Assessing the Influence of Job Demands and Job Control on Work-Life Balance Among Nurses at Mbingo Baptist Hospital

Mbomngho Ceraphine

University of Global Health Equity

Supervisors: Dr. Atenchong Nwibete & Dr. Shelly Luger

A dissertation submitted to the University of Global Health Equity in partial fulfillment of the requirements for the award of a Master's degree in Global Nursing Leadership.

June 2026

Declaration

I, Mbomngho Ceraphine, declare that the work submitted for this dissertation is my own original work and has not been copied, purchased, or submitted previously for another course, program, or academic requirement, unless clearly acknowledged.

I confirm that all sources used in this work, including books, journal articles, reports, websites, lecture materials, artificial intelligence tools, and any other sources, have been properly cited and referenced according to the required academic referencing style.

I understand that plagiarism, fabrication of data, falsification of information, unauthorized collaboration, or submission of another person's work as my own is a serious academic offense and may result in disciplinary action according to institutional policies.

Use of Artificial Intelligence Tools

I used artificial intelligence tools for limited support, such as grammar checking, editing, formatting, brainstorming, or improving clarity. I confirm that the final content, analysis, interpretation, and conclusions are my own.

Approval Page

Dissertation Committee Review and Approval

I confirm that I have reviewed the student's work and approve it for formal submission, review, or examination.

By signing this form, I confirm that the student has completed the required work under my supervision and, to the best of my knowledge, the work is ready for submission. This approval does not guarantee a specific grade, examination outcome, publication acceptance, or institutional approval beyond the supervisor review process.

Supervisor Name: _____Atenchong Ngwibete_____

Supervisor Signature: _____  _____

Date: _____

Dissertation Committee Name: _____

Dissertation Committee Signature: _____

Date: _____

Acknowledgements

I am profoundly grateful to the University of Global Health Equity for providing an enriching environment that has nurtured my academic and leadership growth.

I would like to extend my sincere appreciation to my supervisors for their mentorship, unwavering support, and valuable guidance throughout this program.

I also thank my colleagues and friends for their encouragement and collaborative spirit.

Finally, I extend my heartfelt gratitude to my family for their continuous support and motivation during this journey, and above all, to God Almighty for strength, wisdom, and deep insight throughout this journey.

Abstract

Background. Work-life imbalance is a growing concern among nurses, yet the way job demands and job control jointly shape it has been little studied in low- and middle-income settings such as Cameroon. **Purpose.** This study assessed the influence of job demands and job control on the work-life balance of nurses at Mbingo Baptist Hospital, Cameroon. **Method.** A cross-sectional quantitative design was used. A structured questionnaire adapting the Copenhagen Psychosocial Questionnaire III (Burr et al., 2019) was completed by 186 nurses selected through census sampling. Constructs were summarized as composite mean scores, internal consistency was assessed with Cronbach's alpha, and the data were analyzed in Stata 18 using descriptive statistics, Pearson correlation, and multiple linear regression, with a moderation test and a bootstrap robustness check. **Results.** Job demands were moderate to high (M = 3.39) and job control was modest (M = 2.66), while most nurses reported a poor work-life balance (M = 2.40; 57.5% in the low band). Job demands significantly reduced work-life balance (B = -0.60, $p < .001$) and job control significantly improved it (B = 0.29, $p < .001$); the model explained 30% of the variance. Job control did not moderate the effect of job demands. **Conclusion.** Job demands and job control independently shaped nurses' work-life balance, indicating that both reducing demands and strengthening control, particularly control over working time, are needed to improve it.

Keywords: job demands, job control, work-life balance, nurses, Cameroon.

Table of Contents

Declaration ii

Approval Page iii

Acknowledgements iv

Abstract v

Table of Contents 1

List of Tables 6

List of Figures 7

CHAPTER ONE 8

INTRODUCTION 8

1.1 Background 8

1.2 Problem statement 12

1.3 Justification 13

1.4 Aim of the Study 14

1.5 Objectives 14

1.6 Research Question/ Hypothesis 14

1.7 Significance of the Study 15

1.8 Limitations: 16

CHAPTER TWO 17

LITERATURE REVIEW 17

2.1 Introduction 17

2.2 Search Strategy 18

2.3 Theoretical framework 19

2.4 Definition of key terms 20

2.5 Review of Literature 21

2.5.1 Job demands among nurses 21

2.5.2 Job control among nurses 22

2.5.3 Job demands and job control 22

2.5.4 Work-life balance among nurses 24

2.5.5 Job demands and work-life balance 25

2.5.6 Job control and work-life balance 25

2.6 Methodological Review 26

2.7 Contextual / Regional Literature 26

2.8 Research gap: 27

2.9 Chapter Summary 27

CHAPTER THREE 28

METHODOLOGY SUMMARY 28

3.1 Introduction 28

3.2 Study Design 28

3.3 Study Population 28

3.4 Sampling Method and Sample Size 29

3.5 Recruitment of Participants....29

3.6 Data Collection Tool....30

3.7 Data Analysis Method....31

3.8 Ethical Considerations....34

CHAPTER FOUR....36

PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS....36

4.1 Introduction....36

4.2 Presentation of Findings....36

4.2.1 Descriptive Findings....36

Table 4.6 summarizes the construct scores. Job demands recorded the highest mean (M = 3.39, SD = 0.51), confirming a moderate to high overall level of demands, while job control was the lowest of the three predictors (M = 2.66, SD = 0.68). The availability of work-life balance strategies was moderate (M = 3.07, SD = 0.77), and the work-life balance experience, the dependent variable, was the lowest construct overall (M = 2.40, SD = 0.84), reinforcing the conclusion that nurses leaned towards imbalance.*4.2.2 Inferential Findings*....43

4.2.3 Qualitative Findings on Challenges and Strategies (Objective 3)....48

CHAPTER FIVE....51

SUMMARY OF FINDINGS, CONCLUSION, RECOMMENDATIONS, CONTRIBUTION TO KNOWLEDGE, LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH....51

5.1 Introduction....51

5.2 Discussion of Findings....51

5.2.1 Status of Job Demands, Job Control, Strategies, and Work-Life Balance 52

5.2.3 Relationship Between Job Demands, Job Control, and Work-Life Balance (H1) ..53

5.2.4 Moderating Role of Job Control (H2) 54

5.2.5 Summary of Findings 57

5.3 Conclusion 57

5.4 Recommendations 58

5.5 Contribution to Knowledge 59

5.6 Limitations of the Study 60

5.7 Suggestions for Further Research 61

APPENDIX 1: 62

QUALITATIVE THEMATIC ANALYSIS OF THE OPEN-ENDED RESPONSES (SECTION F) 62

A.1 Method 62

A.2 Coding Framework (Codebook) 63

A.3 Theme Frequencies 65

A.4 Representative Verbatim Quotations 66

A.4.1 Challenges to Work-Life Balance 66

A.4.2 Suggested Strategies to Improve Work-Life Balance 69

A.5 Note on Coverage 73

APPENDIX 2: RAW RESULTS FOR QUANTITATIVE 74

A.6 Budget 80

A.7 Study Timeline 80

A.8 Consent form 81

Research Questionnaire 84

A.9 QUESTIONNAIRE 84

A.10 References 89

APPENDIX 3: RELIABILITY AND REGRESSION DIAGNOSTICS 97

List of Tables

Table 4.1. Socio-Demographic and Work-Related Characteristics of Respondents (N = 186)

Table 4.2. Item, Sub-Dimension, and Overall Means for Job Demands (N = 186)

Table 4.3. Item, Sub-Dimension, and Overall Means for Job Control (N = 186)

Table 4.4. Item and Overall Means for Work-Life Balance Strategies (N = 186)

Table 4.5. Item and Overall Means for the Work-Life Balance Experience (N = 186)

Table 4.6. Descriptive Statistics of the Study Constructs (N = 186)

Table 4.7. Pearson Correlation Matrix of the Study Constructs (N = 186)

Table 4.8. Multiple Linear Regression Predicting the Work-Life Balance Experience (Model B; N = 184)

Table 4.9. Sensitivity Comparison of the Regression With and Without Age

Table 4.10. Hierarchical Regression Testing the Moderating Role of Job Control (N = 184)

Table 4.11. Summary of Hypothesis Testing

Table 4.12. Themes in Nurses' Reported Challenges to Work-Life Balance (N = 70)

Table 4.13. Themes in Nurses' Suggested Strategies to Improve Work-Life Balance (N = 70)

Table A1. Coding Framework for Challenges to Work-Life Balance

Table A2. Coding Framework for Suggested Strategies to Improve Work-Life Balance

Table A3. Themes in Nurses' Reported Challenges to Work-Life Balance (N = 70)

Table A4. Themes in Nurses' Suggested Strategies to Improve Work-Life Balance (N = 70)

Table A5. Reliability of the Measurement Scales

Table A6. Regression Diagnostic Tests for the Primary Model

List of Figures

Figure 4.1. Distribution of Work-Life Balance Levels

Figure A1. Histogram of Regression Residuals

CHAPTER ONE

INTRODUCTION

1.1 Background

Nurses play a pivotal role in healthcare delivery, yet they frequently encounter high job demands and limited job control, factors that can significantly disrupt their work-life balance and overall well-being(Mabrouk et al., 2024). The demanding nature of the nursing profession can significantly influence nurses' motivation, satisfaction, performance, absenteeism, and turnover rates(Mohamed Elshahat et al., 2019). The job demands are often interwoven with a set of environmental elements that are typically regarded as major drivers of nurse job attachment and behavior. There are job-specific factors, such as knowledge and skills, mental and physical demands, and working circumstances, that might be identified, characterized, and assessed as significant causes of nurse health (Baghshykhi et al., 2020). Workload refers to the extent of job tasks, while role ambiguity is the absence of clarity, certainty, and expectedness one may have anticipated with respect to behavior at work. Insecurity, the uncertainty of continued employment, often fuels work–life conflict, where job demands hinder personal responsibilities. The fear of losing one's job can prompt individuals to overcommit to work, thereby intensifying the strain between professional and personal roles (Lesener et al., 2019). The inability to achieve work–life balance is one of the major reasons for the declining retention rate among nurses. Job demands are a major work domain factor that can significantly influence the work–life balance of nurses (Ng et al., 2017).

Job demands are defined as the extent to which the working environment contains stimuli that require some effort, which suggests that job demands may lead to negative

consequences if they require additional effort to achieve work goals, and the physical, psychological, social, or organizational aspects of the job that are necessary for the achievement of goals(Adil & Kamal, 2020). Job demands are composed of workload, role ambiguity, job insecurity, and work–life conflict. High job demands are a major source of stress for hospital staff, particularly nurses. As these demands rise, nurses experience greater stress, reduced productivity, and a decline in overall quality of life (Babamohamadi et al., 2023). A study analyzing the job demands-control-support model in work–life balance by,(Navajas-Romero et al., 2020) revealed that the majority of the studied participants perceived high-level job demands. Due to the increase in job demands, rethinking of job design for nurses has become essential(Fernandez De Henestrosa et al., 2023).

One important development is the concept of job control. Job control is defined as the extent to which employees perceive that they have autonomy over the timing and methods of their work(Fernandez De Henestrosa et al., 2023). It ensures nurses have autonomy over tasks, make decisions, and organize their workflow. It encompasses control over scheduling, task execution, and participation in decision-making, thereby promoting job satisfaction(Fernandez De Henestrosa et al., 2023). Job control empowers nurses to regulate their work environment by modifying physical, cognitive, and relational aspects of their tasks. This autonomy enables them to better balance demands, sustain productivity, and protect their well-being (Zito et al., 2019). Job control is a kind of proactive behavior defined as the changes that nurses make in their levels of job demands and job resources to align them with their abilities and preferences(Dirisu et al., 2018). A high level of control over the work situation, manageable work demands, and extensive social support are crucial factors that employees need to experience high levels of job satisfaction and well-being(Dirisu et al., 2018). According to (Chang et al., 2020), Nurses who are satisfied with their lives are significantly more likely to exhibit higher levels of job control, which affects the work–life balance of nursing staff.

The balance between personal and professional life is a critical issue that has become increasingly worrisome due to globalization, the intrusion of new technologies into personal life, the overlap between work and family time, new organizational systems, and changes in the nature of work (Akanji et al., 2020). This problem is particularly acute in professions characterized by long or irregular working hours, where the erosion of boundaries between personal and professional life leads to heightened stress and reduced well-being (Lee & Choi, 2019). Sripo et al. (2019) defined work-life balance as the ability to support workers' efforts to divide their time and energy between job demands and other important aspects of their lives. The negative effects of work spilling into family life include reduced involvement at home, low energy for parenting, and the prioritization of work over family, often driven by high work expectations, inflexible hours, job pressure, and poor management (Rony et al., 2023). Maintaining a healthy work-life balance is therefore crucial for nurses, as it allows them to cope with occupational challenges and improve the quality of their personal lives.

However, an unbalanced work and personal life can hinder nurses not only in meeting parenting responsibilities, but also in maintaining personal relationships, pursuing self-care, and sustaining emotional resilience. This is due to the low energy that results from heavier workloads and more demanding schedules compared with other healthcare professionals (Goncalves et al., 2020). Much of the existing research on work-life balance has focused on the challenges of caring for children and the elderly, yet the broader question of personal well-being is equally important. Given the close interconnection of work and personal time, many workers struggle to define the boundaries between the two and often cross them, with harmful consequences for their health and well-being (Lee & Choi, 2019). A study among Taiwanese nurses by Ng et al. (2017) showed that job demands and job control significantly predicted all dimensions of work-life balance: job demands increased work-life imbalance, while job control

had positive effects on work-life balance, although it also increased both work interference with personal life and personal life interference with work.

Healthcare organizations and health policymakers place great emphasis on identifying conditions with the highest impact on achieving better health outcomes. As a major factor in healthcare, significant efforts have been made to explore the role of the work environment of nurses in enhancing the quality of healthcare delivery. Efforts to improve the quality of healthcare could lead to a healthier workforce, ultimately benefiting the entire community(Khan et al., 2019). The working environment of nurses is garnering global interest and concern because there is a growing consensus that identifying opportunities to improve working conditions in hospitals is essential to maintaining adequate staffing, high-quality patient care, and nurses' work engagement, and to retaining them (Khan et al., 2019). For employees to enjoy work–life balance, perceived organizational support constitutes a critical mechanism through which employees can manage occupational demands. This Perceived support guarantees that employees fulfill their tasks, perform their job efficiently, and manage stress. It is also a sign of the relationship between an organization and its employees because it tests employees' beliefs about how much their organization rewards their efforts and well-being(Qi et al., 2019). Building on the significance of work–life balance, it becomes evident that managing job demands and ensuring adequate job control are equally critical. To work effectively, nurses should set a balance between demands of their family and career and maintaining a proper level of control are essential to the work–life balance of nurses(Ng et al., 2017a). Accordingly, the present study seeks to examine how job demands and job control interact to influence the work–life balance of nursing staff.

1.2 Problem statement

Nurses across Africa face escalating job demands due to increased patient loads, resource constraints, and the critical nature of healthcare delivery. These pressures often result in a compromised work-life balance, leading to negative outcomes such as job dissatisfaction, burnout, and reduced organizational productivity (Obina et al., 2024). The loss of nursing staff that follows is a critical challenge that undermines the performance of healthcare organizations. The scale of the problem is considerable: globally, the nursing workforce faced an estimated shortage of about 5.9 million nurses, the great majority of it concentrated in low- and middle-income countries (World Health Organization, 2020), where attrition driven by poor working conditions deepens the deficit. While the importance of work-life balance for nurse well-being and healthcare quality is widely recognized, most existing research has focused on high-income or non-African contexts, with limited studies specifically examining the interplay of job demands and job control among African nurses (Tamunomiebi & Oyibo, 2020). Recent studies in Africa have highlighted poor work-life balance that reduces nurses' intention to stay in the profession (Obina et al., 2024).

Despite the growing body of literature on work-life balance across various professions, research specifically examining the interplay among job demands, job control, and work-life balance among nurses in Cameroon remains scarce. Evidence from Cameroon shows that work-related stress has tangible consequences for nurses. In one study in the country, stress contributed to musculoskeletal disorders such as joint and back pain in over 16% of nurses, with about 6% quitting their jobs, and the study also reported ineffective coping mechanisms such as using humor to manage stress or crying to relieve it (Therese et al., 2020). These findings highlight the need for more comprehensive studies that specifically examine the interaction between job demands and job control in influencing work-life balance at Mbingo

Baptist Hospital. By understanding the specific factors that contribute to work-life balance among nurses, healthcare organizations can implement targeted interventions to improve job satisfaction, reduce turnover, and ultimately enhance the quality of patient care.

1.3 Justification

Nurses face numerous job demands, including 80% of bedside care and treatment measures, and often must take on additional tasks beyond their primary roles (Babamohamadi et al., 2023). Factors contributing to nurses' work-life imbalance have not been well investigated, particularly in low- and middle-income countries (LMIC), including Cameroon (Rony et al., 2023). Nurses turnover intentions are a recurring problem that could be mitigated by creating supportive working environments to reduce susceptibility to workplace burnout, ultimately lowering turnover intentions (Boamah & Laschinger, 2016). The relevance of organizational culture to job satisfaction and performance, particularly within the hospitality sector, cannot be overstated (Dirisu et al., 2018)**.** A study carried out by (Obina et al., 2024) among health workers in the rural district of Gulu, Northern Uganda, revealed that work-life balance (WLB) plays a significant role in improving career satisfaction and reducing burnout. While health workers' productivity is considered a key factor in client care, there is limited effort put into examining how health workers perceive the balance of their jobs with family and other societal responsibilities (PWLB), especially in low-income countries where the number of health workers in active patient care is low. Only four in every 10 health workers experienced a positive perceived work-life balance. The type of profession, duty station, flexibility in work schedule, satisfaction with work, and availability of social support systems were independent determinants of perceived WLB**(Obina et al., 2024).** Therefore, there is still a need for more comprehensive studies that specifically examine

1.4 Aim of the Study

The overall aim of this study is to assess the association between job demands and work control on the work-life balance among nurses at Mbingo Baptist Hospital, Cameroon.

