

**INFLUENCE OF STRESS PREDICTORS ON MENTAL WELLNESS OF NURSES IN EMBU AND
THARAKA NITHI COUNTIES, KENYA**

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**A Thesis Submitted to the School of Education and Social Sciences in Partial Fulfillment of the
Conferment of Doctor of Philosophy in Counseling Psychology of the Kenya Methodist University.**

SEPTEMBER, 2025

DECLARATION AND RECOMMEDATION

DECLARATION

I declare that this thesis is my original work and has not been presented for any degree or any other award in any other university.

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RECOMMEDATION

We confirm that the work in this thesis was carried out by the candidate under our supervision

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DEDICATION

I dedicate this work to Njeru Ithiga, my husband, for his unwavering support and understanding when I had to keep late nights and very early mornings to keep up with my college work and to Rhys Mutugi, my grandson, for always reminding me to work hard to get top scores in my examinations.

ACKNOWLEDGEMENT

I humbly give a special thank you to Almighty God for His grace, favor, and provisions during my studies. I also appreciate every individual who made a positive contribution towards the completion of this thesis. I extend my gratitude to my supervisors Dr. Jane Gakii Marete and Dr. Damaris Rukahu for their unwavering guidance, encouragement, and willingness to help me complete this report. The lecturers who taught me in class for being always there to ensure I never missed out on anything in the course. I also give special thanks to Rhoda Marangu, my class mate, for her encouragement during the course and during those times I almost gave up because of sickness. My appreciation also goes to the Department of Research at KEMU and to NACOSTI for giving me the permission to carry out the research. In addition, I would like to acknowledge the management, doctors, and nurses at Embu Level 5 and Chuka County Referral Hospitals for their time and commitment in helping to collect data. And to Leonard Nyaga, a relative, for helping me know how to effectively use the computer. To everyone who helped me reach this far, thanks you very much.

ABSTRACT

Mental health needs of nurses have become a major public concern that has challenged healthcare providers' ability to offer prudent and standard health to the members of the public. The purpose of this study was to investigate the influences of stress predictors on mental wellness among nurses in Embu Level 5 and Chuka County Referral Hospitals in Kenya. Five objectives guided this study and two theories; the Therapeutic Engagement Stress Theory (TEST) and the Person-Environment (PE) Fit Theory also guided the study. The population of the study comprised of 380 nurses and 50 doctors. The Yamane formula was applied to calculate a sample size of nurses and convenient sampling was used to sample doctors. A sample size comprising of 253 nurses was derived from the Yamane formula and 10 doctors were sampled using convenient sampling. Data was collected using online questionnaires for nurses and structured face-to-face interviews for doctors. Questionnaires were designed using the PTSD Checklist 5 (PCL-5), the Positive Mental Health Scale (PMH-Scale), the NIOSH Worker Well-Being Questionnaire (WellBQ), Depression Anxiety Stress Scale-21 (DASS-21), and the General Self-Efficacy Scale (GSE). The reliability of instruments was tested using piloting of research instruments targeting 37 nurses from Kitui County Referral Hospital selected through random sampling method. The research instruments were tested for reliability and validity. An average Cronbach reliability coefficient of 0.736 from all five constructs was recorded, which were above 0.7, an indication the instruments were reliable. In addition, the instruments' validity was tested using content validity through conceptualization of instruments, identification of domains, and developing instruments to determine their effectiveness in collecting the study data. Descriptive statistics were used to analyze the questionnaires, with the help of SPSS version 27.0, to get frequencies, means, standard deviations, and percentages. The analyzed data was presented using tables. The simple regression analysis was used to analyze the statistical significance of variables and hence, test the null hypothesis. Diagnostic tests of normality, linearity, autocorrelation, heteroscedasticity and multicollinearity were used to check whether data adhered to assumptions of the regression analysis. Also, normality of errors was tested using Histograms and Normal P-P plot. Correlation analysis was used to determine the relationship between independent and dependent variables. The deductive data method was used to analyze qualitative data where themes were identified to find the influence between predictors of stress and mental wellness of nurses. Qualitative data was presented thematically to come up with patterns and codes that were used to generate themes. Findings from regression analysis of variables rejected all null hypotheses. Therefore, the study established that stress predictors namely: physical work environment, organizational factors, nurse-colleague relationship, care recipients' attitudes towards nurses, and self-efficacy as a moderating variable on the stress predictors influenced mental wellness of nurses. The outcome of the research was significant in establishing an evidence-based practical knowledge on the influence of predictors of stress on mental wellness. The study concluded that addressing the stress predictors is critical in enhancing the mental wellness of nurses, thereby potentially improving healthcare service delivery in Kenyan referral hospitals. The study recommended future research focuses on unit- specific stress factors and interventions to tailor support mechanisms for nurses working in different healthcare settings.

DECLARATION	0
RECOMMEDATION	0
COPYRIGHT	1
DEDICATION	2
ACKNOWLEDGEMENT	3
ABSTRACT	4
LIST OF TABLES	8
ABBREVIATIONS AND ACRONYMS.....	11
CHAPTER ONE	0
INTRODUCTION	0
1.1 Background of the Study	0
1.2 Statement of the Problem.....	10
1.3 Purpose of the Study	11
1.4 Objectives	11
1.5 Research Hypotheses	12
1.6 Justification of the Study	12
1.7 Limitations of the Study	12
1.8 Scope and Delimitation of the Study	13
1.9 Significance of the Study.....	13
1.10 Assumptions of the Study	14
1.11 Operational Definition of Terms	15
CHAPTER TWO	17
LITERATURE REVIEW.....	17
2.1 Introduction.....	17

2.2 Mental Wellness of Nurses	17
2.3 Physical Work Environment on Mental Wellness of Nurses	23
2.4 Organizational Factors on Mental Wellness of Nurses.....	31
2.5 Care Recipients' Attitudes towards Nurses on Mental Wellness of Nurses.....	37
2.6 Nurse-colleagues Relationships on Mental Wellness of Nurses.....	43
2.7 Self-Efficacy Effects on Stress Predictors	48
2.9 Research Gaps	56
2.10 Theoretical Framework.....	57
2.11 Conceptual Framework.....	60
CHAPTER THREE	62
RESEARCH METHODOLOGY	62
3.1 Introduction.....	62
3.2 Research Design	62
3.3 Research Philosophy.....	63
3.4 Location of the Study.....	65
3.5 Target Population.....	65
3.6 Sampling Procedure and Sample Size	66
3.7 Data Collection Instrumentation.....	68
3.8 Validity and Reliability of Instruments.....	71
3.9 Data Collection Procedure	72
3.10 Data Analysis	74
3.11 Ethical Issues	79
CHAPTER FOUR	81
RESULTS AND DISCUSSION	81
4.1 Introduction.....	81

4.2 Response Rates	81
4.3 Reliability of Research Tools.....	82
4.4 Demographic Information of participants	83
4.7 Influence of Physical Working Environment on Mental Wellness of Nurses.....	104
4.8 Influence of Organizational Factors on Mental Wellness of Nurses	112
4.9 Influence of Nurse-Colleague Relationship on Mental Wellness of Nurses.....	120
4.10 Influence of Care Recipient Attitudes towards Nurses on Mental Wellness of Nurses.....	127
CHAPTER FIVE	147
SUMMARY, CONCLUSION, AND RECOMMENDATIONS	147
5.1 Introduction.....	147
5.2 Summary of Findings	147
5.2.5The Moderation Effect of Self-Efficacy on Stress Predictors on Mental Wellness of Nurses	149
5.3 Conclusion of the Study.....	150
5.3.2The Influence of Organizational Factors on Mental Wellness of Nurses	150
5.4 Recommendations on Research Findings.....	152
5.5Recommendations for Further Research	153
REFERENCES	155

LIST OF TABLES

Table 1: Population of Doctors and Nurses in Embu and Chuka Level 5 Hospitals	69
Table 2: Sample Size of nurses and doctors in Embu and Chuka Level 5 Hospitals	71
Table 3: DASS-21 Scale Severity Ratings	73
Table 4: Operationalization of Variables	81
Table 5: Study's response Rate from Questionnaires and Interviews	84
Table 6: Reliability of Variables	85
Table 7: Demographic Characteristics of Nurses	87
Table 8: Demographic characteristics of doctors	89
Table 9: Durbin-Watson (DW) test	89
Table 10: Breusch-Pagan Test for Heteroscedasticity	89
Table 11: Collinearity Statistics	89
Table 12: Results from the PTSD Checklist 5 (PCL-5)	89
Table 13: The prevalence of PTSD among Nurses in Embu Level 5 and Chuka County Referral Hospitals	100
Table 14: Results of nurse anxiety levels using the Positive Mental Health Scale	101
Table 15: Depression Anxiety Stress Scale-21 and Mental Wellness of Nurses	105
Table 16: The severity of depression, anxiety, and stress as found from DASS21	106
Table 17: Physical Work Environment on Mental Wellness of Nurses.....	108
Table 18: Model Summary of Physical Work Environment on Mental Wellness of Nurses	114
Table 19: Model Significance of Physical Work Environment on Mental Wellness of Nurses	114
Table 20: Model Coefficients of Physical Work Environment on Mental Wellness of Nurses	115
Table 21: Model Summary of Organizational Factors on Mental Wellness of Nurses	122
Table 22: Model Significance of Organizational Factors on Mental Wellness of Nurses	122
Table 23: Care Recipient Attitudes towards Nurses on Mental Wellness of Nurses.....	131
Table 24: Model Significance of Care Recipients' Attitude towards Nurses on Mental Wellness of Nurses	137
Table 25: Model Coefficients of Care Recipients' Attitude towards Nurses on Mental Wellness of Nurses	138
Table 26: Self-efficacy and Mental Wellness of Nurses	139
Table 27: Work-life Balance on Self-efficacy of Nurses	139

Table 28: Workplace Motivation on Mental Wellness of Nurses-work inspiration 144

Table 29: Work-life Balance on Self-efficacy of Nurses 139

Table 30: Model Summary for Moderation Effects 139

Table 31: Significance of Moderation Effect Model 149

Table 31: Coefficients for the Moderation Effect Model 1

LIST OF FIGURES

Figure 1: The Therapeutic Engagement Stress Theory (TEST) model	64
Figure 2: Histogram for Regression Standardized Residual	91
Figure 3: Normal P-P Plot	92
Figure 4: Scatter Plot for Linearity	93

ABBREVIATIONS AND ACRONYMS

AMA	: American Medical Association
COVID-19	: Coronavirus Disease 2019
CDC	: Centers for Disease Control and Prevention
DASS	: Depression Anxiety Stress Scale
ECH	: Education, Counseling and Humanities
FSD	: Financial Sector Deepening
GAD	: Generalized Anxiety Disorder scale
GSE	: General Self-Efficacy Scale
HADS	: Hospital Anxiety and Depression Scale
HCW	: Health Care Workers
ICN	: International Council of Nurses
IES-R	: Impact of Events Scale-Revised
KM	: Kilometers
MBI	: Maslach Burnout Inventory
MoH	: Ministry of Health
NIOSH	: National Institute for Occupational Safety & Health
OLS	: Ordinary Least Squares
PHQ	: Patient Health Questionnaire Scale
PHQ9	: Patients Health Questionnaire 9
PMH	: Positive Mental Health
PDS	: Posttraumatic Diagnostic Scale
PSTD	: Post-Traumatic Stress Disorder
SDG	: Sustainable Development Goals
StdDv	: Standard Deviation
SPSS	: Statistical Package for the Social Sciences
TEST	: Therapeutic Engagement Stress Theory
USA	: United States of America
UK	: United Kingdom
UN	: United Nations

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Mental health is a significant health risk battling nurses across the world and it became a global problem during and after the Corona Virus 2019 (COVID-19) pandemic (Saragih et al., 2021). The pandemic led to the rise in numbers of lack of mental wholesomeness among nurses in both private and public healthcare organizations. Lee et al. (2020) who studied the prevalence of occupational post-traumatic disorder targeting health providers from China established that health providers are at greater risks of post-traumatic disorders that arise from the working conditions than all the other health providers. Also, Salari et al. (2020) studying nurses in America demonstrated that nurses are the most affected workforce in hospitals and they suffer mental health problems. Li et al. (2021) noted that the COVID-19 pandemic exposed many nurses to depression, stress and anxiety that affected their well-being. Sahebi et al. (2021) claim that the COVID-19 pandemic threatened the mental and physical health of frontline nurses with the majority being diagnosed with stress disorders even though they had no history of psychological illness. Stewart et al. (2022) claim that the lack of necessary services and treatments to detect and treat mental conditions has made the world face grave consequences. Report from the World Health Organization (WHO) indicates that mental health cases constitute 10% of the global health burden of diseases with more than 75% of individuals suffering from mental health globally with conditions going unnoticed (World Health Organization (WHO, 2021). Prioritizing mental wellness should remain a key agenda for healthcare organizations across the world. The approach would assist healthcare providers in creating productive and result-oriented healthcare systems (World Health Organization [WHO], 2022).

Understanding mental wellness in nursing aids in drawing attention to emerging issues related to the causes of the problem and also to identify preventive measures that can be used. Romeu et al. (2024) while studying the impact of mental health on care delivery in the United Kingdom (UK) found out mental health has become a major public concern affecting the delivery of standard and prudent care to patients in hospitals. Bapapour et al. (2022) who studied Iranian nurses found work stress has become a major source of mental health problems in the nursing career. According to

Center for Disease Control and Prevention (CDC), stress refers to any form of harmful physical and emotional effect that occurs to workers when the job requirement fails to match with needs and resources of the employee (Center for Disease Control and Prevention (CDC, 2023). Stress among nurses causes significant impacts on the practice of nursing; hence, the importance of studying its predictors. According to Morris (2020), stress has been identified by researchers as an occupational health hazard affecting the practice of nursing. Nurses, as healthcare providers, are at higher risks of experiencing stress levels and more psychological pressure than other healthcare providers which influences their mental wellbeing (García-Iglesias et al., 2020). Exposure of nurses to multiple conditions that negatively influence their mental, emotional and physical wellbeing affects their mental wellness (Sovold et al., 2021). The state of mental wellness in other low-developed areas is threatening the type of care nurses provide to patients. Nurses in Africa deal with particular difficulties that exacerbate worldwide stressors that affect their mental health. Oleribr et al. (2019) who studied mental health among nurses targeting health providers from 11 countries in Africa established acute staffing shortages, restricted access to mental health treatments, and insufficient protective gear for healthcare personnel, and that the continent's healthcare systems are frequently underfunded. High levels of anxiety, despair, and burnout among nurses are caused by a combination of factors, including heavy workloads, unfavorable working circumstances, and financial limitations. Nurses are more susceptible to mental health disorders because of the cultural stigma associated with mental illness, which further discourages them from seeking psychological assistance (Bergman & Rushton, 2023). Also, ICN (2025) found many African nurses labor in settings with little psychosocial support, which is made worse by the demands and personal losses of the COVID-19 pandemic. The retention of nurses in vital positions is at risk due to the cycle of stress and burnout caused by these systemic issues. Also, the combined difficulties of infectious diseases and chronic health system flaws exacerbate the mental health load on African nurses. According to WHO (2025), nurses in many African nations are left to handle mental health issues mostly on their own because there are no organized programs specifically designed for healthcare professionals. Aggression against nurses and other healthcare professionals is on the rise, and it has been connected to community dissatisfaction with healthcare outcomes and access. To improve nurses' mental health and retention throughout the continent, focused interventions including peer support groups, resilience training, and organizational reforms are becoming more and more necessary, despite these obstacles (Han et al., 2023). In order

to improve psychological support for African nurses, it is imperative to reduce stigma and strengthen mental health literacy.

