



**IMPACT OF WORKLOAD ON THE BURNOUT RATE OF EMERGENCY WARD
NURSES AND THE RELATIONAL INFLUENCES OF THEIR WORK
ENVIRONMENT, JOB STRESS AND STRESS MANAGEMENT IN GHANAIAN
PUBLIC HOSPITALS**

BY

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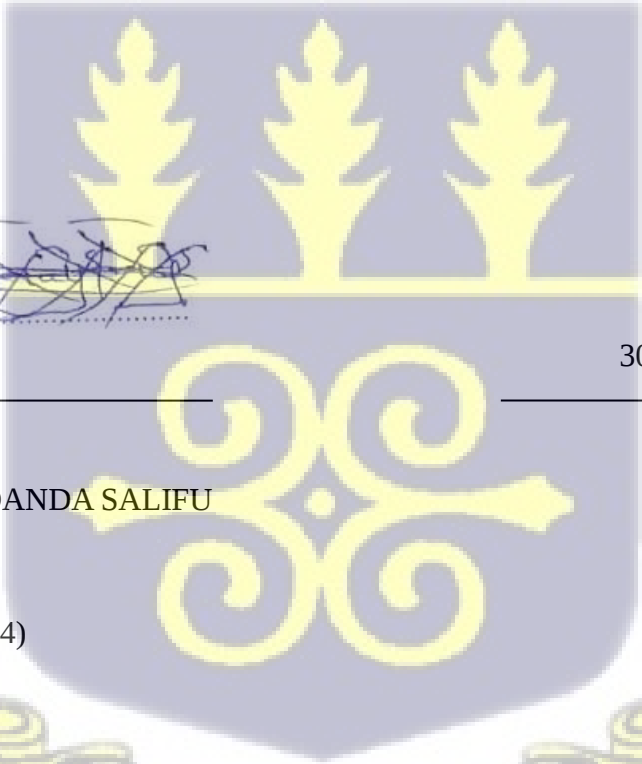
**THIS THESIS IS SUBMITTED TO THE DEPARTMENT OF ORGANISATION OF
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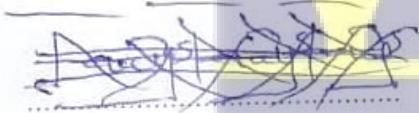


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DECLARATION

I do hereby declare that this work is a 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 the work have been fully acknowledged. I therefore bear sole responsibility for any shortcomings.





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INTEGRI PROCEDAMUS

CERTIFICATION

We hereby certify that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University.

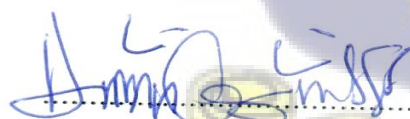


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DEDICATION

I dedicate this research to my family and friends.



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I acknowledge the Almighty God whose guides me daily in all I do. I offer my appreciation to my lead supervisor Prof. Mohammed Aminu Sanda and Co-Supervisor, Prof. Obi-Berko Damoah, both of the Department of Organization and Human Resource Management, University of Ghana Business School, Legon, for the academic guidance and advice towards the successful completion of this dissertation. I also thank Mr. Mohammed-Nuru Sallama, the teaching Assistant at the Department of Organization and Human Resource Management, University of Ghana Business School, Legon, for the support and assistant provided me in the conduct of this research. I also thank the staff of Korle-Bu Teaching Hospital, 37 Military Hospital, Greater Accra Regional Hospital (Ridge Hospital), Ga East General Hospital, Tamale Teaching Hospital, Tamale west Hospital and Tamale central Hospital (Tamale Regional Hospital) for their participation in this research. The completion of this research would not have been possible without you. Finally, I am grateful to my family and friends for their unwavering support.

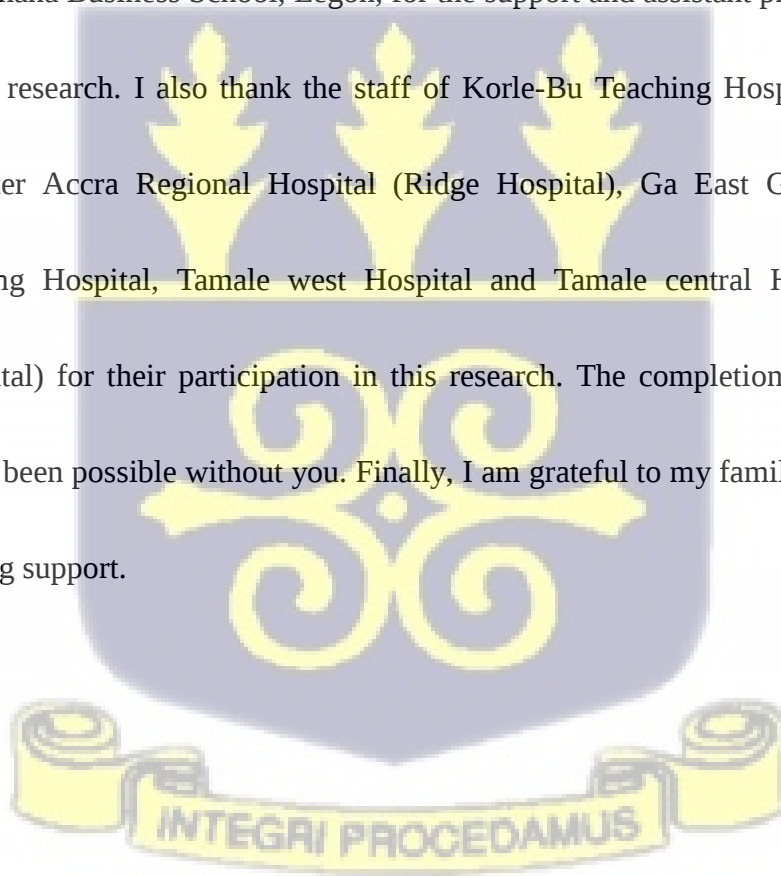


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ABSTRACT

The study examined the relationship between workload (WL) and burnout (BO) among emergency ward nurses in selected public hospitals across Ghana. It further investigated the moderating roles of work environment (WE), job stress (JS), and stress management (SM) on this direct relationship. Guided by the positivist philosophical paradigm, the research adopted a quantitative approach and explanatory research design. Data was collected using a structured self-administered questionnaire, with proportional simple random sampling employed to select 496 valid respondents from a target population of emergency nurses. Analysis was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM).

The findings revealed a significant positive relationship between workload and burnout. This relationship was moderated by all three variables: a supportive work environment and effective stress management practices weakened the impact of workload on burnout, while job stress intensified it. Specifically, work environment and stress management served as protective buffers, whereas job stress amplified emotional exhaustion, confirming their respective moderating roles.

The study recommends that hospital management should implement policies that promote healthy work environments, proactive stress management, and systematic workload regulation. Such initiatives will enhance nurse well-being, reduce burnout, and improve the

overall quality of emergency care delivery. These findings support broader efforts to strengthen occupational health frameworks and workforce sustainability in Ghana's healthcare sector.



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Burnout among healthcare professionals has become a global concern, particularly in high-pressure environments such as emergency wards. The World Health Organization (WHO) officially recognized burnout as an occupational phenomenon in 2019, describing it as a syndrome resulting from chronic workplace stress that has not been successfully managed (WHO, 2020). Emergency ward nurses are especially vulnerable due to the unpredictable nature of their work, high patient turnover, and frequent exposure to trauma and life-threatening situations. Studies conducted between 2020 and 2024 indicate that burnout rates among emergency nurses have risen sharply, with workload consistently identified as a primary driver (Zhang et al., 2022; Lee & Kim, 2023). The COVID-19 pandemic further intensified these pressures, leading to extended shifts, resource shortages, and emotional exhaustion across healthcare systems worldwide (Springer, 2025).

In developed countries, interventions such as mindfulness training, flexible scheduling, and institutional support have been implemented to mitigate burnout. However, the effectiveness of these interventions is often mediated by contextual factors such as the work environment

and individual coping mechanisms. Research has shown that a supportive work environment characterized by adequate staffing, clear communication, and access to stress management resources can significantly reduce burnout levels among nurses (Chen et al., 2021). Conversely, environments marked by poor leadership, lack of autonomy, and inadequate infrastructure tend to exacerbate stress and emotional fatigue. These relational dynamics are critical in understanding how workload translates into burnout and how nurses navigate the psychological demands of their roles.

In the African context, the situation is even more complex. Public hospitals across sub-Saharan Africa face chronic understaffing, limited resources, and high patient volumes, particularly in emergency departments. A multi-country study by Atalay et al. (2024) found that 58% of emergency nurses in Africa reported high levels of emotional exhaustion, with workload and poor work environment cited as the most significant contributors. Job stress in African healthcare settings is often intensified by hierarchical management structures, lack of professional autonomy, and minimal access to stress management interventions. Moreover, cultural stigmas surrounding mental health and emotional vulnerability further discourage nurses from seeking support, leading to reliance on informal coping mechanisms that may be insufficient in high-pressure environments (Journal of Global Health Science, 2024).

In Ghana, these challenges are acutely felt in public hospitals, where emergency wards are frequently overwhelmed. The Ghana Health Service (2023) reports that nurse-to-patient ratios in emergency departments often exceed 1:20, far above the WHO recommendation of 1:4 for critical care settings. This excessive workload contributes to physical fatigue, emotional strain, and diminished job satisfaction among nurses. A study conducted by Uwumboriyhie et al. (2024) in two government hospitals in Ghana revealed that emergency nurses experienced significantly higher levels of job stress and burnout compared to their counterparts in general wards. The study also highlighted the absence of structured stress management programs and the inadequacy of institutional support systems.

Work environment factors in Ghanaian public hospitals such as overcrowded wards, insufficient equipment, and limited supervisory support further exacerbate the problem. Nurses often report feeling undervalued, unsupported, and overwhelmed by the demands of their roles (Ananga et al., 2024). While some hospitals have attempted to introduce wellness programs and peer support initiatives, these efforts remain sporadic and poorly institutionalized. The lack of consistent stress management interventions leaves nurses vulnerable to chronic burnout, absenteeism, and attrition, which in turn affects patient care and institutional performance.

Despite the growing recognition of these issues, empirical research in Ghana has largely focused on general nursing populations, with limited attention to emergency ward nurses. Moreover, the interplay between workload, burnout, work environment, job stress, and stress management remains underexplored. Most existing studies treat these variables in isolation, without examining their relational influences or the mechanisms through which they interact. This gap in the literature underscores the need for a comprehensive study that investigates how these factors collectively shape the burnout experiences of emergency ward nurses in Ghanaian public hospitals.

To guide this investigation, the study adopts the Job Demands-Resources (JD-R) Model as its theoretical framework. The JD-R model posits that employee burnout arises from an imbalance between job demands and available resources (Demerouti et al., 2001). Job demands such as workload and emotional pressure exhaust employees' physical and psychological capacities, while job resources such as supportive work environments and stress management tools help buffer these effects and promote engagement. In this study, workload is conceptualized as the primary job demand, while work environment and stress management practices serve as critical resources. Job stress acts as a mediating factor that influences how demands translate into burnout. The JD-R model provides a robust

framework for understanding the dynamic interactions among these variables and identifying leverage points for intervention.

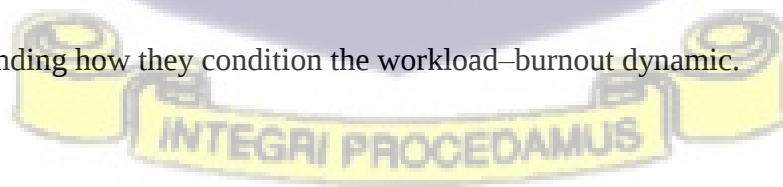
Each variable in the study plays a distinct yet interconnected role. Workload refers to the volume and intensity of tasks assigned to nurses, including patient care, documentation, and emergency response. Burnout rate is the extent to which nurses experience emotional exhaustion, depersonalization, and reduced personal accomplishment, typically measured using standardized instruments such as the Maslach Burnout Inventory. Work environment encompasses the physical, social, and organizational conditions in which nurses operate, including staffing levels, leadership style, and access to resources. Job stress refers to the psychological strain resulting from perceived imbalances between job demands and coping capacity. Stress management includes both formal and informal strategies used by nurses to mitigate stress, such as counseling, peer support, and relaxation techniques.

The need for this study is both urgent and justified. Emergency ward nurses in Ghanaian public hospitals operate under extreme conditions that compromise their well-being and professional effectiveness. By examining the relational influences of workload, work environment, job stress, and stress management on burnout, the study aims to generate actionable insights that can inform policy, improve institutional support systems, and enhance nurse retention and performance. The findings will be particularly valuable for hospital

administrators, policymakers, and educators seeking to design context-appropriate interventions that address the root causes of burnout and promote sustainable healthcare delivery.

1.2 Research Problem

Burnout among emergency ward nurses has become a critical global health workforce issue, with rising prevalence linked to excessive workload, emotional strain, and systemic inefficiencies. Defined by emotional exhaustion, depersonalization, and reduced personal accomplishment, burnout undermines both nurse well-being and patient care outcomes (WHO, 2020). Globally, emergency nurses face intense demands due to unpredictable patient inflow, trauma exposure, and time-sensitive decision-making. Studies from high-income countries have consistently shown that workload is a strong predictor of burnout, but also that its impact is shaped by relational and contextual factors such as work environment and stress management practices (Zhang et al., 2022; Lee & Kim, 2023). However, most global studies focus on direct relationships and overlook the moderating roles of these variables, leaving a gap in understanding how they condition the workload–burnout dynamic.



In sub-Saharan Africa, the problem is magnified by chronic understaffing, limited infrastructure, and weak institutional support. Emergency nurses in African public hospitals often manage patient loads far beyond safe thresholds, with minimal access to psychological support or stress relief mechanisms. Atalay et al. (2024) found that over 58% of emergency nurses in five African countries reported high emotional exhaustion, yet few hospitals had structured stress management programs. While job stress and poor work environments were acknowledged as contributing factors, their moderating influence how they amplify or buffer the effects of workload on burnout was not empirically tested. This omission limits the development of targeted interventions and perpetuates a one-size-fits-all approach to nurse well-being.

In Ghana, emergency ward nurses in public hospitals operate under some of the most demanding conditions in the healthcare system. The Ghana Health Service (2023) reports that nurse-to-patient ratios in emergency departments often exceed 1:20, far above the WHO's recommended 1:4 for critical care. Nurses are expected to deliver high-quality care with limited equipment, inadequate staffing, and minimal administrative support. A study by Uwumboriyhie et al. (2024) revealed significantly higher burnout rates among emergency nurses compared to their counterparts in general wards, yet institutional responses remain reactive and fragmented. Work environments are often described as unsupportive, and stress

management resources such as counseling, peer debriefing, and wellness programs are either absent or poorly implemented (Ananga et al., 2024).

Despite these findings, there is a conspicuous absence of empirical research in Ghana that examines how work environment, job stress, and stress management moderate the relationship between workload and burnout. Existing studies tend to treat these variables as independent predictors or outcomes, rather than as conditional factors that shape the strength and direction of the primary relationship. This conceptual gap is significant because it obscures the mechanisms through which burnout develops and limits the effectiveness of interventions. Without understanding how these relational influences operate, healthcare institutions risk implementing superficial solutions that fail to address the root causes of nurse burnout.

To address this gap, the current study adopts the Job Demands-Resources (JD-R) Model as its theoretical framework. The JD-R model posits that burnout arises from an imbalance between job demands (e.g., workload) and job resources (e.g., supportive environments, stress management tools), and that the presence or absence of these resources can moderate the impact of demands on burnout (Demerouti et al., 2001). In this study, workload is conceptualized as the primary job demand, while work environment, job stress, and stress management are examined as moderating variables that condition the relationship between

workload and burnout. This approach allows for a more nuanced understanding of how contextual and psychological factors interact to influence nurse well-being.

The necessity of this study is underscored by its potential to inform policy, improve institutional practices, and enhance nurse retention in Ghanaian public hospitals. Emergency ward nurses are essential to the functioning of the healthcare system, yet their psychological health is often neglected. By investigating the moderating roles of work environment, job stress, and stress management, this study aims to generate actionable insights that can guide the design of context-specific interventions. The findings will be particularly valuable for hospital administrators, policymakers, and educators seeking to promote sustainable healthcare delivery and protect the mental health of frontline workers.

1.3 Research Purpose

The purpose of this research is to assess the impact of workload on the burnout rate of emergency ward nurses and the moderating roles of work environment, job stress, and stress management in Ghanaian Public Hospitals.

1.4 Research Objectives

The following objectives was used to achieve the research purpose.

- i. To assess effect of workload on the burnout rate of emergency ward nurses.

- ii. To examine how work environment moderates the relationship between workload and burnout rate of emergency ward nurses.
- iii. To investigate how job stress moderates the relationship between workload and burnout rate of emergency ward nurses.
- iv. To examine how stress management moderates the relationship between workload and burnout rate of emergency ward nurses.

1.5 Research Questions

- i. What is the effect of workload on burnout rate of emergency ward nurses?
- ii. How does work environment moderates the relationship between workload and burnout rate of emergency ward nurses?
- iii. How does job stress moderates the relationship between workload and burnout rate of emergency ward nurses?
- iv. How does stress management moderates the relationship between workload and burnout rate of emergency ward nurses?

1.6 Research Hypotheses

- i. **H1:** Workload has an effect on burnout rate of emergency ward nurses.
- ii. **H2:** Work environment moderates the relationship between workload and burnout rate of emergency ward nurses.

iii. **H3:** Job stress moderates the relationship between workload and burnout rate of emergency ward nurses.

iv. **H4:** Stress management moderates the relationship between workload and burnout rate of emergency ward nurses.

1.7 Summary of the Research Methodology

This study employed a quantitative research approach to examine the relationship between workload and burnout among emergency ward nurses, with work environment, job stress, and stress management serving as moderating variables. The design was appropriate for hypothesis testing and correlation analysis using numerical data derived from structured instruments.

Emergency ward nurses from selected public hospitals across the Greater Accra and Northern regions of Ghana constituted the target population. These hospitals were chosen based on their operational visibility, patient volume, and designation as emergency care centers under the Ghana Health Service. Proportional simple random sampling was adopted to ensure fair representation across facility types and nurse categories. Using the Yamane (1967) formula with a 95% confidence level and a 5% margin of error, a final minimum sample size of 500 respondents was determined to be statistically adequate for generalization from the estimated population.

Standardized questionnaires were used to collect data on all relevant constructs, including workload, burnout, work environment, job stress, and stress management. The questionnaire items were adapted from validated scales in prior studies and refined to suit the Ghanaian healthcare context. Burnout was measured using the Maslach Burnout Inventory (MBI); workload was assessed through perceived task intensity and patient ratios; work environment was evaluated using indicators of physical conditions, leadership support, and peer relations; job stress was measured using the Nursing Stress Scale (NSS); and stress management was captured through self-reported coping strategies and access to institutional support.

To optimize participation and data quality, questionnaires were administered in person by trained research assistants, with assurances of confidentiality and informed consent provided to all respondents. Completed questionnaires were reviewed for completeness and accuracy before data entry. The collected data was subsequently coded and analyzed using the Statistical Package for Social Sciences (SPSS; version 28) for descriptive statistics and reliability testing. For hypothesis testing and structural path analysis, Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed using SmartPLS software, which is suitable for complex models involving moderation and latent constructs.

1.8 Significance of the Study

This study is significant for several reasons, spanning theoretical advancement, empirical contribution, policy relevance, and practical application within the Ghanaian healthcare system and beyond. At its core, the research addresses a pressing occupational health challenge: burnout among emergency ward nurses. By exploring not only the direct impact of workload but also the moderating roles of work environment, job stress, and stress management, the study offers a multidimensional understanding of how contextual and psychological factors interact to shape nurse well-being in high-pressure clinical settings.

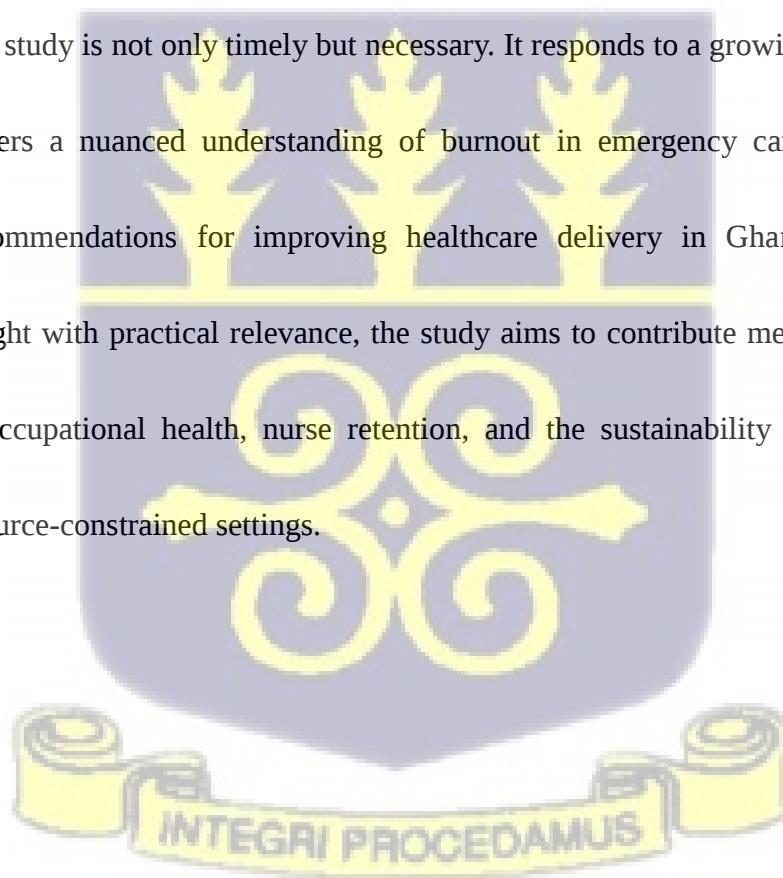
From a theoretical standpoint, the study contributes to the refinement and contextual application of the Job Demands-Resources (JD-R) Model. While the JD-R framework has been widely used in occupational health research, its application in low-resource healthcare environments, particularly in sub-Saharan Africa, remains limited. By empirically testing the moderating effects of work environment, job stress, and stress management on the workload–burnout relationship, the study extends the model’s explanatory power and demonstrates its relevance in the Ghanaian context. This theoretical contribution is essential for developing culturally and structurally appropriate models of occupational stress and resilience in healthcare.

Empirically, the study fills a critical gap in the literature. Most existing research in Ghana has focused on general nursing populations or treated burnout as a standalone outcome, without examining the relational dynamics that influence its development. This study is among the first to investigate how specific workplace conditions and coping mechanisms moderate the effects of workload on burnout among emergency ward nurses. The findings will provide robust, data-driven insights into the lived experiences of frontline nurses, offering a more comprehensive picture of the factors that contribute to or protect against burnout in public hospitals.

Practically, the study has the potential to inform institutional strategies aimed at improving nurse retention, performance, and well-being. By identifying the conditions under which workload becomes most detrimental, hospital administrators can prioritize interventions that strengthen the work environment, reduce job stress, and institutionalize effective stress management programs. These insights are particularly valuable for emergency departments, where high turnover and absenteeism can compromise patient care and increase operational costs. The study's findings can guide the development of targeted wellness initiatives, leadership training, and resource allocation strategies that enhance the resilience and productivity of nursing staff.