1.5 Objectives

1. To assess the level of job demands among nurses at Mbingo Baptist Hospital.
2. To assess the level of work control among nurses at Mbingo Baptist Hospital.
3. To determine the work-life-balance among nurses at Mbingo Baptist Hospital.
4. To examine the association/relationship between job demands, job control, and work–life balance among nurses at Mbingo Baptist Hospital.

1.6 Research Question/ Hypothesis

Research questions

1. What is the level of job demands among nurses at Mbingo Baptist Hospital?
2. What is the level of work control among nurses at Mbingo Baptist Hospital.
3. What is the work-life-balance among nurses at Mbingo Baptist Hospital.
4. What is the association/relationship between job demands, job control, and work–life balance among nurses at Mbingo Baptist Hospital.

Hypotheses:

HO - There is no significant relationship between job demands and work control with employees' work–life balance.

- Alternative Hypothesis (H_1): There is a significant relationship between job demands and work control with employees' work–life balance.

HO- Job control will not have a moderating effect on job demand and work-life balance among nurses

H2- Job control will have a moderating effect on job demands and work-life balance

1.7 Significance of the Study

This study holds significant practical and theoretical implications:

- The study will provide empirical evidence that validates the experiences and provides evidence to advocate for better working conditions
- For Mbingo Baptist Hospital Management: The findings will provide empirical evidence on the specific job demands and levels of work control experienced by their nurses, allowing for the development and implementation of targeted interventions (e.g., flexible work practices, better workload management, enhanced support systems) to improve nurses' work-life balance, job satisfaction, and retention rates. It will also provide data to justify organizational changes to support on support systems for nurses such as flexible scheduling and wellness programs.
- For Nursing Profession/Policy: The study contributes to the broader understanding of work-life balance challenges within the demanding nursing profession in a Cameroonian context, which can inform local and national healthcare policies and guidelines. Specifically, Strengthens arguments for investment in healthcare infrastructure to reduce workload pressures. It will also presents evidence to support the development of hospital and/or national guideline**s** on working hours, staffing ratios, and occupational health standards.
- For Academia: It contributes to the existing body of literature by testing and validating the applicability of core theoretical models in a specific cultural and institutional setting in Sub-Saharan Africa.

1.8 Limitations:

The primary limitation of this study is its inability to establish causality due to the cross-sectional design. Additionally, self-reported data may introduce bias, and the study's generalizability may be limited to the Cameroonian context. Lastly, the study is limited to nurses working at Mbingo Baptist Hospital, and therefore its findings may not be generalizable to nurses in other healthcare settings or institutions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the theoretical, conceptual, empirical, and contextual literature on job demands, job control, and work-life balance among nurses, and identifies the gap the present study addresses.

Nursing turnover is a significant issue affecting the performance and profitability of healthcare organizations, as they require stable, highly trained, and fully engaged nursing staff to deliver high-quality patient care. Retention of nursing staff is a significant challenge, given the high demand for jobs in this profession(Khan et al., 2019b). Job demands increased the level of work–life imbalance among nurses, while job control showed positive effects on work and personal life enhancement.

The existing literature demonstrates that, in Sub-Saharan Africa, there are limited studies that have addressed the importance of work-life balance, job demand, and organizational commitment for both organizations and individuals (Tamunomiebi & Oyibo, 2020). Despite the growing body of literature exploring work-life balance in various professions, research specifically examining the interplay between job demands, job control, and work-life balance among nurses in Cameroon remains scarce**.** A European study by (Navajas-Romero et al., 2020) corroborates the idea that job demands are not the only variables that affect WLB, particularly when employees perceive job control and/or social support from their organizations. The level of job control, family variables, and work-family conflict affecting nurses varied between hospitals, home healthcare, and nursing homes. Additionally, the effect of these variables on nurses' intention to leave their organization or profession varied across these care settings. Work-family conflict, family variables, and job control most strongly

predicted nurses' intention to leave their organization or profession in hospitals, home healthcare, and nursing homes, respectively(Yamaguchi et al., 2016)

2.2 Search Strategy

The main databases involved in the search and retrieval of appropriate evidence assessing the influence of job demand and job control on the work-life balance among nurses at MBH include Google Scholar, PubMed, Medline, Scopus, EBSCOhost, Cochrane Library, Web of Science, African Index Medicus and CINAHL. The primary keywords employed in the search for pertinent research studies included “influence’’, “job demands’’, “ job control’’, “ work-life balance’’, “nurses’’, “Africa,” “SubSaharan Africa’’. Boolean operators (AND/OR) and MeSH terms were applied to combine individual keywords and further guide the research efforts to ensure the retrieval of appropriate research studies. To ensure the credibility of the returned research studies, studies completed using case controls, RCTs, cohort designs, meta-analysis, systematic reviews, longitudinal studies and cross-sectional study designs were given high priority. Limits were applied to refine the search results. Only peer-reviewed articles published in English between 2015 and 2025 were included. Additional limits included studies involving human participants and articles available in full text. These limits were applied consistently across all databases.

Titles and abstracts were reviewed for relevance, resulting in 86 articles selected for full-text review. Following full-text screening based on predefined inclusion and exclusion criteria, 56 articles met the criteria and were included in the final review.The included studies focused on assessing the relationship between demands at work and job control among healthcare workers. These articles were critically appraised and synthesized to inform the

background, conceptual framework, and justification for the study. Documenting the number of articles reviewed at each stage enhances transparency and demonstrates a systematic and rigorous literature search.

2.3 Theoretical framework

The conceptual framework of this study is grounded in the Job Demands–Control Model (Khan et al., 2019), which posits that employees' well-being stems from the interaction between job demands and job control. In this framework, job demands and job control are operationalized through the Copenhagen Psychosocial Questionnaire III (Burr et al., 2019). Job demands encompass quantitative, emotional, cognitive, and pace-related pressures, while job control refers to the influence at work and the decision latitude available. The framework proposes that job demands have a negative effect on work–life balance because excessive demands reduce the time and energy available for personal and family life. Conversely, job control is expected to positively influence work–life balance by enhancing nurses' autonomy and flexibility. Furthermore, job control is hypothesized to moderate the relationship between job demands and work–life balance. High job control is expected to buffer or reduce the harmful effects of high job demands, while low job control intensifies those effects. This integrated framework guides the study's investigation into how psychosocial work characteristics shape work–life balance among nurses at Mbingo Baptist Hospital.

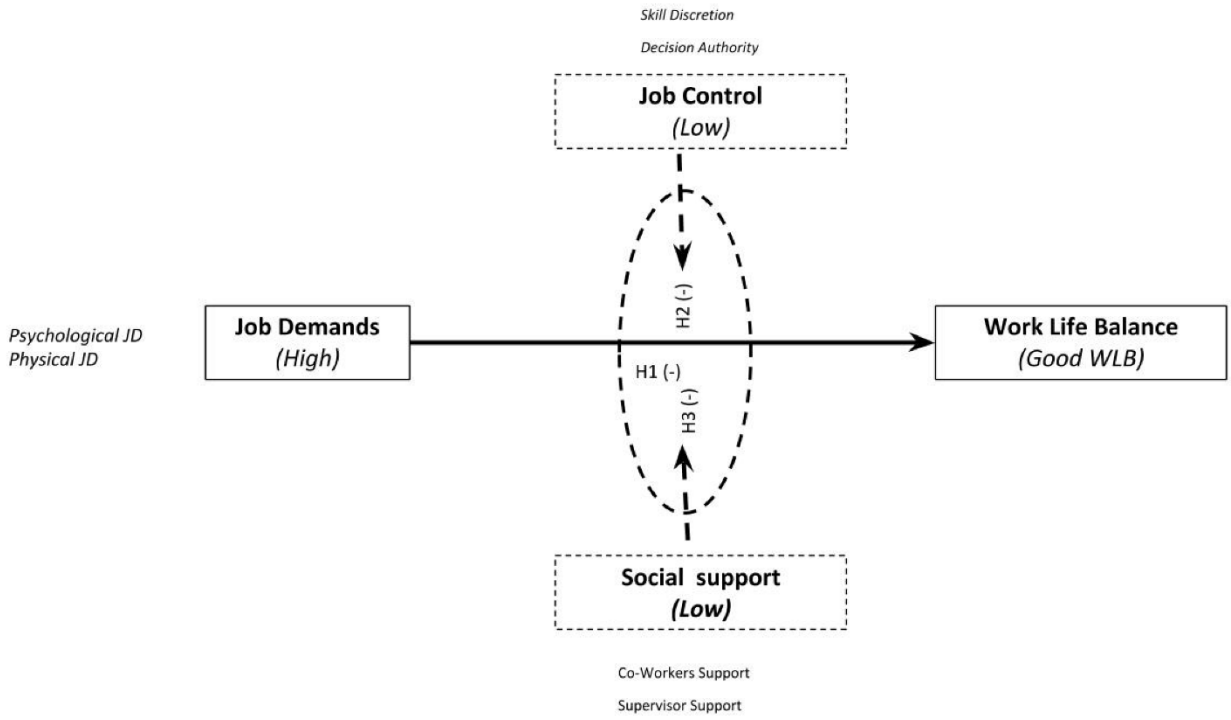


Figure I : Conceptual Framework by (Navajas-Romero et al., 2020)

2.4 Definition of key terms

Workload refers to the extent of job tasks, while role ambiguity is the absence of clarity, certainty, and expectedness one may have anticipated with respect to behavior in a work. insecurity, the uncertainty of continued employment, often fuels work–life conflict, where job demands hinder personal responsibilities.

Job control is defined as the extent to which employees perceive that they have autonomy over the timing and methods of their work(Fernandez De Henestrosa et al., 2023)

Job demands are defined as the extent to which the working environment contains stimuli that require some effort, which suggests that job demands may lead to negative

consequences if they require additional effort to achieve work goals, and the physical, psychological, social, or organizational aspects of the job that are necessary for the achievement of goals(Adil & Kamal, 2020).

Work–life balance is a concept that refers to the proper prioritization between work and lifestyle, as well as the ability of individuals to meet their work and non-work responsibilities(Grzywacz & Carlson, 2007).

2.5 Review of Literature

2.5.1 Job demands among nurses

Workload, mental load, time pressure, and the pace of work are among the typical psychological demands(Nordenmark et al., 2012). Psychological demands tend to exacerbate the interference/conflict between work and personal life (Lembrechts et al., 2015). As such, in contrast to work resources, the presence of job demands is expected to undermine WLB. (Lagerström et al., 2010), reported that Iranian nurses faced enormous pressures in striving to balance their family responsibilities and psychological demands, which consequently led to life dissatisfaction and health problems. As with psychological demands, fatigue due to physical demands at work constrains one's ability to manage work and personal life adequately(Rantanen, 2008). A study about relationships among organizational identification, cynicism, job demands, resources, and nurses' job crafting by(Mahdy Attia & Elsayed-ElAraby Abdelwahid, 2021), revealed that more than three-quarters of the studied nurses reported high levels of job demands. Along the same line, a study analyzing the job demands-control-support model in work–life balance by,(Navajas-Romero et al., 2020) and a study about the influence of job demands and job control on work–life balance among Taiwanese nurses by(Ng et al., 2017) revealed that the majority of the studied participants perceived high-level job demands.

In contrast, a study done by(Fekry Ahmed & Moustafa Abd-ElGhani, 2021) about job demands, job resources, and their relationship with job crafting reported that the total job demand was at a moderate level. This may be due to high workload, work–life conflict, and role ambiguity. Also a study by(Cho & Kim, 2020) about the effect of nursing organizational culture, organizational health, and job crafting stated that nurses' job demands were at a moderate level, which is expected to cause undesirable outcomes, but in the same time it reasons positive outcomes through job crafting actions. This was consistent with a study by Castner (2020) about the job demands–resources model and emergency nursing revealed that the job demands level was moderate among the studied nursing staff.

2.5.2 Job control among nurses

Job control is defined as the extent to which employees perceive that they have autonomy over the timing and methods of their work. Job control is a crucial factor that significantly contributes to workers' health, well-being, and motivation(Rosen & Wischniewski, 2019). In a study done by(Alruwaili & Abuadas, 2023) about professional autonomy among nurses in Saudi Arabian critical care units, and a study done by (Dahri et al., n.d.), about the effect of job demand resources on job crafting stated that a high level of job control was found among the studied nursing staff. Another study done by(Chang et al., 2020) about the association of happiness and nursing work environments with job crafting among hospital nurses revealed that there was a low level of total job control among the studied participants.

2.5.3 Job demands and job control

(Navajas-Romero et al., 2020)The study revealed that job control had a moderating effect in the case of psychological demands, suggesting that increasing the decision-making

capacity of nursing professionals will improve their mood, vitality, and general interest, thereby cushioning the direct effect that demanding work exerts on stress and overwork. Therefore, that research empirically confirmed that being able to choose the order in which one will perform tasks, being able to work at one's own pace and using one's own methods, being consulted about objectives that affect one's work, being able to influence the important decisions, or having the opportunity to apply one's own ideas at work, among other discretionary acts, cushions the negative effect that the psychological pressure of nursing work exerts on work −life. Additionally, a study about the moderating role of work pressure on the relationships between emotional demands and tension, exhaustion, and work engagement: an experience sampling study among nurses by(Riedl & Thomas, 2019) reported that studied nurses perceived that actual high job demands, including high workload and limited job resources, led them to engage in actions that decrease or relieve the perceived condition through job control activities. In this context, study how coworkers attribute, react to, and shape job crafting. Organizational psychology, as highlighted by(Tims & Parker, 2020), emphasizes that job demands play a fundamental role in the hypothesized energetic manner that can lead to burnout and health complications. Decreasing those demands appears to be necessary. In contrast, a study by (Elsayed, n.d.) (Elnady et al., 2023) revealed a highly statistically significant positive correlation between nurses' job demands and job control, with 95% confidence level. Moreover, a study about nurses' job crafting and its relationship with their job demands, job resources, and career competencies by (Elsayed, 2019) revealed that no statistically significant correlation between job control and total job demands.

2.5.4 Work-life balance among nurses

Work–life balance is a concept that refers to the proper prioritization between work and lifestyle, as well as the ability of individuals to meet their work and non-work responsibilities(Grzywacz & Carlson, 2007). There is no consensus on the definition of work–life balance. In many cases, the term work–life balance is often used interchangeably with the more narrowly focused term work–family balance(Duxbury & Higgins, 2001). According to Duxbury and Higgins (2001), work–life balance occurs when the inter-role conflict between work and family is minimized. Generally, the term 'work–life' is more comprehensive than 'work-family', as it encompasses different aspects of the individual's personal life(Rantanen et al., 2011).

A study on work–life balance and its relationship to person–job fit among staff nurses was conducted by (Badran & Khalaaf, 2023). It was revealed that most of the participants studied had a moderate level of total work–life balance. Along the same line, a study about factors related to work–life balance among occupational health nurses by(Sripo et al., 2019b) revealed that more than half of the studied nurses had a moderate level of total work–life balance. In contrast to a study done by(Fadillah et al., 2022) Regarding the effects of work–life balance on work stress, a low level of total work-life balance was revealed. Also, a study by (Khalil et al., 2022) about work–life balance and mental health of Egyptian and Saudi Health professionals managing COVID-19 patients revealed that the total level of work–life balance in Saudi Arabia amongst the studied participants was high, while in Egyptian participants it was low.

2.5.5 Job demands and work-life balance

Work–life balance can contribute to employees' job happiness, success, and loyalty at work. A healthy work–life balance mitigates stress-related effects like mental anguish, emotional tiredness, tension, and depression (Rony et al., 2023b). A study by(Jiang et al., 2022)A negative correlation was found between nurses' job demands and work-life balance in the context of job demands-resources, job crafting, and work engagement. Similarly, a study examining the mediating role of work–life balance in the effect of job demand and workplace resources on nurse job satisfaction by(Baisa & Nilasari, 2022) found that high job demand led to a decrease in the work–life balance of nurses. In contrast, a study by(Elnady et al., 2023) on job demands, resources, and their relationship to nurses' professional quality of life and job crafting revealed a highly statistically significant positive correlation between nurses' job demands and work–life balance. Physical demands are a reason why nurses may feel unsatisfied with their work if it does not align well with family or social commitments. The high physical demands cause a decrease in the well-being of workers, which is linked to work–family conflict. This encompasses aspects such as physical fatigue, pain, insecurity in the work environment, and depletion of physical resources, all of which affect a worker's work–life balance.

2.5.6 Job control and work-life balance

Work–life balance promotes employee career development, performance, and positive organizational outcomes (Frintner et al., 2021). Some of the most persistent work-related challenges in the healthcare industry are the high levels of stress, burnout, and turnover associated with the work (Boamah & Laschinger, 2016). Work–life balance practices are designed to offer employees job flexibility, allowing them to balance their professional responsibilities with family and other personal life commitments. Therefore, ensuring that

health care practitioners have a good work–life balance is important while they deliver quality care to patients. A study by(Elnady et al., 2023) on job demands, resources, and their relationship to nurses' professional quality of life and job crafting revealed a positive correlation between nurses' work-life balance and job control. In the same line of study on the influence of job demands and job control on work–life balance among Taiwanese nurses, (Ng et al., 2017)reported that job control for an employee means that they could influence the execution and planning of their job. The discretion and mastery of job skills provide people with a sense of control over their job activities. This sense of control helps nurses manage their personal life and work more effectively, improving their work–life balance. Job control is a more consistent predictor of WLE. Generally, it is recognized that increasing levels of job control enhance positive interactions between work and personal life.