Research conducted in East Africa indicates that local sociocultural characteristics and the obstacles faced by the regional health system both have an impact on nurses' mental wellness. High levels of stress and burnout are a result of nurses' heavy workloads, poor pay, and restricted access to mental health facilities (Afulani et al., 2021). These problems were made worse by the COVID-19 pandemic as many nurses reported experiencing emotional tiredness, worry, and sadness. A major obstacle that prevents nurses from seeking psychological care and raises the likelihood of untreated mental health disorders is the cultural stigma associated with mental health.

Reports of violence and hostility against nurses in the workplace have surfaced, further jeopardizing their psychological well-being and job happiness. The stability and efficacy of the nursing workforce in East Africa are under risk due to these concerns taken together. Improving nurses' psychological well-being requires organizational changes, such as better staffing ratios, mental health education, and encouraging leadership (Chukwu et al., 2024). Reducing stigma and violence against healthcare workers also requires education and community involvement. Maintaining healthcare delivery depends critically on the mental health of the regional nursing profession, especially as East African nations seek to fulfill rising healthcare demands while facing resource shortages (WHO, 2025). To safeguard nurses and enhance patient outcomes, it is imperative to fortify mental health regulations and include psychological support services into healthcare systems.

Studies conducted in Kenya revealed similar findings where burnout and occupational stress were found to highly influence mental wellness of nurses. Afulani et al. (2024) established the danger of burnout and psychological discomfort among nurses is increased by the Kenyan health system's poor integration of mental health services for healthcare professionals. Cultural norms in Kenya often discourage open discussions about mental health, further limiting nurses' access to necessary care and increasing stigma (Wakoli, 2024). The above contributed to increasing levels of job dissatisfaction and emotional exhaustion among nurses in Kenya. High patient loads, a lack of resources, and the stigma associated with mental illness pose challenges to nurses' mental wellbeing in Kenya; however, new research highlights the importance of organizational support,

social support, and resilience in fostering nurses' psychological well-being. According to research, resilience serves as a dynamic process of constructive adversity adaption, assisting nurses in creating efficient coping mechanisms and preserving their mental well-being in the face of pressures at work (Chen et al., 2025).

In addition, it is paramount to understand the main predictors of mental wellness of nurses such as nurse health. Nurse health is a major indicator of mental wellness. Numerous stress indicators have a significant impact on nurses' health and mental wellness worldwide. For example, a study conducted in Canada found that among nurses, work-life balance, psychological protection, and workload management were important predictors of burnout, PTSD, depression, anxiety, and life satisfaction (Havaei et al., 2021). The above results highlight how good health among nurses lowers stress and improves the wellbeing of nurses. Also, a study by Kim et al. (2021) conducted in South Korea highlighted psychosocial elements like job demands, autonomy, and coworker support as important determinants of nurse health (Kim et al., 2009). Hope and psychological resilience have been associated with better mental health outcomes and decreased stress in nursing populations in Australia, indicating that personal attitudes and coping strategies are essential for managing occupational stress (Fruh et al., 2021).

Stress predictors such as the physical working environment, organizational factors, nurse colleague relationship, and care recipient attitudes towards nurses influence the mental wellness of nurses. The self-efficacy of nurses has the capacity to moderate the influence of stress predictors on the mental wellness of nurses. Self-efficacy is a term applied in different areas including counseling, clinical, education, health literature, and psychological settings. Self-efficacy acts as a notion Ron, (2024) that defines an individual's perceptions of their abilities to act in a specific manner under four main processes namely: affective, motivation, selection, and cognitive (American Psychological Association [APA], 2023). Albert Bandura came up with the self-efficacy concept during his psychology research and later termed it as the social cognitive theory. A person's strong perception of self-efficacy leads to a higher level of commitment towards achieving goals in four of the processes named above (Bandura, 1997). In a workplace setting, the challenges faced by a person and the amount of effort put to overcome these challenges helps to compare the cognitive nature of individuals. The level of motivation acquired by an individual, determines the

achievement and accomplishment of goals, determined by the perceived self-efficacy. A study conducted by Zhou et al. (2021) targeting nurses in China revealed self-efficacy remains a key determinant of health and plays a vital role in the execution of disease coping behaviors. Self-efficacy was associated with issues of mental illness in the period during the pandemic time (Bidzan et al., 2020). Also, Haugan and Eriksson (2021) emphasize on the significance of an individual's perceptions of their capabilities as main determinants of achieving acceptable outcomes. Self-efficacy is often undermined by limited resources and organizational constraints, further impacting mental health (Kimani et al. 2023). The main indicators of self-efficacy are motivation, job satisfaction, cognitive, effectiveness, and work-life balance.

The physical work environment is one of the stress predictors that affect the mental wellness of nurses. Every health worker deserves a safe and healthy working environment WHO (2022), as when employees are happy, both the employee and employer benefit. The interaction between health of nurses and the work environment has been studied globally with Elbejjani et al. (2020) showing nurses with heavy workloads and burdens experience significant challenges that affect their health and well-being. In addition, Havaei et al. (2021) found exposure to environmental risk factors contribute to mental health problems among nurses. A safe working environment for healthcare workers is paramount for the effective delivery of safe and quality care to patients (Philips et al., 2021). Also, a good working environment offers good livelihood, opportunities for positive relationships, and a sense of confidence, achievement and purpose (WHO, 2022). However, challenges associated with unfavorable physical work environments have given rise to an increased prevalence of mental health disorders among nurses, which continues to challenge nurses in their different lines of duty. Nurses, like every other person, are affected by mental health problems.

The effectiveness of a nurse depends on the physical working environment, which is moderated by self-efficacy of nurses. Unfavorable physical working environment leads to job stress and burnout among nurses leading to increased mental health burdens. Galanis et al. (2025) study targeting nurses in Turkey found incidences of emotional weariness reached 33.45%, depersonalization 25%, and poor personal accomplishment was 33.49%. In high-stress professions, like oncology and intensive care units, where nurses deal with moral discomfort, role conflict, and erratic job

demands, the symptoms above are especially noticeable. Burnout is further exacerbated by elements including family issues, stress from commuting, and a lack of opportunity for career progression (Galanis et al., 2025). According to the World Health Organization (WHO), despite the increased workloads and stress experienced during the pandemic, only 42% of countries have provisions for nurses' mental health support (WHO, 2025). In order to promote resilience and retain nurses around the world, structural interventions, such as better working conditions, easily available mental health treatments, and organizational support, are desperately needed.

In addition, work stress among nurses has been linked to occupational pressures. Occupational pressures have posed a significant threat to the mental health of nurses. A study conducted by Gheshlagh et al. (2025) targeting nurses from Pakistan found varied rates of anxiety and depression, ranging from 23% to 61%. The extreme strain felt in clinical settings is shown by the fact that nurses reported feeling exhausted (57%), nervous (44%), and overwhelmed (41%), more often at work than at home. The research also revealed alarming public violence and aggressiveness rates, with almost half (48%) of nurses reporting such instances as a result of their professional identity, which worsens psychological distress and erodes their sense of security. Many nurses were forced to rely on self-care techniques like exercise, spiritual activities, and social support to cope with these difficulties, while just 24% of nurses reported receiving sufficient mental health help from their employers (Gheshlagh et al., 2025). The global nursing workforce is experiencing a sustainability crisis that poses a threat to healthcare systems around the world as many nurses contemplate quitting the nursing profession entirely showing the weight of occupational stress on nurses.

The organizational factors as a stress predictor have a direct influence on nurses' mental wellbeing. Organizational factors refer to those elements within the healthcare organization such as management operations, workloads, shift management, and availability of resources. Berlin et al. (2022) while investigating the American health workforce claims it is important to identify resources within the health organization that will promote positive work for nurses. Unfavorable working environments, among them huge workloads, long shift hours, and poor interpersonal and intrapersonal relationship problems contribute to high levels of physical stress. For instance,

scarcity of nurses is a foremost cause of nurses' burnout and fatigue, which leads to corresponding stress (Ali et al., 2021). Also, long shifts at work are the most common nurse stressors. Issues such as poor adaptation to the workplace, and organizational challenges such as a non-conducive working environment, and under-resourced healthcare facilities pose emotional risks that contribute to psychological stress. Lynette et al. (2021) found out that poor infrastructure and unavailability of medical equipment create a non-conducive workplace in the Kenyan health sector and this contributes to stress among nurses, which has a negative impact on their livelihood.

In order to promote a sense of belonging and improve nurses' mental wellbeing, organizational support including managerial, emotional and technical assistance mediates the relationship between resilience and work engagement (Zhang et al., 2023). According to Lee (2025), social support, which includes both family and coworkers, is also essential for lowering the symptoms of anxiety and depression, encouraging healing, and enhancing general wellbeing. It has been demonstrated that interventions like peer support groups, which offer a specific period of time for interaction and sharing experiences, greatly enhance the wellbeing of mental health of nurses by making them feel appreciated and lowering feelings of loneliness (Cooper et al., 2025). To maintain nurse wellbeing and retention, organizational interventions that foster resilience through reflective practice, professional growth, and robust managerial support are advised (Smith et al., 2023). These results suggest that in order to promote nurse mental wellbeing and raise the standard of care, Kenyan healthcare institutions should give priority to multilevel tactics, bolstering resilience, improving social and organizational support, and putting workplace mental health programs into place.

Also, organizational factors affect the self-efficacy of nurses depending on the type of motivation given to nurses. Workplace motivation has a critical moderating role in the association between stress predictors and nurses' mental health. According to the Job Demands-Resources model in Australia, nurses' motivation is strengthened by work resources like resilience and self-efficacy, which help people manage stress and stay engaged at work even in the face of high demands (Alarcon et al., 2023). Studies conducted in Saudi Arabia, have shown a correlation between motivation and empowerment systems that give nurses access to opportunities, information, and decision-making authority, hence lowering occupational stress and promoting mental health

(Eshah & Rayan, 2022). Together, these results imply that nurses' degree of mental wellbeing is influenced by their motivation at work. The link between mental health, stress predictors, and workplace motivation is also important but has not been explored as much. Studies conducted in larger African environments highlight the necessity of motivation and empowerment to combat stressors that are associated with anxiety, sadness, and burnout, such as insufficient sleep, a lack of peer support, and pointless work (Khamisa et al., 2013). According to Alharbi et al. (2024), motivation improves occupational mental health and decreases psychological distress by increasing nurses' involvement and resilience. Fostering motivation through supportive workplace policies and structural empowerment is therefore essential to reducing the negative effects of stress predictors on nurses' mental health and guaranteeing long-term healthcare delivery in settings with limited resources. Nonetheless, the impact of workplace motivation on stress predictors such as the physical work environment, organizational factors nurse-colleague relationships, care recipient's attitudes toward nurses, and self-efficacy was not previously examined, which served as the foundation for this research.

The nurse-colleague relationship as the third stress predictor has been associated with stress among individual nurses. Occupational stress, mostly caused by poor relationship within the workforce, has been identified as one of the key causes of poor performance in nursing. Dartey et al. (2023) who studied causes of mental health problems on nurses in Ghana found out the prevalence of occupational stress remains high and poses a threat to nurses' mental, emotional, psychological, and emotional wellbeing. Research done by Wang et al. (2023) brought out the fact that solidarity between colleagues motivates them leading to increased performances among individual nurses. Nurses often engage in conflicts and quarrels with fellow workers that increase tension in the workplace causing high levels of stress. The research by Wang and colleagues relied on a small sample size of less than 50 participants making it hard to generalize results. Poor nurse relationship with colleagues is associated with negative emotional responses including aggression, poor decision-making, and impatience, that affect the emotional and psychological wellbeing of a nurse (Kakshapati et al., 2021). Relationships between colleagues at the workplace could lead to some workers doing more duties than others because of poor coordination, which contributes to burnout. According to Lewa et al. (2023), workload is one of the major causes of occupational stress that influences the performance of individual nurses in Kenyan public health organizations. Nurses, in

the cited study, claimed poor coordination and lack of teamwork contributes to workload stress. Therefore, negative nurse-colleague relationships are a major cause of stress that has the potential of influencing the mental wellness of a nurse.

Work-life balance, an indicator of the self-efficacy of nurses influences how nurses relate with colleagues. Work-life balance, psychological protection, and workload management, for instance, were found to be important predictors of depression, anxiety, PTSD, burnout, and life satisfaction among nurses in a Canadian study. This highlights the fact that greater motivation and engagement lead to better mental health outcomes (Dall'Ora et al., 2021). Higher education levels were also linked to higher mental workload (Utami, 2025). This implies that advanced-trained nurses might experience increased job demands and duties, which would exacerbate their mental stress. According to the study, job happiness and employment position also have an impact on mental workload, although education is the main determinant (Utami, 2025). Thus, work-life balance initiatives that emphasize education and training can play a key role in lowering mental stress and enhancing the productivity and mental well-being of nurses. A lack of work-life balance leads to burnout and compassion fatigue, which lowers employee engagement and raises turnover rates, both of which are harmful to the provision of healthcare (WGU, 2024). Nurses can refuel both physically and emotionally by maintaining a healthy work-life balance, which promotes resilience and improved stress management at work (NCBI, 2024). In the end, nurses' health, job satisfaction, and the standard of patient care they deliver depend on their ability to prioritize work life balance.

Work-life balance influences how nurses relate with colleagues in the workplace affecting their self-efficacy. Nurses often work long, irregular shifts with high physical and emotional demands, including patient care, managing emergencies, and coping with suffering and death. This intense workload frequently blurs the boundary between professional and personal life, leading to job dissatisfaction, burnout, and emotional exhaustion (WGU, 2024). Research shows that nurses who struggle to maintain a healthy work-life balance experience increased stress, fatigue, and deteriorated mental health, which negatively impacts their job performance and patient care quality (Zhang et al., 2024). Psychological capital, comprising hope, resilience, optimism, and self-efficacy, and job satisfaction mediate the relationship between work-life balance and mental health, meaning that better balance enhances these psychological resources, thereby improving mental

wellness (Zhang et al., 2024). Chronic stress from poor work-life balance can lead to anxiety, depression, cardiovascular problems, and burnout, posing serious risks to nurses' health and the sustainability of healthcare systems worldwide (Mayo Clinic, 2024). Effective strategies such as setting clear boundaries between work and personal life, practicing self-care, seeking social and professional support, and utilizing flexible work options are essential for nurses to mitigate stress and maintain mental wellness.

Care recipients' attitudes towards nurses as the fourth stress predictor influences the level of stress among nurses. Poor nurse-patient relationship, causing conflicts between nurses and patients, and their families, negatively affects nurses' output and could lead to stress (Alshehry, 2022). The level of confidence that a patient has on the type of care given determines their relationship with the caregiver (Karimi et al., 2023). Poorly motivated and violent care recipients affect the delivery of quality care. Molina-Mula (2020) claims that sometimes care recipients may not have enough motivation to continue with a treatment intervention and this causes stress among nurses. Also, nurses come across different types of patients who are resistant to care provided to them causing poor therapeutic relationships. Some causes of poor acceptance of intervention include recipients suffering from chronic diseases and having little faith in getting well. In such cases, nurses may experience work-related stress upon noting the therapeutic intervention offered to recipients does not provide the expected outcome. In Kenya, government reports and related research indicate that negative patient behaviors and societal stigma significantly affect nurses' mental wellness. The

Ministry of Health's 2023 Health Sector Report noted that mistrust, disrespect, and cultural misconceptions toward healthcare workers, especially nurses, contribute to workplace stress and burnout (Ministry of Health, 2023). These negative attitudes strain nurse-patient relationships and exacerbate nurses' emotional exhaustion. The report advocates for community engagement, mental health literacy campaigns, and improved institutional support to foster positive patient attitudes and enhance nurses' psychological resilience. It also identifies a research gap in understanding how patient attitudes directly affect nurses' mental wellness locally, emphasizing the need for targeted studies to inform culturally appropriate interventions that improve nurse patient dynamics and nurse well-being in these counties (Ministry of Health, Kenya, 2023). This local context aligns

with global and regional findings, reinforcing that care recipients' attitudes are a pivotal factor in nurses' mental health.