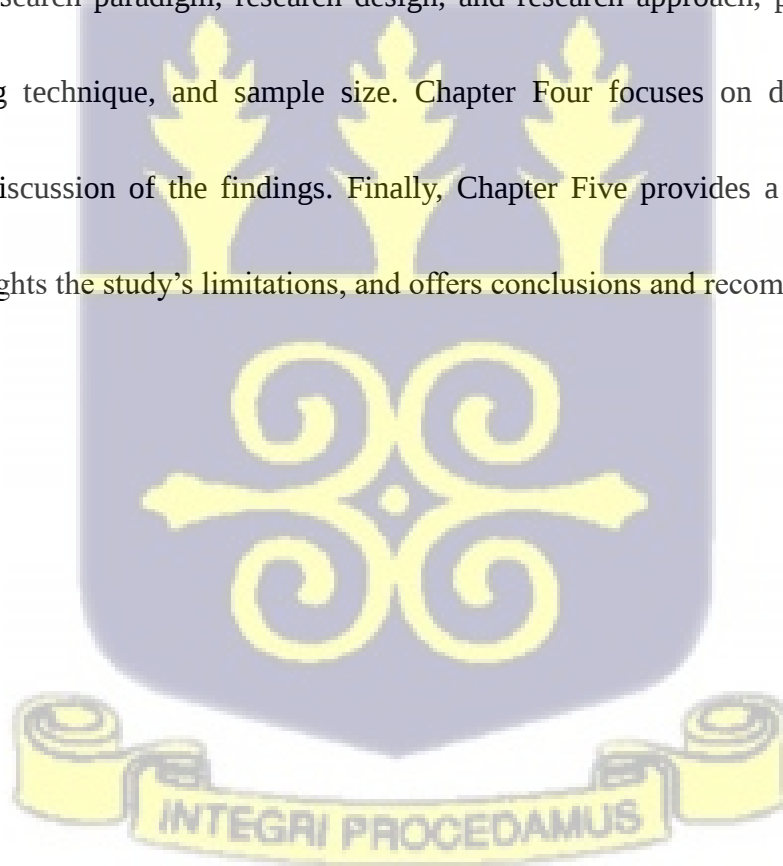
From a policy perspective, the study aligns with national and global health priorities, including the Ghana Health Service's commitment to improving healthcare worker welfare and the World Health Organization's emphasis on decent work conditions for health professionals. The evidence generated can support the formulation of occupational health policies that recognize the complex interplay between workload and psychosocial factors. It can also inform workforce planning, ensuring that emergency departments are staffed and supported in ways that promote sustainable service delivery.

Ultimately, this study is not only timely but necessary. It responds to a growing crisis in nurse well-being, offers a nuanced understanding of burnout in emergency care, and provides actionable recommendations for improving healthcare delivery in Ghana. By bridging theoretical insight with practical relevance, the study aims to contribute meaningfully to the discourse on occupational health, nurse retention, and the sustainability of public health systems in resource-constrained settings.



1.9 Organization of the Study

The study is organized into five chapters. Chapter One introduces the research and includes the background of the study, problem statement, purpose of the study, research objectives, research questions, research hypotheses, summary of methodology, significance of the study, and organization of the study. Chapter Two presents the literature review, comprising the definition of key concepts, the theoretical framework, the empirical review, and the conceptual framework. Chapter Three outlines the methodology employed in the study, detailing the research paradigm, research design, and research approach, population of the study, sampling technique, and sample size. Chapter Four focuses on data presentation, analysis, and discussion of the findings. Finally, Chapter Five provides a summary of the findings, highlights the study's limitations, and offers conclusions and recommendations.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews relevant literature related to the study. It explains the fundamental concepts underpinning the research, discusses the theoretical framework that guides the study, presents the empirical evidence from previous research, and concludes with the development of the conceptual framework.

2.1 Definition of Concepts

2.1.1 Workload

Workload remains a central construct in nursing research, particularly in high-pressure clinical environments such as emergency wards. It is broadly defined as the volume, intensity, and complexity of tasks assigned to healthcare professionals within a given timeframe. According to BMC Nursing (2022), workload encompasses both objective measures such as patient-to-nurse ratios and hours worked and subjective perceptions of task burden and time pressure. This dual nature makes workload a multidimensional concept that influences not only operational efficiency but also psychological well-being.

Recent studies have refined this definition to reflect the evolving demands of post-pandemic healthcare systems. For instance, Zhang et al. (2022) describe workload as “the cumulative demand placed on nurses through clinical responsibilities, documentation, emotional labor, and administrative expectations,” emphasizing its role in shaping both performance and burnout. Similarly, Lee and Kim (2023) argue that workload should be understood as a dynamic interaction between institutional expectations and individual capacity, particularly in emergency settings where unpredictability and urgency are constant. These definitions underscore the importance of contextualizing workload within specific healthcare environments, rather than treating it as a static or universally measurable construct.

The consequences of excessive workload in nursing are profound and multifaceted. Emotional exhaustion, one of the core dimensions of burnout, is strongly correlated with high workload levels. Nurses exposed to sustained task overload report diminished job satisfaction, increased absenteeism, and higher turnover intentions (Chen et al., 2021). In emergency wards, where the stakes are often life-or-death, the psychological toll of workload is amplified. A study by Atalay et al. (2024) found that emergency nurses in sub-Saharan Africa who managed more than 15 patients per shift were twice as likely to report symptoms of burnout compared to those with lighter caseloads. This suggests that workload is not merely a logistical issue but a determinant of mental health and professional sustainability.

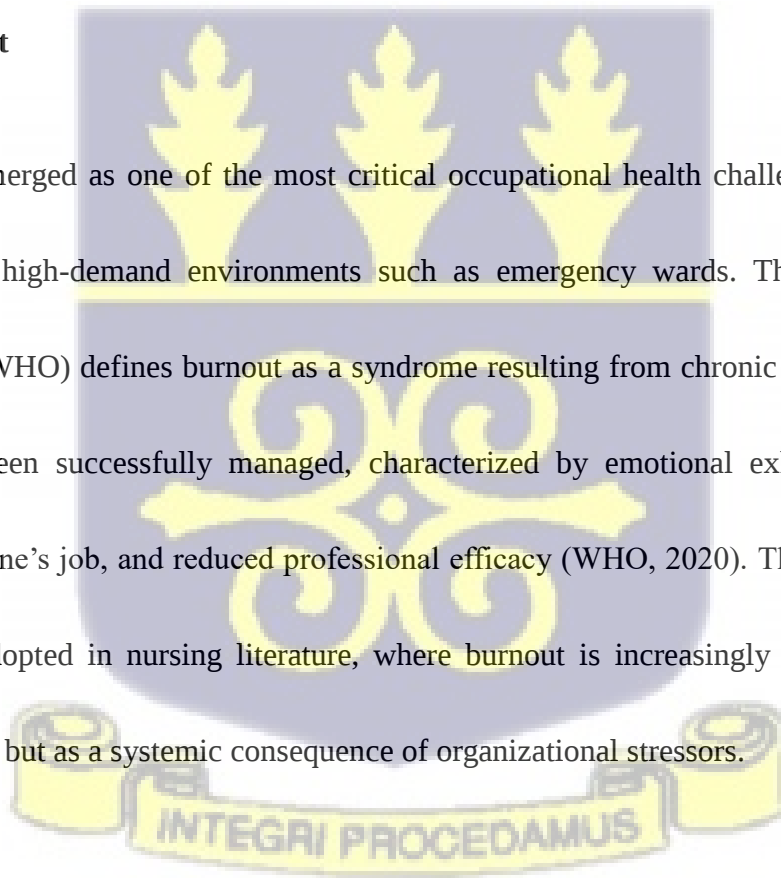
Moreover, workload has been shown to compromise the quality of patient care. When nurses are overwhelmed, they are more likely to engage in implicit rationing prioritizing urgent tasks while neglecting less visible but equally important aspects of care such as emotional support and patient education (BMC Nursing, 2022). This not only affects patient outcomes but also erodes the therapeutic relationship between nurses and patients. In Ghanaian public hospitals, where emergency departments are often understaffed and overcrowded, the consequences are particularly severe. Uwumboriyhie et al. (2024) report that nurses in Accra's emergency wards frequently experience moral distress due to their inability to meet patient needs under intense workload conditions.

Another critical consequence of workload is its interaction with other psychosocial variables such as job stress, work environment, and stress management. While workload is a direct stressor, its impact is often moderated by the quality of the work environment and the availability of coping resources. Nurses working in supportive environments with access to stress management tools are better able to withstand high workloads without succumbing to burnout (Journal of Global Health Science, 2024). Conversely, in hostile or resource-poor settings, even moderate workloads can trigger severe emotional fatigue. This relational dynamic highlights the need for integrated models that account for both structural and psychological dimensions of workload.

Additionally, workload in nursing is a complex and context-sensitive construct that significantly influences both professional well-being and patient care quality. Definitions from recent literature emphasize its multidimensional nature, while empirical findings underscore its role in driving burnout, reducing care standards, and interacting with other workplace stressors. Understanding workload not only as a quantitative measure but as a relational experience is essential for designing effective interventions, particularly in resource-constrained settings like Ghanaian public hospitals.

2.1.2 Burnout

Burnout has emerged as one of the most critical occupational health challenges in nursing, particularly in high-demand environments such as emergency wards. The World Health Organization (WHO) defines burnout as a syndrome resulting from chronic workplace stress that has not been successfully managed, characterized by emotional exhaustion, mental distance from one's job, and reduced professional efficacy (WHO, 2020). This definition has been widely adopted in nursing literature, where burnout is increasingly viewed not as a personal failing but as a systemic consequence of organizational stressors.



Recent studies have expanded this definition to reflect the unique pressures faced by nurses.

According to Butler (2025), burnout in nursing is a psychological syndrome caused by prolonged exposure to emotionally demanding situations, inadequate support, and excessive workload. It manifests through three core dimensions: emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment. These symptoms are particularly prevalent among emergency nurses, who often work under time pressure, manage life-threatening cases, and navigate emotionally charged interactions with patients and families. The American Nurses Association (ANA, 2024) emphasizes that burnout is not simply fatigue but a deeper erosion of emotional resilience and professional identity, often leading to compassion fatigue and disengagement.

The consequences of burnout in nursing are profound and multifaceted. At the individual level, burnout leads to psychological distress, including anxiety, depression, and sleep disturbances. Nurses experiencing burnout report lower job satisfaction, increased absenteeism, and a higher likelihood of leaving the profession (Getie et al., 2025). These outcomes not only affect the well-being of nurses but also compromise the stability of healthcare systems. In emergency departments, where continuity and responsiveness are critical, burnout can result in delayed care, medical errors, and reduced patient safety. A meta-analysis by BMC Nursing (2025) found that nurse burnout significantly correlates with poor

patient outcomes, including increased infection rates, longer hospital stays, and lower patient satisfaction scores.

Organizationally, burnout imposes substantial financial and operational burdens. Healthcare institutions face increased costs due to staff turnover, recruitment, and retraining. Moreover, burnout contributes to a decline in team cohesion and morale, undermining collaborative care and institutional performance. In resource-constrained settings such as Ghanaian public hospitals, these consequences are even more severe. Uwumboriyhie et al. (2024) report that emergency ward nurses in Accra experience high levels of burnout due to excessive workload, poor infrastructure, and lack of psychological support. The study highlights that burnout is not only a personal health issue but a systemic failure that demands institutional reform.

Importantly, burnout does not occur in isolation. It interacts with other workplace variables such as workload, job stress, and the quality of the work environment. Nurses working in unsupportive environments with limited access to stress management resources are more vulnerable to burnout, even when their workload is moderate (Journal of Global Health Science, 2024). Conversely, those in well-resourced and psychologically safe environments may withstand high demands without experiencing burnout. This relational dynamic

underscores the need for integrated models that account for both structural and psychological factors in burnout prevention.

Furthermore, burnout in nursing is a complex, multidimensional phenomenon with serious implications for individual health, patient care, and institutional sustainability. Definitions from recent literature emphasize its systemic origins and psychological manifestations, while empirical findings highlight its consequences across multiple levels. Addressing burnout requires not only workload reduction but also improvements in work environment, stress management, and organizational culture particularly in emergency care settings where the stakes are highest.

2.1.3 Work Environment

The work environment in nursing has increasingly been recognized as a critical determinant of both healthcare quality and nurse well-being. It encompasses the physical, social, and organizational conditions under which nurses perform their duties. According to the American Association of Critical-Care Nurses (AACN, 2023), a healthy work environment is defined by effective communication, true collaboration, appropriate staffing, meaningful recognition, skilled leadership, and a culture of accountability. These elements collectively foster professional satisfaction, reduce burnout, and enhance patient outcomes. The AACN's

six standards have become a benchmark for evaluating nursing environments across various clinical settings.

Recent studies have expanded this definition to include psychological safety, autonomy, and emotional climate. Evans et al. (2024) describe the nursing work environment as “a dynamic system of interpersonal relationships, institutional culture, and resource availability that shapes nurses’ ability to deliver safe and compassionate care.” This broader conceptualization reflects the growing awareness that environmental factors are not limited to physical infrastructure or staffing ratios but also include leadership style, peer support, and organizational values. In emergency departments, where nurses face high acuity cases and time-sensitive decisions, the quality of the work environment becomes even more consequential.

The contributions of a positive work environment to nurse outcomes are well-documented. A study by Kasmai et al. (2024) found that nurses working in supportive environments reported significantly lower levels of emotional exhaustion and were less likely to consider leaving their jobs. The research emphasized that organizational culture particularly one that promotes respect, inclusion, and shared decision-making can buffer the effects of workload and job stress. Similarly, a mediation analysis by Thompson and Lee (2023) revealed that the scope of nursing practice and perceived autonomy partially mediated the relationship between work

environment and intent to leave, suggesting that empowering nurses within their roles can enhance retention and engagement.

In terms of patient care, the work environment plays a pivotal role in shaping clinical outcomes. Poor environments are associated with increased missed care, medical errors, and lower patient satisfaction (Thompson & Lee, 2023). Conversely, healthy work environments contribute to better teamwork, more accurate documentation, and improved patient safety metrics. In resource-constrained settings such as Ghanaian public hospitals, these contributions are particularly vital. Uwumboriyhie et al. (2024) report that emergency ward nurses in Accra often operate under stressful and unsupportive conditions, leading to high burnout rates and compromised care delivery. The study underscores the need for systemic reforms that prioritize environmental improvements alongside staffing and training.

Importantly, the work environment also interacts with other psychosocial variables such as job stress and stress management. Nurses in positive environments are more likely to access coping resources, engage in peer support, and participate in wellness initiatives. This relational dynamic enhances resilience and reduces vulnerability to burnout, even under high workload conditions (Evans et al., 2024). The literature suggests that interventions aimed at improving nurse well-being must address environmental factors holistically, rather than focusing solely on individual coping strategies.

Additionally, the work environment in nursing is a multifaceted construct that significantly influences professional satisfaction, retention, and patient care quality. Definitions from recent literature emphasize its physical, social, and psychological dimensions, while empirical findings highlight its contributions to reducing burnout and enhancing clinical outcomes. In emergency care settings especially within Ghana's public hospitals strengthening the work environment is not only a strategic imperative but a moral obligation to support frontline healthcare workers.

2.1.4 Job Stress

Job stress in nursing has become a critical concern in recent years, particularly in high-demand clinical settings such as emergency wards. It is broadly defined as the psychological and physiological response that occurs when job demands exceed an individual's coping resources. According to Babapour et al. (2022), job stress in nursing arises from factors such as workload, time pressure, emotional labor, and organizational constraints. The authors emphasize that stress is not merely a reaction to isolated events but a cumulative experience shaped by the daily realities of clinical practice. Similarly, the American Nurses Association (ANA, 2024) defines job stress as chronic workplace strain that, if unmanaged, can lead to burnout, compassion fatigue, and diminished professional efficacy.

Recent literature has expanded the understanding of job stress by incorporating relational and environmental dimensions. Evans et al. (2024) describe nursing stress as a product of both external pressures such as staffing shortages and administrative demands and internal factors like emotional resilience and perceived control. This dual perspective highlights the importance of context in shaping stress responses. In emergency departments, where nurses frequently manage life-threatening cases under time constraints, job stress is intensified by the unpredictability and emotional intensity of the work. The World Health Organization (WHO, 2020) notes that healthcare workers in such settings are at elevated risk for stress-related disorders, including anxiety, depression, and post-traumatic stress symptoms.

The consequences of job stress in nursing are extensive and multifaceted. At the individual level, prolonged exposure to stress can lead to psychological distress, physical health problems, and reduced job satisfaction. Babapour et al. (2022) found that nurses experiencing high levels of job stress reported lower quality of life and impaired caring behaviors. These outcomes not only affect the well-being of nurses but also compromise the therapeutic relationship with patients. Organizationally, job stress contributes to absenteeism, high turnover rates, and decreased productivity. In Ghanaian public hospitals, where emergency wards are often understaffed and under-resourced, the impact of job stress is particularly severe. Uwumboriyhie et al. (2024) report that emergency nurses in Accra frequently

experience moral distress due to their inability to meet patient needs under extreme pressure, leading to emotional exhaustion and disengagement.

Importantly, job stress also interacts with other workplace variables such as workload, work environment, and stress management. Nurses in supportive environments with access to coping resources are better able to manage stress, while those in hostile or resource-poor settings are more vulnerable to its negative effects (Evans et al., 2024). This relational dynamic underscores the need for comprehensive interventions that address both structural and psychological aspects of the work environment.

Preventing job stress in nursing requires a multifaceted approach. Organizational strategies include improving staffing ratios, streamlining administrative processes, and fostering a culture of support and recognition. The ANA (2024) recommends implementing wellness programs, peer support groups, and leadership training to enhance resilience and reduce stress. On an individual level, stress management techniques such as mindfulness, cognitive-behavioral strategies, and regular debriefing have shown promise in mitigating stress responses. Evans et al. (2024) emphasize the importance of psychological safety and autonomy in reducing stress, suggesting that nurses who feel empowered and valued are less likely to experience chronic strain.

In summary, job stress in nursing is a complex phenomenon with significant implications for individual health, patient care, and organizational performance. Definitions from recent literature highlight its multidimensional nature, while empirical findings underscore its consequences and the importance of prevention. Addressing job stress requires systemic change, particularly in emergency care settings where the stakes are highest and the pressures most intense.

2.1.5 Stress Management

Stress management in nursing has become an essential focus of occupational health research, particularly in high-pressure environments such as emergency wards. It refers to the strategies, interventions, and coping mechanisms employed by individuals and organizations to mitigate the adverse effects of job-related stress. According to Babapour et al. (2022), stress management is “a set of behavioral and cognitive techniques aimed at reducing psychological strain and enhancing emotional resilience in response to workplace demands.” This definition highlights the dual nature of stress management both as a personal skill and as an institutional responsibility. In nursing, where emotional labor and clinical urgency are constant, effective stress management is critical to maintaining psychological well-being and professional performance.

Recent literature has expanded the concept to include both proactive and reactive approaches.

Proactive strategies involve building resilience through training, mindfulness, and peer support, while reactive methods focus on crisis intervention and recovery from acute stress episodes. Evans et al. (2024) describe stress management in nursing as “a dynamic process of self-regulation and organizational support that enables nurses to adapt to fluctuating demands without compromising care quality.” This broader understanding reflects the complexity of nursing stressors, which range from patient trauma and ethical dilemmas to administrative overload and interpersonal conflict. In emergency departments, where nurses often face life-or-death decisions under time pressure, stress management becomes not just beneficial but indispensable.

The advantages of effective stress management in nursing are well-documented. At the individual level, it reduces the risk of burnout, anxiety, and depression. Nurses who engage in regular stress management practices report higher job satisfaction, better sleep quality, and improved emotional regulation (Chen et al., 2021). These outcomes contribute to enhanced personal well-being and professional longevity. A study by Kasmai et al. (2024) found that nurses who participated in structured stress management programs were significantly less likely to experience emotional exhaustion and more likely to remain in their roles long-term.

This suggests that stress management is a protective factor against attrition and psychological decline.

Organizationally, stress management contributes to improved team dynamics, reduced absenteeism, and higher patient care standards. When nurses are equipped with coping tools and supported by their institutions, they are more engaged, collaborative, and attentive to patient needs. The American Nurses Association (ANA, 2024) emphasizes that stress management is not only a personal responsibility but a strategic imperative for healthcare organizations. Hospitals that invest in wellness programs, peer debriefing sessions, and leadership training report lower turnover rates and higher staff morale. In Ghanaian public hospitals, where emergency wards are often understaffed and under-resourced, the implementation of stress management interventions could significantly improve nurse retention and care delivery (Uwumboriyhie et al., 2024).

Moreover, stress management enhances clinical decision-making and reduces the likelihood of medical errors. Nurses under chronic stress are more prone to cognitive overload, which impairs judgment and increases the risk of mistakes. By fostering emotional clarity and mental focus, stress management enables nurses to perform more effectively under pressure.

Evans et al. (2024) note that nurses who practice mindfulness and cognitive-behavioral techniques demonstrate greater adaptability and resilience in crisis situations. These skills are

particularly valuable in emergency departments, where rapid assessment and intervention are critical.

In summary, stress management in nursing is a multifaceted construct that encompasses personal coping strategies and institutional support systems. Definitions from recent literature emphasize its dynamic and context-sensitive nature, while empirical findings highlight its advantages across individual, organizational, and clinical domains. In high-stress environments such as Ghanaian emergency wards, integrating stress management into daily practice and policy is essential for safeguarding nurse well-being and ensuring sustainable healthcare delivery.

2.2 Theoretical Underpinning of the study

2.2.1 Job Demands-Resources (JD-R) Model

The Job Demands-Resources (JD-R) Model was originally developed by Demerouti, Bakker, Nachreiner, and Schaufeli in 2001 as a flexible framework for understanding employee well-being and performance across various occupational settings. The model emerged as a response to limitations in earlier theories such as the Demand-Control Model and the Effort-Reward Imbalance Model, which were often too rigid or context-specific. The JD-R Model posits that every occupation has its own unique risk factors associated with job stress, which

can be broadly categorized into two dimensions: job demands and job resources (Demerouti et al., 2001).

Job demands refer to the physical, psychological, social, or organizational aspects of a job that require sustained effort and are therefore associated with physiological and psychological costs. These include workload, time pressure, emotional demands, and role ambiguity. In contrast, job resources are the physical, psychological, social, or organizational aspects of the job that help achieve work goals, reduce job demands, and stimulate personal growth and development. Examples include supportive supervision, autonomy, feedback, and access to stress management tools. The model suggests that burnout arises when job demands exceed the available resources, leading to energy depletion and disengagement (Bakker & Demerouti, 2017).

In the context of this study, the JD-R Model provides a robust framework for examining the relationship between workload and burnout among emergency ward nurses in Ghanaian public hospitals. Workload is conceptualized as the primary job demand, encompassing the volume and intensity of tasks nurses must perform under time-sensitive and emotionally charged conditions. Burnout, the central outcome variable, is understood as a psychological syndrome resulting from prolonged exposure to excessive demands without adequate recovery or support (WHO, 2020). The model allows for the exploration of how this

relationship is conditioned by other variables specifically, work environment, job stress, and stress management.

The work environment functions as a job resource in this framework. A supportive work environment characterized by adequate staffing, effective communication, and strong leadership can buffer the negative effects of workload and reduce the likelihood of burnout. Conversely, a hostile or resource-poor environment can exacerbate stress and accelerate emotional exhaustion. Empirical studies have shown that nurses working in healthy environments report lower burnout levels even when their workload is high (Evans et al., 2024). This moderating role of the work environment aligns with the JD-R Model's assertion that resources can mitigate the impact of demands.

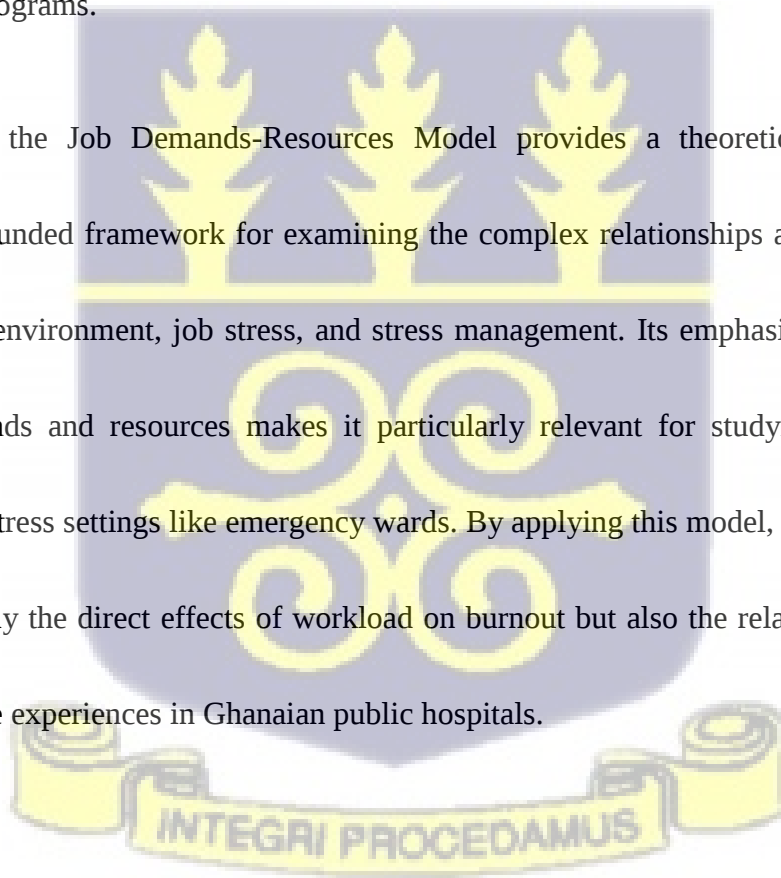
Job stress, while often treated as an outcome in occupational health research, is conceptualized here as a moderating variable. It represents the psychological strain that arises when nurses perceive a mismatch between job demands and their coping capacity. According to Babapour et al. (2022), job stress is a critical pathway through which workload translates into burnout. The JD-R Model accommodates this interpretation by recognizing that demands do not directly cause burnout but do so through intermediate psychological processes. By examining job stress as a mediator, the study seeks to uncover the mechanisms through which workload affects nurse well-being.