2.6 Methodological Review

Most studies examining the influence of job demands and job control on the work-life balance of nurses have used quantitative cross-sectional designs with self-administered questionnaires (Ng et al., 2017; Navajas-Romero et al., 2020). Few studies adopt qualitative or mixed-methods approaches to explore the contextual factors that influence nurses' work-life balance.

2.7 Contextual / Regional Literature

In sub-Saharan Africa, research on the influence of job demand and job control on the work-life balance among nurses is limited. Available studies highlight low job control among nurses

2.8 Research gap:

Although existing studies demonstrate that nurses has a high control over their job, most of this evidence is drawn from high-income countries and urban healthcare settings. There is limited empirical research examining this relationship in low-resource contexts, particularly within African settings, where staffing shortages may increase job demands. Additionally, few studies focus on the relationship between job demand, job control and work-life balances. As a result, there is insufficient context-specific evidence to inform leadership practices aimed at improving work-life balances and workforce retention in MBH. This study aims to address the lack of specific, contextualized data on the influence of job demands and work control on work-life balance among nurses within the specific setting of Mbingo Baptist Hospital in Cameroon.

2.9 Chapter Summary

This chapter reviewed theoretical, empirical, and contextual literature related to the influence of job demand and job control on the work-life balance among nurses. Key themes included job demand, job control, work-life balance, and methodological trends in existing research. Significant gaps were identified, particularly the lack of context-specific studies in Cameroon. The next chapter describes the methodology used to address these gaps.

CHAPTER THREE

METHODOLOGY SUMMARY

3.1 Introduction

This chapter describes the research design and methods used to address the study objectives, covering the study design, population and sampling, recruitment, data collection, data analysis, and ethical considerations.

3.2 Study Design

This study employed a cross-sectional quantitative design. This method was chosen because it allows for the simultaneous measurement of job demands, job control, and work-life balance among nurses at a single point in time, providing a snapshot of the current situation. Cross-sectional studies are particularly useful for assessing prevalence and associations between variables, which aligns with the objectives of this research

3.3 Study Population

The study population comprised the 216 nurses employed at Mbingo Baptist Hospital (MBH) in the North West Region of Cameroon at the time of the study.

Inclusion and Exclusion Criteria

- Inclusion Criteria: Registered nurses with at least one year of experience in their current role.

- Exclusion Criteria: Nurses on extended leave or those who have not been actively working in their current role for the past year.

3.4 Sampling Method and Sample Size

A census (complete enumeration) sampling approach was adopted because of the relatively small and accessible population, and because a census removes sampling error and maximizes statistical power. All nurses who met the inclusion criteria were eligible to participate. Of the 216 nurses on the hospital register, a number were on annual or sick leave during the data-collection period of 11 to 27 May 2026, so 186 nurses were available and were approached, and all of them took part in the study.

3.5 Recruitment of Participants

A complete list of all nurses in the study population was compiled from the hospital staff records, obtained through the supervisor of nursing services, to ensure that no eligible nurse was omitted.

Written informed consent was obtained from every participant before data collection.

Participants were approached individually at the unit level.

After all institutional approvals had been obtained, the investigator visited each clinical unit and, through the head of unit, met the nurses who were on duty. The purpose, nature, and benefits of the study were explained to them, and those who were eligible and gave their consent were handed a self-administered structured questionnaire in an open envelope. Respondents completed the questionnaire and returned it in a sealed envelope to protect confidentiality. Questionnaires were distributed and collected at the unit level during the working day, across different shifts, in coordination with the nurses' work schedules, over the period 11 to 27 May 2026. Anonymity was preserved because the questionnaire carried no identifying information. The full instrument is presented in Appendix A9.

3.6 Data Collection Tool

A personal characteristics and work-related data sheet developed by the investigator formed the first section of the instrument and captured age, sex, marital status, years of experience in nursing, years of experience in the current unit, shift type, number of assigned patients per shift, and current professional role.

The main instrument was a structured questionnaire adapting the Copenhagen Psychosocial Questionnaire III (COPSOQ III; Burr et al., 2019), a validated and widely used measure of the psychosocial work environment. The questionnaire was organized into sections. Section A captured socio-demographic and work-related characteristics. Section B measured job demands through fourteen items covering four sub-dimensions: quantitative demands, work pace, cognitive demands, and emotional demands. Section C measured job control through ten items covering two sub-dimensions: influence at work and control over working time. Section D measured the work-life balance strategies available to nurses through eight items, and Section E measured the work-life balance experience, the dependent variable, through six items. All Section B to E items used a five-point response scale. Section F consisted of two open-ended questions that asked nurses to describe the major challenges they faced in balancing work and personal life and to suggest strategies for improvement; these provided the qualitative data. The COPSOQ III has been validated across cultures and occupational groups, including healthcare in sub-Saharan Africa, which supports its content and construct validity for the Cameroonian context. Internal consistency in the present sample was acceptable to good, with Cronbach's alpha of .767 for job demands, .769 for job control, .831 for the work-life balance strategies, and .857 for the work-life balance experience scale. The full reliability output is reported in the appendix.

3.7 Data Analysis Method

The data were coded, cleaned, and analyzed using Stata 18. Data cleaning involved screening for missing values, out-of-range entries, and duplicates. Age contained a substantial number of out-of-range or unusable entries, which were treated as missing, leaving 103 valid age values; the implications of this are addressed in the regression strategy below. No other variable had appreciable missing data. The analysis then proceeded in a logical sequence, beginning with descriptive statistics and followed by inferential statistics.

Each multi-item construct was scored as a composite mean on the original five-point metric. Before the composite scores were computed, negatively worded items were reverse-coded so that, for every scale, a higher score consistently denotes more of the named construct; for the work-life balance experience scale, a higher score denotes a more favorable balance and lower conflict. Sub-dimension means were obtained by averaging the items within each sub-dimension, and the overall construct score was the mean of all its items. For descriptive interpretation, the composite scores were classified into three levels using equal intervals across the five-point scale: low (1.00 to 2.33), moderate (2.34 to 3.66), and high (3.67 to 5.00). The same scoring and classification were applied to job demands, job control, the work-life balance strategies, and the work-life balance experience.

Descriptive statistics were used to summarize the data. Categorical demographic variables were summarized with frequencies and percentages, while continuous variables and the composite construct scores were summarized with means and standard deviations, supported by medians where distributions were skewed. Means and standard deviations were used for the scale items because the responses were treated as approximately interval-level data from established multi-item psychosocial scales, which is consistent with common practice for COPSOQ-based measures. The normality of the construct scores and of the regression residuals was examined using the Shapiro-Wilk test, complemented by skewness and kurtosis values and

by graphical inspection. The construct scores were approximately normally distributed, and the regression residuals showed only a mild departure from normality (Shapiro-Wilk $W = 0.971$, $p < .001$), which did not materially affect the analysis and was further addressed through a bootstrap robustness check. The relative importance of the job-demand and job-control factors was judged by comparing the sub-dimension and item mean scores, with higher means indicating the dimensions felt most strongly by nurses.

Pearson correlation coefficients were computed to examine the strength and direction of the bivariate relationships among job demands, job control, the available strategies, and the work-life balance experience.

The relationship between job demands, job control, and work-life balance was tested using multiple linear regression, with the work-life balance experience score as the dependent variable. Job demands and job control were entered as the predictors of interest. Control variables were selected on theoretical grounds as work-related characteristics likely to affect work-life balance, namely years of nursing experience, the average number of patients per shift, and work schedule; demographic variables that were not theoretically central were not entered, in order to keep the model parsimonious given the sample size. Two regression models were estimated. The primary model (Model B, $N = 184$) excluded age, because age was missing for a large proportion of respondents and retaining it would have reduced the analytic sample by almost half. A sensitivity model (Model A, $N = 102$) added age to confirm that its omission did not distort the findings. The overall fit of each model was evaluated using the F-statistic and the coefficient of determination (R-squared and adjusted R-squared), and statistical significance was assessed at the 95% confidence level ($p < .05$). To verify that the conclusions did not depend on the normality assumption, the primary model was re-estimated using a 5,000-replication non-parametric bootstrap, and the bootstrap standard errors are reported alongside the ordinary least squares estimates.

Several regression diagnostics were conducted on the primary model. Multicollinearity was assessed using the variance inflation factor, with values below 10 taken to indicate no problematic collinearity; homoscedasticity was assessed using the Breusch-Pagan test; and the normality of the residuals was assessed using the Shapiro-Wilk test and a histogram of the residuals. These diagnostics confirmed that the model met its assumptions: the variance inflation factors were low (mean = 1.11, maximum = 1.24), the Breusch-Pagan test was non-significant (chi-square(1) = 0.04, p = .838), and the residuals were approximately normal apart from the mild departure noted above. The full diagnostic output is reported in Appendix 3 (Table A6 and Figure A1).

To test whether job control moderated the relationship between job demands and work-life balance, a hierarchical (moderated) multiple regression was conducted on the full sample. The control variables were entered at the first step, the mean-centered job demands and job control scores at the second step, and the interaction term between the mean-centered predictors at the third step. The predictors were mean-centered before the interaction term was formed to reduce non-essential multicollinearity. The change in R-squared at each step indicated the additional variance explained, and the significance of the interaction term indicated whether moderation was present. Where appropriate, the conditional effect of job demands was probed at low, average, and high levels of job control.

The responses to the two open-ended questions in Section F were analyzed using thematic content analysis. The responses were first read repeatedly for familiarization, after which similar responses were grouped and assigned codes; related codes were then organized into themes, which were reviewed and refined. The frequency of each theme was counted, and representative verbatim quotations were selected to illustrate the themes. The coding was computer-assisted, and the full coding framework, theme frequencies, and verbatim quotations

are presented in the appendix. The qualitative findings were used to complement and contextualize the quantitative results under the third objective.

3.8 Ethical Considerations

An official permission was obtained from the Institutional Review Board (IRB) at the University of Global Health Equity. Additionally, another official authorization was obtained from the Cameroon Baptist convention IRB through the Director of Cameroon Baptist Convention Health Services, and approval from the MBH Administrator. Participants were given the option to voluntarily participate in the study. The ethical issue considerations also included explaining the purpose, potential benefits, and nature of the study. Participants had the right to withdraw at any time without adverse impact and obtain the study results upon completion. Fullest respect and non-disclosure of information were ensured. For Confidentiality, information was coded using initials or numbers and was not accessed by anyone without the participants' permission. All information's were used only for research purposes.

3.9 Limitations of the framework

The Job Demand–Control (JDC) framework offers a valuable theoretical foundation for examining the impact of job demands and job control on work-life balance; however, its application in this study is not without limitations. First, the model primarily focuses on two psychosocial work factors, demands and control, and does not fully capture other important elements that may influence work-life balance, such as social support, organizational culture, leadership style, job resources, emotional labor, and personal coping strategies. As a result, the

framework may oversimplify the complex interplay of factors affecting nurses' work-life balance.

Secondly, the JDC model assumes a linear and uniform relationship between job demands, job control, and outcomes, yet the lived experiences of nurses may vary significantly depending on contextual factors such as staffing levels, healthcare system challenges, and cultural expectations regarding work and family roles. This may limit the extent to which the model fully reflects the realities of nursing practice in Cameroon or similar resource-constrained settings.

Finally, the JDC framework is cross-sectional in nature when used in this study, which restricts the ability to establish causality between job demands, job control, and work-life balance. Despite these limitations, the model remains a valuable guide for understanding key workplace determinants of work-life balance, while acknowledging that additional theoretical perspectives may be necessary for a more comprehensive interpretation of findings.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents the findings of the study in line with the four research objectives and the two hypotheses that guided it.

The findings are presented in three parts: the descriptive findings, the inferential findings, and the qualitative findings, followed by a discussion of the findings.

A total of 186 valid responses were retained for analysis after data screening. The measurement and scoring of each construct are described in Chapter Three.

4.2 Presentation of Findings

4.2.1 Descriptive Findings

4.2.1.1 Socio-Demographic and Work-Related Profile of Respondents

Table 4.1

Socio-Demographic and Work-Related Characteristics of Respondents (N = 186)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	18-29	17	9.1
	30-39	40	21.5
	40-49	27	14.5
	50-70	19	10.2
	Not recorded	83	44.6
	M = 38.57, SD = 9.79,(valid n = 103)		
Gender	Male	55	29.6
	Female	131	70.4
Marital status	Single	54	29.0
	Married	126	67.7
	Other (divorced, widowed, prefer not to say)	6	3.2
Professional rank	Nursing assistant	61	32.8
	State registered nurse	46	24.7

	BSc nurse	40	21.5
	MSc nurse	2	1.1
	Other (nurse auxiliaries, special care nurses, APNA nurses)	37	19.9
Department/unit	Outpatient department	19	10.2
	Medical/surgical ward	75	40.3
	Maternity/paediatrics	24	12.9
	Theatre	23	12.4
	Intensive care unit	20	10.8
	Emergency unit	6	3.2
	Other/not stated	19	10.2
Work schedule	Day shifts only	31	16.7
	Rotating shifts	146	78.5
	Other (night only, on-call plus shifts, not stated)	9	4.8
Years of nursing experience	M = 5.88, SD = 6.75,		
Average patients per shift	M = 9.08, SD = 10.02,		

Note. N = 186. Percentages are based on the total sample. Age percentages include 83 nurses (44.6%) whose age was not recorded. Other professional ranks comprised nurse auxiliaries, special care nurses, and APNA nurses. Source: field survey, 2026.

Table 4.1 shows that most respondents were female (131; 70.4%) and married (126; 67.7%). Nursing assistants formed the largest professional group (61; 32.8%), most nurses worked on the medical and surgical ward (75; 40.3%), and the great majority worked rotating shifts (146; 78.5%). The respondents had a mean age of 38.57 years (SD = 9.79) among those with valid age data, a median of three years of nursing experience, and a median of four patients per shift.

4.2.1.2 Job Demand Factors Affecting Nurses (Objective 1)

Table 4.2 presents the item, sub-dimension, and overall mean scores for job demands.

Table 4.2

Item, Sub-Dimension, and Overall Means for Job Demands (N = 186)

Item / sub-dimension	Mean	SD
Quantitative demands (M = 2.77, SD = 0.62)		

Workload unevenly distributed	2.89	0.95
Fall behind with your work	2.85	1.02
Not having enough time for work tasks (reverse-coded)	2.58	1.12
Work pace (M = 3.34, SD = 0.73)		
Have to work very fast	3.70	0.92
Work pace high throughout the day	3.25	1.04
Necessary to keep working at a high pace	3.08	1.15
Cognitive demands (M = 3.86, SD = 0.75)		
Keep track of many things at once	3.91	1.07
Required to remember many things	4.08	1.00
Required to come up with new ideas	3.93	1.05
Required to make difficult decisions	3.51	1.23
Emotional demands (M = 3.42, SD = 0.81)		
Work is emotionally demanding	3.65	1.11
Contact with emotionally disturbing situations	3.60	0.96
Put in emotionally upsetting situations	3.32	0.98
Deal with other people's personal problems	3.10	1.21
Overall job demands	3.39	0.51

Note. N = 186. Items were scored from 1 (never or hardly ever) to 5 (always); higher scores indicate greater demand. Sub-dimension and overall values are composite means. Source: field survey, 2026.

Table 4.2 shows that the demands felt most intensely by nurses were cognitive rather than quantitative. The cognitive sub-dimension recorded the highest mean (M = 3.86, SD = 0.75), driven by the need to remember many things (M = 4.08) and to keep track of many things at once (M = 3.91). Emotional demands (M = 3.42) and work pace (M = 3.34) occupied an intermediate position, with the requirement to work very fast standing out as the single highest pace item (M = 3.70). Quantitative demands were the lowest of the four sub-dimensions (M = 2.77), indicating that the sheer volume of work was a less pressing concern than its mental and emotional intensity. The overall job demands composite was 3.39 (SD = 0.51), which falls in the upper part of the moderate band and approaches the high band. Figure 4.1 displays the means for the four sub-dimensions.

When the overall job demands score was classified into levels, the great majority of nurses fell in the moderate band (129; 69.4%), with almost a third in the high band (55; 29.6%) and only

2 nurses (1.1%) in the low band. Taken together, the evidence indicates that the key job-demand factors affecting nurses at Mbingo Baptist Hospital are dominated by cognitive load, followed by emotional demands and work pace, with quantitative workload comparatively moderate, and that demands are moderate to high overall.

4.2.1.3 Job Control Available to Nurses (Objective 2)

Table 4.3

Item, Sub-Dimension, and Overall Means for Job Control (N = 186)

Item / sub-dimension	Mean	SD
Influence at work (M = 2.88, SD = 0.81)		
Influence on decisions concerning your work	2.65	1.07
Influence the amount of work assigned to you	2.55	1.20
Say in how your work is carried out	3.10	1.23
Influence the speed at which you work	3.22	1.18
Influence over what you do at work	3.15	1.24
Sufficient autonomy in daily nursing duties	2.62	1.15
Control over working time (M = 2.34, SD = 0.77)		
Decide when to take a break	2.81	1.32
Take leave or holidays when needed	2.49	1.25
Briefly leave work for personal reasons	1.99	1.17
Organize your workday in a way that suits you	2.05	1.12
Overall job control	2.66	0.68

Note. N = 186. Items were scored from 1 (to a very small extent) to 5 (to a very large extent); higher scores indicate greater control. Sub-dimension and overall values are composite means. Source: field survey, 2026.