The growing rate of mental health cases among nurses in Kenya calls for a need to determine major causes to help come up with measures to cope with the problem. Despite the knowledge about the predictors of stress, little has been known about their contributions to mental wellness of nurses. The influence of the physical working environment, organizational factors, nurse-colleague relationship, care recipients' attitudes towards nurses, and self-efficacy are predictors of stress and their influence on mental wellness of nurses should be investigated. Therefore, this study sought to determine the influence of the above predictors of stress on mental wellness of nurses in Embu and Tharaka Nithi Counties.

1.2 Statement of the Problem

Nurses, just like any other employees, should operate in a safe environment, and which contributes to their overall wholesomeness. Nurses play the role of ensuring standard and safe health of the public. According to Flaubert et al. (2021), nurses are expected to meet complex and diverse needs of people with acceptable levels of compassion and competence. Therefore, the mental health status of nurses should remain a priority since it determines their ability to carry out duties effectively. Today's challenges in the healthcare setting affect the well-being of nurses, which calls for a need to address the situation and improve mental status of nurses. Despite nurses being expected to meet growing needs of the society, mental wellness continues to pose a major threat to their day-to-day life. The high prevalence of mental ill health among nurses in the world is a worrying trend with possibilities of affecting the livelihood of nurses today and in the future. According to Cranage and Foster (2022), nurses play an important part in caring for patients' health and emotional well-being and therefore, ensuring that they have good mental wellness is vital for the realization of healthcare goals. Nurses should function well mentally for them to be able to work efficiently. Not only does stress affect the delivery of safe and quality care, but also has an impact on the health and well-being of nurses and their families. However, there has been limited study on predictors that contribute to rising levels of stress among nurses. The purpose of this research, therefore, was geared towards determining the influence of stress predictors on the mental wellness of nurses in order to come up with approaches and interventions to manage them.

Scholars have made significant efforts to study nurses' mental wellness and well-being with most focusing on identifying factors that lead to mental disorders among nurses. Yang et al. (2024) study targeting nurses in China identified risk factors associated with mental health of nurses but did not relate the identified factors to stress. Also, Havaei et al. (2021) while studying sources of nurse stress among American nurses identified the workplace environment as the only predictor whereas there are many other predictors as was investigated in the current study. In another study targeting nurses in Kenya, Afulani et al. (2021) found out that stress and burnout were the major causes of mental health challenges among nurses, but the research did not identify the associated predictors. To address the above gaps, the current research examined different types of predictors of stress to establish how they influence mental wellness of nurses. The main predictors studied were the physical working environment, the health organizational factors, the colleagues of nurses at work, the attitude of patients who are the care recipients towards nurses and self-efficacy which has a moderating effect on the stress predictors studied.

1.3 Purpose of the Study

The purpose of this study was to investigate the influence of stress predictors on the mental wellness of nurses in Embu and Tharaka-Nithi level 5 hospitals, in Kenya.

1.4 Objectives

The specific objectives were:

- i. To examine the influence of the physical work environment on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.
- ii. To determine the effect of organizational factors on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.
- iii. To investigate the influence of nurses' relationship with colleagues at the workplace on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.
- iv. To establish the influence of care recipients' attitude towards nurses' mental wellness in Embu and Tharaka Nithi Counties in Kenya.
- v. To examine the moderation effect of self-efficacy on the relationship between stress predictors and the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.

1.5 Research Hypotheses

The following research hypotheses assisted to determine the statistical significance between working environment, organizational factors, and nurse-colleague relationship, care recipient attitudes towards nurses, and self-efficacy of nurses and the mental wellness of nurses.

H0₁: There was no statistically significant influence of physical work environment on mental wellness of nurses in Embu and Tharaka Nithi Counties, Kenya.

H0₂: There was no statistically significant influence of organizational factors on the mental wellness of nurses in Embu and Tharaka Nithi Counties, Kenya.

H0₃: There was no statistically significant influence of nurses-colleague relationship on mental wellness of nurses in Embu and Tharaka Nithi Counties, Kenya.

H0₄: There was no statistically significant influence of care recipients' attitudes towards the nurses on the mental wellness of nurses in Embu and Tharaka Nithi Counties, Kenya.

H0₅: There was no statistically significant moderation effect of self-efficacy of nurses on the relationship between stress predictors and the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.

1.6 Justification of the Study

The research investigated the influence of stress predictors on the mental wellness of nurses. The study helped close the gap in knowledge of stress as a major contributor to poor mental wellness by helping to determine how predictors of stress relate to mental wellness. The outcome from the study established an evidence-based approach regarding the impact of the physical work environment, organizational factors, the nurse-colleague relationship, the attitude of care recipients on how they influence the mental wellness of nurses and the moderating effect of self-efficacy on the predictors of stress on nurses' mental wellness.

1.7 Limitations of the Study

The study experienced the following limitations. The study was only limited to nurses and doctors working in level 5 public hospitals in Embu and Tharaka Nithi Counties despite mental health disorders affecting nurses in both private and public hospitals across the country. The above limitation was managed by generalizing the results from the two hospitals to both private and public hospitals in Kenya. Also, mental health is one of the most private health conditions that

many people do not wish to discuss in public. Participants were less willing to share their mental health status in fear of being recognized or victimized at the workplace. The limitation was mitigated by assuring the respondents of the privacy and confidentiality of information collected among all those who took part in the process of collecting data. Participants were assured that no real names would be used in the study and the information collected was to be safeguarded and only made accessible to authorized parties.

1.8 Scope and Delimitation of the Study

The research took place in two level 5 hospitals namely, Embu Level 5 Hospital in Embu County and Chuka County Referral Hospital in Tharaka Nithi County. The target participants were nurses and doctors selected from the two hospitals. The results of the data collected from the two hospitals were generalized to the entire health care sector in Kenya. The study focused solely on stress predictors and their influence on mental wellness; hence, the questions were only limited to studying physical working environment, health organizational factors, nurse-colleague relationship, care recipients' attitudes towards nurses and the moderating effect of self-efficacy on the stress predictors as the major predictors of stress with the potential of influencing the mental wellness of nurses. Also, the research used online surveys to collect data from participants, an approach that was significant in achieving the research objectives because it helped gather a wide range of information related to the research problem. Also, the research used face-to-face data collection methods to collect qualitative data from doctors. The study participants were adequately recruited and their roles defined to ensure only valid and quality data was collected.

1.9 Significance of the Study

The study contributes towards improving health conditions of nurses working in public hospitals, the MoH, healthcare policy makers and to those promoting sustainable health in societies. The study adds on to the existing reservoir of knowledge for scholars in areas related to mental health since the findings act as empirical evidence to demonstrate the effect of stress predictors on mental wellness of nurses. The MoH can utilize the study findings to develop frameworks and guidelines for improving the working environment of nurses to promote positive mental wellbeing for the benefit of the care recipients. Also, it is expected the MoH would use the findings to come up with policies and frameworks for managing and mitigating the stress predictors in health institutions to

create a safe environment for healthcare workers. The findings of the research are expected to benefit nurses as the knowledge of stress predictors and their influence towards their mental wholesomeness should help practicing nurses implement specific solutions for managing stress at the organizational and individual levels.

The findings from the research are also expected to be of significance to healthcare policy makers in advancing the practice of nursing by utilizing results as a source of evidence-based practice that assists in developing policies and frameworks for addressing mental wellness and psychological well-being in nursing. The outcome of this research assists in offering additional guidance to such frameworks as mentioned above by introducing new findings that help to advance the practice of nursing. In addition, the research findings are also expected to contribute towards the achievement of Sustainable Development Goals (SDG) pertaining to the health of the population. The United Nations (UN) SDG number 3 focuses on the attainment of the wholesomeness of the body with the target of promoting mental health and well-being by 2030 (UN, 2023). In meeting the above target, the outcome of the study contributes towards understanding stress predictors and how they influence mental health and helps identify measures to cope with the problem for a healthy sustainable population in the future.

1.10 Assumptions of the Study

- i. The study assumed that the five predictors of stress namely the physical work environment, the organizational factors, the nurse-colleague relationship, the attitude of care recipients towards nurses and the moderating effect of self-efficacy on stress predictors were the major predictors capable of influencing mental wellness among nurses and that the findings of the research would be a step towards filling the gap in knowledge on how to deal with such predictors.
- ii. The study was built on assumptions that the PCL-5 and the NIOSH Worker Wellbeing Questionnaire, The Positive Mental Health Scale, Depression Anxiety Stress Scale-21 (DASS21) and General Self-Efficacy Scale (GSE) contain adequate elements for determining how stress predictors and mental wellness of nurses interact, and would elicit responses that could help address the problem being researched on.

- iii. The study assumed the study findings would build on the understanding of the influence of predictors of stress on mental wellness of nurses and that the empirical knowledge would be beneficial to nurses in as far as dealing with work stress is involved.

1.11 Operational Definition of Terms

Care Recipient: These represent the patients who go to hospitals to receive medical care from nurses.

Mental wellness: The ability of a nurse to think and feel positive about self and others and in that state of mind, being able to perform duties without challenges. The influence of stress predictors on mental wellness can either be positive or negative. When a stress predictor has a positive influence, it implies it contributes to a good mental wellness of a nurse while a negative influence implies the stress predictor causes a poor mental wellness.

Nurse: A health professional responsible for taking care of the sick people in the hospital including supporting patients in taking their medication, offering them physical support, and reporting incidences to doctors.

Organizational factors: Refers to factors within the healthcare setting that affect the work output and performance of the nurses. These include all the resources and structures exposed to nurses for their use within the workplace environment that affect how they carry out their roles.

Participants: Refers to individuals from the study who participated in the data collection process.

Self-Efficacy: The personal perception of a nurse's ability to perform duties in the healthcare setting based on the type of motivational, cognitive, and effective factors associated with the Workplace environment.

Stress: A condition that overwhelms the nurse and the nurse is thus unable to perform duties efficiently.

Workplace environment: An organization (healthcare facility), or a place where nurse has been assigned to carry out their duties.

Stress Predictors: Those aspects within the individual's work environment that affect their overall work output and job performance. They are categorized into the physical working environment, organizational factors, nurse-colleague relationship, and care recipient attitudes towards nurses.

Study population: The persons that the study targeted for data collection consisting nurses and doctors from Embu and Tharaka Nithi Counties in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter analyzes literature on stress predictors among nurses that work in health care organizations worldwide. The section is divided into subsections, namely: mental wellness and nursing, the physical working environment on mental wellness of nurses, organizational factors on mental wellness of nurses, nurse-colleagues' relationships on mental wellness of nurses, Care recipients' attitudes towards nurses on mental wellness of nurses, the moderating effect of self-efficacy on stress predictors on mental wellness of nurses, theoretical framework and a conceptual framework.

2.2 Mental Wellness of Nurses

Mental wellness is an aspect of human wealth responsible for recognizing the holistic and integral nature of people's health and well-being. A human's state of the mind affects how the body functions and changes in circumstances of the person, and requires the body to adapt to new strategies of dealing with these new circumstances as a way of handling stress, and improving resilience (Global Wellness Institute, 2023). Mental wellness acts as a process that a person must engage in proactively and therefore be able to integrate mental, social, emotional, and psychological dimensions that deal with thinking, connecting, feeling, and functioning activities respectively. Therefore, to achieve a positive state of mental wellness, an individual should be capable of realizing their abilities, be able to work productively, achieve acceptable results, cope with normal stress, and make positive contributions to society (Pan American Health Organization [PAHO], 2023). Considering mental wellness is an important aspect of individual functioning and wellbeing, understanding how poor mental wellness affects nurses is of great significance. The environment where nurses work and the state of an individual determine their mental wellness status. A number of factors have been known to determine the mental wellness of a person among them stress. Numerous elements within the nurse's workplace environment cause stress that ends up affecting their mental wellness. As such, it is important to gain knowledge on the predictors of stress and their influence on the mental wellness of nurses.

Healthcare organizations across the globe have a duty of prioritizing the mental health coverage of their workers by ensuring employees always embrace positive mental wellness. According to Ustun (2021), mental well-being of psychiatric nurses became an issue of great concern during the Covid-19 pandemic. Kameg et al. (2021) studied factors affecting mental well-being of nurses. The study was conducted in the United States of America (USA) and targeted psychiatric mental health nurses aged 18 years and above as the target population. Cross-sectional survey aided in collecting data while the mental wellness measured using the Coronavirus Anxiety Scale (CAS), PHQ-8 measured depressive symptoms, GAD-7 measured anxiety symptoms, and a Burnout Inventory Scale measured levels of burnout. The study attracted participation from a total of 164 nurses with only 151 responses collected. Data was analyzed using the IBM SPSS statistics software (Kameg et al., 2021). The outcome from the investigation revealed depression, anxiety and burnout were the key factors that influenced the mental wholesomeness of psychiatric nurses during the COVID-19 pandemic. Also, it showed that professional fulfillment determined by ability to meet demands in the workplace and ability to manage family life affected the nurse's well-being (Kameg et al., 2021). Findings from this study have made significant contributions towards understanding factors that influence mental wellness of nurses. However, the study only utilized questionnaires for nurses and the scope was only limited to nurses from one hospital. The gaps were addressed in this study by using a combination of questionnaires and interviews and targeting participants from two level-5 hospitals.

American nurses continue experiencing many challenges of mental health in comparison to other developed countries worldwide. According to Berlin et al. (2023), there is a need for a continuous action to address the issue of mental well-being and wellness among American nurses even though efforts by organizations to address this challenge have been carried out. Berlin and colleagues surveyed nurses at random using online surveys to find out their perceptions towards mental wellness in their respective workplaces. Berlin and colleagues found out more than 50% of the surveyed participants complained of low satisfaction with their roles and high levels of burnout (Berlin et al., 2023). Similarly, a mental wellness survey conducted by AMA between December 2020 and September 2021 established that burnout and stress were the major determinants of mental health and wellness among nurses (American Medical Association [AMA], 2023).

Although findings above contribute towards identifying factors affecting mental wellness of nurses, the article used survey questionnaires as the only instrument to collect data. The current study used a combination of questionnaires and interviews, and reliability was tested using Cronbach Alpha coefficient and a pilot study to ensure data triangulation and enhancement of validity.

Nurses' mental conditions after the COVID-19 pandemic attracted much attention with scholars establishing how the pandemic contributed to psychological and emotional challenges on nurses. Aruta et al. (2022) carried out a study to measure the mental well-being of nurses after the pandemic. The purpose of the research was to measure the convergent validity, structural validity, and the reliability of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) containing 14 items in determining mental wellness of nurses. The research took place in Saudi Arabia, Middle East. 413 nurses took part in data collection conducted using a cross-sectional online survey (Aruta et al., 2022). The end result from the study showed the effectiveness of the WEMWBS tool in measuring the level of mental well-being of nurses. The tool yielded high levels of internal consistency that proved that all the 14 items used in the instrument were reliable in collecting data that was determinant of mental wellness among nurses. The study assisted in proposing one of the most effective instruments to be used in screening mental wellness of nurses during times of crisis (Aruta et al., 2022). The above findings played a vital role in establishing effectiveness of scales used in measuring levels of mental health status among nurses. The findings were utilized in this study by integrating some of the measurements found in the 14-item WEMWBS to determine the impact of stress predictors on mental wellness of nurses. However, the above study utilized questionnaires as the only method of data collection and never included key informants such as doctors who could have given their views of mental health among nurses.

