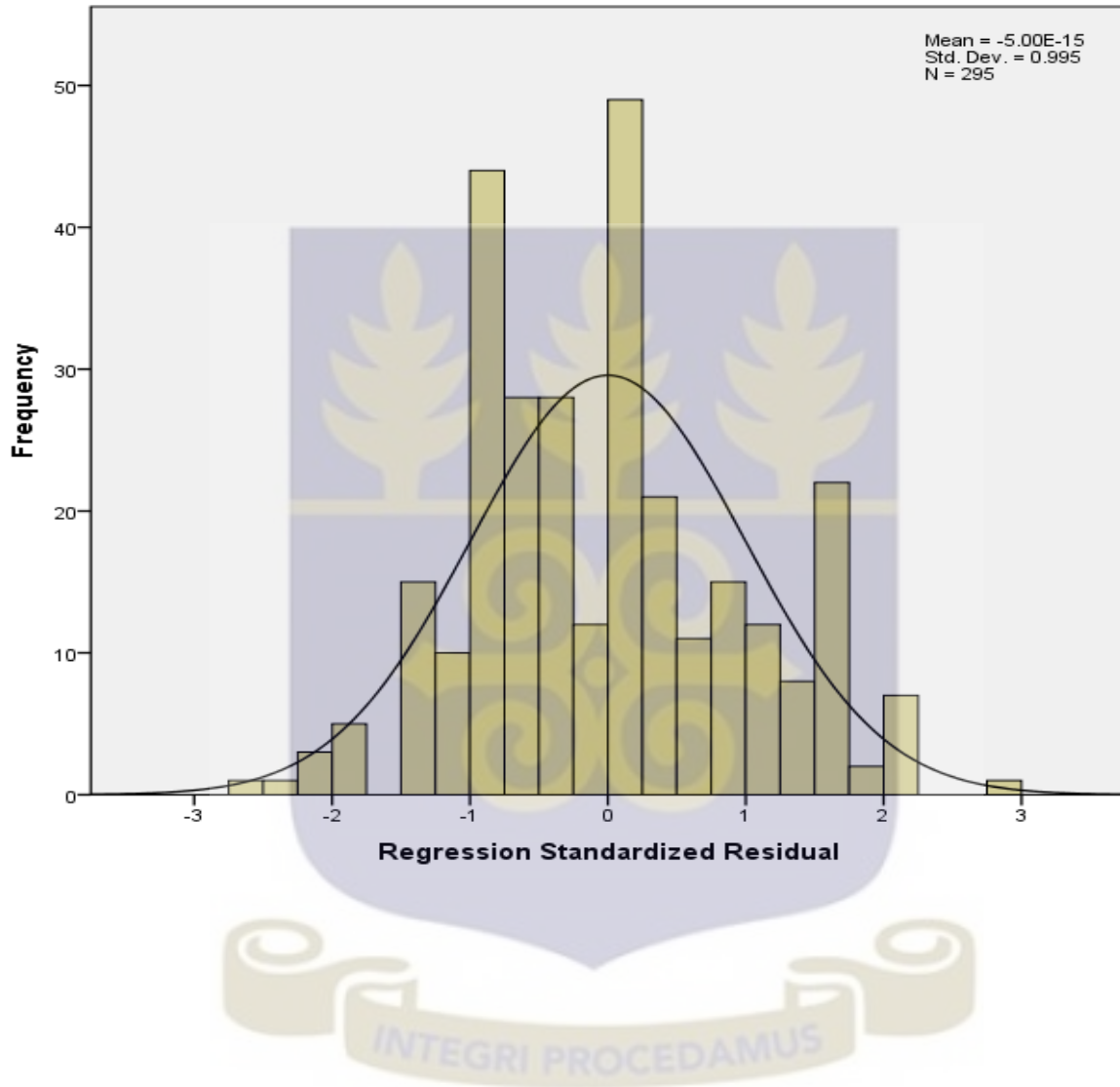
1 - Never**2 - Seldom****3 - Often****4 - Very Often**

<i>Safety Behaviors</i>		1	2	3	4
	<i>Safety Compliance</i>				
1	I ensure the highest levels of safety when I carry out my job				
2	I will report colleagues who break safety rules to supervisor				
3	I attend safety meetings and briefings				
4	I put in extra effort to improve the safety of the workplace				
5	I use the correct safety procedures for carrying out my job				
	<i>Safety Participation</i>				
6	I warn a colleague for his / her unsafe act				
7	I report to my supervisor when colleagues break any safety rule				
8	I report injury to my supervisor no matter how small it is				
9	It is important to help my co-workers in unsafe or hazardous conditions				
10	I find it worthwhile to be involved in the development of safety standards				
11	I voluntarily carry out tasks or activities that help to improve workplace safety				
12	I help my coworkers when they are working under risky or hazardous conditions				