Table 4.3 indicates that the control available to nurses was modest and clearly uneven across the two sub-dimensions. Influence at work (M = 2.88, SD = 0.81) was higher than control over working time (M = 2.34, SD = 0.77). Within the influence of sub-dimension, the strongest items concerned influencing the speed of work (M = 3.22) and having a say in how the work is carried out (M = 3.10), suggesting that nurses perceive some discretion over the execution of clinical tasks. Control over working time, by contrast, was consistently low. The ability to briefly leave work for personal reasons (M = 1.99) and to organize the workday in a suitable

way (M = 2.05) recorded the lowest means of all ten items, and taking leave when needed was also low (M = 2.49). The dominance of rotating shifts reported in Table 4.1 offers a plausible organisational explanation for this limited temporal control.

The overall job control composite was 2.66 (SD = 0.68). When classified by level, most nurses fell in the moderate band (115; 61.8%), about a third in the low band (61; 32.8%), and only 10 nurses (5.4%) in the high band.

4.2.1.4 Work-Life Balance Strategies Available (Objective 3)

Table 4.4

Item and Overall Means for Work-Life Balance Strategies (N = 186)

Item	Mean	SD
Reasonable flexibility for personal or family issues	3.37	1.13
Fair and manageable shift scheduling practices	3.26	1.14
Supervisors encourage a healthy work-life balance	3.17	1.15
Leave arrangements support family and personal life	3.13	1.13
Management communication helps with planning	3.07	1.12
Management support for work-life difficulties	3.05	1.08
Policies help nurses cope with stress and burnout	3.03	1.18
Adequate staffing to reduce excessive workload	2.52	1.16
Overall work-life balance strategies	*3.07*	*0.77*

Table 4.4 shows that the hospital's work-life balance strategies were moderate overall (M = 3.07, SD = 0.77), with notable variation across items. The most available strategies were relational and scheduling in nature, namely reasonable flexibility for personal or family issues (M = 3.37), fair and manageable shift scheduling (M = 3.26), and supervisor encouragement of a healthy balance (M = 3.17). The clearest gap concerned staffing: adequate staffing to reduce excessive workload recorded the lowest mean by a wide margin (M = 2.52), the only item to fall below the scale midpoint. When classified into levels, most nurses placed the availability of strategies in the moderate band (119; 64.0%), with 36 (19.4%) in the high band and 31 (16.7%) in the low band. The hospital therefore offers a moderate range of work-life balance strategies, with interpersonal and scheduling support more available than the structural

support of adequate staffing, which respondents identified as the principal weakness in the support environment.

4.2.1.5 Work-Life Balance Experience of Nurses

Table 4.5 reports the recoded item means and the overall composite for the work-life balance experience, which served as the dependent variable in the inferential analysis.

Table 4.5

Item and Overall Means for the Work-Life Balance Experience (N = 186)

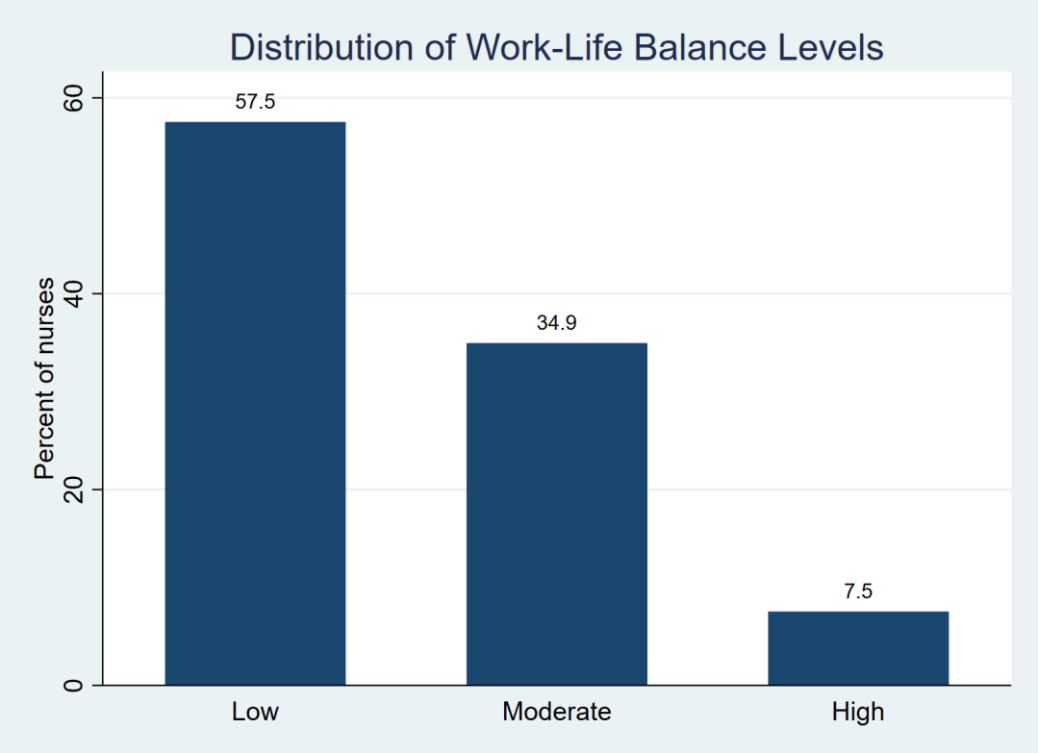
Item	Mean	SD
Able to balance work and personal life	2.70	1.23
Job allows a satisfying personal life (reverse-coded)	2.50	1.11
Work does not drain energy from private life (reverse-coded)	2.38	1.10
Work leaves time for family and personal duties (reverse-coded)	2.34	1.09
Work and home demands do not compete (reverse-coded)	2.31	1.03
Work does not force changes to personal plans (reverse-coded)	2.18	1.04
Overall work-life balance experience	*2.40*	*0.84*

better work-life balance. Data from the field survey, 2026; analysis performed in STATA 18.

Table 4.5 indicates that nurses experienced a poor work-life balance. Every recoded item fell below the scale midpoint of three, and the overall composite was 2.40 (SD = 0.84), placing the average nurse near the boundary between the low and moderate bands. The lowest-scoring item concerned work forcing changes to personal plans (M = 2.18), followed by competition between work and home demands (M = 2.31) and the loss of time for family and personal duties (M = 2.34). Even the most favorable item, the direct question on being able to balance work and personal life, remained below the midpoint (M = 2.70). Figure 4.1 shows the distribution of work-life balance levels.

Figure 4.1

Distribution of Work-Life Balance Levels



Note. Data from the field survey, 2026; analysis performed in STATA 18.

As Figure 4.1 shows, more than half of the nurses (107; 57.5%) fell in the low work-life balance band, about a third (65; 35.0%) in the moderate band, and only 14 (7.5%) in the high band.

Table 4.6

Descriptive Statistics of the Study Constructs (N = 186)

Construct	Mean	SD	Min	Max	Skewness	Kurtosis
Job demands	3.39	0.51	1.79	4.50	-0.05	2.68
Job control	2.66	0.68	1.00	4.60	0.08	3.02
Work-life balance strategies	3.07	0.77	1.00	4.88	-0.44	3.10
Work-life balance experience	2.40	0.84	1.00	4.67	0.49	2.65

Note. All construct scores are composite means on the 1 to 5 metric, with higher values indicating more of the named construct. Data from the field survey, 2026; analysis performed in STATA 18.

Table 4.6 summarizes the construct scores. Job demands recorded the highest mean (M = 3.39, SD = 0.51), confirming a moderate to high overall level of demands, while job control was the lowest of the three predictors (M = 2.66, SD = 0.68). The availability of work-life balance strategies was moderate (M = 3.07, SD = 0.77), and the work-life balance experience, the dependent variable, was the lowest construct overall (M = 2.40, SD = 0.84), reinforcing the conclusion that nurses leaned towards imbalance.*4.2.2 Inferential Findings*

4.2.2.1 Correlation Among Study Constructs

Pearson correlation coefficients were computed to examine the strength and direction of the bivariate associations among the constructs before the regression analysis. Table 4.7 presents the correlation matrix.

Table 4.7

Pearson Correlation Matrix of the Study Constructs (N = 186)

Construct	1	2	3	4
1. Job demands	1.00			
2. Job control	-.03	1.00		
3. WLB strategies	-.33*	.52*	1.00	
4. WLB experience	-.41*	.26*	.40*	1.00

Table 4.7 shows that job demands and job control were not significantly correlated ($r = -.03$, $p = .662$). Job demands were significantly and negatively associated with the work-life balance experience ($r = -.41$, $p < .001$), and job control was significantly and positively associated with it ($r = .26$, $p < .001$).

The availability of work-life balance strategies was positively associated with the work-life balance experience ($r = .40$, $p < .001$) and with job control ($r = .52$, $p < .001$) and negatively associated with job demands ($r = -.33$, $p < .001$). .

4.2.2.2 Relationship Between Job Demands, Job Control, and Work-Life Balance (H1)

The fourth objective examined the relationship between job demands, job control, and work-life balance. The first hypothesis stated that job demands and job control are significantly related to nurses' work-life balance. A multiple linear regression was estimated with the work-life balance experience score as the dependent variable, job demands and job control as the predictors, and years of experience, patient load, and work schedule as controls. Because age was missing for more than forty percent of the respondents and was statistically non-significant when included, the model reported here as primary excludes age and is estimated on the full sample of 184 nurses with complete data on the modelled variables; a sensitivity model that adds age, estimated on the reduced sample, is reported afterwards. Given the mild non-normality of the residuals, the ordinary least squares results are accompanied by bootstrap standard errors and p-values. Table 4.8 presents the primary model.

Table 4.8

Multiple Linear Regression Predicting the Work-Life Balance Experience (Model B; N = 184)

Predictor	B	SE (OLS)	p (OLS)	SE (Boot.)	p (Boot.)
Job demands	-0.602	0.108	< .001	0.090	< .001
Job control	0.293	0.079	< .001	0.087	.001
Years of experience	-0.013	0.008	.107	0.009	.151
Patient load	-0.008	0.006	.154	0.007	.241
Night shifts only (vs day)	-0.522	0.348	.136	0.381	.170
Rotating shifts (vs day)	-0.488	0.146	.001	0.154	.002
On-call plus shifts (vs day)	-0.404	0.528	.445	0.307	.187
Constant	4.225	0.432	< .001	0.378	< .001

Note. N = 184. F(7, 176) = 10.77, p < .001; R-squared = .300; adjusted R-squared = .272; root MSE = 0.720. B = unstandardised coefficient on the 1-5 metric. SE (OLS) and p (OLS) are from ordinary least squares; SE (Boot.) and p (Boot.) are from a 5,000-replication non-parametric bootstrap. The dependent variable is the work-life balance experience score, where higher values indicate a better balance. Data from the field survey, 2026; analysis performed in STATA 18.

Reference category for work schedule = day shifts only.

Table 4.8 shows that the overall model was statistically significant ($F(7, 176) = 10.77$, $p < .001$) and explained 30.0% of the variance in the work-life balance experience (adjusted R-squared = .272), a substantial proportion for cross-sectional survey data. Both predictors of interest were significant. Job demands had a significant negative effect on work-life balance ($B = -0.602$, $p < .001$), meaning that, holding the other variables constant, each one-point increase in the job demands score was associated with a 0.602-point decrease in the work-life balance score. Job control had a significant positive effect ($B = 0.293$, $p < .001$), meaning that each one-point increase in job control was associated with a 0.293-point increase in work-life balance. Both effects are in the directions anticipated by the conceptual framework: demands undermine balance, while control supports it. The first hypothesis is therefore supported.

Among the control variables, only work schedule was significant. Nurses on rotating shifts reported a significantly poorer work-life balance than those on day shifts only ($B = -0.488$, $p = .001$), which is consistent with the descriptive finding that rotating shifts dominated the sample and with the low level of control over working time reported in Table 4.3. Years of experience and patient load were not significant predictors after controlling for the other variables. The bootstrap estimates confirmed these conclusions: the bootstrap standard errors were close to the ordinary least squares values, and the significance of every term was unchanged, with job demands ($p < .001$) and job control ($p = .001$) remaining significant and their bias-corrected bootstrap confidence intervals excluding zero. This agreement between the two estimators strengthens confidence in the findings despite the mild non-normality of the residuals.

To confirm that excluding age did not distort the conclusions, the model was re-estimated with age added to the reduced sample of 102 nurses with valid age data. Table 4.9 compares the two models.

Table 4.9

Sensitivity Comparison of the Regression With and Without Age

Predictor	Model B (primary, no age)	Model A (sensitivity, with age)
Job demands	-0.602***	-0.348*
Job control	0.293***	0.207
Age	not included	0.005
Years of experience	-0.013	-0.022
Patient load	-0.008	-0.015*
N	*184*	*102*
R-squared	*.300*	*.203*

Note. Entries are unstandardized coefficients. Controls for work schedule are included in both models but omitted from the table for brevity. Age was non-significant in Model A (p = .680). Data from the field survey, 2026; analysis performed in STATA 18.

* p < .05. *** p < .001.

Table 4.9 shows that the direction of every effect is the same in both models. Job demands remain a significant negative predictor in both, and although job control is not statistically significant in the reduced-sample model with age (p = .054), this reflects the loss of more than eighty cases and the consequent reduction in statistical power rather than a genuine absence of effect, as confirmed by the significant, better-powered estimate in the primary model and by the significant bivariate correlation in Table 4.7. Age itself was non-significant (p = .680) and added little to the model. The primary model without age is therefore both better-powered and more representative for inference.

4.2.2.3 Moderating Role of Job Control (H2)

Table 4.10 reports the hierarchical regression that tested whether job control moderated the relationship between job demands and work-life balance.

Table 4.10

Hierarchical Regression Testing the Moderating Role of Job Control (N = 184)

Predictor / statistic	Step 1	Step 2	Step 3
Job demands (centred)			-0.603***

		-0.602***	
Job control (centred)		0.293***	0.296***
Job demands x Job control			-0.011
R-squared	*.115*	*.300*	*.300*
Change in R-squared	*.115*	*.185*	*.000*
F for change	*4.62****	*23.26****	*0.01*

Note. N = 184. Entries for predictors are unstandardized coefficients. All steps include controls for years of experience, patient load, and work schedule. Job demands and job control were mean-centered before the interaction term was formed. Data from the field survey, 2026; analysis performed in STATA 18.

*** p < .001.

Table 4.10 shows that the predictors added substantial explanatory power at Step 2, where job demands and job control together raised the explained variance by 18.5 percentage points over the controls alone (change in R-squared = .185, p < .001), confirming the strong direct effects already reported. At Step 3, however, the interaction between job demands and job control was very small and clearly non-significant (B = -0.011, p = .941), and it added nothing to the explained variance (change in R-squared = .000). On this basis, the second hypothesis is not supported.

The conditional effect of job demands on work-life balance was probed at low, average, and high levels of job control. The effect of job demands was negative and statistically significant at all three levels, with slopes of B = -0.595 at low control, B = -0.603 at average control, and B = -0.611 at high control (all p < .001). Table 4.11 summarizes the outcome of the two hypothesis tests.

Table 4.11

Summary of Hypothesis Testing

Hypothesis	Statement	Evidence	Decision
H1	Job demands and job control are significantly related to nurses' work-life balance	Demands B = -0.602, p < .001; Control B = 0.293, p < .001	Supported

H2	Job control moderates the relationship between job demands and work-life balance	Interaction B = -0.011, p = .941; change in R-squared = .000	Not supported

4.2.3 Qualitative Findings on Challenges and Strategies (Objective 3)

, *4.2.3.1 Challenges to Work-Life Balance*

Table 4.12

Themes in Nurses' Reported Challenges to Work-Life Balance (N = 70)

Theme	Frequency (n)	Percent (%)
Insufficient time for family and personal life	30	42.9
Heavy workload and understaffing	27	38.6
Long and irregular working hours and shifts	23	32.9
Stress, fatigue and burnout	22	31.4
Low pay and delayed or irregular salary	15	21.4
Leave and off-day difficulties	14	20.0
Lack of management or supervisor support	5	7.1
Poor planning and time management	5	7.1
Limited autonomy, rigid rules and privacy intrusion	4	5.7
Distance, transport and hospital location	4	5.7
No challenge reported	2	2.9

Note. N = 70 open-ended responses. Responses could mention more than one theme. Data from the field survey, 2026 (Section F).

The most frequently reported challenge was the limited time left for family and personal life, reported by about two in five respondents, who described work as consuming the time and energy required for personal and family responsibilities. One nurse explained that long shifts leave her only revolving around work, with no time to handle family issues, while another reported having no personal time to relax or do something helpful for herself. Closely linked were the heavy workload and understaffing themes mentioned by more than a third of respondents, who repeatedly tied the problem to a shortage of staff, describing work overload with limited staff, which stresses one out every day. This pressure fed directly into the themes of long, irregular hours and stress, fatigue, and burnout, with nurses reporting exhaustion that persisted even on off days.

Low and delayed salaries were raised by one in five nurses, several of whom linked low salaries to difficulty meeting family needs. Difficulties with leave and off days were similarly common, with one nurse noting that leaves are not given in time, causing conflict between work and family. Less frequent but notable themes included a lack of management and supervisor support, limited autonomy and intrusion on privacy when requesting time off, and the distance and location of the hospital. A small number of respondents reported no challenge in balancing work and personal life.

4.2.3.2 Suggested Strategies to Improve Work-Life Balance

Table 4.13

Themes in Nurses' Suggested Strategies to Improve Work-Life Balance (N = 70)

Theme	Frequency (n)	Percent (%)
Recruit more staff and increase the workforce	39	55.7
Increase salaries, motivation and recognition	22	31.4
Reduce and evenly distribute the workload	19	27.1
Flexible scheduling, shorter hours, three-shift system	18	25.7
Management support, communication and fairness	15	21.4
Better leave, off-days and timely leave pay	11	15.7
Personal time-management and boundaries	9	12.9
Mental health, emotional support and wellness	7	10.0
Improve working conditions, resources and transport	6	8.6
Granting permission for personal and family needs	4	5.7

Note. N = 70 open-ended responses. Responses could mention more than one theme. Data from the field survey, 2026 (Section F).