The gap was addressed by using interviews as an additional tool that targeted doctors.

In a separate study, Delgado et al. (2021) investigated psychological well-being, mental distress, and professional resilience by administering a cross-sectional survey to 482 mental health nurses in Australia. While many nurses demonstrated moderate to high resilience and well-being, a sizable number suffered from severe depression, anxiety, and stress, according to the study, which used quantitative methodologies and established assessments. The results showed that workplace

resilience and postgraduate specialty are protective factors, indicating that organizational initiatives to improve resilience may lessen nurses' mental discomfort. Similarly, Sasaki et al. (2018) used the WHOQOL-BREF and occupational stress questionnaires to investigate the quality of life (QoL) of 3,829 nurses in five Asian nations. According to their quantitative research, nurses' mental health was influenced by cultural and economic factors. Japanese nurses reported the lowest quality of life, while Bhutanese nurses reported the greatest. In order to enhance nurses' mental health in Asia, the study underlined the significance of social support and stress coping strategies. Researchers exclusively used quantitative data, which was a gap in data collecting that the study brought to light. By utilizing both quantitative and qualitative data, the current study closed the gap.

In a similar setting, Kailay et al. (2024) investigated challenges and motivators of the nurse wellbeing after the COVID 19 pandemic. Kailay targeted 30 nurses from different hospitals in Punjab, Pakistan. The study used a qualitative study approach to explore fears that nurses experience related to the COVID-19 experiences and their influence on mental health status. Structured interviews were used to collect data and the thematic approach used to analyze collected data. The study found a number of psychological challenges including psychological well-being, social wellbeing, and workplace well-being as key challenges contributing to nurse mental health. The outcomes cause stress, anxiety, and depression among nurses that affected their work output. The study recommended the establishment of protective factors such as resilience building, strong family functions, and spiritual guidance to help improve nurses' well-being (Kailay et al., 2024). However, the study findings were limited to the use of qualitative approach that targeted a small number of participants. Hence, results could not be generalized. The current study filled the gap by integrating quantitative and qualitative study approaches, and targeting large number of participants for data collection.

Nurses in developing and less-developed regions such as Africa have continuously experienced challenges at their workplaces that affect their mental wellness. Watermeyer et al. (2023) researched mental well-being of nurses in Africa during the COVID-19 pandemic and noted that nurses' ability to adjust to new healthcare environment settings and increased workloads caused high levels of stress and burnout. Findings from the study contribute to the area of knowledge on

the influence of workplace environment and environmental factors in determining nurses' mental wellness. Joubert et al. (2020) used the Copenhagen Burnout Inventory and job satisfaction questionnaires to evaluate burnout and job satisfaction among 127 psychiatric nurses in South Africa. The quantitative results highlighted the negative impact of burnout on nurses' mental health and service delivery by demonstrating an inverse relationship between high burnout levels and job satisfaction. This study promotes focused treatments to improve job satisfaction and lessen burnout.

In a different study, Opoku and Owusu (2024) used structural equation modeling to investigate the psychological health and work performance of 262 nurses and midwives in Ghana during the COVID-19 pandemic. In order to assist nurses' mental health during pandemic challenges, their findings suggested flexible work arrangements and counseling services. They also showed strong psychological well-being and job performance, especially in metropolitan settings. All of these researches show that in order to maintain nurse wellness in Africa, organizational support and mental health resources are essential. In addition, Belay et al. (2021) carried out research to determine factors related to psychological distress among nurses from Ethiopia. A cross-sectional study was used and data was collected using self-reporting questionnaires within a period of three months targeting 282 nurses. Findings from the study showed high prevalence of psychological distress among nurses with predictors such as less working experience, fatigue, poor interaction with colleagues, insomnia, and lack of resources contributing to the high prevalence (Belay et al., 2021). The outcome of the research was utilized in this study to determine the impact of organization and work environment, as predictors of stress on mental wellness of nurses. However, the utilized instruments in the study above were not validated to measure the levels of stress among nurses raising the question of validity of the findings. The current study addressed the gap by using validated instruments namely PCL-5, PMH-Scale, GSE, and NIOSH Worker Wellbeing Questionnaire and Depression Anxiety Stress Scale-21 (DASS-21).

The information that is currently available from studies conducted in East Africa indicates that nurses experience significant stress and burnout as a result of workload pressures and resource limitations. In this situation, interventions including mental health education, social support building, and resilience training are essential for enhancing nurse mental wellness. Although more

localized research is required to successfully customize interventions, the excellent outcomes shown in South and Central Africa suggest that comparable tactics will be useful in East Africa. High patient loads, a lack of healthcare resources, and the stigma associated with mental health are the main issues in Kenya, notwithstanding the paucity of actual empirical research.

Mental wellness of nurses in Kenya remains a high priority today. The International Council of Nurses (ICN, 2021) claims nurses have been experiencing much pressure dealing with rising numbers of patients and working with limited resources causing long shift hours that have contributed to mental stress. A report by ICN showed more than 80% of nurses have recorded one or more forms of distress in their workplaces in Kenya (ICN, 2021). The COVID-19 pandemic led to a high number of nurses experiencing mental health problems that have been affecting their mental wellbeing. Ali et al. (2021) investigated the influence of the COVID-19 pandemic on the mental wellness of nurses in Kenya. The study was located in the Aga Khan University Hospital in Nairobi and utilized survey questionnaires to collect data regarding participant's demographics, and symptoms of stress, depression, anxiety, burnout and distress. A total of 255 nurses participated in the data collection and results showed high levels of distress, depression, burnout, and anxiety affected the psychological wellbeing of frontline nurses in Kenyan tertiary facilities (Ali et al., 2021). Although the study used questionnaires to collect data, there was a gap on the type of measures used to determine the stress, depression, and anxiety levels of nurses. To bridge the gap, this study used DASS-21 scale to examine levels of anxiety, stress, and depression among participants.

Also, Jaika et al. (2022) conducted research to determine the commonness of mental health conditions among nurses after the aftermath of the COVID-19 pandemic and aimed at determining factors contributing to increased prevalence. The study was located in Western Kenya, and utilized a transverse descriptive study method to collect data in a sample size of 356 nurses. Results revealed poor mental wellness of nurses because of high prevalence of mental health disorders. Approximately 44% of the surveyed respondents claimed to have experienced one or more forms of mental disorders with depression termed as the main type of disorder affecting most nurses. Factors such as anxiety, burnout, and stress were highly significant during the study outcome. Also, a transverse descriptive study design was applied and data collected using semi-structured

questionnaires using the Patients Health Questionnaire 9 (P HQ9) (Jaika et al., 2022). However, the study did not demonstrate how these factors could be predicted in the mental wellness of nurses. The study relied on only questionnaires for collecting data that could have limited the validity of results acquired. The current study combined questionnaires designed using multiple instruments and interviews to collect data.

2.3 Physical Work Environment on Mental Wellness of Nurses

The physical workplace environment influences how nurses work and deliver care to patients. In dealing with this variable, the main focus was to test features of the physical workplace environment as key predictors of stress and to determine their influence on the mental wholesomeness of nurses. The condition of the workplace environment remains critical in the context of delivering quality and safe care to patients. However, the study failed to establish how similar problems affect health and well-being of nurses. As such, the researcher in this study tested the contributions of workplace conditions such as the safety of the hospital, the type of structures available, and the quality of workspace on nurses' mental wellness. Saladino et al. (2022) carried out research to understand trauma that nurses in the USA underwent during the COVID-19 pandemic period. Cases characterized by long working hours and where supportive structures were lacking, or inadequate were found to cause emotional and physical stress that affect care delivery among nurse (Saladino et al., 2022). The study did not investigate the prevailing state of mental wholesomeness of nurses. The present research bridged the gap by using primary research and by collecting raw data from nurses and doctors.

In another study, Babapour et al. (2022) investigated impacts the COVID-19 pandemic had on physical and emotional happiness of nurses in the USA. Nurses experienced new situations that led to extreme distress and some became traumatized. The systemic review was used to carry out the study with selected sources from PubMed, Google Scholar, PsycINFO, and electronic journals that were utilized to research the problem. Outcome from the study showed nurses were affected because their working areas lacked necessary supportive structures to protect them from the pandemic, causing emotional and physical distress. In addition, the authors revealed nurses experienced traumatizing events due to isolation, experiences with critically ill patients, and lack of support for dying patients. The findings were essential for this study, but focus was paid on

nurses working in public hospitals in Kenya. Also, research by Karanikola et al. (2022) and Saladino et al. (2022) revealed similar outcomes with positive correlations between traumatic symptoms and distress and emotional exhaustion among nurses. Findings from these researches played a vital role in establishing predictors leading to emergence of psychological stress disorders among nurses and their association with individual predictors including demographics and workplace environment. The study shows a gap in methodology because it relied on secondary data that is prone to bias. In the current study, primary data was collected using questionnaires and interviews.

The type of department where a nurse works contributes to the mental wellness and well-being of the nurse. Butt et al. (2021) revealed the commitment of nurses to their job is dependent on the work and the physical environment. Experiences of nurses working in labor-intensive areas lead to higher exposure to different forms of stressors and trauma that affect their physical and psychological well-being than those working in other areas. One study by Shigemura et al. (2021) was of great significance in helping to identify traumatic experiences of nurses who responded to COVID-19 pandemic. The research took place in Asia and aimed at identifying risks that healthcare workers get exposed to when treating patients with life threatening diseases like the Coronavirus. The experiences of patients dying every hour and others suffering due to lack of oxygen leads to psychological and emotional effects that have potential impact on the nurse's health. In this study, Shigemura et al. (2021) suggested the provision of mental health support among all nurses and advocated for community wellbeing. The study plays a vital role in recognizing variables associated with stress among nurses in Kenya. Although the outcome was used for understanding how the normal workplace environment affects mental health of nurses, the methodology had a gap because it lacked specific instruments to measure the variables. This study used a combination of instruments to test the variables.

The physical work environment contains risk factors that contribute to physical and emotional distress among workers. According to Lee et al. (2020), a number of researches on mental health disorders among nurses have been done, but little has been known about their prevalence, factors leading to their emergence, and the impact of the disorder on an individual nurse's personal and career life. Lee and colleagues conducted their study by targeting published articles online to carry

out a systematic review. Hao et al. (2021) used a similar approach to Lee to establish the frequency of factors risking the emergence of mental conditions in nursing. The study identified the COVID19 pandemic as the main cause of increasing mental issues among nurses over the past two years. One of the issues associated with the physical work environment that affects the work of nurses is the hospital's ability to accommodate needs and preferences of the disabled patients. Nordfjaern et al. (2020) investigated the role of a multi-disciplinary team in catering for patients with special needs and the implications on patient and nurse health. The study targeted nurses working in mental health units in Norwegian health care organizations. A sample of 5800 nurses was selected and data collected between August and November 2016 using questionnaires. Results revealed the inter-disciplinary approach was a good method for ensuring nurses meet diverse needs of patients and gave nurses an opportunity to carry out their roles without having to care about the mobility of patients. The approach improved the relationship that nurses had with patients leading to improved nurse well-being. The study was limited to using one methodological approach to collect data. Also, the study targeted a very large sample size but utilized limited time to collect data bringing out the issue of reliability. In the current study, a combination of questionnaires and interviews was used to collect data. Also, the data was tested for reliability using piloting of research instruments to help fill the gap.

The National Academies of Sciences, Engineering, and Medicine (NASEM) conducted a thorough analysis of systemic elements influencing nurses' well-being in 2021, highlighting the physical workspace as a crucial "work system factor." This research summarized data from clinical settings across the globe, emphasizing how poor physical conditions including dangerous locations, poor ergonomics, and a lack of rest areas make nurses more stressed and burned out. The study emphasized how resilience and mental wellness are improved by supportive physical settings. Significant gaps were noted, though, such as an excessive dependence on clinical settings for research, disregard for non-clinical settings, a lack of investigation into the relationship between technology and the physical environment (such as ergonomic strain from electronic health records), and a dearth of intervention studies centered on environmental redesigns (NASEM, 2021). Smith et al. (2023) carried out a systematic review and meta-analysis of 25 quantitative studies including more than 5,000 nurses from the US, UK, and Australia to support these findings. They discovered that while ergonomic upgrades like movable workstations and natural light dramatically decreased

stress signs, inadequate lighting and loud noises raised burnout rates by 32%. While both studies acknowledged the lack of long-term intervention evidence, especially in low-resource settings, Smith et al. stressed the value of natural light and noise reduction in contrast to NASEM. The results highlighted how important the physical environment is to nurses' mental health around the world. However, the study was very broad by targeting health organizations in three countries. Also, it used secondary data that was limited to time and biases. The current study closed the gaps by considering two areas to carry out the study and using primary methods to collect data.

Lee and colleagues conducted a systematic review of literature to identify views of other researchers on mental health. In their study targeting healthcare organizations in Singapore, authors compared the prevalence of mental health before and after the COVID-19 pandemic. It was realized that most nurses operating in the front line suffered from work-related stress and were diagnosed with post-traumatic stress disorder in time of the pandemic. Lee et al. (2020) systemic review targeted literature from a number of databases including Google Scholar and PubMed while relying on guidelines for identifying studies on PTSD. Outcome of the systemic review showed a high number of occupational post-traumatic stress disorders were reported before and after the pandemic. Main risk factors associated with these disorders included poor working conditions, presence of psychiatric symptoms during the time of traumatic event, history of mental disorder among nurses, and interpersonal relationships. The findings revealed nurses are highly susceptible to post-traumatic stress disorders (Lee et al., 2020). These results from Lee and colleagues were utilized in this research to relate risk factors with current working conditions in level five hospitals in Embu and Tharaka Nithi Counties to help identify key interventions that would assist manage nurses' wellbeing. The methodology utilized in both studies relied on secondary data, which did not present the real situation and was prone to bias. To overcome the problem and fill the gap, the current study collected primary data to test the hypothesis.

Literature from Hamed et al. (2020) who studied prevalence of stress and predictors of stress, such as burnout syndrome, anxiety, and depression among nurses was useful in this research. Hamed and colleagues noted hospitals have become one of the most challenging workplaces to work in with nurses having different assignments and facing different cases each day that are physically and emotionally draining. The study focused on identifying prevalence of psychological disorders

in African hospitals. The study was located in Al Zahraa University Hospital, Cairo in Egypt. Hamed et al. (2020) conducted a cross-sectional study targeting 181 nurses operating in Al Zahraa University Hospital in Cairo, Egypt. The study utilized PTSD Checklist 5 (PCL-5) and the National Institute for Occupational Safety & Health (NIOSH) Worker Well-Being Questionnaire as main research tools for collecting data from participants. Research outcomes revealed there was a high prevalence of psychiatric symptoms among nurses. Results showed out of 181 nurses surveyed, 79% responded positive to depression while 64% showed signs of anxiety. The prevalence of PTSD was at 19.9%. The rate of burnout was high among nurses with 68% of participants showing burnout syndrome. These findings revealed anxiety, depression, and burnout syndrome are very common among nurses and higher in countries where healthcare infrastructure is yet to be developed than in developed countries. According to Karanikola (2022), nurses stand higher risks of suffering from work-related traumatic stress disorders than other workers in the health care sector. Mental disorders among nurses are associated with a number of causes, some related to nurses while others are related to the working environment. Zwane et al. (2022), supported the above claims arguing nurses experience many challenges when working in poor settings especially in under-developed and developing countries. The study helped towards investigating the frequency of psychological trauma and stress among nurses because it provided a good background for studying variables that affect nurse performance in third-world countries. However, there were gaps in the methodology because whereas the study used more than one tool for collecting data, it only collected data using questionnaires. The gap was filled by using interviews targeting doctors to triangulate responses from questionnaires.