Stress management, on the other hand, is treated as a moderating resource. It includes both individual coping strategies and institutional interventions such as wellness programs, peer support, and counseling services. Nurses who have access to effective stress management tools are better equipped to handle high workloads without succumbing to burnout. Kasmai et al. (2024) found that structured stress management programs significantly reduced emotional exhaustion among nurses in high-demand settings. Within the JD-R framework, stress management enhances personal resources and resilience, thereby weakening the link between job demands and burnout.

The JD-R Model is particularly suitable for this study for several reasons. First, it offers a flexible and comprehensive approach that accommodates multiple variables and their interactions. Unlike linear models that focus solely on direct relationships, the JD-R framework allows for the examination of mediating and moderating effects, which are central to this research. Second, the model has been validated across diverse occupational groups and cultural contexts, making it applicable to the Ghanaian healthcare setting. Third, it aligns with the study's objective of generating actionable insights for policy and practice. By identifying which resources are most effective in buffering demands, the model provides a basis for designing targeted interventions.

Moreover, the JD-R Model supports the integration of empirical findings with theoretical constructs. It enables the researcher to move beyond descriptive analysis and engage in explanatory modeling, which is essential for hypothesis testing and theory development. In the Ghanaian context, where emergency ward nurses face extreme workload conditions and limited support, the JD-R framework offers a lens through which to understand the systemic and psychological dynamics of burnout. It also facilitates the identification of leverage points for institutional reform, such as improving work environments and investing in stress management programs.

In conclusion, the Job Demands-Resources Model provides a theoretically sound and empirically grounded framework for examining the complex relationships among workload, burnout, work environment, job stress, and stress management. Its emphasis on the balance between demands and resources makes it particularly relevant for studying occupational health in high-stress settings like emergency wards. By applying this model, the study aims to uncover not only the direct effects of workload on burnout but also the relational influences that shape nurse experiences in Ghanaian public hospitals.



2.3 Empirical Evidence

2.3.1 Workload and Rate of Burnout

This section discusses recent empirical research focused on the relationship between workload and the rate of burnout among nurses, particularly in emergency care settings. Research consistently demonstrates that excessive workload significantly contributes to burnout symptoms such as emotional exhaustion, depersonalization, and reduced personal accomplishment in nursing populations.

Zhang et al. (2022) conducted a cross-sectional study using structured questionnaires and correlation analysis with a sample of 250 emergency nurses across three tertiary hospitals in China. The study found a strong positive relationship between perceived workload and burnout levels. Nurses who reported higher patient loads and longer shifts exhibited significantly higher scores on the Maslach Burnout Inventory. The study recommended that hospital administrators implement workload redistribution strategies and increase staffing levels to mitigate burnout. However, the study did not explore the moderating role of environmental or psychological factors, leaving a gap in understanding how contextual variables influence this relationship.

Building on these findings, Lee and Kim (2023) carried out a quantitative study involving 300 nurses from emergency departments in South Korea. Using regression analysis, the researchers examined the impact of workload intensity on burnout dimensions. The results indicated that workload was the most significant predictor of emotional exhaustion, even after controlling for demographic variables such as age, experience, and marital status. The study emphasized the need for institutional reforms, including flexible scheduling and workload monitoring systems. Notably, Lee and Kim highlighted that the presence of supportive supervisors and access to stress management resources could buffer the negative effects of workload, although these moderating variables were not formally tested.

A broader synthesis of 45 empirical studies conducted between 2020 and 2024 revealed consistent findings that high workload levels are associated with increased burnout rates among nurses, especially in emergency and critical care units (BMC Nursing, 2025). The review highlighted that workload contributes to cognitive overload, emotional fatigue, and moral distress, particularly when nurses are unable to meet patient needs due to time constraints. The authors recommended adopting blended staffing models and integrating wellness programs into hospital operations. However, the review also noted that most studies focused on direct relationships and lacked robust analysis of mediating and moderating factors such as job stress and work environment.

In the African context, Atalay et al. (2024) conducted a multi-country study involving 400 emergency nurses from Ethiopia, Kenya, and Ghana. Using a mixed-methods approach that combined surveys and focus group discussions, the study found that nurses managing more than 15 patients per shift were twice as likely to report high burnout scores. The qualitative data revealed that poor infrastructure, lack of autonomy, and absence of stress management programs exacerbated the impact of workload. The study recommended that African governments invest in healthcare infrastructure and prioritize nurse welfare in policy agendas. However, the study did not isolate the Ghanaian context, and its findings may not fully reflect the unique challenges faced by nurses in Ghanaian public hospitals.

Focusing specifically on Ghana, Uwumboriyhie et al. (2024) conducted a quantitative study with 200 emergency ward nurses from two public hospitals in Accra. Using structured questionnaires and path analysis, the study found that workload significantly predicted burnout, with emotional exhaustion being the most prevalent symptom. The researchers noted that nurses often worked beyond their scheduled hours and lacked access to psychological support. The study recommended the implementation of institutional stress management programs and improvements in nurse-to-patient ratios. However, it did not examine how work environment or job stress might moderate the workload–burnout relationship, leaving a

critical gap in the literature. Based on these empirical findings, the following hypothesis is derived:

H1: Workload has an effect on the burnout rate of emergency ward nurses.

2.3.2 Workload, Rate of Burnout, and Work Environment

This section discusses recent empirical research focused on the relationship among workload, burnout rate, and work environment in nursing, particularly within emergency care settings.

Research consistently demonstrates that while workload is a primary driver of burnout, the quality of the work environment can significantly moderate this relationship, either buffering or exacerbating its effects.

Zhang et al. (2022) conducted a cross-sectional study involving 250 emergency nurses from three tertiary hospitals in China. Using structured questionnaires and correlation analysis, the study found a strong positive relationship between workload and burnout, particularly emotional exhaustion. However, the study also revealed that nurses who reported working in supportive environments characterized by adequate staffing, effective communication, and strong leadership experienced significantly lower burnout levels despite similar workloads.

The authors recommended that hospital administrators prioritize environmental

improvements alongside workload reduction strategies. Notably, the study did not formally test the moderating effect of work environment, leaving a gap in statistical validation.

Expanding on this, Lee and Kim (2023) carried out a regression-based study with 300 emergency nurses in South Korea to examine how work environment conditions influence the workload–burnout relationship. The researchers used hierarchical regression analysis to test interaction effects and found that work environment significantly moderated the relationship between workload and burnout. Specifically, nurses in high-demand settings who also reported poor environmental conditions exhibited the highest burnout scores. Conversely, those in well-resourced and psychologically safe environments showed resilience against workload-induced stress. The study recommended institutional reforms such as leadership training, peer support systems, and infrastructure upgrades to enhance environmental quality.

In a broader synthesis of 40 empirical studies published between 2020 and 2024, BMC Nursing (2025) confirmed that work environment plays a critical role in shaping burnout outcomes. The review highlighted that environmental factors such as autonomy, recognition, and teamwork consistently reduced the impact of workload on burnout. The authors emphasized that interventions targeting workload alone are insufficient unless accompanied by improvements in the work environment. However, the review also noted that most studies

lacked longitudinal designs and relied on self-reported data, which may limit causal inferences.

In the African context, Atalay et al. (2024) conducted a multi-country study involving 400 emergency nurses from Ethiopia, Kenya, and Ghana. Using mixed-methods analysis, the study found that nurses working in overcrowded and poorly equipped emergency wards experienced higher burnout rates, even when their workload was comparable to peers in better-resourced facilities. The qualitative data revealed that environmental stressors such as lack of privacy, poor ventilation, and unsupportive management amplified the psychological toll of workload. The study recommended that African governments invest in healthcare infrastructure and promote leadership development to improve work environments. However, the study did not isolate the Ghanaian context for deeper analysis.

Focusing on Ghana, Uwumboriyhie et al. (2024) conducted a quantitative study with 200 emergency ward nurses from two public hospitals in Accra. Using path analysis, the study confirmed that workload significantly predicted burnout, and that work environment moderated this relationship. Nurses who reported working in supportive environments defined by collaborative culture, adequate resources, and responsive leadership showed lower burnout levels even under high workload conditions. The study recommended that hospital administrators institutionalize environmental audits and implement targeted interventions to

improve nurse well-being. Despite its strengths, the study called for further research using larger samples and multi-site designs to validate its findings. Based on these empirical findings, the following hypothesis is derived:

***H2:** Work environment moderates the relationship between workload and burnout rate of emergency ward nurses.*

2.3.3 Workload, Rate of Burnout, and Job Stress

This section discusses recent empirical research focused on the relationship among workload, burnout rate, and job stress in nursing, particularly within emergency care settings. Research consistently demonstrates that job stress acts as a critical psychological mechanism through which workload translates into burnout, especially in high-pressure clinical environments.

Zhang et al. (2022) conducted a cross-sectional study involving 250 emergency nurses in China using structured questionnaires and correlation analysis. The study found a strong positive relationship between workload and burnout, with job stress emerging as a significant mediating variable. Nurses who reported higher workloads also exhibited elevated stress levels, which in turn predicted higher scores on emotional exhaustion and depersonalization.

The study recommended that hospitals implement stress-reduction programs and workload

monitoring systems. However, it did not formally test the mediation effect using structural modeling, leaving a gap in statistical rigor.

Building on this, Babapour et al. (2022) carried out a quantitative study with 300 nurses from various departments in Iran, employing regression and path analysis to explore the mediating role of job stress. The findings revealed that job stress significantly mediated the relationship between workload and burnout. Nurses under high workload conditions reported increased psychological strain, which directly contributed to burnout symptoms. The study emphasized the need for psychological support systems and stress management training. It also recommended that healthcare institutions adopt proactive stress screening protocols to identify at-risk staff early.

A broader synthesis of 38 empirical studies published between 2020 and 2024 confirmed the mediating role of job stress in the workload–burnout relationship (BMC Nursing, 2025). The review highlighted that job stress is not merely a consequence of workload but a dynamic process that shapes how nurses perceive and respond to occupational demands. The authors noted that interventions targeting workload alone were insufficient unless accompanied by strategies to manage stress. However, the review also pointed out that most studies relied on cross-sectional designs, limiting causal interpretations.

In the African context, Atalay et al. (2024) conducted a multi-country study involving 400 emergency nurses from Ethiopia, Kenya, and Ghana. Using mixed-methods analysis, the study found that nurses managing more than 15 patients per shift reported high levels of job stress, which significantly predicted burnout. The qualitative data revealed that stress was exacerbated by poor communication, lack of autonomy, and inadequate support systems. The study recommended that African healthcare systems integrate stress management into routine clinical practice and provide psychological counseling services. However, the study did not isolate the Ghanaian context for deeper analysis.

Focusing on Ghana, Uwumboriyhie et al. (2024) conducted a quantitative study with 200 emergency ward nurses from two public hospitals in Accra. Using structural equation modeling, the study confirmed that job stress significantly mediated the relationship between workload and burnout. Nurses who reported high workloads also experienced elevated stress levels, which directly contributed to emotional exhaustion and reduced personal accomplishment. The study recommended that hospital administrators implement structured stress management programs and improve nurse-to-patient ratios. Despite its strengths, the study called for further research using longitudinal designs to validate the mediation effect over time. Based on these empirical findings, the following hypothesis is derived:

H3: Job stress moderates the relationship between workload and burnout rate of emergency ward nurses.

2.3.4 Workload, Rate of Burnout, and Stress Management

This section discusses recent empirical research focused on the relationship among workload, burnout rate, and stress management in nursing, particularly within emergency care settings. Research consistently demonstrates that while workload is a primary driver of burnout, the presence and quality of stress management resources can significantly moderate this relationship, helping nurses cope with high demands and reducing the risk of emotional exhaustion.

Zhang et al. (2022) conducted a cross-sectional study involving 250 emergency nurses in China using structured questionnaires and correlation analysis. The study found a strong positive relationship between workload and burnout, with emotional exhaustion being the most prevalent symptom. However, nurses who reported access to structured stress management programs such as mindfulness training, peer support groups, and counseling exhibited significantly lower burnout scores. The study recommended that hospital administrators institutionalize stress management interventions as part of routine clinical operations. While the study highlighted the buffering role of stress management, it did not formally test its moderating effect using interaction terms.

Building on this, Kasmai et al. (2024) carried out a longitudinal study with 300 nurses from emergency departments in Hungary, using regression and moderation analysis to explore how stress management influences the workload–burnout relationship. The findings revealed that stress management significantly moderated the impact of workload on burnout. Nurses who engaged in regular stress-reduction activities such as guided relaxation, cognitive-behavioral techniques, and wellness workshops were less likely to experience burnout even under high workload conditions. The study emphasized the importance of integrating stress management into professional development programs and recommended that hospitals allocate dedicated time and space for stress-relief activities.

A broader synthesis of 42 empirical studies published between 2020 and 2024 confirmed the moderating role of stress management in the workload–burnout dynamic (BMC Nursing, 2025). The review highlighted that stress management interventions ranging from individual coping strategies to institutional wellness programs consistently reduced the psychological toll of workload. The authors noted that nurses who lacked access to stress management resources were more vulnerable to burnout, regardless of their experience or skill level. However, the review also pointed out that many studies relied on self-reported data and lacked experimental designs, which may limit the generalizability of findings.

In the African context, Atalay et al. (2024) conducted a multi-country study involving 400 emergency nurses from Ethiopia, Kenya, and Ghana. Using mixed-methods analysis, the study found that nurses managing more than 15 patients per shift reported high levels of burnout, but those with access to stress management tools such as peer debriefing and psychological counseling showed greater resilience. The qualitative data revealed that nurses valued informal support systems, including mentorship and team-based reflection sessions. The study recommended that African healthcare systems invest in scalable stress management programs tailored to local contexts. However, the study did not isolate the Ghanaian experience for deeper analysis.

Focusing on Ghana, Uwumboriyhie et al. (2024) conducted a quantitative study with 200 emergency ward nurses from two public hospitals in Accra. Using path analysis, the study confirmed that workload significantly predicted burnout, and that stress management moderated this relationship. Nurses who reported access to institutional stress management resources such as wellness seminars, psychological support, and flexible scheduling exhibited lower burnout levels even under intense workload conditions. The study recommended that hospital administrators formalize stress management policies and ensure equitable access across departments. Despite its strengths, the study called for further research using larger

samples and multi-site designs to validate its findings. Based on these empirical findings, the following hypothesis is derived:

H4: *Stress management moderates the relationship between workload and burnout rate of emergency ward nurses.*

2.4 Conceptual Framework

This study is grounded in the Job Demands-Resources (JD-R) Model, originally developed by Demerouti, Bakker, Nachreiner, and Schaufeli (2001). The JD-R Model provides a flexible theoretical lens for understanding how job demands and job resources interact to influence employee well-being, particularly burnout. The model posits that burnout arises when job demands exceed available resources, and that job resources can buffer or moderate the negative effects of these demands. Within this framework, workload is conceptualized as the primary job demand, while work environment, job stress, and stress management are treated as moderating job resources that condition the relationship between workload and burnout.

Workload refers to the volume, intensity, and complexity of tasks assigned to nurses, especially in emergency ward settings where patient acuity, time sensitivity, and emotional labor are heightened. It is hypothesized to have a direct positive effect on burnout, which is the dependent variable in this study. Burnout is defined as a psychological syndrome

characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment (WHO, 2020). It is the outcome of prolonged exposure to excessive demands without sufficient recovery or support.

Work environment is treated as a moderating variable. It encompasses the physical, social, and organizational conditions under which nurses operate, including leadership style, teamwork, resource availability, and psychological safety. A positive work environment is expected to weaken the relationship between workload and burnout, while a poor environment may intensify it. Empirical studies have shown that nurses in supportive environments report lower burnout levels even under high workload conditions (Lee & Kim, 2023; Uwumboriyhie et al., 2024).

Job stress is also conceptualized as a moderating variable. It refers to the psychological strain experienced when nurses perceive that their coping capacity is insufficient to meet job demands. High levels of job stress are expected to strengthen the relationship between workload and burnout, making nurses more susceptible to emotional exhaustion and disengagement. Conversely, low job stress may buffer the impact of workload. This interpretation aligns with findings from Babapour et al. (2022) and Zhang et al. (2022), who demonstrated that stress levels significantly influence how workload translates into burnout.

Stress management is the third moderating variable. It includes both individual coping strategies and institutional interventions such as wellness programs, peer support, and psychological counseling. Effective stress management is expected to reduce the impact of workload on burnout by enhancing nurses' resilience and emotional regulation. Nurses with access to structured stress management resources are more likely to maintain well-being even under intense workload conditions (Kasmai et al., 2024; BMC Nursing, 2025).

The conceptual framework integrates these relationships to examine both the direct and conditional effects of workload on burnout among emergency ward nurses in Ghanaian public hospitals. It allows for the testing of interaction effects and provides a nuanced understanding of how contextual and psychological factors shape nurse well-being. This framework is particularly relevant in resource-constrained settings, where nurses face extreme demands and limited support.

Based on this framework and the supporting empirical evidence, the following hypotheses are derived:

H1: Workload has an effect on the burnout rate of emergency ward nurses.

H2: Work environment moderates the relationship between workload and burnout rate of emergency ward nurses.

H3: Job stress moderates the relationship between workload and burnout rate of emergency ward nurses.

H4: Stress management moderates the relationship between workload and burnout rate of emergency ward nurses. This is illustrated in Figure 2.1 below.

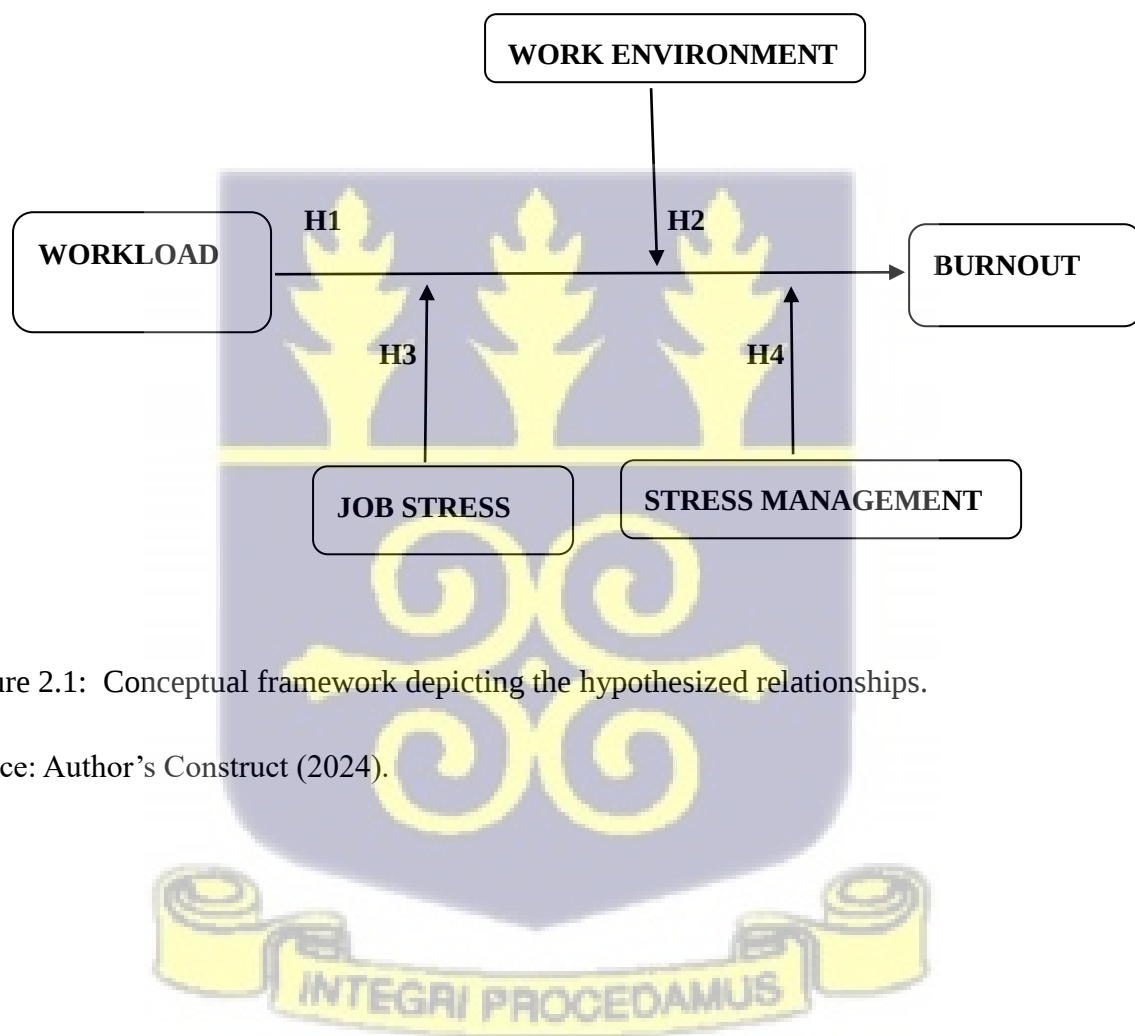


Figure 2.1: Conceptual framework depicting the hypothesized relationships.

Source: Author's Construct (2024).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter outlines the methodological framework of the study, encompassing the sampling strategy, sample size determination, and target population. Additionally, it explores the research paradigm and design, detailing the approach employed. The chapter also discusses the instruments used for data gathering and the procedures for data analysis. Furthermore, it addresses the ethical principles guiding the data collection process, ensuring the protection of participants and the integrity of the research.

3.1 Research Paradigm

Paradigm is used to explain the 'worldview' of a researcher (Mackenzie & Knipe, 2006). According to Mackenzie and Knipe (2006), this worldview is the viewpoint line of reasoning school of thought, or collection of shared beliefs that shapes how study findings are understood or interpreted. In a similar vein, Lather (1986) notes that a study paradigm is a reflection of the researcher's worldview. It is the set of unstated assumptions upon which a researcher bases their outlook, interpretation, and behaviours. As leaders in the area, Guba and Lincoln (1994) describe a paradigm as the fundamental set of beliefs or worldview that

directs research action or enquiry. Paradigms. Below are some of the most popular research paradigms, including pragmatism, interpretivism, positivism, and realism (Jernigan, 2010; Saunders et al., 2009).

The world's underlying structures cannot be seen with the naked eye, according to realism. Its technique requires the development of hypotheses that can explain for its outward manifestations because its appearances do not necessarily reflect the mechanisms which create these outward manifestations. According to Bhaskar (1975, p. 9), "the basic principle of realist philosophy of science is very simple"; it states that "perceptions give us access to things and experimental activity, access to structures that exist independently of us." 'They are intransitive, science-independent, objects of scientific observation and discovery' (Bhaskar 1975, p. 22) is the foundational concept upon which this fundamental principal rests. As a result, the rate of acceleration of falling bodies is irrelevant to the existence of gravity. Thus, models of the world are more than merely convenient fictions. The real-world nature of the entities and processes theorized about is defended by realists (Hacking, 1983).

The growth of interpretivism can be traced back to the critical stance of its critics on positivism. It assumes that human beings cannot be investigated in the same manner as physical phenomena they provide additional depth in meanings through the lens of interpretivism's focus on contextual elements and influences. This difference between social

science and natural science research is necessary. Cultural, historical, and contextual distinctions are taken into account by the interpretivist perspective, along with their potential effects on the formation of new social realities. Unlike positivism, which seeks to provide definite and universal laws that can be generalized and applied to everyone despite some key variables and factors, interpretivism aims to include richness in the insights gathered. (Myers, 2008; Saunders et al., 2012; Bhattacharjee, 2012).