By a wide margin, the most common suggestion was to recruit more staff and increase the workforce, raised by more than half of the respondents, who stated plainly that more nurses should be employed to reduce the workload. This is the mirror image of the understaffing challenge, and it was frequently paired with calls to reduce and evenly distribute the workload. Increasing salaries, motivation, and recognition were the second most common suggestions, with nurses calling for higher, more timely pay and recognition of long-serving staff. The most

concrete scheduling proposal was a move from a two-shift to a three-shift system, with one nurse suggesting three shifts to balance work and family, alongside calls to reduce working hours in line with the labor code.

Nurses also asked for stronger management support, clearer communication, and fairness, urging the administration to listen to their concerns and to treat staff without bias. Better leave arrangements with timely leave pay, mental health and wellness support, and improvements to working conditions such as staff housing and transport were also proposed. A smaller group emphasized personal strategies of planning, time management, and setting boundaries, and several asked that requests for permission to attend to genuine personal and family needs be granted more readily.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, RECOMMENDATIONS, CONTRIBUTION TO KNOWLEDGE, LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 Introduction

This chapter summarizes the study's findings in relation to the four objectives and two hypotheses, draws the overall conclusion, and presents the recommendations, the contribution to knowledge, the limitations, and suggestions for further research.

5.2 Discussion of Findings

This study set out to assess the influence of job demands and job control on the work-life balance of nurses at Mbingo Baptist Hospital, guided by four research questions that asked about the key job demand factors, the job control available, the work-life balance strategies in use, and the relationship among job demands, job control, and work-life balance. The findings can be summarised against each question. First, the nurses experienced moderate to high job demands, driven mainly by cognitive load, while job control was modest and uneven, being adequate for the execution of clinical tasks but low for control over working time, and their work-life balance was generally poor, with most nurses reporting a low experience of balance. Second, the nurses relied on a combination of organisational and personal strategies to manage the competing demands of work and family life. Third, both job demands and job control were significantly related to work-life balance, with higher demands predicting poorer balance and greater control predicting better balance, and together with the control variables they explained about a third of the variance, so the first hypothesis was supported. Finally, job control did not moderate the relationship between job demands and work-life balance, so the second

hypothesis was not supported, indicating that demands and control acted as independent rather than interacting influences. These findings are discussed below in relation to the research questions and the wider literature.

5.2.1 Status of Job Demands, Job Control, Strategies, and Work-Life Balance

The descriptive findings show that nurses at Mbingo Baptist Hospital experienced moderate to high job demands, with the most intense demands arising from cognitive load, namely the need to remember and keep track of many things and to generate new ideas, followed by emotional demands and work pace, while quantitative workload was comparatively moderate. This profile is broadly consistent with studies that have reported high or substantial job demands among nurses, such as Mahdy Attia and Elsayed-ElAraby Abdelwahid (2021), Navajas-Romero et al. (2020), and Ng et al. (2017), while remaining closer to the moderate levels reported by Cho and Kim (2020) and Fekry Ahmed and Abd-ElGhani (2021). The prominence of cognitive and emotional demands, rather than the sheer volume of work, suggests that the pressure these nurses experience is driven more by the intensity and mental load of clinical work than by an unmanageable number of tasks.

Job control was modest overall and clearly uneven: influence over the execution of clinical tasks was moderate, but control over working time, including breaks, leave, and the personal organization of the workday, was low. The limited temporal control echoes the low job control reported by Chang et al. (2020) and contrasts with the higher autonomy described by Alruwaili and Abuadas (2023) among critical care nurses. The concentration of control in task execution rather than scheduling is understandable in a setting dominated by rotating shifts, where the timing of work is largely dictated by the roster. This distinction matters, because autonomy over how clinical tasks are performed does not necessarily extend to the discretion over time that is most relevant to managing personal and family responsibilities.

In relation to the third objective, the work-life balance strategies available at the hospital were moderate, with relational and scheduling support, such as flexibility for personal and family issues, manageable shift scheduling, and supervisor encouragement, more available than structural support. The clearest gap was inadequate staffing to reduce excessive workload, which many respondents rated negatively and which the qualitative responses identified as the single most pressing problem. The work-life balance experience itself was unfavorable: more than half of the nurses fell in the low band, and most reported that work disrupted personal plans, drained their energy, and competed with home demands. This pattern aligns with Obina et al. (2024), who found that only four in ten health workers experienced a positive work-life balance, and with Fadillah et al. (2022), who reported a low level of work-life balance among nurses, while contrasting with the moderate levels reported by Badran and Khalaaf (2023) and Sripo et al. (2019). The coexistence of a moderate set of strategies with a poor balance suggests that the strategies in place, although valued, were insufficient to offset the demands of the work, especially given the staffing shortfall.

5.2.3 Relationship Between Job Demands, Job Control, and Work-Life Balance (H1)

The regression analysis supported the first hypothesis, showing that both job demands and job control were significantly related to the work-life balance experience, together with the controls explaining 30% of its variance. The significant negative effect of job demands indicates that, as the cognitive, emotional, and pace pressures of the work increase, nurses' ability to maintain a favorable balance between work and personal life declines. This finding is consistent with a substantial body of evidence. Jiang et al. (2022) reported a negative association between nurses' job demands and work-life balance, Baisa and Nilasari (2022) found that high job demand was associated with work-life balance of nurses, and Babamohamadi et al. (2023) showed that rising demands were associated with greater stress and a decline in quality of life. The present study extends this pattern to the Cameroonian

nursing context and confirms the proposition of the Job Demands-Control framework that demands erode the resources available for personal life.

Job control had a significant positive effect on work-life balance, indicating that nurses who perceived greater influence over their work also reported better balance. This result is in the direction anticipated by the conceptual framework and is consistent with Elnady et al. (2023), who reported a positive association between job control and work-life balance, with Ng et al. (2017), who found that job control helped nurses manage their work and personal lives more effectively, and with Yamaguchi et al. (2016), who linked job control to more favorable work-family outcomes. The finding reinforces the view that autonomy and decision latitude are protective resources for nurses' well-being. It is notable, however, that the form of control most strongly endorsed by respondents concerned task execution rather than working time, which may limit the extent of the benefit, since control over time is most directly relevant to balancing work with family life. The significant positive association between the availability of work-life balance strategies and the work-life balance experience points in the same direction and suggests that strengthening organizational support could further improve outcomes.

5.2.4 Moderating Role of Job Control (H2)

The second hypothesis, that job control moderates the relationship between job demands and work-life balance failed to hold. The interaction term was very small and clearly non-significant, and it added nothing to the explained variance. The probing of conditional effects showed that the negative effect of job demands on work-life balance was significant and of almost identical magnitude across low, average, and high levels of job control, confirming that the harmful effect of demands did not depend on the level of perceived job control. Job demands and job control, therefore, operated as independent, additive influences on work-life balance rather than interacting with each other.

This result diverges from Navajas-Romero et al. (2020), who found that job control significantly moderated the relationship between psychological demands and work-life outcomes among European nurses, and from Riedl and Thomas (2019), who reported a moderating role for work pressure. Several factors may account for the difference. First, the form of control available to these nurses was concentrated on task execution rather than on control over working time, which is most likely to buffer demands on personal life, which may limit its capacity to moderate the demands relationship. Second, the limitations of the Job Demands-Control framework acknowledged in literature, particularly its assumption of a uniform buffering process, may be especially relevant in a resource-constrained setting where overall control is low. Importantly, the absence of a moderating effect does not diminish the value of job control, which remains a significant direct predictor of a better work-life balance. The findings are therefore consistent with the additive, or strain, version of the Job Demands-Control model, in which high demand and low control each independently worsen work-life balance, rather than with its interactive, or buffer, version.

The qualitative findings reinforce and explain this quantitative picture. The challenges nurses described, namely heavy workload, understaffing, long and irregular hours, stress and fatigue, and limited time for family, correspond closely to the high demands and the low control over working time measured in the survey, while their suggested strategies, dominated by recruiting more staff, introducing a three-shift system, improving pay, and strengthening management support, point to organizational interventions that would simultaneously reduce demands and extend control. Taken together, the discussion indicates that nurses at Mbingo Baptist Hospital experience moderate to high demands, modest control concentrated in task execution, a moderate range of support strategies weakened by inadequate staffing, and an unfavorable work-life balance. Both job demands and job control are significantly related to that balance in the expected directions, while the expected buffering role of control is not

statistically established. These findings carry practical implications for hospital management, as outlined in the recommendations in the next chapter, particularly the need to moderate cognitive and emotional demands, to extend nurses' control over working time rather than task execution alone, and to address the staffing shortfall that constrains the existing work-life balance strategies.

5.2.5 Summary of Findings

This study revealed that nurses face considerable pressures in their work environment, with cognitive load and a fast pace of work emerging as the most demanding aspects of their roles. Although nurses had discretion over how they performed tasks, they had limited control over the working times. The study also showed high mental demands and restricted autonomy, which is a contributory factor to the poor work-life balance experiences reported. Support structures and strategies, which are rare, with some nurses reporting supervisor encouragement and flexibility for personal issues. Adequate staffing was lacking, with nurses reporting fatigue, stress, and insufficient time for family and personal life, and qualitative responses reinforcing concerns about heavy workloads, irregular hours, and burnout.
Job demands were negatively associated with work-life balance, while job control had a positive effect. Taken together, these findings highlight a pattern in which high cognitive and pace-related demands, limited autonomy over time, and inadequate structural support combine to undermine nurses' ability to balance professional and personal responsibilities. Addressing these issues through improved staffing, workload distribution, and time-management policies is essential to enhancing both nurses' well-being and the sustainability of hospital care.

5.3 Conclusion

Based on the findings, the study concludes that the work-life balance of nurses at Mbingo Baptist Hospital is significantly compromised and is shaped by both the demands they face and the control they exercise over their work. Nurses contend with substantial cognitive and pace demands and with limited control over their working time, and the organizational strategies meant to support their work-life balance, while moderately present, are weakened by inadequate staffing. The study further concludes that job demands and job control are each

significant and independent determinants of work-life balance, with demands undermining it and control enhancing it, but that job control does not buffer or cushion the harmful effects of demands. In terms of the underlying theory, the evidence supports the additive, or strain, version of the Job Demands-Control model, in which high demands and low control each independently worsen well-being, rather than its interactive, or buffer, version. The practical implication is that improving the work-life balance of nurses in this setting requires action on both fronts simultaneously, since raising autonomy alone will not offset heavy demands, and reducing demands alone will not deliver the benefits that come with greater control.

5.4 Recommendations

Arising from the first objective, which found that cognitive load and work pace were the most intense job demands, the hospital management should take deliberate steps to moderate these demands rather than treating workload only in terms of quantity. Practical measures include reviewing workflow and task allocation to reduce the number of competing tasks nurses must track at once, introducing standardized protocols, checklists, and decision aids that lower the memory and decision burden, and ensuring that patient-to-nurse ratios and skill mix allow a manageable pace. Reducing the mental intensity of work, not just its volume, should be seen as a direct route to better work-life balance.

Arising from the second objective, which found that control was concentrated in task execution while control over time was low, the management should extend nurses' control over their working time, and not only over their clinical tasks. This can be pursued by giving nurses a genuine voice in roster design, providing more predictable and transparent shift schedules, enabling fair access to breaks and leave, and allowing reasonable flexibility to attend to personal matters and to exchange shifts. Because control over time is the form of autonomy most directly relevant to balancing work with family life, strengthening it is likely to yield the clearest gains in work-life balance.

Arising from the third objective, which found that work-life balance strategies were moderately available but undermined by inadequate staffing, the management should treat staffing as a priority intervention. This recommendation aligns directly with the strategy nurses themselves most often proposed: recruiting more staff and distributing them more evenly across units, which would relieve the excessive workload that respondents identified as the weakest part of the support environment. In keeping with the nurses' own suggestions, the hospital should also consider moving from the current shift arrangement to a three-shift system to shorten individual shifts, review salaries and payment timeliness, and recognize long-serving and high-performing nurses. At the same time, the hospital should sustain and formalize the strategies that nurses already value, namely flexibility for personal and family issues, manageable scheduling, and supportive supervision, and strengthen written policies for coping with stress and burnout, and the communication that helps nurses plan their work and personal responsibilities.

Arising from the fourth objective, which found that job demands and job control each independently affect work-life balance without interacting, the management and nursing leadership should pursue a dual strategy that simultaneously reduces job demands and increases job control. Because the analysis showed that control does not buffer the effect of demands, autonomy should not be relied upon as a substitute for managing workload; the two must be addressed together. Given the poor work-life balance reported by nurses, the hospital should also institute regular monitoring of nurses' work-life balance and well-being, so that the effect of these interventions can be tracked and adjusted over time. Such measures are likely not only to improve nurses' well-being but also to support retention and the quality of patient care.

5.5 Contribution to Knowledge

The study makes several contributions to knowledge. First, it provides context-specific empirical evidence on job demands, job control, and work-life balance among nurses at a faith-

based referral hospital in Cameroon, addressing a gap identified in the literature, where most evidence on these relationships has been drawn from high-income, non-African settings. Second, it advances understanding of the Job Demands-Control model by showing that, in this resource-constrained nursing context, the model holds in its additive form but not in its interactive form: job demands and job control each independently predict work-life balance, yet control does not moderate the effect of demands. This finding adds nuance to a literature in which the buffering hypothesis is often assumed rather than tested. Third, the study contributes methodologically by combining a reliable composite-score measurement of the constructs with regression and moderation analyses supported by a bootstrap robustness check, and by integrating a thematic analysis of nurses' own accounts, offering a mixed-methods approach that other researchers in similar settings may adopt. Finally, by identifying cognitive and emotional demands, low control over working time, and inadequate staffing as the most salient pressures, and by drawing on the strategies nurses themselves proposed, the study offers a focused, evidence-based basis for managerial and policy action to improve nurses' work-life balance.

5.6 Limitations of the Study

The findings should be interpreted in the light of several limitations. The study used a cross-sectional design, which captures associations at a single point in time and does not permit conclusions about the causal direction of associations among job demands, job control, and work-life balance. The data were self-reported, which introduces the possibility of common-method variance and social-desirability bias, since the predictors and the outcome were measured with the same instrument. The study was conducted in a single institution, so the findings may not be generalized to nurses in other hospitals or health systems. The regression model explained about thirty per cent of the variance in work-life balance, a substantial proportion for cross-sectional survey data, but one that still leaves room for other influences

not included in the model, such as social support, organizational culture, coping strategies, remuneration, and family circumstances, which also shape work-life balance. In addition, more than forty per cent of the age entries fell outside the valid range and were treated as missing, so age could not be retained in the primary regression model and was reported only in a sensitivity analysis. Finally, the residuals showed a mild departure from normality, although this was addressed through a bootstrap robustness check that left the conclusions unchanged.

5.7 Suggestions for Further Research

Building on these limitations, future research should adopt longitudinal designs to establish the direction of relationships over time and trace how job demands, job control, and work-life balance influence one another as conditions change. Comparative studies across several hospitals and regions of Cameroon and the wider sub-Saharan African context would improve the generalizability of the findings and allow differences across settings to be examined. Future models should also incorporate additional variables beyond the scope of this study, such as social support, organizational culture, coping strategies, burnout, and turnover intention, to explain a greater share of the variation in work-life balance. Given that the moderating role of job control was not supported here, further studies could distinguish between control over tasks and control over working time and test whether these dimensions operate differently as moderators, ideally with larger samples that provide adequate statistical power to detect interaction effects. Finally, intervention research evaluating the effects of reducing cognitive and pace demands and of improving staffing and control over working time would provide direct evidence on how best to improve nurses' work-life balance in this and similar settings.

APPENDIX 1:

QUALITATIVE THEMATIC ANALYSIS OF THE OPEN-ENDED RESPONSES (SECTION F)

A.1 Method

Section F of the questionnaire contained two open-ended questions: the major challenges nurses face in balancing work and personal life (Question 1), and the measures they suggest to improve work-life balance (Question 2). Seventy nurses provided written responses. In line with the data analysis plan, the responses were analyzed using thematic content analysis following the familiar sequence of familiarization, coding, theme development, review of themes against the data, and interpretation. The coding was carried out in a transparent and reproducible way using a Python script, in which each response was cleaned and then assigned to one or more themes whenever an indicative term for a theme appeared in the response. Allowing a response to carry more than one theme reflects the fact that many nurses raised several issues in a single answer; consequently the theme frequencies sum to more than seventy, and the percentages refer to the share of the seventy respondents who mentioned each theme.

The coding framework was not imposed in advance. An initial set of themes drawn from the study constructs was applied, the responses that no theme captured were inspected, and the framework was refined and re-applied until every valid response was assigned to at least one theme. The final framework, the resulting theme frequencies, and the complete set of representative verbatim quotations are presented below. Quotations are reproduced exactly as written by respondents, including original spelling and grammar, and no quotation has been invented or altered.