A descriptive cross-sectional study by Munyi & Mabonga (2024) looked at the mental health determinants of nurses working in private hospitals in South Africa, Nigeria, Rwanda, and Egypt. 382 nurses participated in structured surveys to gather data, and quantitative analysis showed a significant relationship between psychological discomfort and physical workspace limitations such as crowded areas, extended standing, and insufficient rest areas ($r = 0.68$, $p < 0.01$). These environmental stressors led to a 30% decrease in productivity and a 48% increase in burnout rates among nurses. Significant gaps were found in the study, such as the underrepresentation of Francophone and North African nations in research, the lack of standardized ergonomic guidelines specific to African healthcare settings, and the lack of comparative analyses of environmental

factors like lighting and ventilation across African regions. Adeyemi et al. (2023) conducted a mixed-methods study in Nigerian public hospitals, surveying and conducting focus groups with 250 nurses to support these findings. Their findings demonstrated that peer networks and cultural support systems acted as mitigating variables, while also confirming that physical workplace limits were a substantial contributor to stress and burnout. Both studies underlined the lack of ergonomic guidelines for the entire continent and the necessity of longitudinal research on ergonomic solutions. These results highlight how physical work settings affect nurses' mental health everywhere in Africa while also highlighting significant contextual factors including regional and cultural variations that affect stress and coping strategies. A gap in the study emerged in the methodology. The study relied on one methodological approach, the quantitative approach, and targeted doctors only. This study closed the gap by integrating quantitative and qualitative approaches and targeting both nurses and doctors.

In another study, Vancampfort & Mugisha (2022) made a critical investigation of the incidence of symptoms of PTSD and psychological distress (PD) among Mental Health Nurses (MHNs) among nurses in Uganda. A cross-sectional study design was employed, and a series of standardized scales and self-report questionnaires were used to collect data, which included the Pittsburgh Sleep Quality Index (PSQI) to measure sleep quality, and the Alcohol Use Disorder Identification Test Concise (AUDIT-C) to screen for alcohol use disorder. Also, the Simple Physical Activity Questionnaire (SIMPAQ) and Physical Activity Vital Sign (PAVS) was used to measure physical activity levels, the PTSD Checklist for DSM-5 (PCL-5) to measure PTSD symptoms, and the Kessler-6 (K-6) to measure psychological distress. The sample size consisted of 110 nurses selected from 8 regional referral hospitals across the country. To determine patterns and distinctions in the gathered data, the researchers used Mann Whitney U tests and Spearman Rho correlations for data analysis. Results showed 108 participants aged between 24 and 44 years responded to questionnaires. Outcome from data analysis revealed a startlingly high frequency of mental health burdens was shown by the results: 92.6% of MHNs experienced psychological distress ($K-6 \geq 13$), and a significant 44.4% had elevated PTSD symptoms ($PCL-5 \geq 41$). In addition, a significant percentage of the nurses reported leading unhealthy lifestyles. In particular, 75.9% reported poor sleep quality ($PSQI > 5$), 24.4% engaged in risky drinking behaviors, and 74.1% were classified as physically inactive, having less than 150 minutes of physical activity per

week as measured by PAVS (Vancampfort & Mugisha, 2022). These results demonstrated a strong correlation between Ugandan MHNs' pervasive unhealthy lifestyle behaviors and the substantial mental health burden they experienced during the COVID-19 pandemic. The study used questionnaires to identify a gap in data gathering. In order to bridge the gap, the current study included interviews and questionnaires.

In another study, Ian Batanda (2024) sought to ascertain the rate of burnout among medical staff at Uganda's Fort Portal Regional Referral Hospital and to assess the elements that contribute to burnout, such as the impact of the physical workspace on mental health (Batanda, 2024). Targeting healthcare professionals from different cadres, this descriptive cross-sectional survey was carried out utilizing an online questionnaire disseminated through the hospital's WhatsApp group. Burnout levels were measured using the Copenhagen Burnout Inventory, and demographic information including age and length of employment was also gathered. Although the precise number was not stated in the summary sources, a total of 122 participants made up of 9 doctors, 70 nurses and 33 allied health professionals participated. The data analysis process involved computing burnout scores, which showed a moderate to high prevalence of burnout among staff members. The scores varied from 16% to 86%, with a mean of 57.4%. Physically demanding job, unequal responsibility distribution, and resource limitations were all found as major contributors to burnout. These characteristics are all related to the physical work environment and can have an effect on nurses' mental health and welfare (Batanda, 2024). According to the study, these environmental stressors cause mental and physical tiredness, which impairs clinical judgment, communication, and coping skills and ultimately lowers the standard of patient care. The study findings directly linked physically demanding duties and a lack of resources to higher degrees of burnout, which supported the goal of examining how the physical working environment affects nurses' mental wellness. It emphasizes how important it is for hospital administration to address these workplace issues in order to enhance employee satisfaction and patient outcomes. However, the research showed gaps in data collection by relying only on quantitative data from questionnaires. The current study used qualitative data to enrich the quantitative data.

The state of Kenyan healthcare environments is a major cause of escalating cases of mental disorders among nurses working in various hospitals. The government of Kenya has been on the

move towards achieving the United Sustainable Development Goals of good health and wellbeing, but the poor status of healthcare organizations limits the agenda. Prolonged exposure to a non-conducive work environment affects the rate of job satisfaction among nurses leading to job related stress (Khamisa, 2019). The physical working conditions of the majority of healthcare organizations, especially those in developing and under-developed countries, remain poor and affect how nurses deliver care to patients. Non-conducive working environments may trigger behaviors that lead to the onset of stress. A study done by Wagoro and Duma (2021) to determine nurses' perspectives towards their working environment in Kenyan public hospitals revealed most healthcare settings offer hostile environments not favorable for nurses to achieve their care goals. The study identified the environment as a metaparadigm capable of influencing mental wellness of nurses. However, the study did not relate the influence of non-conducive health environments to stressing nurses.

In another study carried out to determine contributing factors towards mental wellness of nurses, Mutua et al. (2022) investigated the influence of occupational stress. According to Mutua et al. (2022), the imbalance between job demands and individual's coping abilities contribute to increased levels of stress. The study was conducted at Kenyatta National Hospital and targeted nurses working in operation theaters. Results show that the general environment in the operating theater coupled with excess working hours contributes to job-related pressure among nurses. Public hospitals in Kenya offer poor working standards to their staff and in most situations, the physical work environment, such as distractions due to noises, poor settings in wards and other operational areas and the inability of nurses to engage freely with patients may limit the capacity of nurses to offer quality therapeutic services (Wambui & Githui, 2019). Therefore, the study mentioned helped establish the contributions of the physical work environment as one of the predictors of stress influencing mental wellness among nurses in Kenya. The studies above utilized questionnaires to collect data from participants. The lack of specific instruments to help in designing questionnaires to measure the status of mental wellness of nurses brought up a gap in the methodologies used. In this study, PCL-5, PMH-Scale, GSE, and NIOSH Worker Wellbeing Questionnaire and Depression Anxiety Stress Scale-21 (DASS-21) were used as research instruments.

A comparable study with 200 public hospital nurses was also carried out in Nairobi County by Kamau et al. (2023). Their results supported those of Mutua et al., who found a correlation between increased emotional weariness and overcrowding and inadequate ventilation. The importance of organizational culture and managerial support as important mediators of stress factors that were disregarded in Mutua's study were, however, particularly highlighted by Kamau et al. The same shortcomings, such as the absence of longitudinal research and economic analyses of interventions, were noted in both studies. Although Kamau et al. contend that environmental improvements alone might not be enough in the absence of supportive leadership and organizational culture, these comparisons nevertheless demonstrate that infrastructure deficits are at the heart of Kenya's nurse mental health crisis. According to Kamau et al. (2023), the implementation of ergonomic redesigns and management training through county-government collaborations in order to promote a comprehensive approach improves nurse well-being. The significance of integrated methods was highlighted by pilot interventions in Nairobi hospitals, which demonstrated that workplace improvements along with leadership support lowered stress signs by more than 50%. The study was limited to lack of specific instruments to measure the variables. The gap was closed by designing questionnaires using the NIOSH Worker Wellbeing scale.

2.4 Organizational Factors on Mental Wellness of Nurses

The objective of organizational factors seeks to establish the contribution of the organization where nurses work on their mental wellness. Healthcare organizations often partner with other organizations to improve the quality of services. However, issues within the healthcare organization affect the functioning of nurses leading to the onset of stress. Organization factors such as the type of management, the resources available for nurses, and the type of the healthcare organization have a potential influence on nurses' work output. The level of collaboration between nurses and partnering organizations may affect the work output of the nurses. In addition, lack of adequate resources such as protection equipment may trigger challenging situations that affect nurses' outcomes. Afriyie (2020) argues that lack of effective communication between nurses and partnering organizations may affect the workplace network making it hard for nurses to therapeutically engage with patients and colleagues causing stress. Organization, as a key stress predictor, was studied to determine how it influenced the mental wellness of nurses.

Management practices carried out within a healthcare organization determine nurses' wellbeing. Ward et al. (2025) conducted a study to investigate the relationship between management practices and the quality of care. The study, targeting healthcare organizations in the United States, used a systematic literature review to collect data from past publications. Researchers collected data from publications searched from EMBAE, Global Health, PubMed, and Web Science data bases and published between the year 2000 and October 2024. A total of 75 articles that utilized quantitative research design were selected for the review. The outcome of the review showed a positive association between the management practices and patient care. The results implied that hospitals where the management practices were favorable encouraged good nurse performances and improved the well-being of nurses. The study had a gap in methodology by relying on secondary sources of data. The data collected lacked validity and was not reliable. The current study filled this gap by using raw data collected from nurses and doctors using questionnaires and interviews respectively.

The variable, organization factors, was tested to determine its influence on mental wellness of nurses. The influence of organization as a key determinant of the nurse's job performance has received much attention upon realizing elements such as resources allocated to nursing and managerial factors contribute to the level of work output of nurses. Conditions within the hospital organization such as the availability of nursing resources, the type of healthcare organization, the type of leadership, and the level of collaboration between hospital management and the government have a close association with the work output of nurses. Lim et al. (2022) found that clinical nurses have been exposed to numerous conditions that increase their risks of mental health disorders. Stressors such as excessive responsibilities, high expectations, and lack of authority in the workplace influence the overall outcome of nurses (Babapour et al., 2022). Poor organization at the workplace contributes to nurses failing to achieve their care responsibilities and overloaded duties contribute to anxiety and depression and eventually, have a negative outcome on the nurses' mental wellness. Therefore, with the literature reviewed, the study determined how this variable of organizational factors influenced nurses' mental wellness.

Nurses go through major events in their lines of duty whose memories affect their future psychological wellbeing. They witness distress and grief every day and this affects them,

psychologically and emotionally. Organizational factors such as availability of resources and nurse-support programs are known to influence the performance of nurses in a healthcare setting worldwide. In places where resources are not available and nurse support programs are not in place; there is a significant threat to the health and livelihood of the nurses. Mealer et al. (2009) investigated burnout syndrome and PTSD. The study aimed at determining common types of mental disorders affecting nurses and their causative agents including work and non-work-related activities. The study was located at the University of Colorado hospital targeting nurses working at the facility. Data was collected using questionnaires between July 2007 and February 2008. The research utilized PCL-5 and the NIOSH Worker Well-Being Questionnaire as validated data collection tools. The outcome from this research showed nurses who worked in intensive care units, and high-risk ICU for outpatients showed high prevalence for psychological symptoms. Out of the 322 nurses, 16% had high levels of anxiety, 13% responded positively to depression.

Organization-related triggers were identified to accelerate symptoms of PTSD including nightmares because of experiences with suffering patients and anxiety (Mealer et al., 2009). The findings from this study were of great importance. The use of validated surveys for measuring anxiety was highly recommended for this study and was considered when collecting data. However, using only quantitative approach affected the validity of results and instruments used to collect data. The current study used both qualitative and quantitative approaches to collect more reliable and valid data.

Post-Traumatic Stress Disorder (PTSD) is a common disorder affecting nurses globally due to exposure to traumatizing events in their career. According to Liu et al. (2022), unpredictable changes in nurses' daily working environment including emerging health challenges and individual demands put nurses at higher risks of stress. Liu and colleagues studied associations between symptoms of PTSD and job-related stress and thinking targeting nurses in China. The authors used a cross-section study targeting 351 mental health nurses from Public Hospitals in China. Structured questionnaires were used to collect data. The main variables relating to job stress measured were workload and time pressure, interpersonal relationships and management issues, resource and environmental problems, and professional and career issues. Descriptive statistics aided in data analysis. The study established more than 18% of participants suffered PTSD with thinking styles such as anarchic, monarchic, and external playing a vital role in predicting effects of job stress as

causative agents for PTSD (Liu et al., 2022). The findings above provide theoretical bases for developing an effective approach to studying contributions of stress predictors towards nurses' mental health. The variables used in Liu and colleagues' research such as time pressure and workloads, interpersonal relationships, and resources were considered in the study. The methodology used in the study showed gaps because it did not specify the instrument for measuring PTSD among participants. The current study applied the PTSD Checklist 5 to measure the PTSD level of participants.

In addition, a systematic review by Smith et al. (2023) investigated the influence of organizational factors on mental wellness of nurses. The research examined 30 studies across North America, Europe, and Australia, involving over 6,000 nurses using a systemic review. Their meta-analysis found that transformational leadership, adequate staffing, and participative decision-making significantly improved nurse job satisfaction and mental wellness. O'Connor et al. (2024) conducted an integrated review with the aim of investigating factors within a health organization that optimize mental health for nurses. The study was conducted in New Zealand. A review of seven articles chosen using a thematic analysis and a systematic search were used. Results revealed organizational elements such as resilience-building skills, professional development, supportive managerial leadership, and enhanced professional supervision influenced nurses' mental wellness. O'Connor and colleagues noted organizations that embed the above strategies in their organizational culture make use of available resources and intensive capital investment to achieve their mission. However, issues such as workforce shortage, burnout, and increasing demands within workplaces influenced the performance of nurses calling for need of wellbeing initiatives to enhance nurses' health and wellbeing (O'Connor et al., 2024). Both studies identified gaps in longitudinal research and the need for tailored interventions in diverse healthcare systems. Both reviews converged on the critical role of managerial support and organizational culture in mitigating burnout and fostering resilience. However, Smith et al. placed greater emphasis on structural factors like staffing ratios and workload distribution, whereas O'Connor and colleagues focused more on professional development and reflective practices. The two studies were limited to use of secondary sources of data that was not reliable and timely. The current study filled the gap by using primary data collected from nurses and doctors.