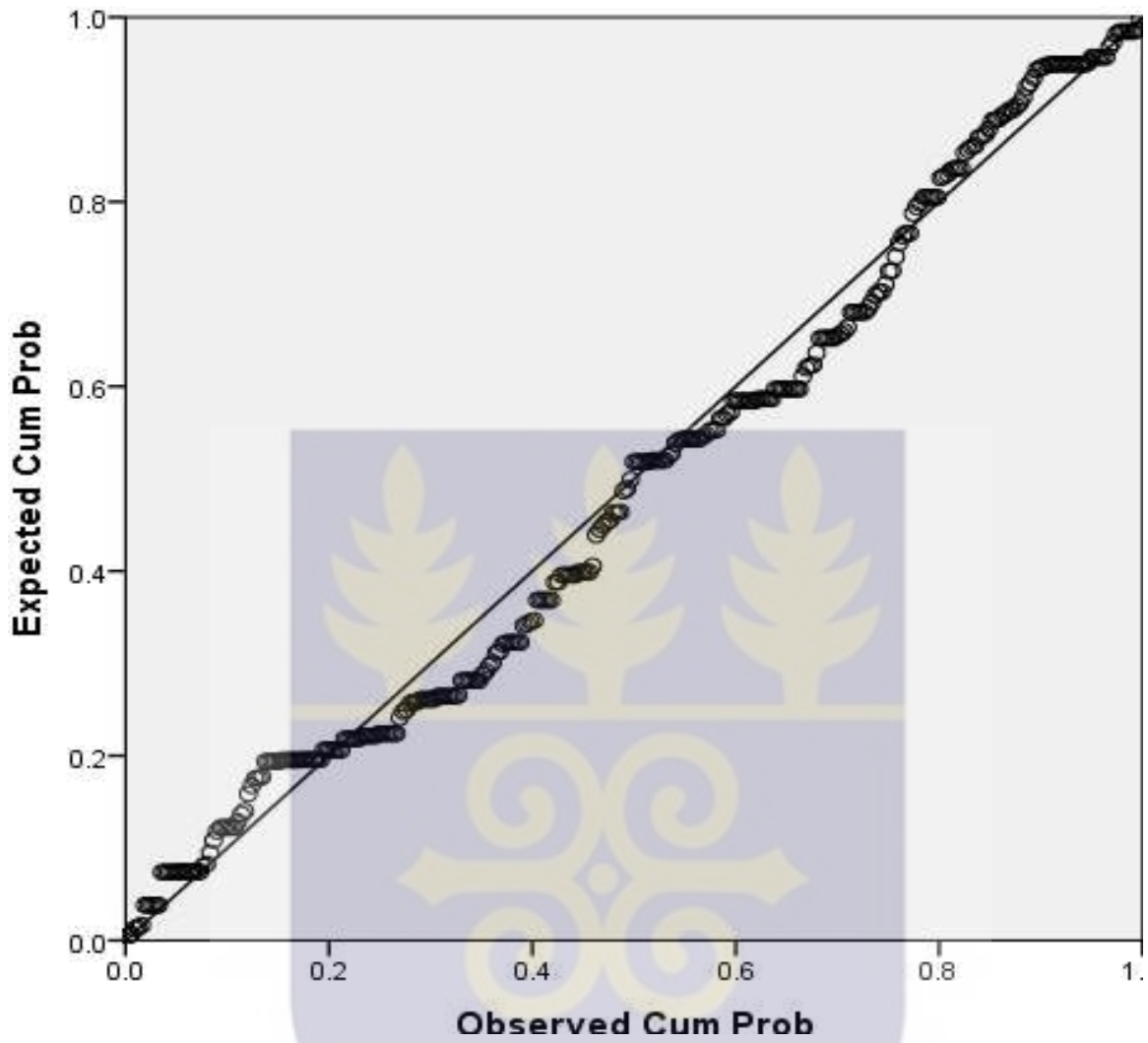
APPEDIX II

Normal distribution Curve, Normal Probability Plot and Scatterplot

A: Histogram Showing the Normal Distribution of the Dependent Variable (Safety Behaviour)



B: Normal probability plot for Safety Behaviour



C: Scatterplot for Safety Behaviour(SB)