A.2 Coding Framework (Codebook)

Table A1

Coding Framework for Challenges to Work-Life Balance

Theme	Description	Indicative terms used in coding
Insufficient time for family and personal life	Work leaves little or no time for family, relationships, rest, or personal activities.	no time; limited time; time for family; personal things; social gathering; rest
Heavy workload and understaffing	Excessive workload, frequently attributed to a shortage of nursing staff.	workload; overload; too much work; shortage of staff; limited staff; very demanding
Long and irregular working hours and shifts	Long, late, or irregular shifts and working hours that disrupt routine and rest.	long working hours; long shift; night shift; working hours; shift
Stress, fatigue and burnout	Physical and emotional stress, exhaustion, tiredness, and burnout.	stress; fatigue; exhaustion; burnout; tired; compassion fatigue
Low pay and delayed/irregular salary	Low pay, or salaries and leave pay that are delayed or paid late.	low pay; low salary; salary; late payment; delay of salary; leave pay
Leave and off-day difficulties	Difficulty obtaining leave, off-days, holidays, or adequate rest periods.	leave; off day; holiday; permission; one off day; rest
Lack of management/supervisor support	Weak support, collaboration, or recognition from supervisors and management.	no support; lack of support; support from supervisors; wellbeing neglected; lack of collaboration
Poor planning and time management	Difficulty linked to personal or organisational planning, commitment, and communication.	time management; planning; lack of commitment; priorities; communication
Limited autonomy, rigid rules and privacy intrusion	Rigid rules, limited discretion, and intrusion on privacy when requesting time off.	follow rules strictly; policies; fear of punishment; privacy; want to know the private reason
Distance, transport and hospital location	Distance, transport difficulties, or the location of the hospital.	distance; transport; travel; movement; location
No challenge reported	Respondent stated that no challenge was faced in balancing work and personal life.	no challenge; no major challenge; do not face any challenge

Note. Coding was computer-assisted in Python: a response was assigned to a theme when any indicative term for that theme appeared in the cleaned response, and a response could be

assigned to more than one theme. Data from the field survey, 2026 (Section F open-ended responses; N = 70).

Table A2

Coding Framework for Suggested Strategies to Improve Work-Life Balance

Theme	Description	Indicative terms used in coding
Recruit more staff / increase workforce	Employ more nurses and increase the overall workforce to ease pressure.	more nurses; more staff; employ; recruit; increase workforce; adequate staffing
Increase salaries, motivation and recognition	Raise and pay salaries promptly, upgrade the salary zone, and recognise staff.	increase pay; increase salary; paid early; upgrade to zone two; motivation; recognition; allowance
Reduce / evenly distribute workload	Reduce the workload and distribute work and staff more evenly.	reduce workload; evenly distribute; equal staff distribution; ease work
Flexible scheduling, shorter hours, 3 shifts	Introduce a three-shift system, shorten or regularise hours, and ease scheduling.	three-shift system; flexible schedule; reduce working hours; 8 hours; labour code; handover
Management support, communication and fairness	Provide supportive, communicative, and fair management that listens to nurses.	supportive management; listening ear; fairness; no bias; cooperation; communication
Better leave, off-days and timely leave pay	Grant more and more regular leave and off-days, with timely leave pay.	off days; regular leave; annual leave; leave pay; rest
Personal time-management and boundaries	Personal strategies of planning, prioritising, teamwork, and setting boundaries.	time management; planning; clear boundaries; priorities; work as a team
Mental health, emotional support and wellness	Provide mental health and emotional support and wellness or recreational activities.	mental health; emotional support; wellness; recreational; wellbeing
Improve working conditions, resources and transport	Improve working conditions, including staff housing, transport, and systems.	staff housing; electronic medical record; transport; working conditions; facilities
Granting permission for personal/family needs	Grant permission and requests to attend to genuine personal and family needs.	grant permission; requests; emergencies; handle personal and family needs

Note. Coding was computer-assisted in Python: a response was assigned to a theme when any indicative term for that theme appeared in the cleaned response, and a response could be

assigned to more than one theme. Data from the field survey, 2026 (Section F open-ended responses; N = 70).

A.3 Theme Frequencies

Table A3

Themes in Nurses' Reported Challenges to Work-Life Balance (N = 70)

Theme	Frequency (n)	Percent (%)
Insufficient time for family and personal life	30	42.9
Heavy workload and understaffing	27	38.6
Long and irregular working hours and shifts	23	32.9
Stress, fatigue and burnout	22	31.4
Low pay and delayed/irregular salary	15	21.4
Leave and off-day difficulties	14	20.0
Lack of management/supervisor support	5	7.1
Poor planning and time management	5	7.1
Limited autonomy, rigid rules and privacy intrusion	4	5.7
Distance, transport and hospital location	4	5.7
No challenge reported	2	2.9

Note. Responses could mention more than one theme, so frequencies sum to more than 70 and percentages refer to the share of the 70 respondents. Data from the field survey, 2026 (Section F open-ended responses; N = 70).

Table A4

Themes in Nurses' Suggested Strategies to Improve Work-Life Balance (N = 70)

Theme	Frequency (n)	Percent (%)
Recruit more staff / increase workforce	39	55.7
Increase salaries, motivation and recognition	22	31.4
Reduce / evenly distribute workload	19	27.1
Flexible scheduling, shorter hours, 3 shifts	18	25.7
Management support, communication and fairness	15	21.4
Better leave, off-days and timely leave pay	11	15.7
Personal time-management and boundaries	9	12.9
Mental health, emotional support and wellness	7	10.0
Improve working conditions, resources and transport	6	8.6
Granting permission for personal/family needs	4	5.7

Note. Responses could mention more than one theme, so frequencies sum to more than 70 and percentages refer to the share of the 70 respondents. Data from the field survey, 2026 (Section F open-ended responses; N = 70).

A.4 Representative Verbatim Quotations

The quotations below illustrate each theme using respondents' own words. Up to five representative quotations are shown per theme; where a quotation mentions more than one issue, it appears under each relevant theme.

A.4.1 Challenges to Work-Life Balance

Insufficient time for family and personal life (n = 30)

"The number of hours per shift is long that one finds herself only revolving around work, no time to handle family issues"

"Limited time for my personal things, very long shifts and work overload"

"work is taking much time in a way that it is difficult to balance it with personal life, I do that under stress"

"No personal time to relax, or do something helpful for myself,"

"Time is the problem, lack of commitment and lack of good plan, late payment"

Heavy workload and understaffing (n = 27)

"Too much work load, long distance from home to work and back makes it very stressfull to balance work responsibility and personal life"

"Limited time for my personal things, very long shifts and work overload"

"Shortage of staff and delay of salary"

"Work overload with limited staff, which stress one out everyday and make me exhausted"

"Long working hours, work over load, stress from patient care, night shift, fatigue, limited time for family and rest"

Long and irregular working hours and shifts (n = 23)

"The number of hours per shift is long that one finds herself only revolving around work, no time to handle family issues"

"Low pay, long working hours"

"Limited time for my personal things, very long shifts and work overload"

"Burn out , low pay and no motivation , long working hours"

"Long time shift , breaks 2 times and for appropriate rest for staff"

Stress, fatigue and burnout (n = 22)

"Tiredness and lack of collaboration"

"Too much work load, long distance from home to work and back makes it very stressfull to balance work responsibility and personal life"

"work is taking much time in a way that it is difficult to balance it with personal life, I do that under stress"

"Work overload with limited staff, which stress one out everyday and make me exhausted"

"Burn out , low pay and no motivation , long working hours"

Low pay and delayed/irregular salary (n = 15)

"Low pay, long working hours"

"Shortage of staff and delay of salary"

"Low salary earn, unable to catch up with family needs"

"Time is the problem, lack of commitment and lack of good plan, late payment"

"Burn out , low pay and no motivation , long working hours"

Leave and off-day difficulties (n = 14)

"Long time shift , breaks 2 times and for appropriate rest for staff"

"Long working hours, work over load, stress from patient care, night shift, fatigue, limited time for family and rest"

"leaves not given in time, so causing conflict between my work and family"

"Working direct day shift closing late with only one off day per month"

"When your due when you go it takes long for your leave pay to come, long working hours of shift and having only one Saturday off per month"

Lack of management/supervisor support (n = 5)

"Tiredness and lack of collaboration"

"Work domand is very high, low payment, nurses wellbeing neglected"

"Work is very demanding, salaries are low, nurses lack support from supervisor"

"no support from supervisors, fear of punishment, system policies"

"The major challenge in staffing when you ask for permission they hardly give"

Poor planning and time management (n = 5)

"Time is the problem, lack of commitment and lack of good plan, late payment"

"Major challenge is personal life requires a lot of responsibilities, balancing work needs planning before time"

"Time management, increase work load, work stress and fatique"

"time and communication"

"time management , considering priorities , stress and burn out"

Limited autonomy, rigid rules and privacy intrusion (n = 4)

"You cannot do what you like while on duty, you need to follow strictly the rules and regulations of the hospital"

"no support from supervisors, fear of punishment, system policies"

"when the shift cannot be adjusted for me to solve an emergency personal issue"

"when sudden family emergencies come up or perosnal issues come , the office will want to know the private issue before they will want to grant the request. Since I love privacy I will rather ignore my personal life to keep my job"

Distance, transport and hospital location (n = 4)

"Too much work load, long distance from home to work and back makes it very stressfull to balance work responsibility and personal life"

"social gathering and movement to visit familly"

"distance , long working hours, physical and emotional stress"

"Environmental challenges with travelling in and out of work environment for personal life given the location of the hospital"

No challenge reported (n = 2)

"There is no major challenge"

"I do not face any challenge in balancing work and personal life"

A.4.2 Suggested Strategies to Improve Work-Life Balance

Recruit more staff / increase workforce (n = 39)

"more nurses should be employed to reduce work load, houses should be provided around the hospital to reduce home to work distance"

"Staff should be added"

"Add more nurses"

"Increase staffing, equal staff distribution, nursing office should be friendly, there should understand nursing stress and emotions"

"That Mbingo should be place on zone two, We also need more staff, need the normal 8 hours of work"

Increase salaries, motivation and recognition (n = 22)

"Increase pay and workers"

"That Mbingo should be place on zone two, We also need more staff, need the normal 8 hours of work"

"workers should be paid early, workers should be committed, workers should plan well and workers should have good communication"

"Work life balance, measures put in place increase salary and work force"

"the Mbingo Baptist hospital should always recognise nurses, occasion and long serve nurses, nurses experiences allowance, that is increase their salary"

Reduce / evenly distribute workload (n = 19)

"more nurses should be employed to reduce work load, houses should be provided around the hospital to reduce home to work distance"

"Increase staffing, equal staff distribution, nursing office should be friendly, there should understand nursing stress and emotions"

"We need more staff to reduce work load"

"Reduce work load"

"provide work-life balance measures, increase workforce, increase salaries, nursing supervisor give a listening ear"

Flexible scheduling, shorter hours, 3 shifts (n = 18)

"I suggest a 3 shifts, so that work and family can be handled equally"

"Reduce long working hours by bringing 3 shifts and adding of staff"

"That Mbingo should be place on zone two, We also need more staff, need the normal 8 hours of work"

"Adequate staffing, flexible work schedule, regular leave period, supportive management, provision of recreational and wellness activities for staff"

"Schedule personal time , master time management, set clear boundaries"

Management support, communication and fairness (n = 15)

"Increase staffing, equal staff distribution, nursing office should be friendly, there should understand nursing stress and emotions"

"workers should be paid early, workers should be committed, workers should plan well and workers should have good communication"

"Adequate staffing, flexible work schedule, regular leave period, supportive management, provision of recreational and wellness activities for staff"

"Good motivation, both verbal and financially, hospitals should communicate and listen well to the nurses"

"cooperation and communication"

Better leave, off-days and timely leave pay (n = 11)

"Adequate staffing, flexible work schedule, regular leave period, supportive management, provision of recreational and wellness activities for staff"

"They should plan well, rest before coming work"

"holidays should be given as need be , leave should be given in two divided period"

"if off days could be given in a different day during the week not Saturday it will be better , it leave pay should be arranged suh that your leave pay does not delay for more than a week"

"Annual leave pay should be paid on the day you are beginning work, grant request for off days accummulated in the shift , administration should listen to the concern of the nurses, motivate nurses on nurses day and national labour day celebration"

Personal time-management and boundaries (n = 9)

"Better planning and time management"

"workers should be paid early, workers should be committed, workers should plan well and workers should have good communication"

"They should plan well, rest before coming work"

"Schedule personal time , master time management, set clear boundaries"

"To plan, work before time, be duty conscious and punctual, to work as a team"

Mental health, emotional support and wellness (n = 7)

"Adequate staffing, flexible work schedule, regular leave period, supportive management, provision of recreational and wellness activities for staff"

"Should add staffing and create sessions to manage stress"

"adequate staffing, flexible scheduling, mental health and emotional support and compensation and recognition"

"employ quality staff evaluation of emotional state with appropriate information"

"support from supervisors, just approach over blame, healthy balance between work and home"

Improve working conditions, resources and transport (n = 6)

"More nurses should be employed to reduce workload, lodgings should be provided around the hospital to reduce home to work distance"

"Adequate staffing, flexible work schedule, regular leave period, supportive management, provision of recreational and wellness activities for staff"

"Meet up with the staffing needs, make working conditions favorable, do not look only at the negative part that happens while doing work, appreciate the work done."

"Fair and flexible scheduling, adequate staffing, mental health and emotional support , promoting healthy work environments."

"If it's possible, the hospital makes provision for hospital staff care that can transport in and out of the villages to tow n(given what is there is patient's bus) this will go

a long wy to reduce risk along the roads , addition of staff to mbingo baptist hospital will help."

Granting permission for personal/family needs (n = 4)

"Annual leave pay should be paid on the day you are beginning work, grant request for off days accummulated in the shift , administration should listen to the concern of the nurses, motivate nurses on nurses day and national labour day celebration"

"making request early enough before a shift is drawn all the time, coordial communication with the administration in case of emergencies, let our families know that we are dealing with human beings and not objects and don't expect us to be present in all the family activities most especially the unplanned and those activities that can be postponed."

"I suggest that the hospital should recruite more staff to make the work llighter and that when a staff ask for a permission with tangible reason it should be granted so as to allow him for her to meet up with other personal life matters."

"the office should know the staff and note that not everyone who comes for permission to handle personal issues is lying , they should increase workers so that when permission is need to handle personal live issues they will not be too inquisitive"

A.5 Note on Coverage

All seventy valid responses to each question were assigned to at least one theme, so no response was left uncoded. This complete coverage indicates that the coding framework adequately captured the range of issues raised by the nurses. The theme frequencies reported in Tables A3 and A4 correspond to the thematic summary tables presented in the main text of Chapter Four (Tables 4.14 and 4.15).

APPENDIX 2: RAW RESULTS FOR QUANTITATIVE

```
. pwcorr wlb_experience job_demands job_control wlb_strategy, sig star(0.05)
```

	wlb_ex~e	job_de~s	job_c~ol	wlb_st~y
wlb_experi~e	1.0000			
job_demands	-0.4097*	1.0000		
	0.0000			
job_control	0.2594*	-0.0323	1.0000	
	0.0003	0.6617		
wlb_strategy	0.4049*	-0.3323*	0.5199*	1.0000
	0.0000	0.0000	0.0000	

```
. display as result "MODEL A: MLR WITH ALL CONTROLS (INCLUDING AGE)"
MODEL A: MLR WITH ALL CONTROLS (INCLUDING AGE)

. regress wlb_experience job_demands job_control ///
>         c.age_years c.years_exp c.avg_patients_n i.schedule_c
```

Source	SS	df	MS		
Model	11.7328173	7	1.67611675	Number of obs	= 102
Residual	46.0822699	94	.490236914	F(7, 94)	= 3.42
				Prob > F	= 0.0027
Total	57.8150871	101	.572426605	R-squared	= 0.2029
				Adj R-squared	= 0.1436
				Root MSE	= .70017

wlb_experience	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
job_demands	-.347789	.1418522	-2.45	0.016	-.6294399	-.0661381
job_control	.2074648	.1062235	1.95	0.054	-.0034445	.4183741
age_years	.0046167	.0111668	0.41	0.680	-.0175553	.0267887
years_exp	-.0224443	.0138259	-1.62	0.108	-.0498959	.0050072
avg_patients_n	-.0146423	.0071774	-2.04	0.044	-.0288931	-.0003915
schedule_c						
Night shifts only	.3571064	.5323296	0.67	0.504	-.6998466	1.414059
Rotating shifts	-.2617466	.202619	-1.29	0.200	-.6640513	.1405582
_cons	3.429861	.642047	5.34	0.000	2.155061	4.70466

MODEL B: MLR WITHOUT AGE (FULL SAMPLE, SENSITIVITY)

```
. regress wlb_experience job_demands job_control ///
>         c.years_exp c.avg_patients_n i.schedule_c
```