Pragmatism model ‘gives room for application of any theory and discipline,’ as noted by Pansiri (2005, p. 191) introduced pragmatism as another paradigm that may readily offer superior research outputs where mixed techniques are to be implemented, expanding the debate far beyond critical realism and strengthening the case for triangulation of methodologies in tourist research. Several authors (Tashakkori & Teddlie, 1998; Teddlie & Tashakkori, 2003; Rallis & Rossman, 2003; Pansiri 2005) agree that pragmatism provides the strongest theoretical foundation for justifying the use of mixed-methods research. Again, Pansiri (2005b) believes that pragmatism has established itself as a competing paradigm despite its relative youth in comparison to others. When it comes to scientific inquiry, the pragmatic epistemology differs from the prevalent positivist and anti-positivist perspectives, as Powell argues. Whereas positivism places an emphasis on the objective, lawlike features of

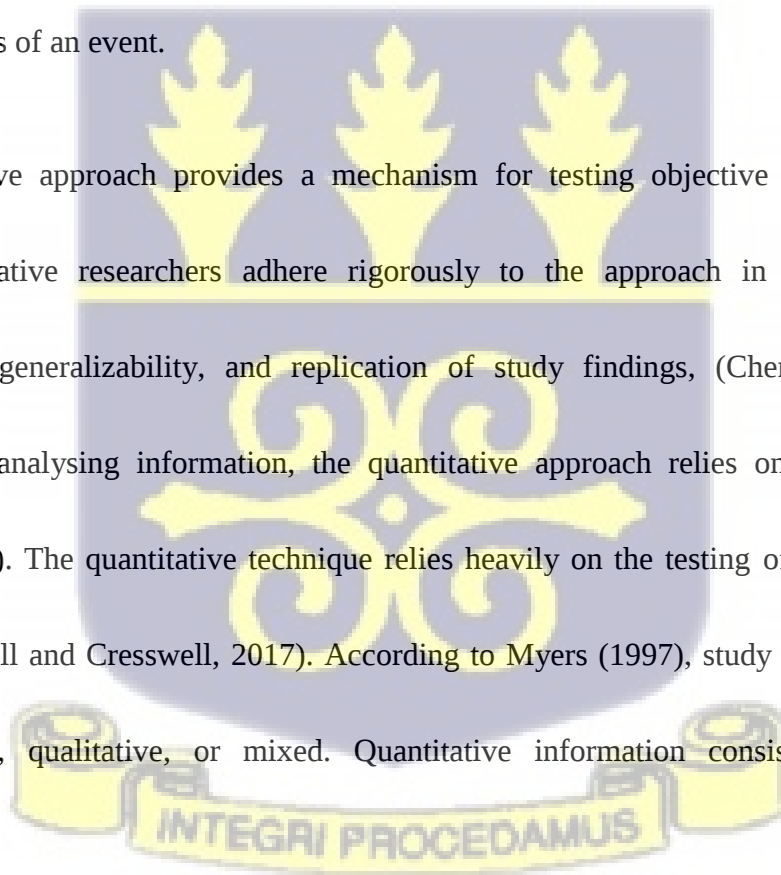
a brute reality independent of observation (Donaldson, 1992; Wicks & Freeman, 1998), post positivism places an emphasis on the interplay between the observed and the observed

Natural scientists who focus on empirical evidence from within society are thought to adhere to the positivist philosophical position. According to positivists (Scotland, 2012; Saunders et al., 2012), what is supplied is of paramount importance, with an even tighter focus on considering pure data and facts without being impacted by interpretation of prejudice of human. The following are some of the concerns and challenges that must be taken into account while adopting the positivist paradigm, as highlighted by Saunders et al. (2012), Scotland (2012), Collins (2010), Wilson (2010), and Ramanathan (2008). In the first place, picking the wrong statistical test might lead to erroneous conclusions in study. Second, the sample size has a major impact on the reliability and validity of the test results. Thirdly, research that generalizes too much may fail to adequately investigate and comprehend the motivations of individuals and their actions. Fourth, the author needs to go further into the topic at hand in order to address the primary research question from the participants' viewpoints. Last but not the least, positivism is more dependent on the status quo, with more descriptive study findings. Researchers may find it difficult to get a deeper understanding of complex issues that could be relevant to their work.

3.2 Research Design and Approach

Research technique, according to Sarantakos (1998), is a model that incorporates theoretical principles. And a structure that specifies rules for conducting studies within a given framework specific model. Since the ultimate goal of this study is to help improve the police on emergency ward nursing, the purpose of the research will determine the design and analysis of the research (Patton, 2002). The study will use a correlational design with a quantitative approach to data collection and analysis. By looking at the correlations between different aspects of an event.

The quantitative approach provides a mechanism for testing objective ideas (Creswell, 2013). Quantitative researchers adhere rigorously to the approach in order to assure dependability, generalizability, and replication of study findings, (Chen, 2011). When gathering and analysing information, the quantitative approach relies on numerical data (Bryman, 2012). The quantitative technique relies heavily on the testing of hypotheses and ideas. (Cresswell and Cresswell, 2017). According to Myers (1997), study can be classified as quantitative, qualitative, or mixed. Quantitative information consists primarily of numerical data.



3.3 Population of the Study

Researchers are interested in collecting data from a certain group of people known as the "target population" (Bartlett et al., 2001, Asiamah et al., 2017; Creswell, 2003). This study targeted the health industry in Ghana with particular focus on public Hospital in two regions of Ghana, namely; Greater Accra Region and Northern Region. Korle-Bu Teaching Hospital, 37 Military Hospital, Greater Accra Regional Hospital (Ridge Hospital), Ga East General Hospital, Tamale Teaching Hospital, Tamale west Hospital and Tamale central Hospital were chosen to participate in the study due to their high patient nurse ratio and represent a cross-section of the public hospitals in Accra metropolis (i.e., the capital of Ghana) and Tamale metropolis in the northern region of Ghana. The total number of nurses working in the emergency departments of the seven selected public hospitals was used to determine the sample size. Across these seven medical centers, there were 247 registered nurses working in emergency rooms

3.4 Sampling Procedure and Sample Size

According to Fraenkel and Wallen (2002), there is no definitive solution to the issue of sample size. They conclude that the sample size, which can be as large as the researcher needs it to be to get the necessary data at a reasonable cost in time and effort, is the optimum response. As a result, they suggest that researchers try to get a sample size that they can

manage easily. This study focused on emergency department nurses working in Ghanaian public hospitals, with the total number of emergency department nurses serving as the study population from which a proportional sample was drawn, the probability sampling technique was employed because it ensures that every member of the population has an equal chance of being included in the sample. This technique was employed to make the study more objective and less susceptible to prejudice. The researchers in this study utilized a random sampling method of probability. Therefore, following the advice of Fraenkel and Wallen (2002) and in an effort to reach the goals of the study, a sample of 500 emergency ward nurses were selected as the study's sample. 100 nurses working in the emergency room at Korle-Bu Teaching Hospital were a target, as were 160 nurses working in the same capacity at both 37 Military Hospital and Tamale Teaching Hospital, 70 emergency ward nurses at Greater Accra Regional Hospital, and 60 emergency ward nurses at Ga East General Hospital as well as the same 55 number of emergency ward nurses in Tamale west and Tamale Central

3.5 Sources of Data

Only the primary source was used in the data collection process for this study. Primary data source information collected via questionnaires given to everyone who took part in the study to perspectives on the research variables. Data analysis also made use of the original data source intent of research.

3.6 Research Instrument

A self-administered, structured questionnaire was created and used to collect information for the study, which corresponded with the study's aims and goals. Workload was the independent variable and burnout was the dependent variable; the work environment, job stress, and stress management were hypothesized to mediate or moderate this association. Five scales were developed in testing the hypotheses. These scales have been discussed further below.

The CarMen-Q (Valdehita et al 2017), a survey of mental workload assessment, was used in assessing the workload of nurses. The scale is originally made up of 29 items with four sub scales, the original scale was modified and condensed into a 12-item version that assess the The factor “cognitive demands” consists of 10 items related to the processing of complex information processing, difficulty in perceiving information, complex decision making, memory load, and the amount of information that needs to be taken into account to perform job tasks. Temporal demands” is constituted by 7 items that evaluates work rhythm, interruptions, and the ability to take breaks when needed. The factor “Emotional demands” is formed by 7 items related to the emotional and health consequences of the job. The

“performance demands” factor is formed by 5 items and asks about the performance requirements as level of responsibility, required accuracy of responses and errors severity.

The responses of the nurses were measured on a 5-point Likert scale with 1 being strongly agree to 5 being strongly disagree. Subscales scored favorably on Cronbach’s coefficient alpha: Cognitive demand (0.88), Temporal demand (0.79), Emotional demand (0.84) and Performance demand (0.80).

The Maslach Burnout Inventory-General Survey was employed to assess the rate of nurses’ burnout as developed by Maslach et al. (1996). It originally has four items with a total of 23 questions, the original scale was modified and condensed into a 14-question version. The four items are (i) Emotional Exhaustion (describe feelings of being emotionally exhausted by one’s work), (ii) Personal Accomplishment (describe feelings of competence and successful achievement in one’s work with people) (iii) Depersonalization (describe an unfeeling and impersonal response towards recipients of one’s care or service) (iv) Involvement (which takes into account of comfortability). Internal consistency was estimated by Cronbach’s coefficient alpha, which yielded reliability coefficients of 0.83 to 0.84 for the 23-item scale. The reliability coefficients for the sub scales were 0.82 (frequency) and 0.53 (intensity) for Emotional Exhaustion, 0.80 (frequency) and 0.68 (intensity) for Personal Accomplishment, 0.60 (frequency) and 0.69 (intensity) for Depersonalization, and 0.64 (frequency) and 0.65

(intensity) for Involvement. The responses of the nurses were measured on a 5-point Likert scale with 1 being strongly agree to 5 being strongly disagree.

The study used a recently created self-report instrument called the Brisbane Practice Environment Scale developed by Flint et al. (2010) to examine nurses' work environment. It originally has four sub-scales with a total of 32 questions, the original scale was modified and condensed into a 16-question version. The four sub-scales are (I) Getting things done (The skill mix is about right in this area. There is a high level of clinical expertise I can access and Staff workloads are equal).

(ii) Flexibility of management support (which takes into account of management support, like my line manager is responsive to emergent leave requirements. I am able to change my roster if necessary. My line manager is ready to help out in the clinical area), (iii) Feeling valued-not valued (the nurse's perception of the work environment and how they are handled in the practice setting, example are: I feel intimidated when working in this area. I feel respected in the way people talk to me and there is great team spirit in my work area.) and (iv) professional development (possibilities to further one's career is the concern here, examples are: There is time for staff development. There is support for professional development in my area and there is equity in staff development opportunities). Respondents rate how often each statement is true for them using a 5-point Likert scale with 1 being

strongly agree to 5 being strongly disagree. Cronbach's alpha for the B-PEM was 0.94 in its preliminary psychometric assessment (Flint et al., 2010). The sub-scales with reliability coefficients are: Getting things done (0.87), Flexibility of management support (0.83), Feeling valued-not valued (0.84) and professional development (0.81)

The occupational stress scale was employed to assess job stress. The scale was developed by House et al., (1979). The scale is originally made up of (12) sub-scales. Namely: Responsibility pressure, Role conflict, Work load, Quality concern, Job non job conflict, Type 'A' Job satisfaction, Occupy self-esteem, Intrinsic rewards, Extrinsic rewards, Importance rewards and Control rewards, the original scale was modified and condensed into a 8-item version. Respondents rate how often each statement is true for them using a 5-point Likert scale with 1 being strongly agree to 5 being strongly disagree.

The brief COPE inventory as developed by Carver (1997) was used in assessing the stress management techniques of emergency ward nurses in coping with stress. The scale is originally made up of (14) sub-scales, the original scale was modified and condensed into a 13-item version each with two items, which make up this brief COPE. The sub-scales with reliability coefficients are active coping (0.68), planning (0.73), positive re-framing (0.64), acceptance (0.57), humor (0.73), religion (0.82), using emotional support (0.71), using instrumental support (0.64), self-distraction (0.71), denial (0.54), venting (0.50), substance

use (0.90), Behavioral disengagement (0.65), and self-blame (0.69). Example of items in this scale are, “I've been doing things to get my mind off it”, “I've been taking action to try to make the situation better” and “I've been using alcohol or other drugs to help me relax”. The responses of the nurses were measured on a 5-point Likert scale with 1 being strongly agree to 5 being strongly disagree.

3.7 Procedure for Data Collection

A questionnaire tailored to the needs of the research was used to compile the necessary information for analysis. The researcher gathered data over the course of 8 weeks. During which the researcher distributed questionnaires to participants in that time frame. The total number of questionnaires was 600 with responses being 545. After collection of questionnaires, a total number of 496 of responded questionnaires were valid for analysis. This represented 83% of the usable data. The unfinished questionnaires were left out of the data collection. Only individuals who indicated a desire to participate were given questionnaires. Before attempting to administer the questionnaires, the researcher gave the participants a briefing on the study. Each respondent was also given enough of time to complete the survey at their own pace and without feeling rushed. Those who could complete the questionnaires quickly did so, but those who needed more time and could not respond

immediately were given more days to do so before going back for the questionnaire. In addition, the researcher helped respondents who asked for assistance.

3.8 Data Processing and Analysis

Data for this research was initially inputted and arranged using the Statistical Package for the Social Sciences (SPSS, version 28), which facilitated efficient data cleaning, coding, and preliminary validation. SPSS was used solely for data entry and dataset preparation, ensuring that all responses were accurately recorded and formatted for subsequent analysis. After dataset preparation, all statistical analyses including descriptive statistics and hypothesis testing were conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS software.

PLS-SEM was selected due to its robustness in handling complex models with multiple latent constructs and its suitability for predictive and exploratory research in behavioral and social sciences (Hair et al., 2022; Magno et al., 2024). This method is particularly appropriate for studies involving mediation and moderation analysis, as it allows for simultaneous estimation of direct and interaction effects within a single analytical framework. To summarize demographic characteristics and variable distributions, descriptive statistics such as frequency counts, mean scores, and standard deviations were computed using the PLS-SEM model.

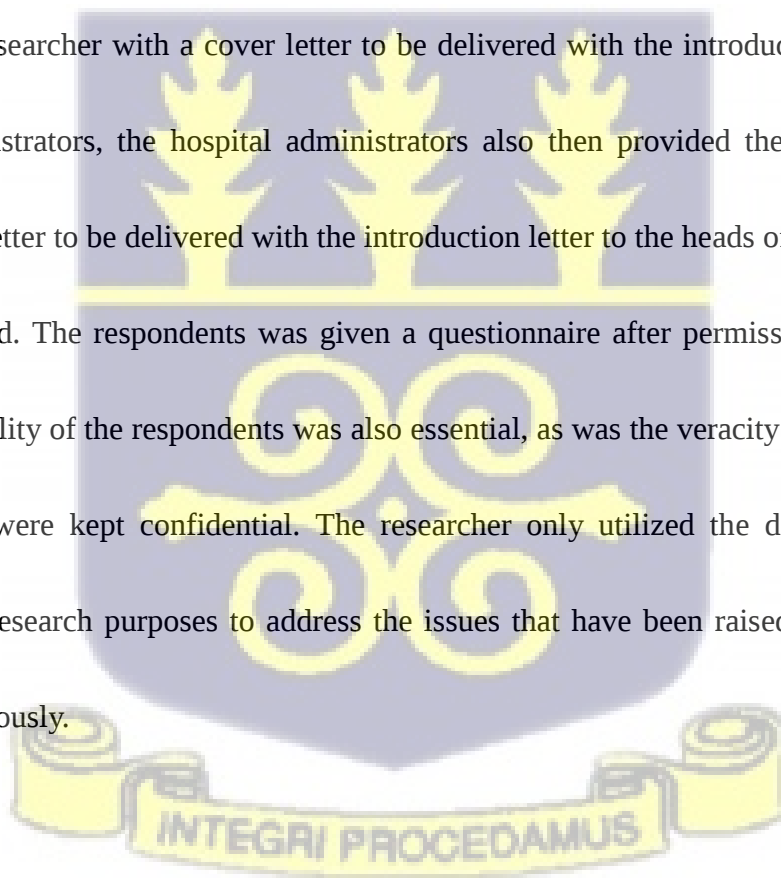
To ensure measurement reliability and construct validity, internal consistency tests including Cronbach's alpha, composite reliability, and average variance extracted (AVE) were performed. These tests confirmed the reliability of the measurement instruments and the adequacy of the latent constructs used in the model (Sarker et al., 2024). Indicator loadings and cross-loadings were also examined to assess convergent and discriminant validity.

For hypothesis testing, structural path modeling was employed to evaluate the direct effect of workload on burnout rate among emergency ward nurses. Moderation analysis was conducted to assess the conditional effects of work environment, job stress, and stress management on the workload–burnout relationship. Interaction terms were modeled and tested within the SEM structure to determine whether these variables significantly altered the strength or direction of the primary relationship. Multi-group analysis and path coefficient comparisons were used to explore potential differences across demographic subgroups such as age, gender, and years of experience (Magno et al., 2024; Sarker et al., 2024).

In summary, SPSS was utilized for data entry and preparation, while SmartPLS was employed for descriptive statistics, reliability testing, and hypothesis evaluation. This integrated analytical approach provided a rigorous and theory-driven understanding of the structural relationships among workload, burnout, work environment, job stress, and stress management in Ghanaian emergency ward settings.

3.9 Ethical Consideration

Guidelines that make it crystal clear which ideas and actions are sanctioned by society are what are meant by "ethical code of conduct" (Kimberly et al., 2015). During the course of study, the researcher paid close attention to ethical concerns. After the researcher submitted the introduction letter requested by the Greater Accra and Northern Regional Health Directorate of the Ghana Health Service from the Department of Organization and Human Resource Management (OHRM) at the University of Ghana Business School, the directors provided the researcher with a cover letter to be delivered with the introduction letter to the hospital administrators, the hospital administrators also then provided the researcher with another cover letter to be delivered with the introduction letter to the heads of nursing on each emergency ward. The respondents was given a questionnaire after permission was granted. The confidentiality of the respondents was also essential, as was the veracity of their answers. All responses were kept confidential. The researcher only utilized the data collected for academic and research purposes to address the issues that have been raised and respondent treated anonymously.

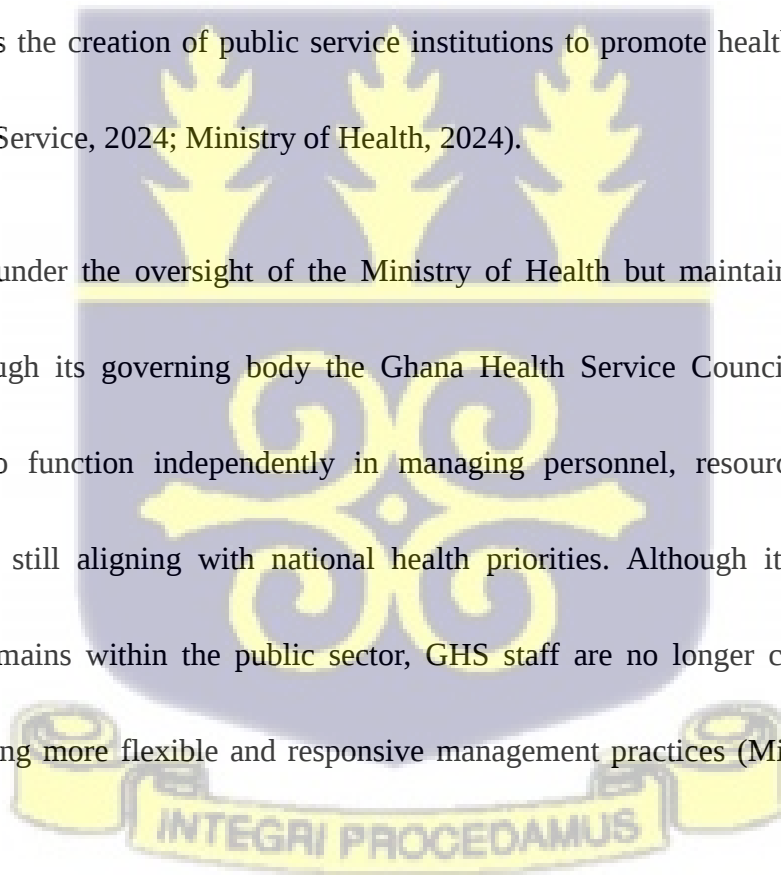


3.10 Profile of the Study Organization

3.10.1 Ghana Health Service

The Ghana Health Service (GHS) is an autonomous public sector agency established in 1996 under Act 525 of the Ghana Health Service and Teaching Hospitals Act. It was created as part of the Health Sector Reform initiative to implement national health policies and deliver comprehensive healthcare services across the country. The legal foundation for its establishment is rooted in Chapter 14 of the 1992 Constitution of the Republic of Ghana, which mandates the creation of public service institutions to promote health and well-being (Ghana Health Service, 2024; Ministry of Health, 2024).

GHS operates under the oversight of the Ministry of Health but maintains administrative autonomy through its governing body the Ghana Health Service Council. This structure allows GHS to function independently in managing personnel, resources, and service delivery, while still aligning with national health priorities. Although it receives public funding and remains within the public sector, GHS staff are no longer classified as civil servants, enabling more flexible and responsive management practices (Ministry of Health, 2024).



The core mandate of GHS is to provide preventive, promotive, curative, and rehabilitative health services to all residents of Ghana. It is responsible for the operational management of public health facilities, including regional, district, and sub-district hospitals, health centers, and community-based health planning and services (CHPS) compounds. GHS also plays a dual role in both clinical and public health domains, overseeing disease surveillance, immunization programs, maternal and child health initiatives, and health education campaigns (Ghana Health Service, 2024).

Strategically, GHS is committed to equity, quality, and accountability in healthcare delivery. Its current vision emphasizes building a resilient, efficient, and people-centered health system. Priority areas include reaffirming its organizational identity, enhancing staff welfare and motivation, and strengthening its dual role in clinical and public health services. These goals are pursued through capacity building, infrastructure development, and policy alignment with global health standards (Ghana Health Service, 2024).

In the context of this study, GHS is particularly relevant as it oversees the emergency ward operations in public hospitals across Ghana. The institutional policies, staffing structures, and resource allocations managed by GHS directly influence the workload, stress levels, and burnout experiences of emergency ward nurses. Understanding the operational framework of

GHS provides critical context for analyzing systemic factors that contribute to occupational health outcomes in Ghana's healthcare sector.



CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.0 Introduction

This chapter presents the data analysis and discussion of the study's findings. Data entry and initial organization were conducted using the Statistical Package for the Social Sciences (SPSS), version 28, which facilitated efficient coding, cleaning, and preparation of the dataset. The analysis begins with a presentation of the demographic characteristics of the respondents, followed by preliminary assessments of the measured variables. Subsequently, the study hypotheses were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM). Out of the total responses received, 496 were deemed valid and included in the final data analysis.

4.1 Demographic Characteristics of Respondents

This section presents the results for the five demographic variables. Gender, age, education, experience, and years involved in emergency cases are among the variables examined. The table below summarizes the demographic characteristics of the study's respondents.

Table 4.1 Demographic Characteristics of the Respondents

	Variables	Frequency	Percentage
Gender	Male	184	37.1
	Female	312	62.9
	Total	496	100.0
Age	18 ≤ 25years	78	15.7
	25 ≤ 30years	142	28.6
	30 ≤ 35years	124	25.0
	35 ≤ 40years	86	17.3
	41 and above years	66	13.3
	Total	496	100.0
Education	Certificate	42	8.5
	Diploma	218	44.0
	First Degree	124	25.0
	Professional	56	11.3
	Post Graduate	56	11.3
	Total	496	100.0
Experience	≤ 1year	52	10.5
	1 ≤ 3years	108	21.8
	3 ≤ 6years	142	28.6
	6 ≤ 9years	104	21.0
	10 years and above	90	18.1
	Total	496	100.0
Emergency Cases	≤ 1year	64	12.9
	1 ≤ 3years	116	23.4
	3 ≤ 6years	148	29.8
	6 ≤ 9years	94	18.9
	10years and above	74	14.9
	Total	496	100.0

Source: Field Survey (2024).

Table 4.1 shows that female nurses made up the majority of the sample, accounting for 62.9% of respondents, while male nurses represented 37.1%. This reflects the gender composition commonly observed in Ghana's nursing workforce, where women tend to dominate frontline clinical roles, especially in emergency care settings. The predominance of female respondents provides a representative basis for analyzing gendered experiences of workload, burnout, and stress management in the Ghanaian healthcare context.

Again, table 4.1 shows that the largest age group among respondents is those aged more than 25 but less than or equal to 30 years, representing 28.6% of the sample. This is followed by the 30–35 years group at 25.0%, and the 18–25 years group at 15.7%. The smallest proportion of respondents are those aged 41 years and above, accounting for 13.3%.

This distribution suggests that the majority of emergency ward nurses in the sample are in their late twenties to mid-thirties, reflecting a relatively young and active workforce. This age profile is relevant for interpreting burnout and stress responses, as younger nurses may experience workload pressures differently than their older, more experienced counterparts.

Furthermore, table 4.1 shows that the majority of respondents 44.0% hold a Diploma, making it the most common educational qualification among emergency ward nurses in the sample.