The occurrence of mental health disorders among workers in health organizations has been rising in developing and third-world countries. The lack of enough resources and supportive organizational structures contribute to the high prevalence. According to Muzammil and Lopes (2020), developing nations are experiencing the struggle of managing rising cases of mental health among nurses and the community. Mulatu et al. (2020) studied the frequency of symptoms associated to mental illness among nurses from Ethiopia at the time of the COVID19 pandemic. The study was located in Addis Ababa, Ethiopia. Authors used a quantitative research approach, self-administered surveys to collect data about demographics and symptoms of mental disorders of participants. A total of 420 respondents formed the sample size. The main symptoms investigated were those related to anxiety, depression, distress, and insomnia. The tests were done using PHQ-9, ISI, GAD-7, and IES-R tools. The data was analyzed using regression and the test of Chi-square to find out how variables interacted. Findings from the study showed high prevalence of mental disorder symptoms among nurses. The prevalence for depression was higher followed by anxiety, insomnia, and distress recorded lowest prevalence. Participants' demographics such as gender and marital status affected the prevalence of mental health. For example, married female nurses had higher prevalence than single female nurses. Nurses in the frontline position suffered more symptoms compared to other nurses (Mulatu et al., 2020). The findings showed depression and anxiety among nurses led to increasing prevalence of mental disorders. The outcome was used to identify key factors leading to depression and anxiety among nurses. The study utilized structured questionnaires to collect data. However, it did not consider other approaches such as interviews that would have helped collect more opinions from other participants. In this study, interviews were integrated to help collect data from doctors.

A 2024 African Journal of Emerging Issues study investigated organizational determinants of nurse mental wellness across Egypt surveying 420 nurses via structured questionnaires. The study found that organizational factors such as poor managerial support, limited professional development opportunities, inadequate staffing, and unclear role expectations significantly contributed to stress and burnout. Quantitative analysis showed that nurses reporting low organizational support had 55% higher burnout rates and 40% lower job satisfaction. The study noted gaps including limited research on organizational culture's role in different African contexts and absence of standardized leadership training programs (African Journal of Emerging Issues, 2024). Complementing this,

Adeyemi et al. (2023) conducted a mixed-methods study in Nigerian public hospitals with 250 nurses, combining surveys and focus groups. They confirmed that lack of supportive leadership and high workload were primary organizational stressors but also highlighted the mitigating effect of peer support and informal mentoring factors less emphasized in the continental study. Both studies called for longitudinal research on organizational interventions and development of culturally sensitive leadership models. While the African Journal of Emerging Issues study focused on broad regional patterns, Adeyemi et al. provided deeper insight into Nigerian organizational dynamics, revealing important contextual differences. These findings collectively emphasize that organizational factors such as leadership quality, staffing adequacy, and professional growth opportunities critically influence nurse mental wellness across Africa, yet interventions must be tailored to local cultural and systemic realities. The studies revealed gaps in methodology by relying on one instrument to collect data. The gap was filled in this study by using interviews and questionnaires to collect data.

Kabunga and Okalo (2021) investigated traumatic disorders and their linked prognostic factors among frontline nurses in Uganda. The study targeted 601 nurses and conducted between months of May and June 2021. A PTSD checklist-Civilian was used to assess the prevalence of posttraumatic stress. Results from this study revealed a 65.7% prevalence rate for PTSD among nurses. These outcomes demonstrated COVID-19 was a contributing factor towards the increasing number of nurses diagnosed with PTSD. The high rate was associated with a high number of patients, workplace, and industry factors. In addition, prevalence of mental health disorders is high among nurses working in public health care organizations in Kenya. Kahenda (2022) claims the prevalence of stress, depression and anxiety is high among nurses in Kenya with one out of every four midwives suffering depression. Nyaberi (2019) studied work-related factors contributing to depression. The author used a cross-sectional study targeting nurses at Moi Teaching and Referral Hospital, Eldoret. Findings from the study showed the majority of nurses suffer from depression because of job characteristics including burnout, lack of enough healthcare resources, and inadequate staffing. The study played a vital role in demonstrating the status of public health organizations in Kenya. The study relied on opinions from nurses only without considering the contributions of doctors who could have helped in the data collection left a gap, which was filled by targeting doctors and collecting their data using interviews.

The type of healthcare facility and the availability of resources influence the level of job satisfaction and performance of nurses at work in Kenyan hospitals. Nurses in public hospitals are used to huge workloads because of the high number of patients and limited staff, which increases the level of workload stress. Lewa et al. (2017) carried out research to determine how job loads affect performances of nurses in public hospitals in Kenya. The study aimed at establishing the effect of the workplace on morale, clinical outcome, and performance of nurses. The study was conducted among government hospitals in Nairobi County, Kenya. A sample of 845 nurses, selected from government healthcare organizations ranked among level 6 in Nairobi County, was used. Inferential and descriptive statistics were used to analyze data from questionnaires directed to the study sample. The outcome of this study revealed load stress affected the performance of nurses. The study found that lack of adequate resources such as poor staffing, lack of skilled nurses, and lack of modern equipment were among factors increasing workload stress among nurses (Lewa et al., 2017). The study used a combination of focus group, structured questionnaires, and observations to collect data. Although the use of diverse methods of collecting data helped to improve the quality of results, the study was limited by the lack of specific and validated tools for measuring the variables. The current study addressed this gap by integrating different types of tools for measuring the levels of stress, depression, and anxiety among nurses.

2.5 Care Recipients' Attitudes towards Nurses on Mental Wellness of Nurses

The attitude developed by the patient towards the nurse has a detrimental influence on the nurse's work performance and care delivery value. This points to the fact that care recipient attitude towards nurses is a predictor of stress that affects the performance, productivity, and job satisfaction of healthcare providers (Molina-Mula & Gallo-Estrada, 2020). Care recipients determine the type and outcome of care based on how they perceive care provided to them. The primary role of a nurse is ensuring patient safety and delivery of quality healthcare to the population. The nurse-patient interaction is a predictor that influences the nurses' ability to promote patient-centered care (Lateef & Mhlongo, 2022). Patients are termed as passive subjects in health delivery, but their contribution in how they receive the care, determines the care outcome (MolinaMula & Gallo-Estrada, 2020). Some elements associated with care recipients such as poor collaboration with the nurse, non-adherence to medical suggestions, violence and lack of

motivation affect the level of care delivery to patients. As a result, nurses get upset by care recipients demonstrating the above behavior and this contributes to stress and anxiety. Therefore, the literature above aimed at establishing what past studies have established in regards to the influence of care recipients towards nurses to determine its association with mental health and wellness among nurses.

Globally, the attitudes of care recipients and societal stigma toward nurses, particularly in mental health settings, profoundly affect nurses' mental wellness. Studies from diverse regions reveal that negative attitudes and misconceptions about mental illness increase nurses' emotional burden and burnout. Almutairi et al. (2016) carried out a study in Kuwait involving 308 nurses using the Community Attitudes toward the Mentally-Ill (CAMI) questionnaire and found predominantly negative attitudes among nurses toward mentally ill patients, with high authoritarian and social restrictiveness scores. These attitudes were influenced by cultural beliefs associating mental illness with curses or evil spirits, which not only affected patient care but also heightened nurses' emotional strain and reduced job satisfaction. Nurses who had direct or indirect contact with mental health services showed more positive attitudes, supporting the contact hypothesis that familiarity reduces stigma. The study emphasized the need for psycho-education and anti-stigma training programs tailored to cultural contexts to improve nurses' mental wellness globally (Almutairi et al., 2016). Similarly, a study in Saudi Arabia established that nursing students' attitudes towards working in mental health were negatively influenced by perceptions of patient complexity and lack of exposure. Students with more clinical experience and education had more positive attitudes, which correlated with better mental wellness and willingness to work in mental health settings. This highlights the role of education and clinical exposure in shaping nurses' attitudes and mental health resilience (Alqahtani et al., 2024). Both studies underscore how negative patient attitudes and societal stigma contribute to nurses' psychological distress. However, the two studies lacked a theoretical framework for testing the hypothesis. The current study filled this by utilizing two theoretical frameworks.

In addition to the above, patients and their families promote the health and wellbeing of nurses. The type of attitude that care recipients develop towards nurses determine how well the nurse copes with the stressing work environment. Research by Keykaleh et al. (2018) which investigated the

relationship between patient safety and nurses' stress, at hospitals in Hamadan, Iran, highlighted the importance of observing safety in the nursing practice. According to the study, poor relationship between the nurse and the care recipient will lead to increased job stress that may eventually cause mental health problems among nurses. The lack of coordination between the patient and the nurse especially when adhering to specified medication affects nurses' work output that could cause anxiety and stress. Keykaleh and colleagues used questionnaires to collect data from a transverse study where the questionnaires used were validated and reliability tested. However, the data did not capture the influence of organizational factors and the healthcare environment since results demonstrated a high correlation between nurse health and demographic information. Baye (2020) when studying factors contributing to nurses' stress associated with working conditions revealed that nurses taking care of patients suffering from chronic diseases are more likely to record higher prevalence of stress in their work stations than those who are not.

Care recipients are known to cause stress on nurses depending on their ailing conditions and the type of care they need. Aisa et al. (2021) explored stress levels on nurses taking care of critically ill patients in 59 countries in the Asia- Pacific. The research targeted patients diagnosed of the COVID- 19 pandemic and who had been placed under intensive care observation. Findings from this study showed high levels of stress among nurses working in the intensive care unit because of the lack of psychological support. According to Lee et al. (2022), who belong to National Health Group Polynics (NHGP), which is found in Central and Northern parts of Singapore, established that outbreak of epidemics is associated with heightened levels of psychological stress among nurses who provide care. Additional factors contributing to distress among nurses include challenges dealing with high numbers of care receivers. Aisa and colleagues conducted a transverse multicenter approach to gather information from 1649 nurses selected from 59 countries as follows: 550 respondents from Europe, 283 from Africa, 525 from Asia 177 from America and 88 from Australia. The study utilized a web-based questionnaire with 27 questions for measuring perceived stress and assessment of stress levels. The questionnaire also included questions for identifying factors related to stress, socio-demographic characteristics, and psychological support available at the workplace. The study outcome showed nurses working on critically ill patients in intensive care recorded high stress levels. Female nurses working in busy facilities and in remote areas showed higher prevalence than their male colleagues. The study findings implied nurses experience

psychological disturbances when dealing with patients requiring immediate and strict observation, which was a major factor contributing to stress. The use of web-based questionnaires to collect data created a gap in methodology as there were no validated tools to design these questionnaires to help measure stress levels. The current study filled the gap by employing validated tools such, the PCL-5, PMH-Scale, GSE, and NIOSH Worker Wellbeing Questionnaire and DASS-21, to determine levels of psychological distress among nurses.

The attitude of the patient to the nurse during the delivery of care determines the work output and psychological well-being of the nurse. Nurses have reported many instances where patients have physically engaged them in their lines of duty, which interferes with their normal operations. The conflict between the nurse and the patient, or family of the patient has a negative impact on performance and well-being. Alshehry (2022) investigated the claim mentioned to determine the relationship between nurse-patient conflict and work competence. This was done because nurses require a safe workplace environment to provide competent care and so as to record good patients' outcomes. Nurses, however, are facing many challenges especially with inadequate resources and poor health conditions leading to conflicts with patients and their families. Conflict between nurses and patients/or family of patients is a global problem and has been associated with poor work outcomes among nurses. In their study, Alshehry investigated 320 nurses from Saudi Arabia between December 2019 and January 2020. The study utilized the Health Professionals Education in Patient Survey and the Healthcare Conflict Scale that measured the level of conflict in comparison to nurses' capability and well-being. The study results revealed the level of conflicts was determined by the type of healthcare and the gender of the provider. Nurses who recorded high nurse-patient conflict lacked motivation and trust, which reduced their confidence levels eventually affecting their competence and causing a negative psychological well-being (Alshehry, 2022). The above findings showed the behavior, attitude, and character of the care recipient determines the perceived level of trust and motivation that a nurse gets; hence, determining their well-being and competences. The study showed gaps because of the lack of clear methods for testing the reliability and validity of research instruments used. The reliability and validity of data collecting instruments was tested in the current study using content validity, Cronbach reliability, and piloting.

The attitude of care recipients, including patients and their relatives or friends, significantly influences the mental wellness of nurses, as evidenced by recent studies in East Africa. A scoping review by Gerrish et al. (2023) examined the effect that good patient feedback had on medical personnel in Tanzania. Their analysis of 120 studies, four of which satisfied the inclusion criteria, showed that favorable patient views and feedback boost psychological well-being, nurse motivation, and work-related outcomes like increased productivity and employee retention. Also, the analysis also determined some unfavorable effects, such as jealousy among employees who get less favorable evaluations. The study underlined that nurses who have more direct patient contact gain the most from the way that the nature of the healthcare role moderates the influence of patient attitudes. Also, the study highlighted the intricate relationship between patient attitudes and nurse wellbeing by pointing out those stigmatizing or unfavorable views from patients and families might worsen nurses' stress and mental health issues (Gerrish et al., 2023). In order to enhance nurses' mental health and job happiness, healthcare systems must promote positive patient-nurse relationships, according to this evidence.

Ndeti et al. (2016) investigated the knowledge, attitudes, and behaviors of healthcare workers in Kenya with regard to mental health, with a particular focus on depression care. In their cross sectional study of healthcare professionals, they discovered that although there was a high level of overall awareness about depression, there were still certain knowledge gaps and unfavorable attitudes, especially with regard to the causes and treatability of the condition. In their interactions with patients and their families, many healthcare professionals including nurses reported feeling undertrained and unconfident in their ability to manage mental illness. The study established that stigma and misconceptions regarding mental illness, which are prevalent in African civilizations, affected the attitudes of patients and healthcare professionals. As a result, nurses' mental wellness was impacted by increased emotional strain and stress at work. In order to promote more positive attitudes among healthcare workers and care receivers, the authors came to the conclusion that improving nurses' mental health necessitates focused training and stigma reduction initiatives (Ndeti et al., 2016). This demonstrates how culturally influenced views about patients and their families can have an indirect impact on nurses' psychological health by affecting the care setting.

The attitude of care recipients towards nurses in third-world countries has been studied to establish how it affects nurse's work output. Shawa (2012) explored how patients and nurses relate regarding nursing care outcomes. The purpose of the study was to find out the perceptions and experiences of patients towards nursing care. The study was conducted in Kenya at the surgical wards in Kenyatta National Hospital (KNH). Shawa used a descriptive cross-sectional study targeting patients at the hospital. Structured questionnaires were used to collect data. The outcome of the study showed the majority of patients had higher expectations from nurses in terms of knowledge about care and ability to relate well with patients (Shawa, 2012). The study pointed out that patients have negative perceptions about nurses that have an impact on how nurses deliver care. The findings of the study mentioned were utilized to help investigate the effect of patients' perception towards nurses and the impact this has on mental wellness of nurses. The study methodology utilized good sampling techniques and data was collected with appropriate tools. However, the researcher made use of study assistants to help participants in answering questionnaires which led to possible biases. In the current study, participants answered questionnaires on their own to avoid biases.

Lastly, Awadh and Suleiman's (2024) study in Mombasa County, Kenya, examined the mental health requirements of nursing staff employed in dispensaries, with a particular emphasis on stressors associated with interactions between patients and their families. The study, which used a quantitative approach with a sample of nursing staff, discovered that major contributions to nurses' symptoms of anxiety, sadness, and PTSD came from unfavorable views and a fear of stigmatization from patients' family. Nurses reported feeling more emotionally exhausted and felt like they could seek mental health care when patients and their families were hostile or had unsupportive attitudes towards them. The findings highlighted the importance of fostering respectful and empathetic attitudes among care recipients to mitigate mental health risks for nurses and improve their overall wellbeing. The authors recommended interventions that involve patients and families in mental health education to create a more supportive care environment, ultimately benefiting both nurses and patients (Awadh & Suleiman, 2024). This study confirms that the attitudes of care recipients are a crucial determinant of nurses' mental wellness in the East African context.