Source	SS	df	MS		
Model	39.025355	7	5.57505072	Number of obs	= 184
Residual	91.1157984	176	.5177034	F(7, 176)	= 10.77
				Prob > F	= 0.0000
Total	130.141153	183	.711153844	R-squared	= 0.2999
				Adj R-squared	= 0.2720
				Root MSE	= .71952

wlb_experience	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
job_demands	-.6017166	.1078591	-5.58	0.000	-.8145802	-.388853
job_control	.2925808	.0786888	3.72	0.000	.1372858	.4478758
years_exp	-.0134135	.0082831	-1.62	0.107	-.0297604	.0029333
avg_patients_n	-.0080363	.0056148	-1.43	0.154	-.0191173	.0030446
schedule_c						
Night shifts only	-.5218708	.3481838	-1.50	0.136	-1.209023	.1652819
Rotating shifts	-.4875383	.1459238	-3.34	0.001	-.775524	-.1995525
On-call plus shifts	-.4043329	.5278451	-0.77	0.445	-1.446053	.6373874
_cons	4.224898	.431693	9.79	0.000	3.372937	5.076859

```
. bootstrap, reps(5000) nodots: regress wlb_experience job_demands job_control ///
>         c.years_exp c.avg_patients_n i.schedule_c

Linear regression                                       Number of obs =    184
                                                        Replications  =  4,305
                                                        Wald chi2(7)  =  99.57
                                                        Prob > chi2   = 0.0000
                                                        R-squared     = 0.2999
                                                        Adj R-squared = 0.2720
                                                        Root MSE      = 0.7195
```

wlb_experience	Observed coefficient	Bootstrap std. err.	z	P>|z|	Normal-based [95% conf.	interval]
job_demands	-.6017166	.0898363	-6.70	0.000	-.7777925	-.4256407
job_control	.2925808	.087478	3.34	0.001	.121127	.4640347
years_exp	-.0134135	.0093319	-1.44	0.151	-.0317037	.0048766
avg_patients_n	-.0080363	.006861	-1.17	0.241	-.0214836	.0054109
schedule_c						
Night shifts only	-.5218708	.3806623	-1.37	0.170	-1.267955	.2242137
Rotating shifts	-.4875383	.1539205	-3.17	0.002	-.7892168	-.1858597
On-call plus shifts	-.4043329	.306565	-1.32	0.187	-1.005189	.1965234
_cons	4.224898	.3776401	11.19	0.000	3.484737	4.965059

```
Note: One or more parameters could not be estimated in 695 bootstrap
      replicates; standard-error estimates include only complete replications.
```

```
. estat bootstrap, all

Linear regression                               Number of obs     =        184
                                                Replications      =       4305
```

wlb_experi~e	Observed coefficient	Bias	Bootstrap std. err.	[95% conf.	interval]	
job_demands	-.60171659	.0031779	.08983631	-.7777925	-.4256407	(N)
				-.7787871	-.4242747	(P)
				-.7846103	-.4310167	(BC)
job_control	.29258084	.0032398	.08747805	.121127	.4640347	(N)
				.1227117	.465299	(P)
				.1144028	.4569834	(BC)
years_exp	-.01341355	.0005488	.00933187	-.0317037	.0048766	(N)
				-.0298969	.0066456	(P)
				-.0297593	.0066456	(BC)
avg_patien~n	-.00803635	-.0006076	.00686096	-.0214836	.0054109	(N)
				-.0226893	.0038395	(P)
				-.0220896	.00435	(BC)
1b.schedul~c	0	0	0	0	0	(N)
				0	0	(P)
				.	.	(BC)
2.schedule_c	-.5218708	-.0009714	.38066234	-1.267955	.2242137	(N)
				-1.189837	.3021675	(P)
				-1.146133	.4040102	(BC)
3.schedule_c	-.48753826	-.0051359	.15392046	-.7892168	-.1858597	(N)
				-.8010585	-.2032593	(P)
				-.7955674	-.2000656	(BC)
4.schedule_c	-.40433294	-.0144472	.30656499	-1.005189	.1965234	(N)
				-.9630024	.1393522	(P)
				-.9457771	.1571455	(BC)
_cons	4.224898	-.0133652	.37764015	3.484737	4.965059	(N)
				3.463916	4.975876	(P)
				3.50666	5.010686	(BC)

```
Key:  N: Normal
      P: Percentile
     BC: Bias-corrected
Note: One or more parameters could not be estimated in 695 bootstrap
      replicates; standard-error estimates include only complete replications.
```

STEP 3: ADD INTERACTION (JOB DEMANDS x JOB CONTROL)

```
. regress wlb_experience c.years_exp c.avg_patients_n i.schedule_c ///
>         c.jd_c##c.jc_c
```

Source	SS	df	MS		
Model	39.0281683	8	4.87852103	Number of obs	= 184
Residual	91.1129851	175	.520645629	F(8, 175)	= 9.37
				Prob > F	= 0.0000
Total	130.141153	183	.711153844	R-squared	= 0.2999
				Adj R-squared	= 0.2679
				Root MSE	= .72156

wlb_experience	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
years_exp	-.0134307	.0083098	-1.62	0.108	-.0298311	.0029697
avg_patients_n	-.0079918	.0056632	-1.41	0.160	-.0191688	.0031852
schedule_c						
Night shifts only	-.5191446	.3511359	-1.48	0.141	-1.212151	.1738616
Rotating shifts	-.487444	.1463435	-3.33	0.001	-.7762694	-.1986186
On-call plus shifts	-.4047645	.5293754	-0.76	0.446	-1.449546	.6400174
jd_c	-.6028418	.1092429	-5.52	0.000	-.8184448	-.3872387
jc_c	.295599	.0889551	3.32	0.001	.1200361	.471162
c.jd_c#c.jc_c	-.0114672	.1560004	-0.07	0.941	-.3193515	.2964171
_cons	2.963928	.1470736	20.15	0.000	2.673662	3.254195

TEST OF THE INTERACTION TERM

```
. test c.jd_c#c.jc_c

 ( 1)  c.jd_c#c.jc_c = 0

       F(  1,   175) =    0.01
            Prob > F =    0.9415
```

```
Breusch-Pagan/Cook-Weisberg test for heteroskedasticity
Assumption: Normal error terms
Variable: Fitted values of wlb_experience

H0: Constant variance

    chi2(1) =   0.04
Prob > chi2 = 0.8384

.
. capture drop resid_main

. predict double resid_main, residuals
(2 missing values generated)

. label variable resid_main "Regression residuals"

.
. display as result "DIAGNOSTIC 3: NORMALITY OF RESIDUALS"
DIAGNOSTIC 3: NORMALITY OF RESIDUALS

. swilk resid_main

                    Shapiro-Wilk W test for normal data

    Variable |        Obs       W           V         z       Prob>z
-------------+-------------------------------------------------------
  resid_main |        184     0.97057      4.084     3.224     0.00063
```

A.6 Budget

ITEM	COST(USD)
Personnel	300
Equipment (pens, Printing)	100
Logistics for the meeting with data collectors	100
Ethical approval	50
Total	550

A.7 Study Timeline

ACTIVITY								
	NOV-2025	DEC-2025	JAN-26	FEB-2026	MAR -2026	APRIL	MAY	JUNE
LITERATURE REVIEW								
ETHICS APPLICATION								
DATA COLLECTION								
DATA ANALYSIS								

WRITING								
FINAL SUBMISSION								

A.8 Consent form

Study Title: Assessing the Influence of Job Demands and Job Control on Work-Life Balance Among Nurses at Mbingo Baptist Hospital, Bamenda, Cameroon.

Mbomngho Ceraphine

University of Global Health Equity

Supervisors: Atenchong Nwibete & Shelly Luger

Invitation

You are invited to participate in a research study. This letter provides information about the study to help you decide whether to participate. Please read it carefully. Ask questions about anything you do not understand before you decide to participate. Your participation is entirely voluntary.

1. What is the purpose of the study.

The purpose of this research is to understand the relationship between the demands of your job, the level of control you have over your work, and how these factors affect your balance between work and personal life. The findings aim to contribute to improving the well-being and working conditions of nursing staff at Mbingo Baptist Hospital and similar healthcare settings.

2. What will I be asked to do?

If you agree to participate, you will be asked to:

Complete a confidential questionnaire. It will take approximately 20-30 minutes of your time.

The questionnaire will ask about your job tasks, your schedule, your decision-making authority at work, and your personal life outside the hospital.

3. Are there any potential risks or discomforts?

The risks associated with this study are minimal. Some questions might be personal and could cause minor emotional discomfort when reflecting on work-related stress or personal challenges. You are free to skip any question you are not comfortable answering or to stop the interview at any time.

4. Are there any benefits to participating?

There may be no direct personal benefit to you. However, your participation will help generate valuable knowledge that could inform hospital policies and support programs aimed at improving the work environment and well-being for nurses in the future.

5. How will my confidentiality be protected?

Your privacy is of utmost importance.

All information you provide will be kept confidential.

Your name or any other personally identifying information will not be collected on the questionnaire. A unique code will be used instead.

All data (completed questionnaires, interview notes) will be stored securely, with access limited to the research team. Data will be stored on a password-protected computer and in a locked cabinet.

The results of this study may be published or presented, but no individual participant will be identified in any report.

6. Do I have to participate?

No. Your participation is completely voluntary. You may choose not to participate. If you decide to participate, you are free to withdraw from the study at any time without any penalty or loss of benefits to which you are otherwise entitled. Your decision will not affect your current or future employment at Mbingo Baptist Hospital.

7. Who should I contact if I have questions?

If you have any questions about this study, you may contact the Principal Investigator:

Mbomngho Ceraphine

MGNL Student

Email: ceraphinembomngho@gmail.com

Tel: +237670082958

For any questions regarding your rights as a research participant, you may also contact the Institutional Review Board or Ethics Committee of the University of Global Health Equity, or the Director of the Cameroon Baptist Convention Health services.

Statement of Consent

By signing below, you confirm that:

You have read this consent form (or it has been read to you).

You have had the opportunity to ask questions and your questions have been answered.

You voluntarily agree to participate in this research study.

Signature of Participant: _____ Date: _____

Signature of Investigator: _____ Date: _____

Research Questionnaire

Research Topic: Assessing the Influence of Job Demands and Job Control on Work-Life Balance among Nurses at Mbingo Baptist Hospital, Cameroon.

Introduction for Participants:

Dear Participant,

My name is Mbomngho Ceraphine, a master's student carrying out a study on the above topic. You are invited to take part in a research study aimed at understanding the relationship between job characteristics and work-life balance among nurses at Mbingo Baptist Hospital. Your responses will be kept strictly confidential and anonymous and will be used solely for academic purposes. The survey should take approximately 10-15 minutes to complete. Your participation is voluntary and greatly appreciated.

Thank you for your time.

A.9 QUESTIONNAIRE

Dear Respondent,

My name is **Mbomngho Ceraphine**, a student conducting a research study titled: **"Job Demands, Job Control and Work-Life Balance among Nurses at Mbingo Baptist**

Hospital." This study is purely for academic purposes. All information provided will be treated with strict confidentiality. You are kindly requested to answer the questions honestly and as accurately as possible. Your participation is voluntary, and you may withdraw at any time without penalty.

Thank you for your cooperation.

Section A: Socio-Demographic and Work-Related Information

Please tick or fill where appropriate.

1. **Gender:**

[ ] Male [ ] Female [ ] Prefer not to say

2. **Age:** _____ years

3. **Marital status:**

[ ] Single [ ] Married [ ] Divorced [ ] Widowed [ ] Prefer not to say

4. **Professional rank:**

[ ] Nursing Assistant [ ] State Registered Nurse

[ ] BSc Nurse [ ] MSc Nurse [ ] Other: _____

5. **Department/Unit:**

[ ] Outpatient Department [ ] Medical/Surgical Ward

[ ] Maternity/Paediatrics [ ] Emergency Unit

[ ] Theatre [ ] ICU [ ] Other: _____

6. **Years of working experience in this hospital:** _____ years

7. **Typical work schedule:**

[ ] Day shifts only [ ] Night shifts only

[ ] Rotating shifts [ ] On-call plus shifts

8. **Average number of patients you care for per shift:** _____

Section B: Job Demands

Please indicate the extent to which each statement applies to you.

No.	Item	Never/Hardly ever	Seldom	Sometimes	Often	Alv
1	Is your workload unevenly distributed so that it piles up?					
2	Do you get behind with your work?					
3	Do you have enough time for your work tasks?					
4	Do you work very fast?					
5	Is your work pace high throughout the day?					
6	Is it necessary to keep working at a high pace?					
7	Does your work require you to keep track of many things at once?					
8	Does your work require you to remember many things?					
9	Does your work require you to come up with new ideas?					
10	Does your work require you to make difficult decisions?					
11	Is your work emotionally demanding?					
12	Do you come into contact with emotionally disturbing situations in your work?					
13	Does your work put you in emotionally upsetting situations?					
14	Do you have to deal with other people's personal problems as part of your work?					

Section C: Job Control

Please indicate the extent to which each statement applies to you.

No.	Item	To a very small extent	To a small extent	To some extent	To a large extent	To a ve large ex
15	Do you have influence on decisions concerning your work?					
16	Can you influence the amount of work assigned to you?					
17	Do you have a say in how your work is carried out?					
18	Can you influence the speed at which you work?					
19	Do you have influence over what you do at work?					
20	Can you decide when to take a break?					
21	Can you take leave or holidays when you need them?					

		To a very small extent	To a small extent	To some extent	To a large extent	To a ve large ex
22	Can you briefly leave your work for personal reasons when necessary?					
23	Do you feel free to organize your workday in a way that suits you?					
24	Do you have sufficient autonomy in your daily nursing duties?					

Section D: Work-Life Balance Strategies Available at Mbingo Baptist Hospital

Please indicate your level of agreement with the following statements about the support and strategies available in your hospital.

No.	Item	Strongly disagree	Disagree	Neutral	Agree	Str agr
25	My hospital provides fair and manageable shift scheduling practices.					
26	Nurses are given reasonable flexibility when personal or family issues arise.					
27	Management is supportive when staff experience work-life balance difficulties.					
28	There are adequate staffing arrangements that help reduce excessive workload.					
29	Leave arrangements in this hospital support nurses' family and personal responsibilities.					
30	Supervisors encourage a healthy balance between work and personal life.					
31	The hospital has policies or practices that help nurses cope with stress and burnout.					
32	Communication from management helps nurses plan work and personal responsibilities effectively.					

Section E: Work-Life Balance Experience

Please indicate your level of agreement with the following statements.

No.	Item	Strongly disagree	Disagree	Neutral	Agree	Stro agr
33	My work drains so much energy that it has a negative effect on my private life.					
34	My work takes so much time that it is difficult to fulfill personal or family responsibilities.					
35	I often feel that work and home demands compete with each other.					
36	My job makes it hard for me to maintain a satisfying personal life.					
37	Because of work, I have to change or cancel personal or family plans.					
38	I am able to balance my work responsibilities with my personal life.					

Section F: Open-Ended Questions

39. What are the major challenges you face in balancing work and personal life?

_____

_____

_____

40. What measures would you suggest to improve work-life balance among nurses in Mbingo Baptist Hospital?

_____

_____

_____

_____

A.10 References

Adil, A., & Kamal, A. (2020). Authentic leadership and psychological capital in job demands-resources model among Pakistani university teachers. *International Journal of Leadership in Education*, *23*(6), 734–754. https://doi.org/10.1080/13603124.2019.1580772

Akanji, B., Mordi, C., Simpson, R., Adisa, T. A., & Oruh, E. S. (2020). Time biases: Exploring the work–life balance of single Nigerian managers and professionals. *Journal of Managerial Psychology*, *35*(2), 57–70. https://doi.org/10.1108/JMP-12-2018-0537

Alruwaili, M. M., & Abuadas, F. H. (2023). Professional autonomy among nurses in Saudi Arabian critical care units. *BMC Nursing*, *22*(1), 224. https://doi.org/10.1186/s12912-023-01390-x

Babamohamadi, H., Davari, H., Safari, A.-A., Alaei, S., & Pordanjani, S. R. (2023). The association between workload and quality of work life of nurses taking care of patients with COVID-19. *BMC Nursing*, *22*(1), 234. https://doi.org/10.1186/s12912-023-01395-6

Badran, F. M. M., & Khalaaf, D. A. (2023). Work-Life Balance and Its Relation to Person-Job Fit among Staff Nurses. *Evidence-Based Nursing Research*, *4*(3), 86–93. https://doi.org/10.47104/ebnrojs3.v4i3.271

Baghshykhi, F., Rahimi, H., Azizi-Fini, I., Haji, S., & Izadi-Dastgerdi, E. (2020). Job characteristics and work adjustment among Iranian nurses: A correlational study. *Nursing and Midwifery Studies*, *9*(2), 90. https://doi.org/10.4103/nms.nms_33_19

Baisa, Q. N. M., & Nilasari, B. M. (2022). MEDIATION ROLE OF WORK-LIFE BALANCE ON THE EFFECT OF JOB DEMAND AND WORKPLACE RESOURCES ON NURSE JOB SATISFACTION DURING THE COVID-19 PANDEMIC. *Jurnal Aplikasi Manajemen*, *20*(3), 528–541. https://doi.org/10.21776/ub.jam.2022.020.03.06

Boamah, S. A., & Laschinger, H. (2016). The influence of areas of worklife fit and work-life interference on burnout and turnover intentions among new graduate nurses. *Journal of Nursing Management*, *24*(2), E164–E174. https://doi.org/10.1111/jonm.12318

Burr, H., Berthelsen, H., Moncada, S., Nübling, M., Dupret, E., Demiral, Y., Oudyk, J., Kristensen, T. S., Llorens, C., Navarro, A., Lincke, H.-J., Bocéréan, C., Sahan, C., Smith, P., & Pohrt, A. (2019). The Third Version of the Copenhagen Psychosocial Questionnaire. *Safety and Health at Work*, *10*(4), 482–503. https://doi.org/10.1016/j.shaw.2019.10.002

Chang, S., Han, K., & Cho, Y. (2020). Association of Happiness and Nursing Work Environments with Job Crafting among Hospital Nurses in South Korea. *International Journal of Environmental Research and Public Health*, *17*(11), 4042. https://doi.org/10.3390/ijerph17114042

Cho, H. H., & Kim, E.-Y. (2020). Effect of Nursing Organizational Culture, Organizational Health, and Job Crafting on Intent to Stay among Registered Nurses. *Journal of Korean Academy of Nursing Administration*, *26*(2), 172. https://doi.org/10.11111/jkana.2020.26.2.172

Dahri, I. Y., Kapalawi, I., Rivai, F., Pasinringi, S., & Sidin, A. I. (n.d.). Saleh (2021). The effect of job demand resouces on job crafting at Hasanuddin University hospital. *Turkish Journal of Physiotherapy and Rehabilitation*, *32*.