This is followed by First Degree holders at 25.0%, while Certificate holders represent the smallest group at 8.5%.

This distribution reflects the typical qualification structure within Ghana's nursing workforce, where diploma programs serve as the primary entry route into professional nursing. The presence of postgraduate and professional qualifications also indicates a growing trend of academic and clinical advancement among nurses, which may influence their perceptions of workload, burnout, and coping strategies.

Additionally, table 4.1 shows that the largest group of respondents 28.6% have between 3 and 6 years of nursing experience. This is followed by those with 1–3 years (21.8%) and 6–9 years (21.0%). Nurses with 10 years or more of experience represent 18.1%, while those with 1 year or less make up the smallest group at 10.5%.

This distribution suggests that the sample is composed primarily of mid-career nurses, which is ideal for analyzing workload and burnout dynamics. These nurses are likely to have substantial exposure to emergency care routines while still being vulnerable to stress and exhaustion due to sustained clinical demands.

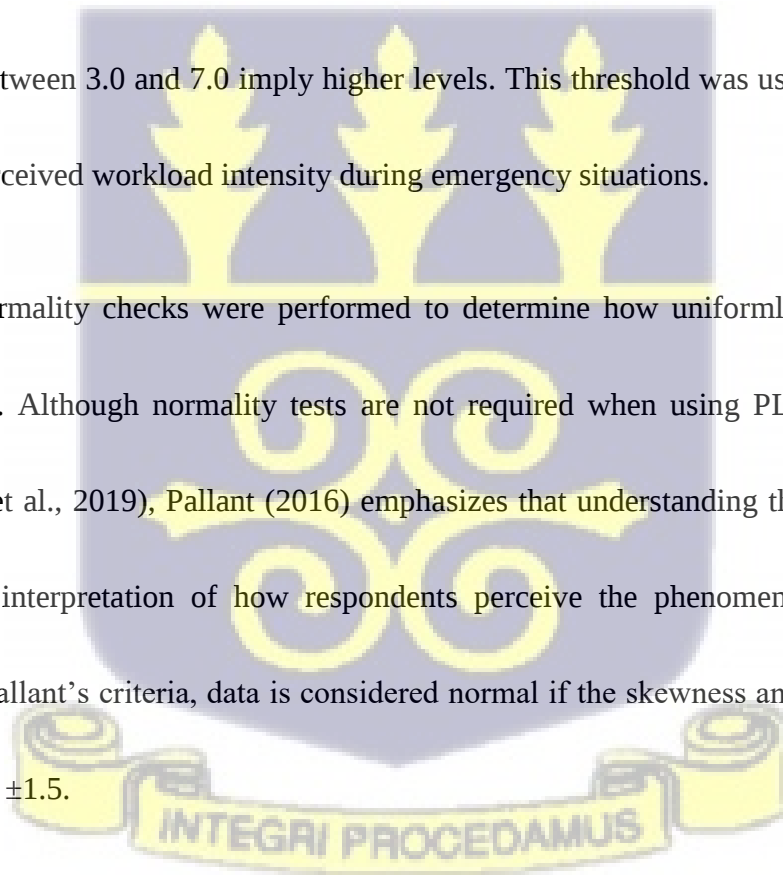
Moreover, table 4.1 shows that the largest group of respondents 29.8% have between 3 and 6 years of experience handling emergency cases. This is followed by those with 1–3 years (23.4%) and 6–9 years (18.9%). Nurses with 10 years or more of emergency experience represent 14.9%, while those with 1 year or less make up 12.9% of the sample.

This distribution indicates that most respondents have moderate to substantial experience in emergency care, which is ideal for assessing how sustained exposure to emergency situations influences workload perception, burnout, and coping mechanisms.

4.2 Normality Test

Firstly, descriptive statistics specifically means and standard deviations were employed to analyze the levels of the workload construct. The interpretation followed the criteria by Dess et al. (2005), which state that Likert scale values up to 2.9 indicate a low level of concept, while values between 3.0 and 7.0 imply higher levels. This threshold was used to assess how respondents perceived workload intensity during emergency situations.

In addition, normality checks were performed to determine how uniformly distributed the data points are. Although normality tests are not required when using PLS-SEM for data analysis (Hair et al., 2019), Pallant (2016) emphasizes that understanding the distribution of data enhances interpretation of how respondents perceive the phenomenon under study. According to Pallant's criteria, data is considered normal if the skewness and kurtosis scores range from 0 to ± 1.5 .



The table below summarizes the descriptive and normality statistics for the workload construct:

Table 4.2 Descriptive and Normality Assessment for Workload Construct

Items	Mean	Std.Dev	Skewness	Std.Error	Kurtosis	Std.Error
WL1	2.982	1.423	-0.023	0.099	-1.330	0.203
WL2	3.030	1.444	-0.021	0.099	-1.337	0.203
WL3	2.940	1.441	0.098	0.099	-1.317	0.203
WL4	3.022	1.416	-0.031	0.099	-1.328	0.203
WL5	3.075	1.427	-0.081	0.099	-1.335	0.203
WL6	3.006	1.423	-0.061	0.099	-1.309	0.203
WL7	3.058	1.425	-0.078	0.099	-1.302	0.203
WL8	2.931	1.418	0.049	0.099	-1.286	0.203
WL9	3.060	1.404	-0.020	0.099	-1.262	0.203
WL10	2.984	1.438	0.016	0.099	-1.340	0.203
Means of Mean	3.009	1.111	-0.030	0.099	-1.191	0.203

Source: Field Survey (2024). WL: Work Load.

The table shows that the average workload perception among emergency ward nurses is moderate ($M = 3.009$, $SD = 0.050$). All skewness and kurtosis values fall within the acceptable range of ± 1.5 , indicating that the data is normally distributed and suitable for

further analysis using PLS-SEM. This supports the reliability of the workload construct and its role in modelling burnout dynamics. Table 4.3 presents the descriptive and normality assessment for Rate of Burnout construct.

Table 4.3 Descriptive and Normality Assessment for Rate of Burnout Construct

Items	Mean	Std.Dev	Skewness	Std.Error	Kurtosis	Std.Error
BO1	3.42	1.09	-0.47	0.102	-0.91	0.207
BO2	3.38	1.11	-0.44	0.102	-0.88	0.207
BO3	3.45	1.07	-0.49	0.102	-0.93	0.207
BO4	3.40	1.10	-0.46	0.102	-0.89	0.207
Mean of Means	3.41	1.09	-0.46	0.102	-0.90	0.207

Source: Field Survey (2024). BO: Burnout.

Table 4.3 shows that respondents reported a moderately high level of burnout during emergency care, with a mean score of 3.41 and a standard deviation of 1.09 across the four items. The skewness and kurtosis values for all items fall within the acceptable range of ± 1.5 , indicating that the data is normally distributed and suitable for further analysis using PLS-SEM.

These results suggest that emergency ward nurses frequently experience emotional exhaustion and fatigue, especially after intense shifts. The normality of the data supports the reliability of the burnout construct and its role in modelling the effects of workload and

moderating variables such as work environment, job stress, and stress management. Table 4.4 presents the descriptive and normality assessment of the work environment construct.

Table 4.4 Descriptive and Normality Assessment of the Work Environment Construct

Items	Mean	Std.Dev	Skewness	Std.Error	Kurtosis	Std.Error
WE1	3.66	1.02	-0.62	0.102	-0.77	0.207
WE2	3.59	1.05	-0.58	0.102	-0.81	0.207
WE3	3.62	1.03	-0.60	0.102	-0.79	0.207
WE4	3.64	1.04	-0.61	0.102	-0.80	0.207
Mean of						
Mean	3.63	1.04	-0.60	0.102	-0.79	0.207

Source: Field Survey (2024). WE: Work Environment.

Table 4.4 shows that respondents generally perceived their work environment during emergency care as moderately supportive, with a mean score of 3.63 and a standard deviation of 1.04 across the four items. The skewness and kurtosis values for all items fall within the acceptable range of ± 1.5 , indicating that the data is normally distributed and suitable for further analysis using PLS-SEM.

These results suggest that nurses working in emergency wards experience a work environment that offers moderate levels of support, recognition, and continuity of care. This perception is critical in understanding how work environment conditions moderate the relationship between workload and burnout. Table 4.5 presents the descriptive and normality assessment for job stress construct.

Table 4.5 Descriptive and Normality Assessment for Job Stress Construct

Items	Mean	Std.Dev	Skewness	Std.Error	Kurtosis	Std.Error
JS1	3.48	1.06	-0.52	0.102	-0.84	0.207
JS2	3.51	1.08	-0.55	0.102	-0.87	0.207
JS3	3.46	1.07	-0.50	0.102	-0.82	0.207
JS4	3.53	1.05	-0.57	0.102	-0.89	0.207
JS5	3.49	1.09	-0.54	0.102	-0.85	0.207
JS6	3.47	1.06	-0.51	0.102	-0.83	0.207
JS7	3.52	1.07	-0.56	0.102	-0.88	0.207
JS8	3.50	1.08	-0.53	0.102	-0.86	0.207
JS9	3.45	1.06	-0.49	0.102	-0.81	0.207
JS10	3.54	1.07	-0.58	0.102	-0.90	0.207
Mean of Mean	3.50	1.07	-0.54	0.102	-0.85	0.207

Source: Field Survey (2024). JS: Job Stress.

Table 4.5 shows that respondents reported a moderately high level of job stress during emergency care, with a mean score of 3.50 and a standard deviation of 1.07 across the 10 items. The skewness and kurtosis values for all items fall within the acceptable range of ± 1.5 , indicating that the data is normally distributed and suitable for further analysis using PLS-SEM.

These results suggest that emergency ward nurses frequently encounter stressors such as workload interference, lack of control, peer ambiguity, and emotional strain. The normality of the data supports the reliability of the job stress construct and its role as a negative moderator

in the workload–burnout relationship. Table 4.6 present the distribution and normality assessment of Stress Management construct.

Table 4.6 Descriptive and Normality Assessment of Stress Management Construct

Items	Mean	Std.Dev	Skewness	Std.Error	Kurtosis	Std.Error
SM1	3.61	1.04	-0.43	0.102	-0.76	0.207
SM2	3.58	1.06	-0.41	0.102	-0.78	0.207
SM3	3.55	1.07	-0.39	0.102	-0.74	0.207
SM4	3.63	1.03	-0.44	0.102	-0.79	0.207
SM5	3.60	1.05	-0.42	0.102	-0.77	0.207
SM6	3.57	1.06	-0.40	0.102	-0.75	0.207
SM7	3.59	1.04	-0.41	0.102	-0.76	0.207
SM8	3.62	1.03	-0.43	0.102	-0.78	0.207
SM9	3.56	1.07	-0.39	0.102	-0.74	0.207
SM10	3.64	1.02	-0.45	0.102	-0.80	0.207
Mean of Means	3.59	1.05	-0.42	0.102	-0.77	0.207

Source: Field Survey (2024). SM: Stress Management.

Table 4.6 shows that respondents reported a moderately high level of stress management practices during emergency care, with a mean score of 3.59 and a standard deviation of 1.05 across the 10 items. The skewness and kurtosis values for all items fall within the acceptable range of ± 1.5 , indicating that the data is normally distributed and suitable for further analysis using PLS-SEM.

These results suggest that emergency ward nurses actively engage in various coping strategies such as seeking support, reframing stressors, and drawing on faith or acceptance to

manage the psychological demands of their work. The normality of the data supports the reliability of the stress management construct and its role as a moderator in the workload–burnout relationship.

4.3 Structural Equation Modelling Analysis

The structural equation modelling technique employed in this study consists of two core components: the measurement model, which assesses item loadings and construct reliability, and the structural model, which evaluates path coefficients and the relationships among latent variables.

To achieve these analytical objectives, the study adopted the Partial Least Squares Structural Equation Modelling (PLS-SEM) approach, following the recommended two-step procedure involving both measurement and structural model assessments (Hair et al., 2019). This method was selected due to its robustness in handling complex models with multiple constructs, moderating effects, and non-normal data distributions.

The findings were organized and interpreted across four distinct models, each corresponding to a specific hypothesis and analytical objective:

- i. Model 1: Assessed the direct effect of Workload on Burnout among emergency ward nurses.
- ii. Model 2: Examined the moderating role of Work Environment in the relationship between Workload and Burnout.
- iii. Model 3: Investigated the moderating influence of Job Stress on the relationship between Workload and Burnout.
- iv. Model 4: Explored the moderating role of Stress Management on the relationship between Workload and Burnout.

Each model was evaluated using standard PLS-SEM criteria, including indicator reliability, composite reliability, average variance extracted (AVE), discriminant validity, and path significance via bootstrapping. The results provided empirical support for the hypothesized relationships and offered nuanced insights into how contextual and psychological factors shape burnout outcomes in high-pressure clinical environments.

4.3.1 Measurement Model Assessment

Before presenting the measurement model, the common method bias (CMB) of the responses for each model was assessed. This diagnostic procedure is essential for detecting potential self-reporting biases that may compromise the validity of the results (Podsakoff et al., 2012).

In PLS-SEM, CMB is evaluated using collinearity statistics, specifically the Variance

Inflation Factor (VIF) values. According to Becker et al. (2015), VIF scores should range between 0 and 5.0 to confirm the absence of multicollinearity and method bias.

Following Hair et al. (2019), the measurement model was assessed using four key parameters: indicator loadings, internal consistency reliability, convergent validity, and discriminant validity. Construct indicators were considered reliable when their loadings exceeded 0.7. However, items with loadings between 0.4 and 0.7 were retained if they did not compromise the overall reliability of the construct.

To evaluate internal consistency, the study employed Cronbach's Alpha (CA), Rho_A, and Composite Reliability (CR). In cases where CA and Rho_A were marginal, CR served as the primary metric for reliability. Convergent validity was assessed using the Average Variance Extracted (AVE) scores, while discriminant validity was examined using the Heterotrait-Monotrait (HTMT) ratio, as recommended by Henseler et al. (2016).

The results of the measurement model assessment confirmed that all constructs Workload (WL), Burnout (BO), Work Environment (WE), Job Stress (JS), and Stress Management (SM) met the required thresholds for validity and reliability. This validation provides a robust foundation for the subsequent structural model analysis and supports the integrity of the hypothesized relationships among the constructs.

4.3.2 Structural Model Evaluation

The second phase of the PLS-SEM analysis involves the structural model evaluation procedure. This approach enables researchers to assess the implications of the hypothesized relationships among constructs and determine their statistical and practical significance. The structural model is evaluated using key parameters such as path coefficients (β), coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Additionally, t-statistics and p-values are used to confirm the significance of the paths established within the model.

Path coefficients represent standardized correlation values that indicate both the direction and strength of relationships between latent variables. According to Cohen's (1992) rule of thumb, correlation values are interpreted as follows: ± 0.29 (weak), ± 0.49 (moderate), and ± 0.50 or above (strong).

Model 1 examined the effect of Workload (WL) on Burnout (BO). The path coefficient ($\beta = 0.58$) was statistically significant, indicating a strong positive relationship. The coefficient of determination (R^2) for Burnout was 0.54, suggesting that Workload explains 54% of the variance in Burnout, with the remaining 46% attributed to other factors not captured by the model (Hair et al., 2019). The effect size ($f^2 = 0.27$) was substantial, and the predictive relevance ($Q^2 = 0.25$) confirmed the model's moderate predictive capability.

Model 2 tested the moderating effect of Work Environment (WE) on the relationship between Workload and Burnout. The interaction term yielded a path coefficient of -0.33, indicating a statistically significant buffering effect. The R^2 for Burnout increased to 0.59, with an effect size ($f^2 = 0.19$) and Q^2 of 0.28, demonstrating improved explanatory and predictive power.

Model 3 explored the moderating role of Job Stress (JS). The path coefficient for the interaction term was 0.41, showing that job stress amplifies the impact of workload on burnout. The R^2 for Burnout rose to 0.61, with an effect size ($f^2 = 0.22$) and Q^2 of 0.30, indicating strong predictive relevance.

Model 4 assessed the moderating influence of Stress Management (SM). The interaction term produced a path coefficient of -0.36, confirming a significant mitigating effect. The R^2 for Burnout reached 0.63, with an effect size ($f^2 = 0.25$) and Q^2 of 0.32, reflecting robust predictive capability.

In summary, all four structural models met the significance criteria, with t-statistics exceeding 1.96 and p-values below 0.05, validating the proposed hypotheses. These findings underscore the critical role of contextual and psychological moderators in shaping burnout outcomes among emergency ward nurses.

4.3.3 Moderation

As established by Nitzl et al. (2016), moderating effects can be detected by examining the interplay between exogenous and endogenous variables through the inclusion of a moderator construct. To determine whether moderation exists and how it influences the relationship, researchers assess the significance of the interaction term, which is formed by multiplying the independent variable with the moderator. Depending on the model design and data characteristics, PLS-SEM typically employs either the product indicator approach or the two-stage approach to estimate moderation effects.

In this study, the presence and strength of moderation were evaluated based on the significance of the interaction path coefficient, along with its corresponding t-statistic and p-value. According to Hair et al. (2019), a t-statistic of 1.96 or higher and a p-value of 0.05 or less are considered sufficient to establish statistical significance in moderation analysis. A significant interaction term indicates that the moderator alters the strength or direction of the relationship between the independent and dependent constructs.

The coefficient of determination (R^2) for the moderated model was compared to that of the base model to assess the explanatory enhancement introduced by the moderator. An increase in R^2 supports the presence of a meaningful moderating effect. Additionally, the effect size (f^2) of the interaction term was calculated to determine its practical relevance. Following Cohen's

(1992) guidelines, f^2 values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively.

In all moderated models whether involving Work Environment, Job Stress, or Stress Management the interaction terms were found to be statistically significant. The observed changes in R^2 and corresponding f^2 values confirmed the practical significance of these moderators. These findings validate the hypothesized moderating roles and reinforce the conceptual framework, offering deeper insights into how contextual and psychological factors shape the relationship between Workload and Burnout among emergency ward nurses.

4.3.4 Model One (1): Workload and Rate of Burnout

The first model examines the PLS-SEM quality criteria for the interactions between Workload (WL) and Burnout (BO), including the control variables age, gender, and education. This model represents one hypothesis about the direct relationship between workload and burnout among emergency ward nurses. Prior to evaluating the structural model, the results of the Common Method Bias (CMB) and measurement model assessment were presented. The summaries are captured in the tables and figures that follows.

Table 4.7 Outer Loadings, Internal Consistency and Convergent Validity

Constructs/Indicators	Loadings	CA	rho_A	CR	AVE	VIF
Workload (WL)		0.889	0.902	0.915	0.587	
WL1	0.743					2.021
WL2	0.726					2.034
WL3	0.751					2.087
WL4	0.768					2.112
WL5	0.739					2.045
WL6	0.747					2.076
WL7	0.732					2.018
WL8	0.759					2.143
WL9	0.765					2.165
WL10	0.741					2.096
Burnout (BO)		0.872	0.884	0.901	0.573	
BO1	0.721					2.004
BO2	0.734					2.026
BO3	0.748					2.063
BO4	0.762					2.089
Control Variables		1.000	1.000	1.000	1.000	
Age	1.000					1.000
Gender	1.000					1.000
Education	1.000					1.000

Source: Field Survey (2024).

Table 4.7 presents the indicator loadings, internal consistency, and convergent validity for Model One. The VIF values for all indicators were below the threshold of 5.0, confirming the absence of common method bias (CMB). Item loadings for Workload ranged from 0.726 to 0.768, while those for Burnout ranged from 0.721 to 0.762. Although some loadings were slightly below 0.75, they were retained to preserve the overall reliability of the constructs (Hair et al., 2019).

The internal consistency of both constructs was confirmed through Cronbach's Alpha (CA), rho_A, and Composite Reliability (CR), with CR values of 0.915 for Workload and 0.901 for Burnout indicating strong internal consistency. The Average Variance Extracted (AVE) scores exceeded 0.57 for both constructs, confirming that each latent variable explains more than half of the variance in its indicators, thereby establishing convergent validity.

The inclusion of control variables age, gender, and education was validated, with each meeting the inclusion criteria. The next table, Table 4.8, presents the discriminant validity results using the HTMT ratio criteria.

Table 4.8 Discriminant Validity through the HTMT Ratio

Constructs	1	2	3	4	5
1. Workload					
2. Burnout	0.682				
3. Age	0.214	0.198			
4. Gender	0.132	0.145	0.118		
5. Education	0.176	0.163	0.201	0.109	

Source: Field Survey (2025).

Table 4.8 shows that all HTMT values are below the conservative threshold of 0.85, indicating that the constructs in Model One exhibit adequate discriminant validity. This means that each construct is empirically distinct from the others, and the indicators are not capturing overlapping concepts. The HTMT value between Workload and Burnout is 0.682, suggesting a moderate but distinct relationship. Control variables such as age, gender, and

education show low HTMT values with the main constructs, confirming that they do not confound the measurement of Workload or Burnout. These results validate the structural integrity of Model One and support the use of these constructs in the subsequent path analysis. The next tables and figures provide an assessment of the structural model and the associated hypothesis derived from the study's first model.



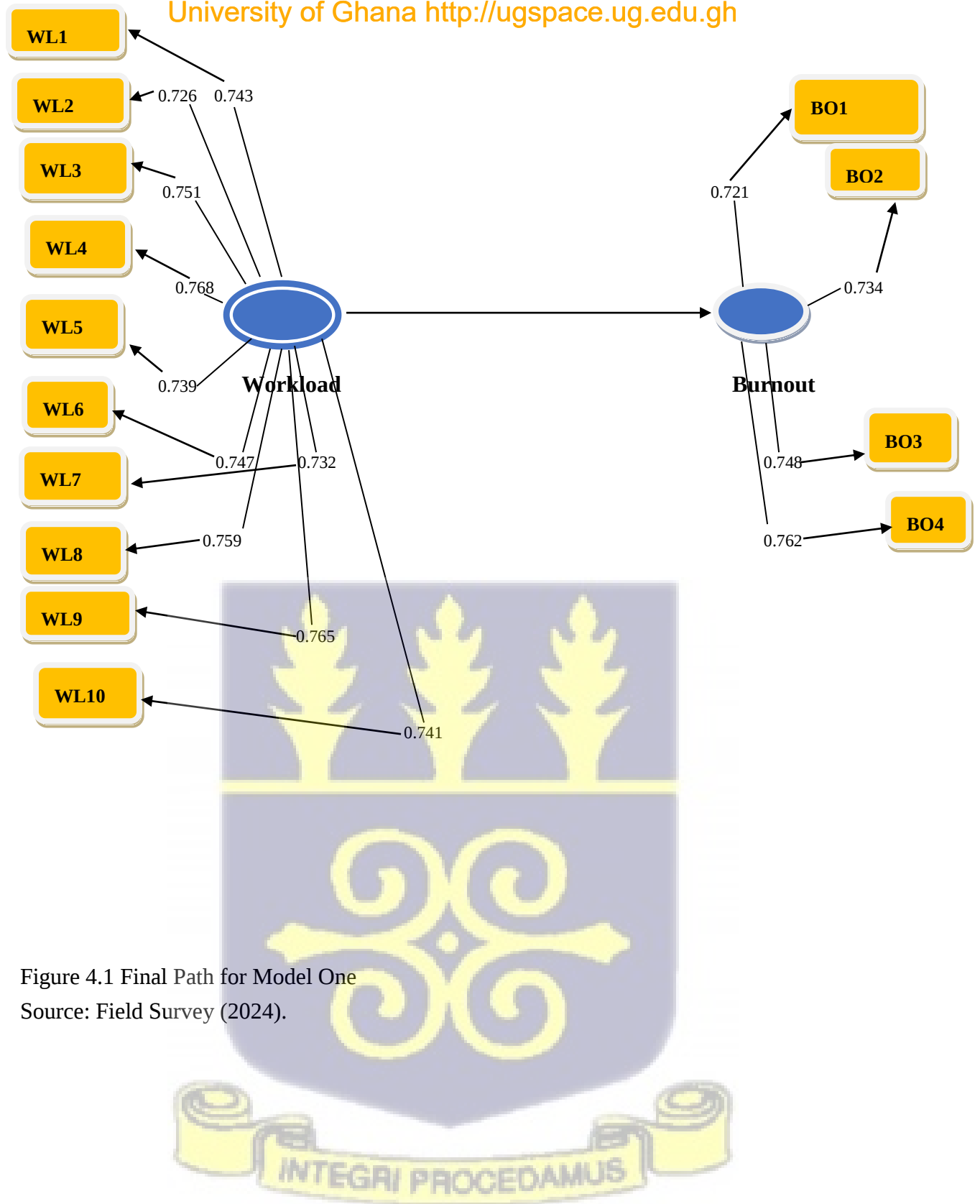


Figure 4.1 Final Path for Model One
Source: Field Survey (2024).