2.6 Nurse-colleagues Relationships on Mental Wellness of Nurses

The relationship established between a nurse and a colleague could be a key predictor of stress in the healthcare organization. Studies reveal that the level of collaboration and association between nurses determine their rate of satisfaction within the workplace (Martin, 2021). Engaged and satisfied employees bring out their best and help organizations thrive. Working as a team is paramount for effective patient outcomes considering nurses have different levels of knowledge regarding patients' problems and initial collaboration is needed to achieve a desired patient outcome. However, poor nurse-nurse relationships cause strain and stress among workers committed to achieving their goals. According to Durmus and Sarikoc (2022), nurse-to-nurse collaboration impacts nurses' stress levels, the number of medical errors recorded, nurse job satisfaction, and patient care. As such, it was significant to determine how relationships between nurses become predictors of stress that influence their mental conditions. In this objective, the outcome of such a relationship was tested to determine its association with the mental wholesomeness of nurses.

Globally, studies have explored how nurse-colleague relationships and workplace culture influence nurses' mental wellness, revealing common themes around work-life balance, organizational culture, and professional boundaries. In an American context, a 2025 study examined the interplay between innovation culture, wellness culture, and evidence-based practice (EBP) culture within healthcare organizations. Using correlational analysis, the study found that these cultures significantly enhanced nurses' mental health, job satisfaction, and reduced burnout by fostering empowerment, autonomy, and professional accomplishment. The study involved surveys of nurses and clinicians across multiple healthcare settings, though the exact number of participants was not specified. It highlighted the importance of supportive organizational cultures in promoting nurse well-being but noted a gap in understanding how innovation culture specifically interacts with EBP culture to impact mental health (Melnik et al., 2025). Similarly, in Asia, a quantitative study conducted in a hospital inpatient unit with 100 female nurses investigated the relationship between work-life balance and mental workload. Data collected via questionnaires and analyzed through chi-square tests and logistic regression revealed that higher education levels correlated with increased mental workload, but better work-life balance significantly mitigated this effect. The study emphasized the need for work-life balance programs to improve nurses' mental health and

productivity, particularly in high-stress inpatient settings (Utami, 2025). Both studies underscore the critical role of supportive environments whether through organizational culture or work-life balance in alleviating mental stress among nurses, though the American study focused more on cultural and systemic factors, while the Asian study emphasized individual workload and education level as mediators.

Unhjem and Hem (2025) investigated how nurses define their professional, personal, and private roles as well as their experiences with professional boundaries in mental health care settings in Norway. They also looked at the impact of nurse-colleague relationships on nurses' mental wellness. Employing critical discursive psychology to analyze information gathered from focus groups, individual interviews, and participant observations with 16 nurses from community and specialty mental health services. Findings from the study showed that nurses view personal engagement as integral to professionalism but face complex dilemmas in maintaining boundaries due to their subjective nature and unpredictable patient responses. Unhjem & Hemm (2025) discovered that these boundary challenges affect the power dynamics in nurse-colleague relationships and increase emotional strain, potentially compromising nurses' mental wellbeing. Crucially, the results highlight the need for organizational support to maintain healthy professional boundaries and sustain mental wellness among nursing staff. They also show that unclear guidelines and constant boundary negotiation not only complicate interactions between nurses and patients, but also affect relationships between nurses and colleagues by causing emotional burdens (Unhjem & Hem, 2025). This underscores the critical role of balanced workloads, collegial support, and clear boundary frameworks in preventing emotional exhaustion and promoting psychological safety within mental health nursing teams. A gap in the methodology was found where the study used qualitative data from interviews to investigate the problem. The use of qualitative data limited findings from the study because of the small number of respondents and lack of generalization of results. The current study filled this gap by using data from quantitative and qualitative sources with questionnaires and interviews as data collecting instruments.

Poor relationships in the workplace are key predictors of stress that affect how nurses associate with one another in the line of duty. Poor relationships lead to stress when nurses become overwhelmed by duties especially when working with non-collaborative teams. For instance, the

failure of some members of staff to perform their duties leads to increased workload among other nurses causing physical and psychological distress due to fatigue. Afriyie (2020) argues that lack of balanced contribution among colleagues in the workplace elicits injustice perceptions leading to an increased burden on other care providers, which negatively affects staff motivation and could cause work-related stress. Colleagues who undermine the work of their fellow care providers, especially those working in the frontlines and encountering challenges experience behavioral changes that cause work-related stress. The relationship between colleagues in the hospital was investigated to determine its contribution to mental health and wellness among nurses.

Colleagues in the workplace determine how their fellow workmates perform their duties and deliver expected outcomes. Working relationships among nurses are long termed as crucial determinants of the overall performance and wellbeing of nurses. Negative workplace relationships are associated with poor work output and reduced performance. Tran et al. (2018) investigated how workplace relationships including positive employees' behavior affect their performances. According to Wei et al. (2018), nurses are more likely to perform well in a healthy work environment because apart from being safe, it empowers them to carry out their duties with a lot of satisfaction. The study by Tran et al. targeted nurses in Vietnamese hospitals. Tran and colleagues' study applied an integrated model to identify primary performance drivers of nurses. A questionnaire survey was administered to 303 nurses from selected hospitals in Vietnam and a structural equation modeling approach applied to research the population. Outcome from the study discovered a positive workplace connection increases the performance of workers by improving their commitment to duties, increased perception of social impact, and decreased reports of job stress. Also, the relationship between other leaders and senior members of staff has a similar effect (Tran et al., 2018). The findings above were essential in determining the influence of colleagues in nurse psychological and social well-being. The studies utilized the secondary research methodologies to collect and analyze data. The method was prone to validity issues because of overreliance on non-validated data creating a lacuna in the methodology. To address the lacuna, the current study used primary research and tested the reliability and validity of all instruments used to collect data.

The behavior of colleagues in the workplace determines the health and well-being of other nurses. The lack of proper training and skills in dealing with some health issues may lead to only a few members being called upon to deal with such issues, which causes fatigue and burnout leading to stress. Nurse shortage is an issue affecting healthcare organizations across the globe and one of the key contributors to burnout among those in the nursing profession. High levels of burnout cause poor service delivery, low compassion, and reduced care quality. Payne et al. (2020) researched on the relationship between burnout and work satisfaction in the nursing profession targeting nurses from South Africa and targeting psychiatric nurses at Cape Town, South Africa. The study used cross-section research with the aid of the Copenhagen Burnout Inventory and a job satisfaction questionnaire. A total of 127 nurses were involved in the study. The outcome from the research showed the majority of nurses' experience burnout because of work-related factors. The burnout leads to low levels of job satisfaction. It was also noted that women nurses are largely affected by work-related burnout than male employees (Payne et al., 2020). With these findings, it is possible to determine predictors within the working environment that contribute to burnout. The study established the contribution of nurse- colleagues' relationship to occupational burnout and its contributions to the psychological well-being of affected nurses. The research utilized an appropriate instrument for determining job satisfaction among nurses. However, the researcher did not test its reliability before releasing it for use in the actual study, which showed a gap in the methodology used.

Also, Tlhako et al. (2025) investigated the impact of workplace relationships, such as nurse-to-nurse, nurse-manager, and nurse-physician interactions, on nurse-reported quality of care and patient safety. Using purposive sampling, the study surveyed 236 nurses across three hospitals in South Africa with validated instruments. Results revealed that positive collegial relationships, especially between nurses and managers, had the greatest positive influence on nurses' perceptions of quality care and safety. Conversely, nurse managers were also reported as the most frequent perpetrators of workplace violence, negatively affecting mental wellness. The study highlighted that positive nurse-physician relationships improved collaboration and reduced adverse events, particularly during the COVID-19 pandemic when teamwork intensified. Personal workplace violence had a more detrimental effect on nurse mental health than physical violence. The authors stressed the urgent need for leadership development and recruitment of relationally oriented

leaders, recommending evidence-based leadership education tailored to local cultures to improve workplace collegiality and nurse wellbeing (Tlhako et al., 2025). Additionally, Arakelian et al. (2023) conducted a meta-synthesis of qualitative studies involving 230 nurses from three continents, exploring what constitutes healthy nurse-colleague relationships. The study identified themes of mutual personal bonds, human warmth, and unconditional support, which fostered a home-like atmosphere at work. Nurses reported that such positive relationships increased meaning in their work and overall well-being by creating trust and friendship. Both studies converge on the critical role of positive interpersonal relationships among nurses in enhancing mental wellness, emphasizing that supportive, respectful, and warm collegial environments are essential for nurse flourishing. However, while Tlhako et al. (2025) focused on the impact of relationships on patient safety and violence, Arakelian et al. highlighted the emotional and existential benefits of collegiality. Together, these studies underscore that fostering healthy nurse-to-nurse relationships is a global imperative to improve both nurse mental health and patient outcomes.

A notable study conducted in northern Uganda's Lango sub-region in 2022 explored chronic stress and coping mechanisms among nurses. Using a cross-sectional design, the study collected data via questionnaires from a representative sample of nurses, though the exact number was not specified. The analysis revealed that marital status significantly influenced nurses' mental wellness, with married nurses experiencing less chronic stress compared to their single, divorced, or separated counterparts. The protective effect of marriage was attributed to enhanced social support, financial stability, and a stronger sense of purpose, which collectively buffered against workplace stressors. The study underscored the importance of social relationships, both within and outside the workplace, in mitigating chronic stress among nurses. However, it did not directly investigate the role of nurse-colleague relationships, highlighting a gap in understanding how peer interactions at work influence mental health in this context (Okello et al., 2023).

Also, interpersonal interactions are found to affect the nurse-colleague relationship in the workplace and the nurses' ability to cope with stress. Moshi & Mushi (2024) investigated experiences and the role of leaders in fostering psychological safety of nurses in a workforce. The aim of the study was to investigate the interpersonal relationships between nurses and the influence of the relationship on nurses' psychological well-being. The study was conducted in Tanzania. A

qualitative study was utilized and data collected using semi-structured interviews with a sample size of 40 nurses. The data was analyzed using thematic analysis to identify main themes. Results showed the psychological safety of nurses was greatly affected by the nurse-colleague relationship. Moshi & Mushi (2024) identified lack of emotional support, mutual respect, and open communication affected the mental wellness of nurses. The article found a supportive leadership and positive interaction between colleagues enhanced job satisfaction and resilience. Findings of the study contributed to this research by identifying elements associated with nurse-colleague relationship and their role on the mental wellness of nurses. However, the study was limited to the use of only one instrument for collecting data and only targeted nurses. The current study filled the gap by collecting data using two instruments, questionnaires and interviews, and targeting both nurses and doctors.

Finally, inter-professional relationships in nursing are known to affect the work performance and output of individual nurses. Koech et al. (2020) investigated the effect of inter-professional collaborative practice and education towards preparing health workers in managing workplace challenges. The study aimed at determining professional-related features affecting nursing collaboration in the workplace. The study targeted nurses from Nakuru County, Kenya. The research collected data using a cross-sectional survey with a sample of 146 nurses selected using a multi-stage sampling technique. The outcome from the research revealed professional-related factors have a positive impact on the level of collaboration among healthcare workers. The results also showed poor inter-professional collaboration could cause inter-personal challenges that affect the delivery of care (Koech et al., 2020). The findings above helped to understand how collaboration between nurses could affect their mental status. However, the study did not focus on the mental wellbeing of nurses. As such, there was a gap in the methodology for using the quantitative approach and collecting data from nurses only without triangulating the information by considering opinions of doctors. This research utilized the outcome to relate it with the mental wellness of nurses.

2.7 Self-Efficacy Effects on Stress Predictors

Self-efficacy is highly applicable in a healthcare setting where nurses work. Much attention was put to study self-efficacy and nurses' work outcome because it acts as a predictor for self-care

management and behavioral change among nurses. The findings emphasize the associations between the self-efficacy and nurses' well-being and the mental health state (Haugan & Eriksson, 2021). According to Alshammari and Alenezi (2023), self-efficacy in nursing defines the individual's ability to adapt to the existing workplace environment by using available resources and ability to counter stress associated with changes in the workplace. As such, the interaction between self-efficacy and wholesomeness of nurses is a key variable to the study of the influence of stress predictors on nurses' mental wellness.

Self-efficacy's impact on mental conditions of nurses has been studied globally to determine its influence on the nurse mental outcome and motivation. Verhaeghe et al. (2023) studied the influence of apparent self-efficacy on mental conditions of nurses with a major focus on the perceived aggression towards patients. According to Verhaeghe and colleagues, nurses are exposed to many instances of aggression that affect their overall work outcome and job effectiveness. The study was conducted targeting Nurses from Belgium where nurse-related factors such as age, gender, quality of life, education levels, and level of training were investigated on the influence of nurses' attitude and self-efficacy leading to intentions and behavior. The target sample consisted of nurses working in nine psychiatric hospitals. Data was collected using self-administered questionnaires. The instruments used were ATABQ, CCPIA, and ProQoL to measure attitude, self-efficacy, and professional quality of life respectively. A correlation between perceived self-efficacy and mental health of nurses was established from the study results. Female nurses and those with less experiences recorded more instances of aggression that affected their level of perceived self-efficacy. Other factors such as burnout, compassion, satisfaction, and traumatic stress accounted for perceived self-efficacy that resulted in mental health problems (Verhaeghe et al., 2023). Findings above played a key role in evaluating the influence of self-efficacy on mental wellness of nurses. The study instruments and tools used in the reviewed study contributed a lot towards testing the variable, which was considered in the current study.

Nurse motivation is another indicator of the self-efficacy of nurses. The level of motivation achieved by a nurse in their workplace influences the stress levels. Kohnen et al. (2024) studied the above relationship targeting nurses from Belgium. The study investigated the effect of leadership behaviors on work-related wellbeing of nurses using workplace motivation as the main

element. A Job Demands-Resources Theory and the Self-Determination theory were utilized to study the phenomenon. Data was collected using surveys with a total of 117 nurses taking part in the data collection. Nurse stress levels were measured using burnout and work engagement while the intrinsic motivation scale was used to determine levels of motivation (Kohnen et al., 2024). The findings revealed an engaged leadership contributes to an enhanced well-being leading to increased work engagement. Irrespective of job demands, highly motivated nurses' record increased work output showing reduced levels of stress and anxiety. The outcome was utilized to determine the connection between the nurse motivation and mental wellness. The lack of additional set of participants such as doctors to increase the scope of the study showed a gap in the methodology. In this study, doctors were included to help collect additional information for triangulation purposes.

The influence of self-efficacy on mental wellness of nurses has been studied in relation to the Covid-19 pandemic. Li et al. (2023) investigated the influence of self-efficacy of nurses after the outbreak of the Covid-19 pandemic. According to Li et al. (2023), the Covid-19 pandemic increased the rate of mental conditions among healthcare workers; hence, the need to study their work outcome and motivational levels after the pandemic. The research explored the rate of self-efficacy, depression, and anxiety on nurses two years after the Covid-19 pandemic. The study targeted 552 nurses from Wuhan, China. The study utilized a qualitative research approach using a cross-sectional study design. Questionnaires were used as instruments for data collection. Measures used to study the problem were the Connor Davidson Resilience Scale (CD-RISC), the 7-item generalized anxiety disorder, 9-item patient health questionnaire, and the generalized self-efficacy scale. Findings from the study revealed nurses in Wuhan China underwent a significant period of strain during the Covid-19 pandemic that led to an increase in the level of stress, depression, and anxiety that affected their self-efficacy during the time of the study. It was determined that stress and professional burnout during this period caused negative outcomes on nurses that contributed to a rise in mental health problems. More than 80% of nurses showed a high level of self-efficacy that positively affected their resilience at work (Li et al., 2023). The outcome from the study implied that self-efficacy was a major determinant of mental wellness of healthcare workers and could be studied as an influence of stress among nurses. The study, however, did not test the validity and reliability of instruments used. The current study used content

validity to enhance validity of the study and the Cronbach Alpha coefficient and piloting to test the reliability of instruments.