Dirisu, J., Worlu, R., Osibanjo, A., Salau, O., Borishade, T., Meninwa, S., & Atolagbe, T. (2018). An integrated dataset on organisational culture, job satisfaction and performance in the hospitality industry. *Data in Brief*, *19*, 317–321. https://doi.org/10.1016/j.dib.2018.04.137

Duxbury, L., & Higgins, C. (2001). *Work-Life Balance in the New Millennium: Where Are We? Where Do We Need To Go? CPRN Discussion Paper*. For full text: http://www. https://eric.ed.gov/?id=ED465060

Elnady, F., Omar, A., & Abd-Elrhaman, E. (2023). Job Demands, Resources and Its Relation to Nurses' Professional Quality of Life and Job Crafting During COVID-19 Pandemic. *Egyptian Journal of Nursing and Health Sciences*, *4*(2), 67–93. https://doi.org/10.21608/ejnhs.2023.309205

Elsayed, R. shehata. (n.d.). *Nurses' Job Crafting and its' relationship with their Job Demands, Job Resources, and Career Competencies*. https://api.semanticscholar.org/CorpusID:265279031

Elsayed, R. shehata. (2019). *Nurses' Job Crafting and its' relationship with their Job Demands, Job Resources, and Career Competencies*. https://api.semanticscholar.org/CorpusID:265279031

Fadillah, A. R., Aras, R. A., & Wahyuni, S. (2022). *The Effects of Work-Life Balance Towards Work Stress Among Nurses:* Interdisciplinary Conference of Psychology, Health, and Social Science (ICPHS 2021), Makassar, Indonesia. https://doi.org/10.2991/assehr.k.220203.035

Fekry Ahmed, M., & Moustafa Abd-ElGhani, A. (2021). Job Demands, Job Resources and its Relationship with Job Crafting among Head Nurses. *Egyptian Journal of Health Care*, *12*(2), 594–607. https://doi.org/10.21608/ejhc.2021.167095

Fernandez De Henestrosa, M., Sischka, P. E., & Steffgen, G. (2023). Predicting Challenge and Threat Appraisal of Job Demands among Nurses: The Role of Matching Job Resources. *International Journal of Environmental Research and Public Health*, *20*(2), 1288. https://doi.org/10.3390/ijerph20021288

Frintner, M. P., Kaelber, D. C., Kirkendall, E. S., Lourie, E. M., Somberg, C. A., & Lehmann, C. U. (2021). The Effect of Electronic Health Record Burden on Pediatricians' Work–Life Balance and Career Satisfaction. *Applied Clinical Informatics*, *12*(03), 697–707. https://doi.org/10.1055/s-0041-1732402

Gonçalves, S. F., Silva, I. S., & Veloso, A. L. (2020). TRABALHO POR TURNOS E VIDA FAMILIAR E SOCIAL NA PERSPECTIVA DOS/AS FILHOS/AS. *Psicologia Em Estudo*, *25*. https://doi.org/10.4025/psicolestud.v25i0.48999

Grzywacz, J. G., & Carlson, D. S. (2007). Conceptualizing Work-Family Balance: Implications for Practice and Research. *Advances in Developing Human Resources*, *9*(4), 455–471. https://doi.org/10.1177/1523422307305487

Jiang, D., Ning, L., Liu, T., Zhang, Y., & Liu, Q. (2022). Job demands-resources, job crafting and work engagement of tobacco retailers. *Frontiers in Public Health*, *10*, 925668. https://doi.org/10.3389/fpubh.2022.925668

Khalil, A., Almotairi, M., Shokr, E., & Radwan, H. (2022). *Work-Life Balance and Mental Health of Egyptian and Saudi Health Professionals Managing COVID-19 Patients: A Comparative Cross- Sectional Study*. 8856–8869.

Khan, N., Jackson, D., Stayt, L., & Walthall, H. (2019a). Factors influencing nurses' intentions to leave adult critical care settings. *Nursing in Critical Care*, *24*(1), 24–32. https://doi.org/10.1111/nicc.12348

Khan, N., Jackson, D., Stayt, L., & Walthall, H. (2019b). Factors influencing nurses' intentions to leave adult critical care settings. *Nursing in Critical Care*, *24*(1), 24–32. https://doi.org/10.1111/nicc.12348

Lagerström, M., Josephson, M., Arsalani, N., & Fallahi-Khoshknab, M. (2010). Striving for Balance Between Family and Work Demands Among Iranian Nurses. *Nursing Science Quarterly*, *23*(2), 166–172. https://doi.org/10.1177/0894318410362543

Lee, J. M., & Choi, H. G. (2019). Influence of organizational culture supporting work-life balance on well-being and depression mediated by work-life balance: An application of multi-group analysis across gender and age. *Korean Journal of Industrial and Organizational Psychology*, *32*(1), 1–27. https://doi.org/10.24230/kjiop.v32i1.1-27

Lembrechts, L., Dekocker, V., Zanoni, P., & Pulignano, V. (2015). A study of the determinants of work-to-family conflict among hospital nurses in Belgium. *Journal of Nursing Management*, *23*(7), 898–909. https://doi.org/10.1111/jonm.12233

Lesener, T., Gusy, B., & Wolter, C. (2019). The job demands-resources model: A meta-analytic review of longitudinal studies. *Work & Stress*, *33*(1), 76–103. https://doi.org/10.1080/02678373.2018.1529065

Mabrouk, A. Z. A. W., Seada, A. M., & Mohammed, N. T. (2024). Influence of job demands and job control on work–life balance among nursing staff. *Egyptian Nursing Journal*, *21*(2), 211–222. https://doi.org/10.4103/enj.enj_20_24

Mahdy Attia, N., & Elsayed-ElAraby Abdelwahid, A. (2021). Relationships among Organizational Identification, Cynicism, Job Demands- Resources and Nurses' Job Crafting. *Egyptian Journal of Health Care*, *12*(4), 1234–1251. https://doi.org/10.21608/ejhc.2021.207217

Mohamed Elshahat, E., Mostafa Shazly, M., & Abd - Elazeem, H. (2019). Relationship between Quality of Work Life and Turnover Intention among Staff Nurses. *Egyptian Journal of Health Care*, *10*(1), 178–193. https://doi.org/10.21608/ejhc.2019.28793

Navajas-Romero, V., Ariza-Montes, A., & Hernández-Perlines, F. (2020). Analyzing the Job Demands-Control-Support Model in Work-Life Balance: A Study among Nurses in the European Context. *International Journal of Environmental Research and Public Health*, *17*(8), 2847. https://doi.org/10.3390/ijerph17082847

Ng, L.-P., Chen, I.-C., Ng, H.-F., Lin, B.-Y., & Kuar, L.-S. (2017a). Influence of job demands and job control on work-life balance among Taiwanese nurses. *Journal of Nursing Management*, *25*(6), 438–448. https://doi.org/10.1111/jonm.12482

Ng, L.-P., Chen, I.-C., Ng, H.-F., Lin, B.-Y., & Kuar, L.-S. (2017b). Influence of job demands and job control on work-life balance among Taiwanese nurses. *Journal of Nursing Management*, *25*(6), 438–448. https://doi.org/10.1111/jonm.12482

Nordenmark, M., Vinberg, S., & Strandh, M. (2012). Job control and demands, work-life balance and wellbeing among self-employed men and women in Europe. *Vulnerable Groups & Inclusion*, *3*(1), 18896. https://doi.org/10.3402/vgi.v3i0.18896

Obina, W. F., Ndibazza, J., Kabanda, R., Musana, J., & Nanyingi, M. (2024). Factors associated with perceived work-life balance among health workers in Gulu District, Northern Uganda: A health facility-based cross-sectional study. *BMC Public Health*, *24*(1), 278. https://doi.org/10.1186/s12889-024-17776-8

Qi, L., Liu, B., Wei, X., & Hu, Y. (2019). Impact of inclusive leadership on employee innovative behavior: Perceived organizational support as a mediator. *PLOS ONE*, *14*(2), 1–14. https://doi.org/10.1371/journal.pone.0212091

Rantanen, J. (2008). *JYVÄSKYLÄ STUDIES IN EDUCATION, PSYCHOLOGY AND SOCIAL RESEARCH 346*.

Rantanen, J., Kinnunen, U., Mauno, S., & Tillemann, K. (2011). Introducing Theoretical Approaches to Work-Life Balance and Testing a New Typology Among Professionals. In S. Kaiser, M. J. Ringlstetter, D. R. Eikhof, & M. Pina E Cunha (Eds.), *Creating Balance?* (pp. 27–46). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-16199-5_2

Riedl, E. M., & Thomas, J. (2019). The moderating role of work pressure on the relationships between emotional demands and tension, exhaustion, and work engagement: An

experience sampling study among nurses. *European Journal of Work and Organizational Psychology*, *28*(3), 414–429. https://doi.org/10.1080/1359432X.2019.1588251

Rony, M. K. K., Md. Numan, S., & Alamgir, H. M. (2023a). The association between work-life imbalance, employees' unhappiness, work's impact on family, and family impacts on work among nurses: A Cross-sectional Study. *Informatics in Medicine Unlocked*, *38*, 101226. https://doi.org/10.1016/j.imu.2023.101226

Rony, M. K. K., Md. Numan, S., & Alamgir, H. M. (2023b). The association between work-life imbalance, employees' unhappiness, work's impact on family, and family impacts on work among nurses: A Cross-sectional Study. *Informatics in Medicine Unlocked*, *38*, 101226. https://doi.org/10.1016/j.imu.2023.101226

Rosen, P. H., & Wischniewski, S. (2019). Scoping review on job control and occupational health in the manufacturing context. *The International Journal of Advanced Manufacturing Technology*, *102*(5–8), 2285–2296. https://doi.org/10.1007/s00170-018-03271-z

Simmons, D. A. (2004). Health Care Quality and ISO 9001:2000. In *Clinical Engineering Handbook* (pp. 565–568). Elsevier. https://doi.org/10.1016/B978-012226570-9/50131-9

Sripo, N., Kaewpan, W., Kalampakorn, S., & Sillabutra, J. (2019a). Factors Related to Work-Life Balance among Occupational Health Nurses In Thailand. *Indian Journal of Public Health Research & Development*, *10*(5), 1492. https://doi.org/10.5958/0976-5506.2019.01147.1

Sripo, N., Kaewpan, W., Kalampakorn, S., & Sillabutra, J. (2019b). Factors Related to Work-Life Balance among Occupational Health Nurses In Thailand. *Indian Journal of Public*

Health Research & Development, *10*(5), 1492. https://doi.org/10.5958/0976-5506.2019.01147.1

Tamunomiebi, M. D., & Oyibo, C. (2020). Work-Life Balance and Employee Performance: A Literature Review. *European Journal of Business and Management Research*, *5*(2). https://doi.org/10.24018/ejbmr.2020.5.2.196

Therese, A., Ketum, A., Isah, M., Ayafor, T., Agbor, A., Anwi, A., Esembeson, M., & Esoh, N. (2020). A cross-sectional study of the causes, effects and management strategies for stress and burnout among nurses in the Fako Division, Cameroon. Journal of Biosciences and Medicines, 8, 17–27. https://doi.org/10.4236/jbm.2020.87002

Tims, M., & Parker, S. K. (2020). How coworkers attribute, react to, and shape job crafting. *Organizational Psychology Review*, *10*(1), 29–54. https://doi.org/10.1177/2041386619896087

Uzochukwu, A. C., Ifeoma, I.-O. M., & Obiora, O. A. (n.d.). *Effect of work- life-balance on organizational performance in Banking Industry in Nigeria*.

World Health Organization. (2020). State of the world's nursing 2020: Investing in education, jobs and leadership. World Health Organization.

Yamaguchi, Y., Inoue, T., Harada, H., & Oike, M. (2016). Job control, work-family balance and nurses' intention to leave their profession and organization: A comparative cross-sectional survey. *International Journal of Nursing Studies*, *64*, 52–62. https://doi.org/10.1016/j.ijnurstu.2016.09.003

Zito, M., Colombo, L., Borgogni, L., Callea, A., Cenciotti, R., Ingusci, E., & Cortese, C. G. (2019). The Nature of Job Crafting: Positive and Negative Relations with Job Satisfaction and Work-Family Conflict. *International Journal of Environmental Research and Public Health*, *16*(7), 1176. https://doi.org/10.3390/ijerph16071176

APPENDIX 3: RELIABILITY AND REGRESSION DIAGNOSTICS

Table A5

Reliability of the Measurement Scales

Construct	No. of items	Cronbach's alpha	Interpretation
Job demands	14	.767	Acceptable
Job control	10	.769	Acceptable
Work-life balance strategies	8	.831	Good
Work-life balance experience	6	.857	Good

Note. Data from the field survey, 2026; analysis performed in STATA 18.

Table A6

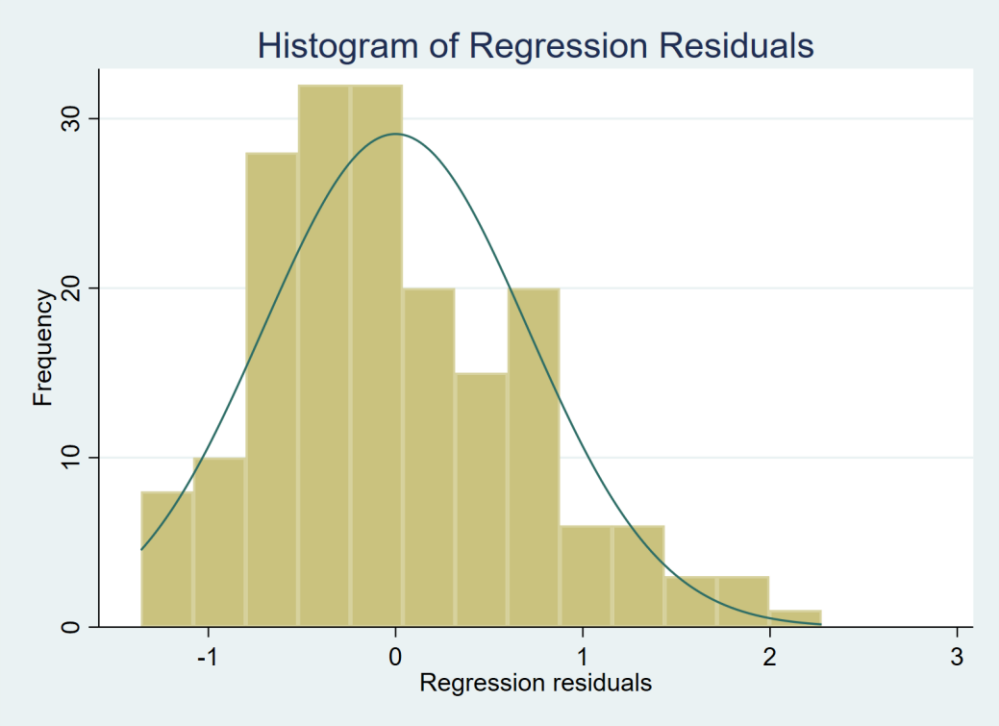
Regression Diagnostic Tests for the Primary Model

Diagnostic test	Statistic	p	Conclusion
Multicollinearity (VIF)	Mean VIF = 1.11; Max VIF = 1.24	-	No multicollinearity
Homoscedasticity (Breusch-Pagan)	chi-square(1) = 0.04	.838	Constant variance upheld
Residual normality (Shapiro-Wilk)	W = 0.971	< .001	Mild departure from normality

Note. VIF = variance inflation factor. Diagnostics were computed on the primary regression model (Model B, N = 184). Data from the field survey, 2026; analysis performed in STATA 18.

Figure A1

Histogram of Regression Residuals



Note. Data from the field survey, 2026; analysis performed in STATA 18.

CAMEROON BAPTIST CONVENTION HEALTH BOARD
INSTITUTIONAL REVIEW BOARD

Baptist Centre, Nkwen, P.O. Box 1, Bamenda, Northwest Region

MBMNGHO CERAPHINE
University of Global Health Equity
Centre for nursing and midwifery
ceraphinembomngho@gmail.com

IRB study number: IRB2026-56
Title of Protocol: **Assessing the influence of job demands and job control on work-life balance among nurses at Mbingo Baptist Hospital.**

IRB approval date: May 13, 2026
IRB expiration date May 13, 2027

Dear Ceraphine,

Your proposed research seeks to identify the extent to which workload, emotional and physical demands, and perceived control over work influence nurses' ability to maintain a healthy balance between their professional and personal lives.

Your study protocol was reviewed by members of the CBC Health Board IRB and has been granted expedited approval this May 13, 2026. Your study will be presented to the entire Board during the next Board meeting for deliberations and the final decision of the Board will be made known to you by email.

Please understand that this is the ethical and safety approval for your study. You will conduct this research in accordance with LAW N° 2022/008 of April 27, 2022, relating to research involving human subjects in Cameroon and the WMA Declaration of Helsinki on ethical principles for medical research involving human subjects. You must present this IRB approval letter to the Hospital Administrator of and Chief Medical Officer to carry out the study in the Institution(s). This approval is valid for the CBC Health Services facilities only.

If you make any changes in the research protocol, please immediately send the IRB an amendment specifying the changes proposed.

The Board grants approval for this study for a one-year time period. Thereafter, before May 13, 2027, you will please complete our renewal form/final report which will be attached to an email and return it to me. The completed form must be reviewed and approved by the Institutional Review Board prior to the expiration date of the current approval period. The fee to renew a study protocol is 10,000 cfa.

Your protocol has been assigned the above reference IRB protocol number. All correspondence to us should include:

1. The IRB protocol number,
2. Name of the principal investigator and,
3. full title of the study.

Finally, all abstracts, manuscripts, posters and presentations pertaining to the above protocol, must be submitted to the IRB for pre-publication approval. This approval is for academic research purpose only. If you will like to publish this in future, a CBC Health Service staff of the Department where the study was conducted must be Co-Principal Investigator.

Please feel free to contact me with any questions and/or concerns regarding the above. Copies of all correspondence regarding this proposal should be sent to me and to Zita Acha secretary, e-mail cbchbirb@gmail.com.

Sincerely,

Ngoran Grace
MSN, BSc. PGD. SRN

CAMEROON BAP IST CONVENTION INSTITUTIONAL REVIEW BOARD HEALTH SERVICES

Ngoran Grace, MSN, PGDM/W, BNS, SRN