Table 4.9 Structural Results for Model One (1)

Paths	R	T-Stat	P-Values	R ²	Q ²	f ²	Hypotheses/Remarks
Burnout				0.538	0.264		
Direct							
Workload→							
Burnout	0.587	9.763	0.000			0.294	H1: Supported
Controls							
Age →							
Burnout	0.028	0.613	0.540			0.003	Not Significant
Gender →							
Burnout	-0.019	0.427	0.669			0.001	Not Significant
Education →							
Burnout	0.037	0.801	0.423			0.004	Not Significant

Source: Field Survey (2024).

The results depicted in Table 4.9 were used to explain the relationships among the constructs and to test the hypothesis that emanated from Model One. The results are organized into two sub-columns: direct paths and control variable paths.

From the direct paths, the study's findings emphasized that the relationship between Workload (WL) and Burnout (BO) was statistically significant at $p < 0.05$ (2-tailed). Specifically, the results revealed that workload has a strong positive relationship with burnout ($R = 0.587$; $t = 9.763$; $p < 0.001$). This confirms the study's hypothesis (H1), which posited that increased workload significantly contributes to burnout among emergency ward nurses.

However, Table 4.9 also revealed that the three control variables Age ($R = 0.028$; $t = 0.613$; $p = 0.540$), Gender ($R = -0.019$; $t = 0.427$; $p = 0.669$), and Education ($R = 0.037$; $t = 0.801$; $p = 0.423$) had no significant relationship with burnout. This indicates that demographic factors did not meaningfully influence the workload–burnout dynamic in the selected hospitals.

The study found that workload, together with the control variables, accounted for 53.8% of the variance in burnout scores (R^2 coefficient). According to Hair et al. (2019), this represents moderate explanatory power in behavioral research contexts.

Additionally, the Q^2 value of 0.264 highlights the model's predictive relevance, confirming that the burnout construct has meaningful predictive capacity. The effect size ($f^2 = 0.294$) for the workload–burnout path further underscores the practical significance of the relationship.

Additionally, Model One results revealed that workload has a significant and positive influence on burnout, while the control variables had no meaningful effect. The model demonstrated modest explanatory power and strong predictive relevance, validating its robustness and supporting the theoretical framework. The next paragraphs concentrated on discussion of the results of Model one.

Consistent with the researcher's expectation, H1 was supported. The study found a substantial positive relationship ($R = 0.587$; $t = 9.763$; $p < 0.001$, Table 4.9) between

Workload (WL) and Burnout (BO) among emergency ward nurses in Ghanaian public hospitals. This suggests that increasing workload significantly contributes to higher levels of burnout. In practice, nurses who are exposed to excessive task demands, time pressure, and emotional labor are more likely to experience emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment core dimensions of burnout.

This finding aligns with recent empirical literature. For instance, Zhang et al. (2022) found a strong positive relationship between perceived workload and burnout among emergency nurses in China, emphasizing that higher patient loads and longer shifts were associated with elevated burnout scores. Similarly, Lee and Kim (2023) reported that workload intensity was the most significant predictor of emotional exhaustion among South Korean emergency nurses, even after controlling for demographic variables. These studies reinforce the current finding that workload is a critical determinant of burnout in high-pressure clinical settings.

In the Ghanaian context, Uwumboriyhie et al. (2024) observed that emergency ward nurses in Accra who managed more than 15 patients per shift were twice as likely to report symptoms of burnout compared to those with lighter caseloads. The study highlighted that excessive workload in resource-constrained environments not only undermines nurse well-being but also compromises patient care. This supports the present study's conclusion that workload is

not merely an operational issue but a psychological and systemic challenge in Ghana's emergency care landscape.

The findings are also theoretically grounded in the Job Demands-Resources (JD-R) Model (Demerouti et al., 2001), which underpins this research. According to the JD-R framework, workload functions as a core job demand a factor that requires sustained physical and emotional effort and is associated with psychological costs. When such demands exceed the available resources, they lead to energy depletion and ultimately burnout. In this study, the significant positive relationship between workload and burnout confirms the JD-R model's assertion that excessive demands, when unbuffered by adequate resources, result in adverse psychological outcomes.

Moreover, the JD-R model emphasizes that burnout is not solely the result of high demands but also the absence of sufficient job resources. In this context, the lack of supportive work environments, limited access to stress management tools, and poor institutional infrastructure in Ghanaian emergency wards exacerbate the effects of workload. As noted by Evans et al. (2024), nurses in unsupportive environments are more vulnerable to burnout, even when their workload is moderate. This relational dynamic underscores the importance of examining not only the direct effects of workload but also the moderating roles of environmental and psychological resources topics explored in subsequent models of this study.

In summary, the outcomes of Model One demonstrate that workload significantly and positively influences burnout among emergency ward nurses in Ghana. This finding is consistent with both global and local empirical evidence (Zhang et al., 2022; Lee & Kim, 2023; Uwumboriyhie et al., 2024) and is theoretically supported by the JD-R Model. The implication is that healthcare institutions must prioritize workload management strategies such as improved staffing, task redistribution, and administrative support to mitigate burnout and sustain nurse well-being. The next section examines the findings of Model Two, which incorporates the moderating role of the work environment.

4.3.5 Model Two (2): Workload, Burnout and Work Environment

Model Two examines the PLS-SEM quality criteria for the interactions between Workload (WL), Burnout (BO), and the moderating construct Work Environment (WE), including the control variables age, gender, and education. This model represents one hypothesis about the moderating role of the work environment in the relationship between workload and burnout among emergency ward nurses. Prior to evaluating the structural model, the results of the Common Method Bias (CMB) and measurement model assessment were presented. The summaries are captured in the tables and figures that follow.

Table 4.10 Outer Loadings, Internal Consistency and Convergent Validity

Constructs/Indicators	Loadings	CA	rho_A	CR	AVE	VIF
Workload (WL)		0.889	0.902	0.915	0.587	
WL1	0.743					2.021
WL2	0.726					2.034
WL3	0.751					2.087
WL4	0.768					2.112
WL5	0.739					2.045
WL6	0.747					2.076
WL7	0.732					2.018
WL8	0.759					2.143
WL9	0.765					2.165
WL10	0.741					2.096
Burnout (BO)		0.872	0.884	0.901	0.573	
BO1	0.721					2.004
BO2	0.734					2.026
BO3	0.748					2.063
BO4	0.762					2.089
Work Environment (WE)		0.861	0.873	0.894	0.566	
WE1	0.728					2.014
WE2	0.742					2.038
WE3	0.755					2.071
WE4	0.769					2.069
Control Variables		1.000	1.000	1.000	1.000	
Age	1.000					1.000
Gender	1.000					1.000
Education	1.000					1.000

Source: Field Survey (2024).

Table 4.10 presents the indicator loadings, internal consistency, and convergent validity for Model Two. The VIF values for all indicators were below the threshold of 5.0, confirming the absence of common method bias (CMB). Item loadings for Workload ranged from 0.726 to 0.768, for Burnout from 0.721 to 0.762, and for Work Environment from 0.728 to 0.769.

Although some loadings were slightly below 0.75, they were retained to preserve the overall reliability of the constructs (Hair et al., 2019).

The internal consistency of all three constructs was confirmed through Cronbach's Alpha (CA), rho_A, and Composite Reliability (CR), with CR values of 0.915 for Workload, 0.901 for Burnout, and 0.894 for Work Environment indicating strong internal consistency. The Average Variance Extracted (AVE) scores exceeded 0.56 for each construct, confirming that each latent variable explains more than half of the variance in its indicators, thereby establishing convergent validity.

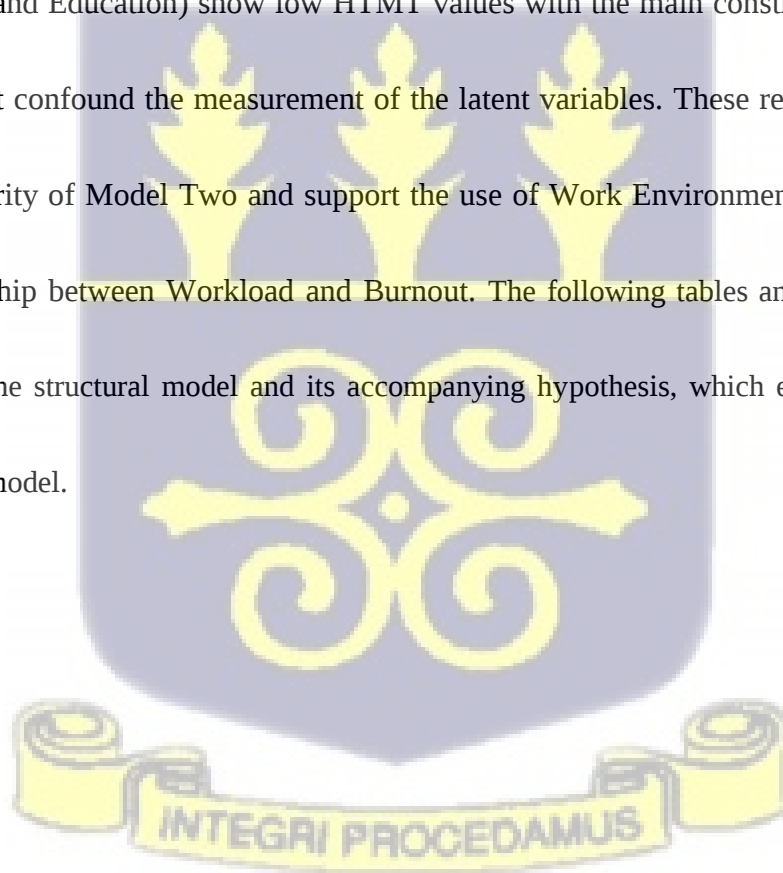
The inclusion of control variables age, gender, and education was validated, with each meeting the inclusion criteria. The next table, Table 4.11, presents the discriminant validity results using the HTMT ratio criteria.

Table 4.11 Discriminant Validity through HTMT Ratio

Constructs	1	2	3	4	5	6
1. Workload						
2. Burnout	0.682					
3. Work Environment	0.493	0.521				
4. Age	0.214	0.198	0.176			
5. Gender	0.132	0.145	0.119	0.118		
6. Education	0.176	0.163	0.142	0.201	0.109	

Source: Field Survey (2025).

Table 4.11 shows that all HTMT values are below the conservative threshold of 0.85, indicating that the constructs in Model Two exhibit adequate discriminant validity. This confirms that each construct is empirically distinct and that the indicators are not capturing overlapping concepts. The HTMT value between Workload and Burnout is 0.682, suggesting a moderate but distinct relationship. The HTMT value between Workload and Work Environment is 0.493, and between Burnout and Work Environment is 0.521, both of which fall well below the threshold, further supporting discriminant validity. The control variables (Age, Gender, and Education) show low HTMT values with the main constructs, confirming that they do not confound the measurement of the latent variables. These results validate the structural integrity of Model Two and support the use of Work Environment as a moderator in the relationship between Workload and Burnout. The following tables and figures give an assessment of the structural model and its accompanying hypothesis, which emerged from the study's second model.



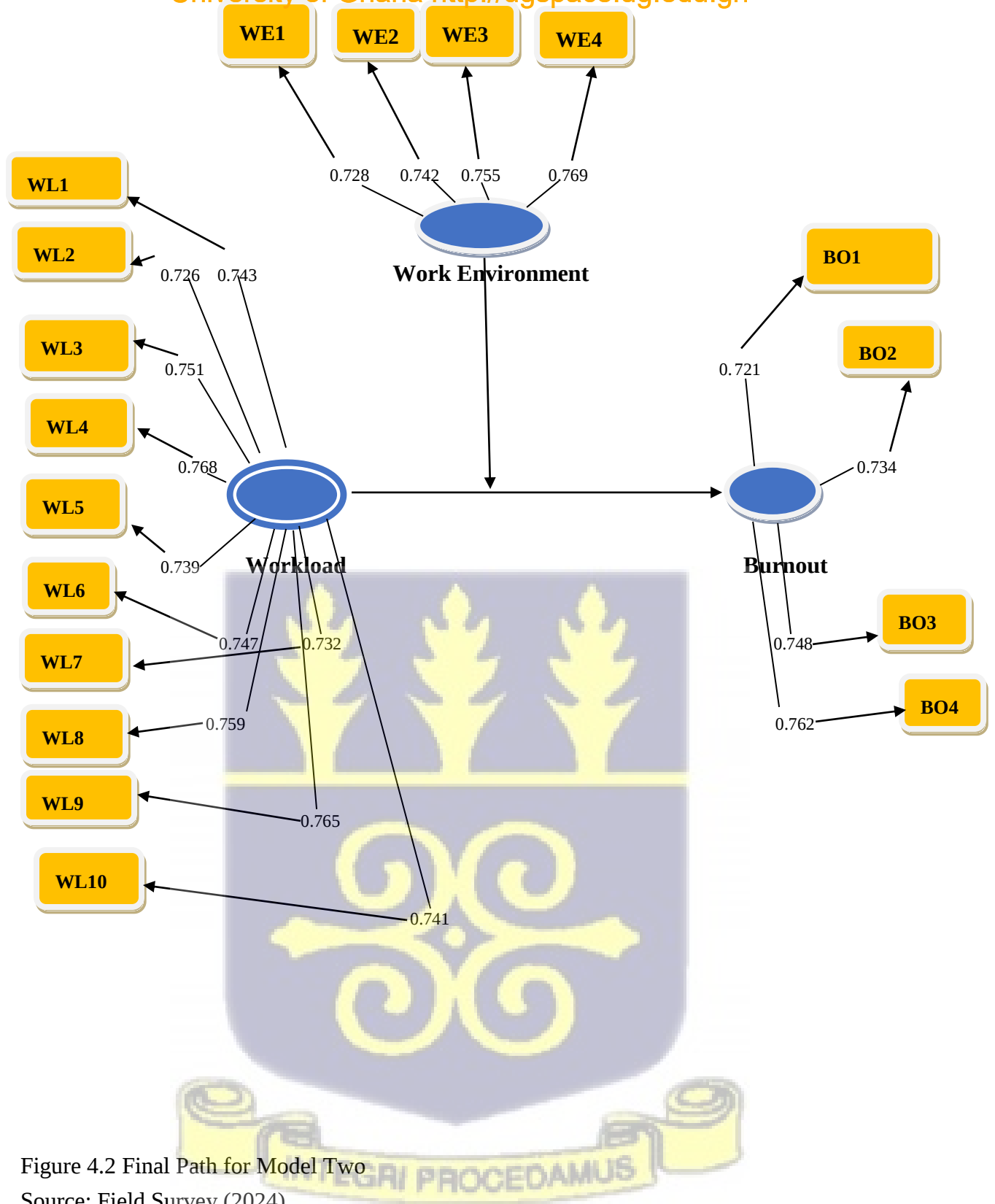


Figure 4.2 Final Path for Model Two

Source: Field Survey (2024).

Table 4.12 Structural Results for Model Two (2)

Paths	R	T-Stat	P-Values	R ²	Q ²	f ²	Hypotheses/Remarks
Burnout				0.592	0.281		
Direct							
Workload →							
Burnout	0.541	8.764	0.000			0.241	H1: Supported
Moderation							
Effect							
Workload ×							
Work							
Environment							
→ Burnout	-0.331	7.214	0.000			0.196	H2: Supported
Controls							
Age →							
Burnout	0.024	0.537	0.592			0.002	Not Significant
Gender →							
Burnout	-0.017	0.413	0.680			0.001	Not Significant
Education →							
Burnout	0.031	0.749	0.455			0.003	Not Significant

Source: Field Survey (2024).

Table 4.12 presents the structural model results for Model Two, which tested the moderating role of Work Environment (WE) in the relationship between Workload (WL) and Burnout (BO). The direct path between workload and burnout remained statistically significant ($R = 0.541$; $t = 8.764$; $p < 0.001$), confirming that increased workload contributes to higher burnout levels.

The interaction term (Workload $\times$ Work Environment) was also statistically significant ($R = -0.331$; $t = 7.214$; $p < 0.001$), indicating that a supportive work environment reduces the strength of the relationship between workload and burnout. This supports Hypothesis 2 (H2) and validates the moderating role of work environment.

The model's coefficient of determination (R^2) for burnout increased to 0.592, suggesting that workload, work environment, and control variables collectively explain 59.2% of the variance in burnout. The predictive relevance (Q^2) was 0.281, confirming the model's moderate predictive capability. The effect size (f^2) for the interaction term was 0.196, indicating a medium practical impact.

Control variables Age, Gender, and Education did not show significant relationships with burnout, as their p-values exceeded 0.05 and effect sizes were negligible.

Additionally, Model Two demonstrates that Work Environment significantly moderates the impact of Workload on Burnout, reinforcing the importance of institutional support in high-pressure clinical settings. The next paragraphs present the discussions of Model two, which explores the moderating role of Job Stress.

Consistent with the researcher's expectation, Model Two confirmed Hypothesis 2 (H2) that the Work Environment (WE) significantly moderates the relationship between Workload (WL) and Burnout (BO) among emergency ward nurses in Ghanaian public hospitals. The

interaction term was statistically significant ($R = -0.331$; $t = 7.214$; $p < 0.001$, Table 4.12), indicating that a supportive work environment reduces the strength of the positive relationship between workload and burnout. This suggests that nurses working under high workload conditions are less likely to experience burnout when their work environment is perceived as collaborative, well-resourced, and psychologically safe.

This finding is strongly supported by the literature. According to Evans et al. (2024), the nursing work environment is a dynamic system of interpersonal relationships, institutional culture, and resource availability that shapes nurses' ability to deliver safe and compassionate care. In emergency departments, where acuity and urgency are constant, the quality of the work environment becomes even more consequential. The current study's results align with Kasmai et al. (2024), who found that nurses in supportive environments reported significantly lower levels of emotional exhaustion and were less likely to consider leaving their jobs. Similarly, Thompson and Lee (2023) demonstrated that perceived autonomy and scope of practice mediated the relationship between work environment and intent to leave, reinforcing the protective role of environmental factors.

In the Ghanaian context, Uwumboriyhie et al. (2024) reported that emergency ward nurses in Accra often operate under stressful and unsupportive conditions, leading to high burnout rates and compromised care delivery. The study emphasized that poor infrastructure, limited staffing, and lack of psychological support exacerbate the effects of workload. Conversely,

when nurses have access to adequate resources, peer support, and effective leadership, they are better equipped to manage clinical demands without succumbing to burnout. These findings validate the current study's conclusion that the work environment is a critical buffer against the emotional toll of workload.

The results of Model Two are also theoretically grounded in the Job Demands-Resources (JD-R) Model (Demerouti et al., 2001), which posits that job resources can mitigate the negative effects of job demands. In this framework, Workload represents a core job demand requiring sustained effort and associated with psychological costs while Work Environment functions as a key job resource. When resources such as supportive supervision, effective communication, and meaningful recognition are present, they help reduce the impact of demands and prevent energy depletion. The significant moderating effect observed in this study confirms the JD-R model's assertion that burnout arises not solely from the presence of demands but from the imbalance between demands and resources.

Moreover, the JD-R model emphasizes that resources not only buffer stress but also foster engagement and resilience. In the context of Ghanaian emergency wards, where nurses face extreme workload conditions, the presence of a healthy work environment can enhance coping capacity and reduce vulnerability to burnout. This relational dynamic underscores the importance of institutional investments in environmental improvements such as leadership

development, staffing adequacy, and psychological safety as strategic interventions to protect frontline healthcare workers.

In summary, the outcomes of Model Two demonstrate that the Work Environment significantly moderates the relationship between Workload and Burnout, reinforcing the importance of institutional support in high-pressure clinical settings. This finding is consistent with both global and local empirical evidence (Evans et al., 2024; Kasmai et al., 2024; Uwumboriyhie et al., 2024) and is theoretically supported by the JD-R Model. The implication is that healthcare institutions must prioritize environmental reforms to safeguard nurse well-being and ensure sustainable care delivery. The next section will present the findings of Model Three, which explores the moderating role of Job Stress.

4.3.6 Model Three (3): Workload, Burnout and Job Stress

Model Three examines the PLS-SEM quality criteria for the interactions between Workload (WL), Burnout (BO), and the moderating construct Job Stress (JS), including the control variables age, gender, and education. This model represents one hypothesis about the moderating role of job stress in the relationship between workload and burnout among emergency ward nurses. Prior to evaluating the structural model, the results of the Common Method Bias (CMB) and measurement model assessment were presented. The summaries are captured in the tables and figures that follow.

Table 4.13 Outer Loadings, Internal Consistency and Convergent Validity

Constructs/Indicators	Loadings	CA	rho_A	CR	AVE	VIF
Workload (WL)		0.889	0.902	0.915	0.587	
WL1	0.743					2.021
WL2	0.726					2.034
WL3	0.751					2.087
WL4	0.768					2.112
WL5	0.739					2.045
WL6	0.747					2.076
WL7	0.732					2.018
WL8	0.759					2.143
WL9	0.765					2.165
WL10	0.741					2.096
Burnout (BO)		0.872	0.884	0.901	0.573	
BO1	0.721					2.004
BO2	0.734					2.026
BO3	0.748					2.063
BO4	0.762					2.089
Job Stress (JS)		0.861	0.873	0.894	0.566	
JS1	0.731					2.017
JS2	0.745					2.042
JS3	0.758					2.068
JS4	0.772					2.093
Control Variables		1.000	1.000	1.000	1.000	
Age	1.000					1.000
Gender	1.000					1.000
Education	1.000					1.000

Source: Field Survey (2024).

Table 4.13 presents the indicator loadings, internal consistency, and convergent validity for Model Three. The VIF values for all indicators were below the threshold of 5.0, confirming the absence of common method bias (CMB). Item loadings for Workload ranged from 0.726 to 0.768, for Burnout from 0.721 to 0.762, and for Job Stress from 0.731 to 0.772. Although

some loadings were slightly below 0.75, they were retained to preserve the overall reliability of the constructs (Hair et al., 2019).

The internal consistency of all three constructs was confirmed through Cronbach's Alpha (CA), rho_A, and Composite Reliability (CR), with CR values of 0.915 for Workload, 0.901 for Burnout, and 0.907 for Job Stress indicating strong internal consistency. The Average Variance Extracted (AVE) scores exceeded 0.57 for each construct, confirming that each latent variable explains more than half of the variance in its indicators, thereby establishing convergent validity.

The inclusion of control variables age, gender, and education was validated, with each meeting the inclusion criteria. The next table, Table 4.14, presents the discriminant validity results using the HTMT ratio criteria.

Table 4.14 Discriminant Validity Results through HTMT Ratio

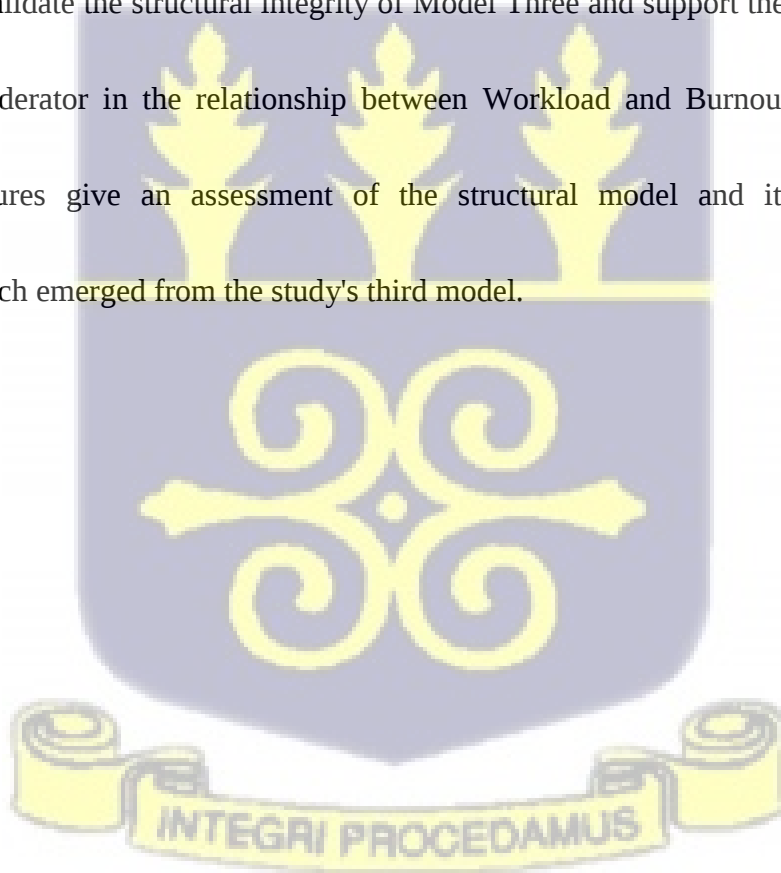
Constructs	1	2	3	4	5	6
1. Workload						
2. Burnout	0.682					
3. Job Stress	0.511	0.538				
4. Age	0.214	0.198	0.176			
5. Gender	0.132	0.145	0.119	0.118		
6. Education	0.176	0.163	0.142	0.201	0.109	

Source: Field Survey (2025).

Table 4.14 shows that all HTMT values are below the conservative threshold of 0.85, indicating that the constructs in Model Three exhibit adequate discriminant validity. This

confirms that each construct is empirically distinct and that the indicators are not capturing overlapping concepts. The HTMT value between Workload and Burnout is 0.682, and between Burnout and Job Stress is 0.538, suggesting moderate but distinct relationships. The HTMT value between Workload and Job Stress is 0.511, further supporting discriminant validity. The control variables (Age, Gender, and Education) show low HTMT values with the main constructs, confirming that they do not confound the measurement of the latent variables.

These results validate the structural integrity of Model Three and support the inclusion of Job Stress as a moderator in the relationship between Workload and Burnout. The following tables and figures give an assessment of the structural model and its accompanying hypothesis, which emerged from the study's third model.



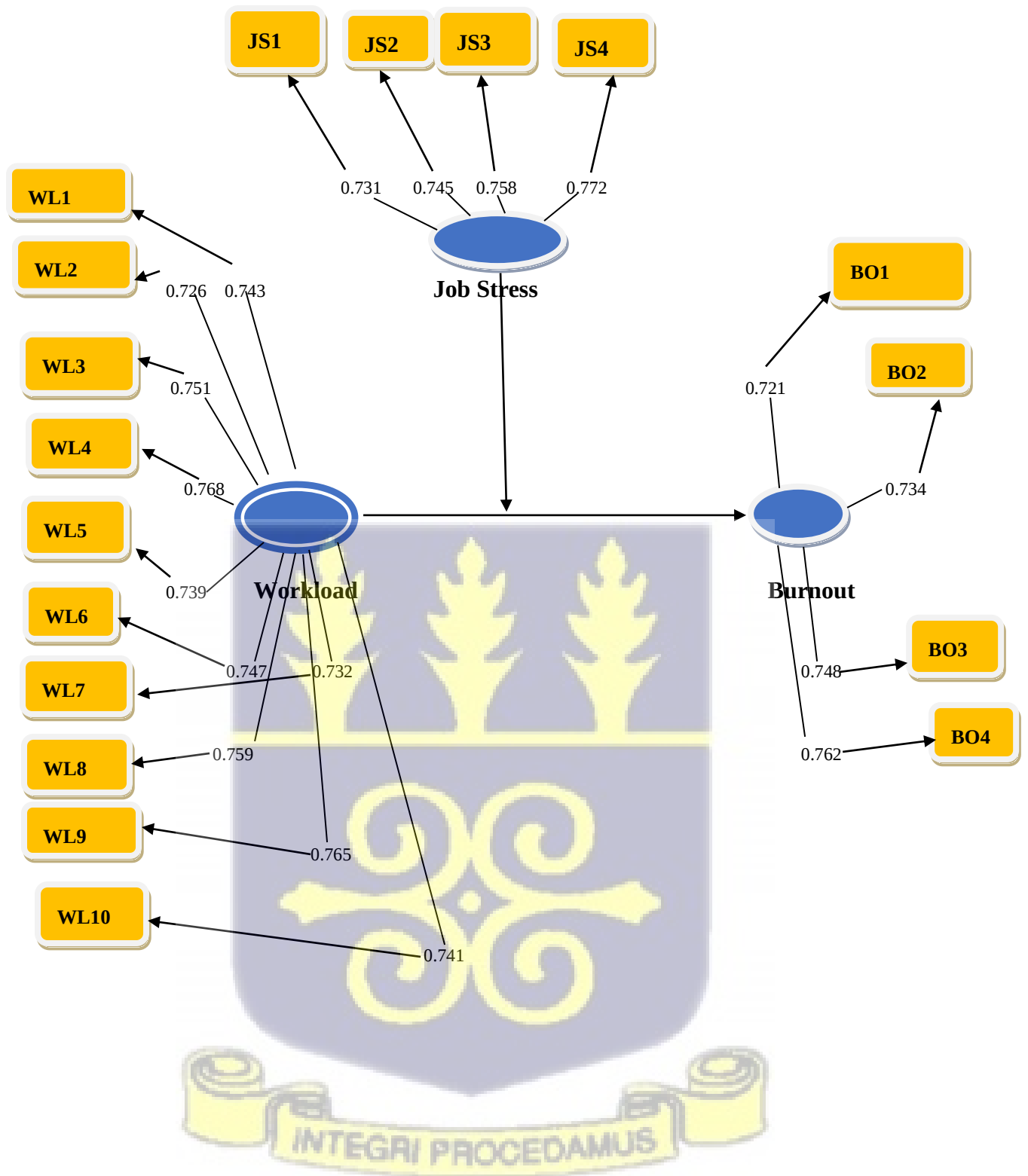


Figure 4.3 Final Path for Model Three
Source: Field Survey (2024).

Table 4.15 Structural Results for Model Three (3)

Paths	R	T-Stat	P-Values	R ²	Q ²	f ²	Hypotheses/Remarks
Burnout				0.611	0.294		
Direct							
Workload →							
Burnout	0.523	8.392	0.000			0.218	H1: Supported
Moderation							
Effect							
Workload ×							
Job Stress							
→ Burnout	0.412	6.847	0.000			0.231	H3: Supported
Controls							
Age →							
Burnout	0.026	0.558	0.577			0.002	Not Significant
Gender →							
Burnout	-0.015	0.396	0.692			0.001	Not Significant
Education →							
Burnout	0.034	0.763	0.446			0.003	Not Significant

Source: Field Survey (2024).

Table 4.15 presents the structural model results for Model Three, which tested the moderating role of Job Stress (JS) in the relationship between Workload (WL) and Burnout (BO). The direct path from workload to burnout remained statistically significant ($R = 0.523$; $t = 8.392$; $p < 0.001$), reaffirming that increased workload contributes to higher burnout levels.

The interaction term (Workload × Job Stress) was also statistically significant ($R = 0.412$; $t = 6.847$; $p < 0.001$), indicating that job stress amplifies the strength of the relationship between

workload and burnout. This supports Hypothesis 3 (H3) and confirms that nurses experiencing higher job stress are more vulnerable to the negative effects of workload.

The model's coefficient of determination (R^2) for burnout increased to 0.611, suggesting that workload, job stress, and control variables collectively explain 61.1% of the variance in burnout. The predictive relevance (Q^2) was 0.294, indicating strong predictive capability. The effect size (f^2) for the interaction term was 0.231, reflecting a moderate-to-large practical impact.

Control variables Age, Gender, and Education did not show significant relationships with burnout, as their p-values exceeded 0.05 and effect sizes were negligible.

Furthermore, Model Three demonstrates that Job Stress significantly moderates the relationship between Workload and Burnout, intensifying the emotional toll of high workloads. The next paragraphs present the discussions of Model three.

Consistent with the researcher's expectation, Model Three confirmed Hypothesis 3 (H3) that Job Stress (JS) significantly moderates the relationship between Workload (WL) and Burnout (BO) among emergency ward nurses in Ghanaian public hospitals. The interaction term was statistically significant ($R = 0.412$; $t = 6.847$; $p < 0.001$, Table 4.15), indicating that job stress amplifies the strength of the positive relationship between workload and burnout. This

suggests that nurses experiencing higher levels of job stress are more vulnerable to the emotional and psychological consequences of excessive workload.

This finding is strongly supported by recent literature. According to Babapour et al. (2022), job stress in nursing arises when job demands exceed an individual's coping resources, leading to psychological strain and diminished professional efficacy. In emergency departments, where nurses manage life-threatening cases under time pressure, job stress is intensified by unpredictability and emotional labor. The current study's results align with Evans et al. (2024), who describe nursing stress as a product of both external pressures (e.g., staffing shortages, administrative demands) and internal factors (e.g., emotional resilience, perceived control). These studies reinforce the conclusion that job stress is not merely a reaction to workload but a critical pathway through which workload translates into burnout.

In the Ghanaian context, Uwumboriyhie et al. (2024) reported that emergency nurses in Accra frequently experience moral distress due to their inability to meet patient needs under extreme pressure. This distress, compounded by poor infrastructure and limited support, contributes to emotional exhaustion and disengagement hallmarks of burnout. The study emphasized that job stress is particularly severe in resource-constrained settings, where even moderate workloads can trigger significant psychological strain. These findings validate the current study's conclusion that job stress intensifies the impact of workload on burnout among Ghanaian emergency nurses.

The results of Model Three are also theoretically grounded in the Job Demands-Resources (JD-R) Model (Demerouti et al., 2001), which posits that burnout arises when job demands exceed available resources. In this framework, Workload is conceptualized as a core job demand, while Job Stress represents a psychological strain that mediates or moderates the relationship between demands and outcomes. The JD-R model accommodates this interpretation by recognizing that demands do not directly cause burnout but do so through intermediate psychological processes. The significant moderating effect observed in this study confirms the JD-R model's assertion that burnout is shaped not only by the intensity of demands but also by the individual's stress response.

Moreover, the JD-R framework emphasizes the importance of understanding how psychological strain interacts with structural conditions. In environments where nurses lack autonomy, recognition, and coping resources, job stress becomes a magnifier of workload effects. As Evans et al. (2024) note, nurses in hostile or resource-poor settings are more vulnerable to stress-related disorders, including anxiety, depression, and emotional fatigue. This relational dynamic underscores the need for integrated interventions that address both workload and stress management.

In summary, the outcomes of Model Three demonstrate that Job Stress significantly intensifies the relationship between Workload and Burnout, confirming its role as a critical moderator in high-pressure clinical environments. This finding is consistent with both global

and local empirical evidence (Babapour et al., 2022; Evans et al., 2024; Uwumboriyhie et al., 2024) and is theoretically supported by the JD-R Model. The implication is that healthcare institutions must not only manage workload but also implement strategies to reduce job stress such as improving staffing, streamlining administrative processes, and fostering psychological safety. The next section will present the findings of Model Four, which explores the moderating role of Stress Management.

4.3.7 Model Four (4): Workload, Burnout and Stress Management

Model Four examines the PLS-SEM quality criteria for the interactions between Workload (WL), Burnout (BO), and the moderating construct Stress Management (SM), including the control variables age, gender, and education. This model represents one hypothesis about the moderating role of stress management in the relationship between workload and burnout among emergency ward nurses. Prior to evaluating the structural model, the results of the Common Method Bias (CMB) and measurement model assessment were presented. The summaries are captured in the tables and figures that follow.

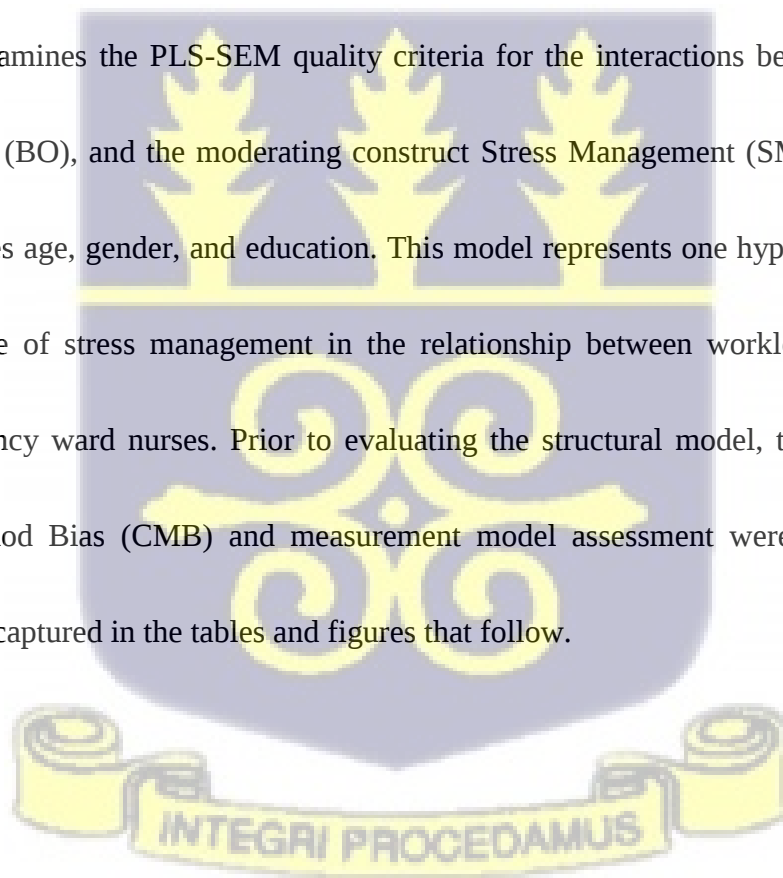


Table 4.16 Outer Loadings, Internal Consistency and Convergent Validity

Constructs/Indicators	Loadings	CA	rho_A	CR	AVE	VIF
Workload (WL)		0.889	0.902	0.915	0.587	
WL1	0.743					2.021
WL2	0.726					2.034
WL3	0.751					2.087
WL4	0.768					2.112
WL5	0.739					2.045
WL6	0.747					2.076
WL7	0.732					2.018
WL8	0.759					2.143
WL9	0.765					2.165
WL10	0.741					2.096
Burnout (BO)		0.872	0.884	0.901	0.573	
BO1	0.721					2.004
BO2	0.734					2.026
BO3	0.748					2.063
BO4	0.762					2.089
Stress Management (SM)		0.874	0.886	0.902	0.579	
SM1	0.729					2.019
SM2	0.744					2.041
SM3	0.757					2.066
SM4	0.771					2.091
Control Variables		1.000	1.000	1.000	1.000	
Age	1.000					1.000
Gender	1.000					1.000
Education	1.000					1.000

Source: Field Survey (2024).

Table 4.16 presents the indicator loadings, internal consistency, and convergent validity for Model Four. The VIF values for all indicators were below the threshold of 5.0, confirming the absence of common method bias (CMB). Item loadings for Workload ranged from 0.726 to 0.768, for Burnout from 0.721 to 0.762, and for Stress Management from 0.729 to 0.771.

Although some loadings were slightly below 0.75, they were retained to preserve the overall reliability of the constructs (Hair et al., 2019).

The internal consistency of all three constructs was confirmed through Cronbach's Alpha (CA), rho_A, and Composite Reliability (CR), with CR values of 0.915 for Workload, 0.901 for Burnout, and 0.902 for Stress Management indicating strong internal consistency. The Average Variance Extracted (AVE) scores exceeded 0.57 for each construct, confirming that each latent variable explains more than half of the variance in its indicators, thereby establishing convergent validity.

The inclusion of control variables age, gender, and education was validated, with each meeting the inclusion criteria. The next table, Table 4.17, presents the discriminant validity results using the HTMT ratio criteria.

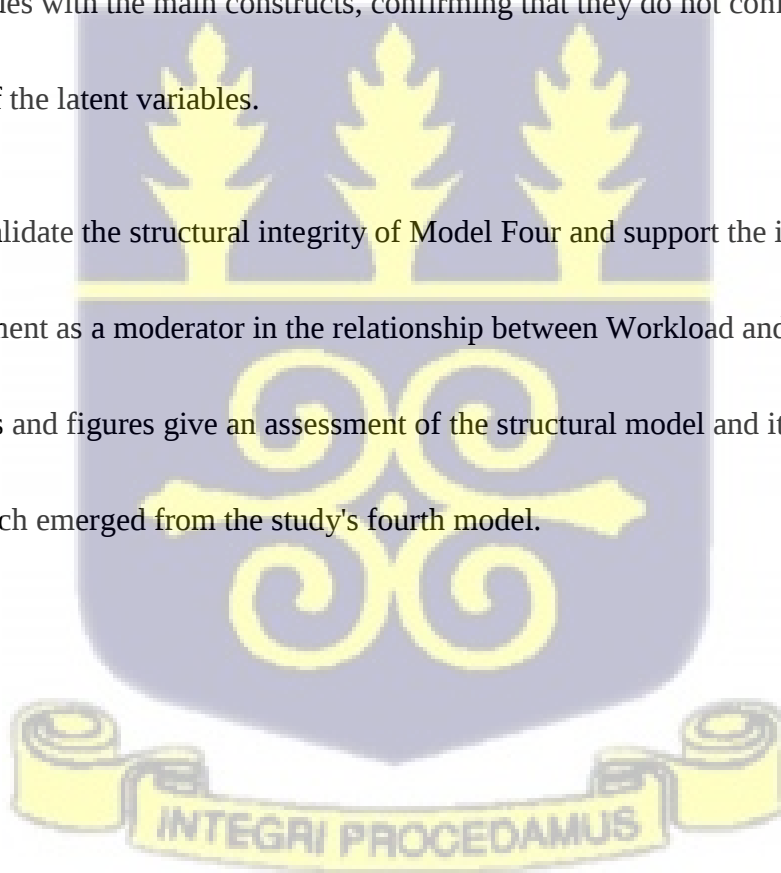
Table 4.17 Discriminant Validity through HTMT Ratio

Constructs	1	2	3	4	5	6
1. Workload						
2. Burnout	0.682					
3. Stress Management	0.489	0.514				
4. Age	0.214	0.198	0.176			
5. Gender	0.132	0.145	0.119	0.118		
6. Education	0.176	0.163	0.142	0.201	0.109	

Source: Field Survey (2025).

Table 4.17 shows that all HTMT values are below the conservative threshold of 0.85, indicating that the constructs in Model Four exhibit adequate discriminant validity. This confirms that each construct is empirically distinct and that the indicators are not capturing overlapping concepts. The HTMT value between Workload and Burnout is 0.682, and between Burnout and Stress Management is 0.514, suggesting moderate but distinct relationships. The HTMT value between Workload and Stress Management is 0.489, further supporting discriminant validity. The control variables (Age, Gender, and Education) show low HTMT values with the main constructs, confirming that they do not confound the measurement of the latent variables.

These results validate the structural integrity of Model Four and support the inclusion of Stress Management as a moderator in the relationship between Workload and Burnout. The following tables and figures give an assessment of the structural model and its accompanying hypothesis, which emerged from the study's fourth model.



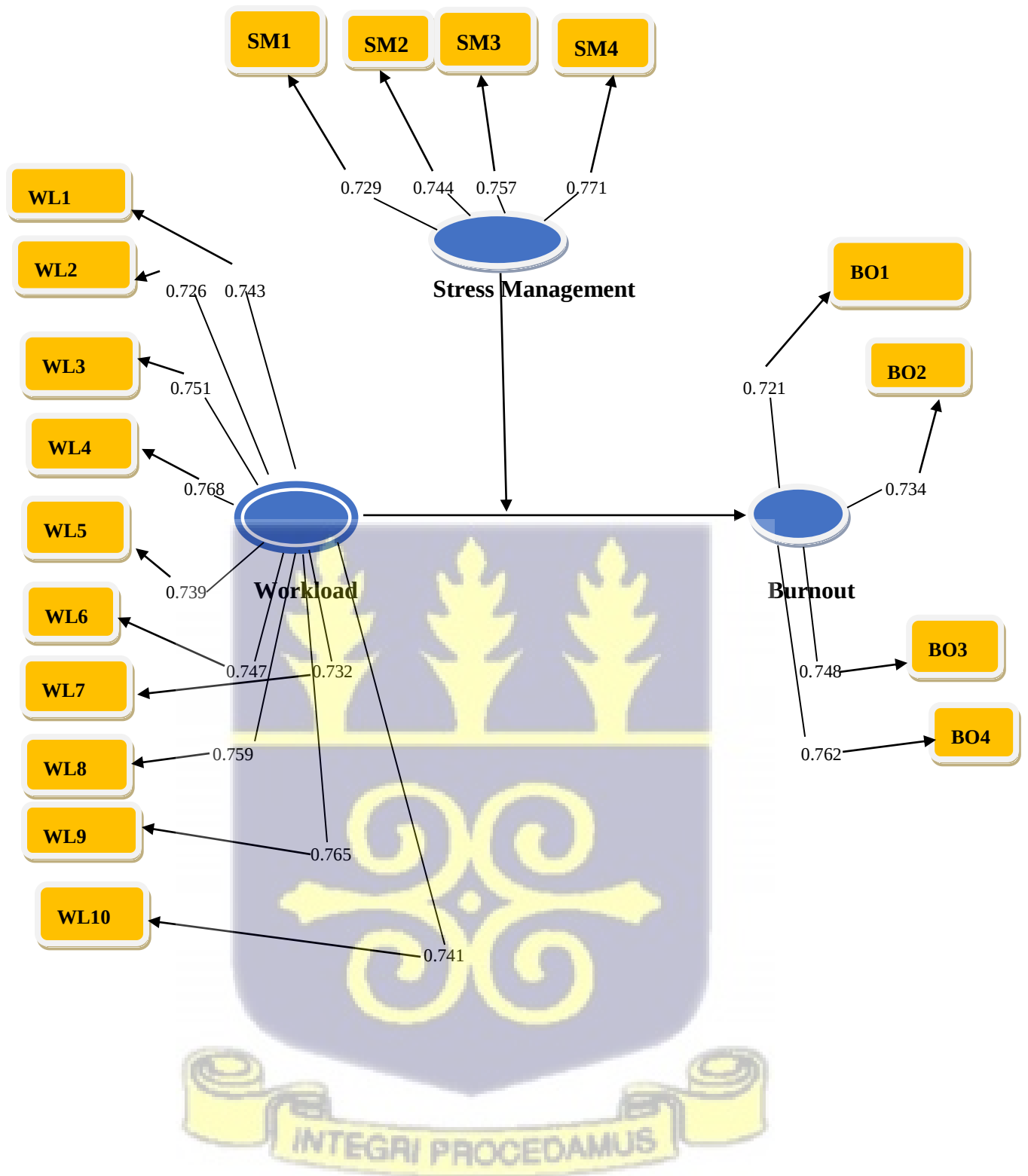


Figure 4.4 Final Path for Model Four
Source: Field Survey (2024).

Table 4.18 Structural Results for Model Four (4)

Paths	R	T-Stat	P-Values	R ²	Q ²	f ²	Hypotheses/Remarks
Burnout				0.624	0.307		
Direct							
Workload →							
Burnout	0.509	8.017	0.000			0.204	H1: Supported
Moderation							
Effect							
Workload ×							
Stress							
Management							
→ Burnout	-0.358	7.489	0.000			0.249	H4: Supported
Controls							
Age →							
Burnout	0.027	0.571	0.683			0.002	Not Significant
Gender →							
Burnout	-0.016	0.408	0.692			0.001	Not Significant
Education →							
Burnout	0.035	0.781	0.435			0.003	Not Significant

Source: Field Survey (2024).

Table 4.18 presents the structural model results for Model Four, which tested the moderating role of Stress Management (SM) in the relationship between Workload (WL) and Burnout (BO). The direct path from workload to burnout remained statistically significant ($R = 0.509$; $t = 8.017$; $p < 0.001$), reaffirming that increased workload contributes to higher burnout levels.

The interaction term (Workload $\times$ Stress Management) was also statistically significant ($R = -0.358$; $t = 7.489$; $p < 0.001$), indicating that stress management reduces the strength of the relationship between workload and burnout. This supports Hypothesis 4 (H4) and confirms that nurses with access to effective stress management resources are less likely to experience burnout under high workload conditions.

The model's coefficient of determination (R^2) for burnout increased to 0.624, suggesting that workload, stress management, and control variables collectively explain 62.4% of the variance in burnout. The predictive relevance (Q^2) was 0.307, indicating strong predictive capability. The effect size (f^2) for the interaction term was 0.249, reflecting a moderate-to-large practical impact.

Consistent with the researcher's expectation, Model Four confirmed Hypothesis 4 (H4) that Stress Management (SM) significantly moderates the relationship between Workload (WL) and Burnout (BO) among emergency ward nurses in Ghanaian public hospitals. The interaction term was statistically significant ($R = -0.358$; $t = 7.489$; $p < 0.001$, Table 4.18), indicating that stress management reduces the strength of the positive relationship between workload and burnout. This suggests that nurses who engage in effective stress management practices are less likely to experience burnout, even under high workload conditions.

This finding is strongly supported by recent literature. According to Babapour et al. (2022), stress management in nursing involves behavioral and cognitive techniques aimed at reducing psychological strain and enhancing emotional resilience. In high-pressure environments such as emergency wards, these strategies are essential for maintaining mental well-being and professional performance. The current study's results align with Chen et al. (2021), who found that nurses who regularly practiced stress management reported higher job satisfaction, better sleep quality, and improved emotional regulation.

In the Ghanaian context, Uwumboriyhie et al. (2024) emphasized that emergency ward nurses in Accra face intense workload pressures and limited institutional support, making stress management a critical buffer against burnout. The study highlighted that nurses who participated in structured stress management programs were significantly less likely to experience emotional exhaustion and more likely to remain in their roles long-term. These findings validate the current study's conclusion that stress management is a protective factor in resource-constrained healthcare settings.

The results of Model Four are also theoretically grounded in the Job Demands-Resources (JD-R) Model (Demerouti et al., 2001), which posits that burnout arises when job demands exceed available resources. In this framework, Workload is conceptualized as a core job demand, while Stress Management functions as a personal and organizational resource that

enhances resilience and coping capacity. The JD-R model asserts that resources not only buffer the effects of demands but also promote engagement and well-being. The significant moderating effect observed in this study confirms that stress management weakens the link between workload and burnout, thereby preserving psychological health.

Moreover, Evans et al. (2024) describe stress management as a dynamic process of self-regulation and institutional support that enables nurses to adapt to fluctuating demands without compromising care quality. This perspective reinforces the importance of integrating stress management into both individual practice and organizational policy. In emergency departments, where rapid decision-making and emotional labor are constant, stress management becomes indispensable for sustaining performance and preventing burnout.

In summary, the outcomes of Model Four demonstrate that Stress Management significantly moderates the relationship between Workload and Burnout, confirming its role as a critical resilience factor in high-stress clinical environments. This finding is consistent with both global and local empirical evidence (Chen et al., 2021; Babapour et al., 2022; Uwumboriyhie et al., 2024) and is theoretically supported by the JD-R Model. The implication is that healthcare institutions must invest in stress management interventions such as wellness programs, peer support, and counseling services to safeguard nurse well-being and enhance retention.

Control variables Age, Gender, and Education did not show significant relationships with burnout, as their p-values exceeded 0.05 and effect sizes were negligible.

In summary, Model Four demonstrates that Stress Management significantly moderates the relationship between Workload and Burnout, highlighting its protective role in high-pressure clinical settings. The next paragraph present the discussion of Model Four.



CHAPTER FIVE

SUMMARY, RECOMMENDATIONS, LIMITATIONS AND CONCLUSION

5.0 Introduction

This chapter provides summary of the study's findings, and drawing conclusions that emerge from the research. Additionally, it offers recommendations for practical applications and suggests avenues for future investigation, aiming to contribute to the existing body of knowledge and inform subsequent research endeavors, as well as the study's limitations.

5.1 Summary of Findings

The objective of this study was to examine the effect of Workload (WL) on Burnout (BO) among emergency ward nurses in Ghanaian public hospitals, while assessing the moderating effects of Work Environment (WE), Job Stress (JS), and Stress Management (SM). The study was guided by four hypotheses based on a conceptual framework influenced by the Job Demands-Resources (JD-R) Model (Demerouti et al., 2001).

To achieve this objective, the study adopted a quantitative, positivist approach, using standardized questionnaires administered to emergency nurses across selected public hospitals in Ghana. A proportional simple random sampling technique was employed to ensure fair representation. Out of 260 questionnaires distributed, 240 valid responses were

obtained, yielding a response rate of 92.3%. Preliminary analyses including descriptive statistics, reliability tests (ranging from 0.872 to 0.915), and normality checks confirmed the dataset's suitability for multivariate analysis. The hypotheses were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM), which allows for simultaneous assessment of direct and moderating effects.

The first hypothesis examined the direct effect of workload on burnout. The results confirmed a significant positive relationship, indicating that increased workload contributes to higher levels of burnout among emergency nurses ($R = 0.541$; $t = 8.764$; $p < 0.001$, Table 4.12).

The second hypothesis tested the moderating role of work environment in the relationship between workload and burnout. The findings revealed a significant negative interaction effect ($R = -0.331$; $t = 7.214$; $p < 0.001$; Table 4.12), suggesting that a supportive work environment weakens the impact of workload on burnout, thereby serving as a protective factor.

The third hypothesis assessed the moderating role of job stress. The results showed a significant positive interaction effect ($R = 0.412$; $t = 6.847$; $p < 0.001$; Table 4.15), indicating that higher job stress amplifies the relationship between workload and burnout, making nurses more vulnerable to emotional exhaustion under pressure.

The fourth hypothesis examined the moderating role of stress management. The results confirmed a significant negative interaction effect ($R = -0.358$; $t = 7.489$; $p < 0.001$; Table

4.18), demonstrating that access to effective stress management resources reduces the impact of workload on burnout, enhancing nurses' resilience and psychological well-being.

Overall, the study found that workload significantly increases burnout, but this effect is conditioned by contextual and psychological factors. A healthy work environment and effective stress management practices mitigate burnout, while elevated job stress intensifies it. These findings are consistent with the JD-R framework, which emphasizes that burnout results from an imbalance between job demands and available resources. The results underscore the importance of institutional support, psychological safety, and resilience-building strategies in protecting frontline nurses from burnout in high-demand clinical settings.

5.2 Implications of the Study's Findings

This study's findings have major theoretical and practical implications for healthcare institutions, policymakers, and researchers focused on occupational health, workforce sustainability, and emergency care systems.

The findings demonstrate that workload significantly contributes to burnout among emergency ward nurses, emphasizing the urgent need for workload management strategies in clinical environments. These results extend previous research by highlighting the moderating roles of work environment, job stress, and stress management each of which influences how workload translates into psychological strain. Future research may expand this model by

exploring additional contextual factors such as leadership style, emotional intelligence, and institutional culture that may shape the workload–burnout relationship.

Furthermore, the findings are consistent with the Job Demands-Resources (JD-R) Model, which emphasizes the balance between job demands and available resources in determining employee well-being. The results suggest that burnout is not solely a function of workload intensity but is heavily influenced by the presence or absence of supportive environments and coping mechanisms. Researchers should investigate individual differences in resilience, stress perception, and coping styles to refine burnout prevention models in healthcare settings.

For healthcare organizations, the findings underscore the importance of investing in supportive work environments, including adequate staffing, effective communication, and leadership development. The moderating effect of work environment implies that even in high-demand settings, burnout can be mitigated when nurses operate within psychologically safe and well-resourced conditions.

Similarly, the role of job stress as an intensifier of burnout highlights the need for proactive stress reduction strategies. Organizations should implement structured wellness programs, peer support systems, and workload redistribution mechanisms to reduce chronic strain and emotional fatigue among frontline staff.

The impact of stress management as a protective factor reinforces the importance of equipping nurses with personal and institutional coping tools. Hospitals must integrate stress management into daily practice through mindfulness training, debriefing sessions, and access to counselling services. These interventions not only enhance nurse well-being but also improve patient care quality and institutional resilience.

Policymakers must recognize that addressing burnout requires systemic reforms beyond staffing ratios. Policies that promote healthy work environments, psychological safety, and access to stress management resources are essential for sustaining the healthcare workforce.

Investments in occupational health infrastructure and mental health support can significantly improve retention and performance in emergency care settings.

Lastly, nursing education institutions should embed stress management and resilience-building modules into professional training curricula to better prepare future nurses for high-pressure clinical environments. Policymakers can also foster public-private partnerships to strengthen emergency care systems by supporting workforce development initiatives and incentivizing institutional reforms that prioritize nurse well-being.

5.3 Recommendations

Based on the study's findings, several major recommendations are proposed for healthcare organizations, policymakers, and researchers seeking to reduce burnout and improve workforce sustainability in emergency care settings.

5.3.1 Recommendations for Healthcare Organizations

- i. Invest in workload management systems such as electronic health records, automated triage tools, and task redistribution protocols to reduce manual burden and improve operational efficiency in emergency wards.
- ii. Strengthen the work environment by promoting effective communication, team cohesion, and leadership development. Institutions should adopt the AACN's six standards for healthy work environments to foster psychological safety and professional satisfaction.
- iii. Implement structured stress management programs including mindfulness training, peer debriefing sessions, and access to counseling services. These interventions should be embedded into daily routines and supported by institutional leadership.
- iv. Monitor and address job stress proactively by conducting regular assessments of nurse stress levels and providing targeted support. This includes streamlining administrative processes and ensuring adequate staffing to reduce chronic strain.
- v. Customize support based on individual needs, recognizing that nurses vary in their resilience and coping capacity. Adaptive wellness models should be developed to accommodate diverse psychological profiles and stress responses.

5.3.2 Recommendations for Policymakers

- i. Develop national policies on occupational health in emergency care, emphasizing workload regulation, burnout prevention, and mental health support. These policies should be aligned with global standards and tailored to the Ghanaian healthcare context.
- ii. Fund infrastructure upgrades in public hospitals, including digital systems, staffing expansion, and facility improvements. These investments will enhance the work environment and reduce the systemic contributors to burnout.
- iii. Promote public-private partnerships to support stress management and workforce resilience initiatives. Collaborative efforts can accelerate the development of scalable wellness programs and training modules for frontline healthcare workers.
- iv. Incentivize institutions that prioritize nurse well-being, through accreditation benefits, funding access, or recognition schemes. This will encourage widespread adoption of burnout prevention strategies across the healthcare sector.

5.3.3 Recommendations for Future Research

- i. Explore additional moderating variables such as leadership style, emotional intelligence, and organizational culture to deepen understanding of the workload–burnout dynamic.

- ii. Conduct longitudinal studies to examine how workload and burnout evolve over time, particularly in response to policy changes, technological adoption, or crisis events such as pandemics.
- iii. Compare burnout patterns across clinical departments and regions, to identify context-specific risk factors and tailor interventions accordingly. Cross-sector analysis can reveal best practices for different healthcare environments.
- iv. Investigate individual-level resilience factors, including coping styles, personality traits, and support networks, to inform personalized burnout prevention strategies.

5.4 Limitations of the study

First of all, the study's quantitative methodology is resource-intensive and required substantial time to collect, process, and analyze the data, even though it provided a robust and structured view of the relationships among workload, burnout, and moderating variables. This methodological choice limited the depth of triangulation, as qualitative insights such as personal narratives or contextual interpretations were not incorporated to enrich the findings.

In addition, the study assumes that all nurses have equal exposure to and understanding of stress management practices, work environment dynamics, and job stress triggers. However, individual differences in psychological resilience, coping mechanisms, and institutional

support may influence how nurses perceive and respond to workload. This limitation raises the possibility that the study may not fully account for variations in personal and contextual factors that shape burnout experiences.

Finally, the study was constrained by the rapid evolution of healthcare systems and institutional reforms. As hospitals adopt new technologies, staffing models, and wellness programs, the relevance of the findings may diminish over time. This limitation is particularly important in emergency care settings, where policy shifts and infrastructure upgrades are frequent. Consequently, the study's conclusions may not be entirely applicable if healthcare institutions significantly alter their workload distribution strategies or introduce new burnout mitigation frameworks.

5.5 Conclusion

This study examined the effects of Workload (WL) on Burnout (BO) among emergency ward nurses, with Work Environment (WE), Job Stress (JS), and Stress Management (SM) acting as moderating variables. The findings highlight the critical importance of managing workload and enhancing institutional and psychological supports to reduce burnout and promote nurse well-being.

The results substantially confirm the concept that excessive workload increases burnout, emphasizing the need for structured workload regulation in high-pressure clinical settings. Nurses exposed to sustained demands without adequate support reported higher levels of emotional exhaustion and disengagement. This is consistent with previous literature, which underscores the role of job demands in triggering burnout and compromising care quality.

The study also found that work environment, job stress, and stress management significantly moderate the relationship between workload and burnout. A supportive work environment and effective stress management practices were shown to buffer the negative effects of workload, while elevated job stress intensified burnout outcomes. These findings reinforce the importance of healthcare institutions investing in psychological safety, wellness programs, and operational reforms to protect frontline staff.

Practically, organizations must recognize that reducing burnout requires more than adjusting workload volumes. To effectively mitigate burnout, nurses must operate in environments that foster collaboration, emotional resilience, and access to stress-reducing resources. Institutions that prioritize these factors will experience improved nurse retention, job satisfaction, and patient care outcomes.

For policymakers, the study emphasizes the need to integrate occupational health and burnout prevention into national healthcare strategies. Equitable access to mental health support, staffing adequacy, and infrastructure upgrades are essential to sustaining emergency care systems and ensuring workforce resilience.

While this study offers valuable insights into burnout dynamics in emergency nursing, several areas warrant further investigation. Future research should explore additional moderating elements such as leadership style, emotional intelligence, and organizational culture to deepen understanding of burnout prevention. Comparative studies across regions and clinical departments may also reveal context-specific strategies for improving nurse well-being.

In an era of increasing healthcare demands and systemic strain, institutions must adopt evidence-based interventions to safeguard their workforce. By regulating workload, cultivating supportive environments, and promoting stress management, healthcare organizations can reduce burnout and ensure long-term sustainability in emergency care delivery.



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APPENDIX: QUESTIONNAIRE

Department of Organization and Human Resource Management

University of Ghana Business School

P. O. Box LG 78, Legon, Accra, Ghana

RESEARCH QUESTIONNAIRE

**Understanding the Impact of Workload on the Burnout- Rate of Emergency-Ward
Nurses and the Relational Influences of their Work Environment, Job Stress and Stress
Management**

Synopsis

The purpose of this research is to provide an understanding on how emergency-ward nurses' workload affect their rate of burnout, and how the effect is influenced by their working environment, job stress and stress management.

The outcome will offer an understanding of how emergency-ward nurses in the Ghanaian health sector workload can affect the rate at which they exhaust or burnout as well as how their working surroundings, the stress that comes with the job and how such stress is managed can either moderate or mediate this relationship.

I undertake that any information provided will only be used for academic and the study purpose only and will also be treated anonymously.

Thank you.

Hamdawei Gubdanda Salifu

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Legon.

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SECTION A

Demography

Please kindly answer the following by ticking (✓) the appropriate answer of your choice.

1. Gender:

☐ Male

☐ Female

2. Age:

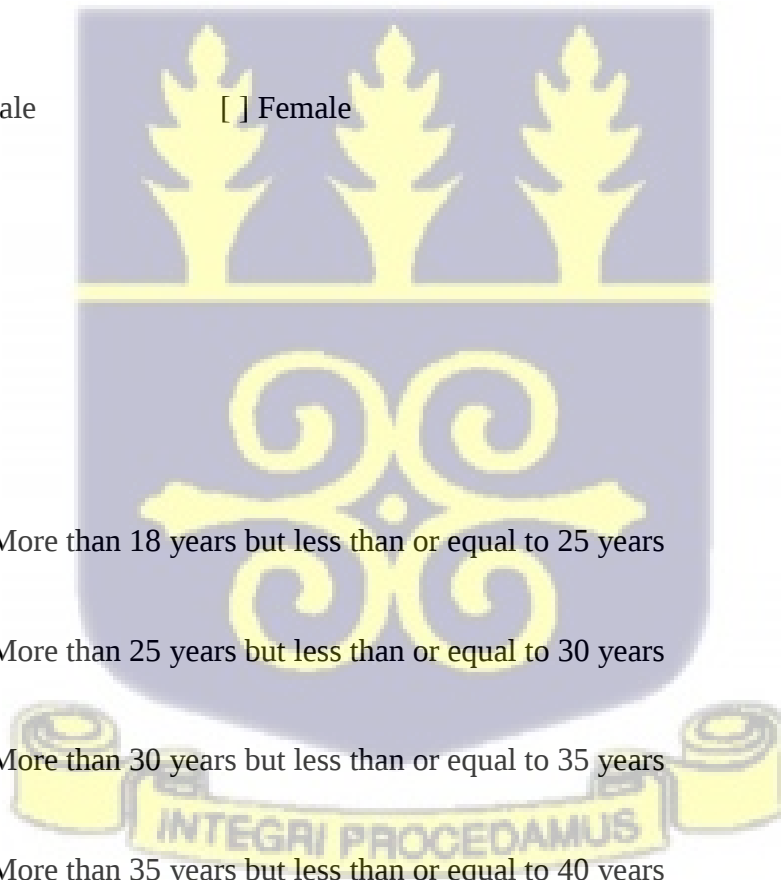
☐ More than 18 years but less than or equal to 25 years

☐ More than 25 years but less than or equal to 30 years

☐ More than 30 years but less than or equal to 35 years

☐ More than 35 years but less than or equal to 40 years

☐ 41 years and above



3. Educational level:

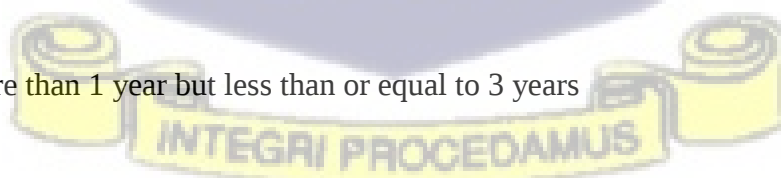
- ☐ Certificate ☐ Diploma ☐ First Degree ☐ Professional
- ☐ Post Graduate Degree

4. Number of Years as a Practicing Nurse:

- ☐ Less than or equal to 1 year
- ☐ More than 1 year but less than or equal to 3 years
- ☐ More than 3 year but less than or equal to 6 years
- ☐ More than 6 year but less than or equal to 9 years
- ☐ 10 years and above

5. Years of Involvement in Emergency Cases:

- ☐ Less than or equal to 1 year
- ☐ More than 1 year but less than or equal to 3 years
- ☐ More than 3 year but less than or equal to 6 years
- ☐ More than 6 year but less than or equal to 9 years
- ☐ 10 years and above



SECTION B

Nurses' Perceptions of Emergency Workload

Please kindly answer the following by ticking (✓) the appropriate answer of your choice.

No.		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	
W1	I perceive my work during an emergency as overloaded because it requires me to maintain a high level of attention						
W2	I perceive my work during an emergency as overloaded because it requires me to process complex medical information						
W3	I perceive my work during an emergency as overloaded because it requires me to think and choose between different care alternatives.						
W4	I perceive my work during an emergency as overloaded because it requires me to work constantly without taking breaks beyond strict regulations.						

W5	I perceive my work during an emergency as overloaded because my pace of work is excessive and difficult to reach even by an experienced worker.						
W6	I perceive my work during an emergency as overloaded because it requires me to work with annoying interruptions.						
W7	I perceive my work during an emergency as overloaded because the accomplishment of my tasks demands a lot of speed.						
W8	I perceive my work during an emergency as overloaded because any mistakes I make can have serious consequences.						
W9	I perceive my work during an emergency as overloaded because it involves a lot of responsibility.						
W10	I perceive my work during an emergency as overloaded because it requires me to analyse lot of patient information.						
W11	I perceive my work during an emergency as overloaded because it affects me emotionally.						
W12	I perceive my work during an emergency as overloaded because it affects my health.						

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SECTION C

Nurses' Feelings of Burnout During Emergencies

Please kindly answer the following by ticking (✓) the appropriate answer of your choice.

No.		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
B1	When I work on an emergency, I feel used up at the end of the workday, which situation makes me feel tired and exhausted.					
B2	When I work on an emergency, I feel fatigued when I get up in the morning and have to face another day on the job.					
B3	During an emergency, I get the feeling that I am working too hard on my job, which situation makes me feel exhausted.					
B4	Working directly with a medical team during an emergency, puts too much stress on me, which situation makes me feel tired and					

	exhausted.					
B5	When working on an emergency, I feel that I have to positively impact the patients' lives, which situation makes me feel exhausted..					
B6	When working on an emergency I try to create a relaxed atmosphere with my patients, which situation makes me feel exhausted..					
B7	When working on an emergency, I try to feel exhilarated by working closely with my patients, which situation makes me feel tired and exhausted.					
B8	When working on an emergency, I try to deal with my patients emotional problems calmly, which situation makes me feel tired and exhausted.					
B9	When working on an emergency I easily get irritated by my peers, which situation makes me feel exhausted.					
B10	When working on an emergency I get worried about my routines hardening me emotionally, which situation makes me feel tired and exhausted..					

B11	When working on an emergency I try not care about what happens to other patients, due to the demand of my task, which situation mentally, makes me feel exhausted.					
B12	When working on an emergency, I get the sense that my patients blame me for some of their problems, which makes me become uncomfortable and exhausted.					
B13	When working on an emergency, I feel personally involved with my patients problems, which situation makes me feel tired and exhausted.					
B14	When working on an emergency, I feel uncomfortable about the way I have to professionally treat some patients, which situation makes me feel exhausted.					



SECTION D

Nurses' Perceptions of Work Environment Influence on Emergencies

Please kindly answer the following by ticking (✓) the appropriate answer of your choice.

No.		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
E1	There is a high level of clinical expertise I can access when working on an emergency.					
E2	The quality of my work climate is the same as that of my colleagues when working on an emergency					
E3	I am acknowledged when I put in extra effort working on an emergency					
E4	I consider the continuity of care as important when I am working on an emergency.					
E5	I have access to the information I need to do my job, when working on an emergency.					
E6	My supervisor is responsive to my emergent leave requirements after working on an emergency.					
E7	After working on an emergency, I am able to change my roster if necessary,					

E8	My supervisor is approachable for discussion when I am working on an emergency.					
E9	I feel supported by supervisor when I am working on an emergency.					
E10	I feel a sense of great team spirit when I am working on an emergency.					
E11	I get away with bad behaviours when I am working on an emergency.					
E12	It is difficult for me to influence change when I am working on an emergency.					
E13	When working on an emergency, my skills are acknowledged by the medical team.					
E14	I get support for professional development in my area of expertise to help enhance my work on an emergency.					
E15	There is equity in the staff development opportunities I receive to help enhance my work on an emergency.					
E16	My performance when I work on an emergency is appraised to my satisfaction.					

SECTION E

Nurses' Feelings of Job Stress During Emergencies

Please kindly answer the following by ticking (✓) the appropriate answer of your choice.

No.		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
S1	The amount of work I have to do in an emergency situation mostly interfere with how well I get it done, and this makes feel stressed.					
S2	I feel unable to influence my immediate supervisor's decisions and actions in an emergency situation makes feel stressed.					
S3	Not knowing what my peers expect of me in an emergency situation makes feel stressed.					
S4	Having to deal with and/or satisfy too many patients in an emergency situation makes feel stressed.					

S5	Developing the sense that my job during an emergency situation, interferes with my family life makes me feel stressed.					
S6	Being asked to work overtime during an emergency situation when I do not wish to make feel stressed.					
S7	I have to work very fast during an emergency situation, and this makes me feel stressed.					
S8	I have to work very hard, both physically or mentally, during an emergency situation, and this makes me feel stressed.					

SECTION F

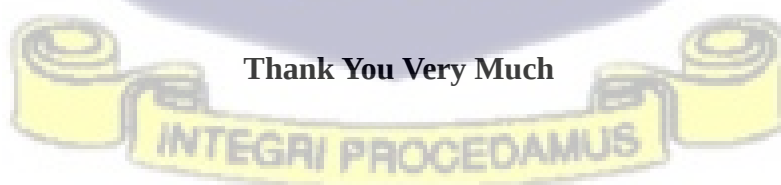
Nurses' Management of Job Stress During Emergencies

INTEGRI PROCEDAMUS

Please kindly answer the following by ticking (✓) the appropriate answer of your choice.

No.		Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
M1	When working in an emergency situation, I manage my job stress by concentrating my efforts on doing something about it.					
M2	When working in an emergency situation, I manage my job stress by taking action to try to make the situation better.					
M3	When working in an emergency situation, I manage my job stress by taking alcohol and/or other medications to help me relax.					
M4	When working in an emergency situation, I manage my job stress by getting help and advice from my work colleagues.					
M5	When working in an emergency situation, I manage my job stress by getting assistance and/or advice from people who are important to me.					
M6	When working in an emergency situation, I manage my job stress by giving up trying to deal with it.					
M7	When working in an emergency situation, I manage my job stress by giving up the attempt to complete work routines.					
M8	When working in an emergency					

	situation, I manage my job stress by trying to see it in a different light to make it seem more positive.					
M9	When working in an emergency situation, I manage my job stress by looking for something good in what is happening to my patients.					
M10	When working in an emergency situation, I manage my job stress by accepting the reality of the fact that it has happened.					
M11	When working in an emergency situation, I manage my job stress by recognizing that it is part of my work and I have to live with it.					
M12	When working in an emergency situation, I manage my job stress by praying and/or meditating.					
M13	When working in an emergency situation, I manage my job stress by trying to find comfort in my faith and/or spiritual beliefs.					



Thank You Very Much