One indicator of self-efficacy is the work-life balance. Work-life balance has a major impact on the performance of nurses, which eventually influences their stress. Mahendran et al. (2019) while studying the effect of the balance between work and life on burnout of nurses in India revealed nurses experience much burn-out with the absence of programs to strike a balance between workplace roles and home duties. In investigating this variable, Xiao et al. (2023) conducted a study to determine the impact of work-life balance on the psychological well-being of nurses. The study investigated effects of work-life balance programs on the well-being of Chinese nurses. Responses from 211 nurses collected between September and October 2022 were utilized and data analyzed using the PROCESS Model 5. Results showed work-life balance programs have a positive impact towards improving psychological well-being of nurses. The role of work-life balance on the mental wellness of nurses helps to support the influence of the physical workplace environment and organizational predictors of stress. The research used questionnaires to collect data, but it did not provide a method of testing the validity and reliability of tools used. The current study identified methods of testing validity and reliability of questionnaires as instruments for collecting data.

In addition, work-life balance as a predictor of nurse self-efficacy has an influence on how nurses relate with colleagues as studied by Rehman et al. (2024). The authors used a comprehensive cross-sectional study in Pakistan involving 578 nurses across 27 hospitals and the study demonstrated that better work-life balance significantly improves nurses' mental health, primarily through enhancing psychological capital such as resilience, optimism, self-efficacy, and job satisfaction. Using validated scales and advanced statistical modeling, the study found that psychological capital and job satisfaction sequentially mediate the relationship between work-life balance and mental wellness, highlighting that nurses who manage their work and personal lives effectively tend to develop stronger coping resources and greater job fulfillment, which protects against stress and burnout (Rehman et al., 2024). In support of these findings, a study by Hassmiller & Wakefield (2022) targeting nurses in USA emphasized that nurses' demanding schedules, emotional labor, and staffing shortages often disrupt work-life balance, leading to increased stress, emotional

exhaustion, and decreased engagement. The article recommended practical strategies such as flexible scheduling, peer support, and self-care to maintain equilibrium, reduce burnout, and improve retention. It also stressed that positive nurse-colleague relationships foster a supportive environment that buffers work stress and promotes positive work-life balance, which enhances good mental wellness (Hassmiller & Wakefield, 2022). Both studies converge on the idea that work-life balance and collegial support are interlinked protective factors for nurses' psychological well-being across diverse healthcare settings. Gaps in data collection were observed in both studies where one instrument for data collection was used and there were no validated scales. The current study filled the gap by utilizing more than one instruments and conducting a piloting to test the reliability of study instruments.

Saleh et al. (2022) conducted a quantitative correlation study in Jordan to examine how structural and psychological empowerment predicts nurses' work motivation and occupational mental health. Using self-report questionnaires with 200 registered nurses, they found moderate structural empowerment but low psychological empowerment. Both empowerment types strongly correlated with increased work motivation and inversely with occupational stress, implying that empowerment reduces mental health strain and boosts motivation. However, the study's reliance on self-reported data and cross-sectional design limits causal inferences. The impact of clinical work environment variables on nurse motivation and well-being was also examined by Kohnen et al. (2023) in Belgium using a large cross-sectional survey of 1,729 nurses. They discovered that the relationship between job demands and resources and engagement or burnout is mediated by intrinsic drive. The significance of supporting environments for mental wellness was highlighted by the fact that job resources increased motivation and decreased burnout. The cross-sectional design, however, limits our comprehension of the temporal dynamics of motivation and wellbeing.

Self-efficacy is a major determinant of human behavior in a workplace set up. Mangi et al. (2019) conducted a study to establish roles played by self-efficacy towards influencing behaviors of humans in terms of achieving goals and desired levels of performances. The research used a review of literature to carry out the investigation while targeting nurses in South Africa. The review of literature was done from major libraries including EBSCO, Google Scholar, PubMed, Psych, Medline, and BIOMED. A total of 278 articles were identified out of which 22 were eligible.

Among the papers analyzed, the findings showed self-efficacy helps in predicting performance and motivation among individuals. It was noted that the majority of healthcare organizations in Africa lack support, mentorship, and training programs capable of exposing nurses to clinical practice that negatively affect their self-efficacy (Mangi et al., 2019). The association between self-efficacy and performance was emphasized in the paper. However, authors did not study the impact of self-efficacy on mental wellness. In this study, the effects of self-efficacy on mental wellness of nurses were investigated. The outcome was useful in determining the connection between self-efficacy, motivation, and mental wellness of nurses in the current study.

Also, Ugwu et al. (2020) studied how work-life balance affected efficiency of nurses and contributed to stress and mental health conditions of nurses. The study established a link between self-efficacy, stress and burnout on nurses and how this affects efficiency. The target participants for the research were nurses from Nigeria. A total of 170 nurses took part in the data collection with a 22-item Burnout Inventory and 10-item Generalized Self-Efficacy scale used as instruments for collecting data. Study outcome did not reveal any association between emotional efficacy and role-based stress as predictors of nurses' exhaustion. However, it was shown that self-efficacy reduces a component of burnout through influencing feelings of personal accomplishment. Also, self-efficacy determined the level of emotional exhaustion. Findings above contributed towards studying the influence of self-efficacy on wholesomeness of nurses by bringing out an interaction between self-efficacy and emotional exhaustion (Ugwu et al., 2020). Emotional exhaustion acts as a key factor that determines stress on individuals. The study; however, utilized quantitative approach only and therefore failed to bring out the lived experiences of the respondents through some qualitative mode of inquiry. A combination of questionnaires and interviews was used in this study for triangulation and richness of the findings.

Also, studies on work-life-balance on the self-efficacy of nurses and resulting mental health outcome have been conducted across Africa. Mogapi et al. (2023) conducted a qualitative study in Botswana to find out how colleagues' support and teamwork promote positive work-life-balance. Nurses reported that positive relationships with colleagues created a sense of belonging and emotional safety, essential for coping with high workloads and challenging patient interactions. However, systemic issues such as understaffing and limited resources often strained these

relationships and disrupted work-life balance, exacerbating stress (Mogapi et al., 2023). A Nigerian study highlighted that nurses experiencing poor work-life balance due to long shifts and family demands reported higher burnout and psychological distress. The study emphasized that supportive nurse-colleague relationships and organizational policies facilitating work-life balance are critical to improving nurses' mental wellness. Yet, gaps remain in implementing sustainable interventions addressing these factors in African healthcare contexts (Okeke & Umeadi, 2022). The findings suggest that strengthening collegial bonds and promoting work-life balance are vital strategies to enhance nurses' mental health. The studies mentioned above had gaps in the methodology because the authors relied on quantitative data. The current study filled this gap by integrating both quantitative and qualitative study approaches.

In the East African region, the influence of work-life balance on the work performance and stress levels among nurses has been widely studied. Obina et al. (2024) determined factors contributing to the perceived work-life balance in their research. According to the article, work-life balance determines career satisfaction and growth among professionals and is a key tool for managing burnout. A quantitative research design was used. Data was collected from 384 nurses selected randomly from hospitals in Gulu District, Uganda. The outcome showed a positive work outcome and performance from nurses working in environments that promoted a positively perceived work life balance (Obina et al., 2024). The outcome implied that a helpful work-life balance reduces burnout levels leading to low levels of stress among nurses. The findings above assisted in identifying how the variable influences the predictors of stress and the associated mental wellness of nurses. The research used quantitative research approach which was not adequate to test the study hypothesis. As such, a combination of the qualitative and quantitative study was recommended.

The impact of nurses' motivation on the work output on mental wellness of nurses has been studied in the African context. Chikobvu & Harunavamwe (2021) while studying the possible interaction between workplace incentive and work engagement of nurses showed emotional intelligence is an element that determines the level of performance among nurses. The study aimed at predicting values of emotional empathy and their roles in work commitments among nurses. The target participants were nurses from South African healthcare centers. A total of 355 nurses were

investigated and data collected using questionnaires. Results showed a direct influence of emotional empathy on work commitment. It shows that highly motivated nurses perform higher compared to low motivated nurses. Also, motivation allows nurses to cope with stress leading to a positive mental wellness (Chikobvu & Harunavamwe, 2021). Although the study had a good representation of the target population and used an effective approach, the lack of specific tools to measure the emotional intelligence levels limited the validity of data collected. The gap was addressed by using validated tools for designing questionnaires and testing their reliability using a pilot study.

Nabunya et al. (2024) research also points to the significant influence of work-life and balance, nurse motivation and nurses' mental wellness. A qualitative study in Uganda involving psychiatric nurses found that poor work-life balance due to irregular shifts and emotional demands contributed to anxiety and emotional fatigue. Nurses emphasized that strong collegial support, including mentorship and peer communication, helped them manage stress and maintain job satisfaction. However, challenges such as limited staffing and hierarchical workplace cultures often hindered these supportive relationships, negatively impacting mental health (Nabunya et al., 2024). Similarly, a Tanzanian study highlighted that nurse leaders who fostered psychological safety and teamwork reduced burnout and improved mental wellness among nursing staff. The study recommended leadership training and organizational reforms to promote work-life balance and collegial support as integral to sustaining nurses' well-being (Moshi & Mushi, 2024). These studies underscore that in East Africa, enhancing nurse-colleague relationships alongside work-life balance initiatives is crucial to addressing mental health challenges in nursing.

The influence of self-efficacy on nurses' mental health has been investigated in the Kenyan context. Maina et al. (2019) studied the role of perceived self-efficacy as an individual approach for the prevention of suicide among nurses working in emergency departments. The study targeted nurses working in emergency departments at Kenyatta National Hospital with the goal of investigating the hospital's readiness in identifying, assessing, and managing health issues among nurses. Questionnaires aided in data collection, with Risk Assessment and Management Self efficacy Scale utilized. Study results showed low levels of risk management in the hospital leading to emergency department nurses recording below average self-efficacy leading to high levels of suicide (Maina

et al., 2019). Results imply that self-efficacy determines the cognitive ability of a person and may lead to perceived stress that makes one contemplate suicide. However, the study respondents were drawn from one hospital leading to few numbers of nurses taking part in the data collection. The gap will be addressed by targeting nurses and doctors from two hospitals. Also, Abo-Ali et al. (2021) while studying the role of self-efficacy on mental conditions of nurses and targeting nurses from Kenyatta University Hospital established a direct influence of self-efficacy and mental wellbeing of nurses in critical care departments being affected most.

The role of work motivation on the efficiency of nurses has been investigated in the Kenyan context. Mulinge (2017) investigated the effect of work-life balance on the work output. According to Mulinge (2017), employee engagement to their workplace is a concept that is highly studied because it determines their work output. In her study, the author sought to determine how having a work-life balance affects the performance of a nurse. The study targeted nurses from Kenyatta Hospital in Kenya. A total of 125 nurses participated and the author used quantitative research approach to collect data that was analyzed using a descriptive data analysis. Results indicated that work-life balance as indicated by working hours, work schedule, workload, and working environment affects the performance of nurses in their working areas. Lack of work-life balance was seen to have a negative impact on other factors such as motivation and nurses' health. The study used the quantitative research to collect data using questionnaires. However, the method was limited to a small sample size used in comparison to the total population of nurses in the target hospital. The current study utilized a sample size of 253 nurses that is large enough to represent the entire targeted population.

2.9 Research Gaps

The outcome from the review of literature identified the following research gaps. One of the gaps revealed from the literature were on the research methodologies. Majority of the studies reviewed relied only on the quantitative methodological approach. The approaches were limited to gathering data from surveys and questionnaires leading to less comparison of results. In the current study, the gap was filled by having both quantitative and qualitative approaches used. The questionnaire data collected was supported by the qualitative data from interviews. The literature also identified gaps in the study population. Whereas the studies made significant efforts establishing the state of

mental wellness of nurses and the role of stress predictors, most collected data was from nurses and it left doctors out whose role in nurse health is paramount. To fill this gap, the current study collected data from both nurses and doctors. There were also gaps in the target population where some sources targeted limited number of participants while others targeted participants from a single health organization. The gap was filled in the current study by targeting participants from two level 5 hospitals, Embu Level 5 and Chuka County Referral Hospitals. The literature also found gaps in the design of data collection instruments. Studies that used surveys lacked accompanying instruments to design the questionnaires affecting the reliability of the data collected. The current study filled this gap by using different scales such as the NIOSH Worker Well-being questionnaire, PCL-5, DASS-21 and GSE. Finally, the study found gaps in the use of theories. Most studies lacked theories to help in testing the hypotheses. In this study, two theoretical models were used to support the hypotheses testing.

2.10 Theoretical Framework

This section identifies and discusses theories used to guide the study. The study was anchored on two theories namely; The Therapeutic Engagement Stress Theory (TEST) theory and the Person Environment (PE) Fit theory.

2.10.1 Therapeutic Engagement Stress Theory

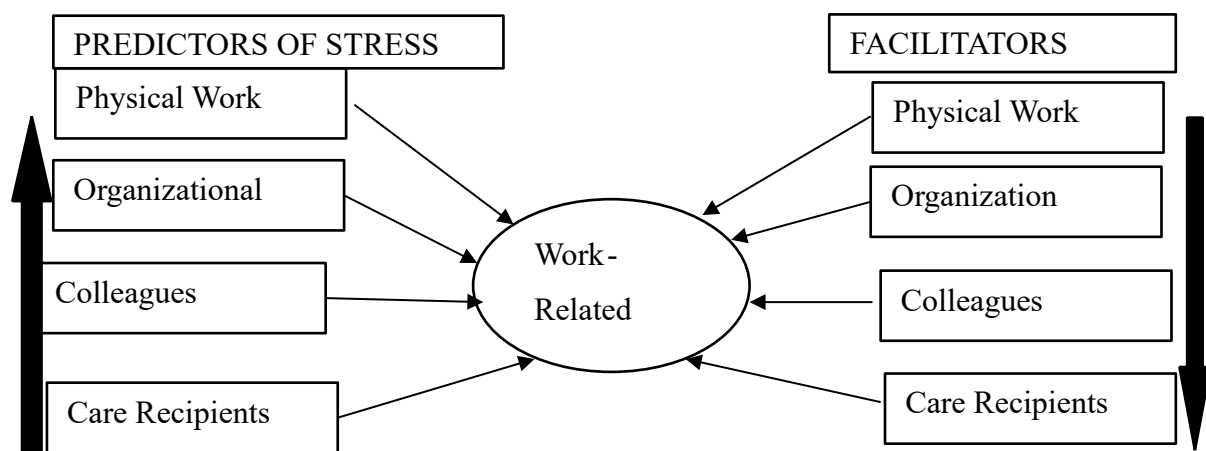
The TEST model was introduced by Rippon, Andrew, Michael and Mark in 2020 to illustrate the role of perceived capacity of a therapeutic engagement with a person exhibiting challenging behavior in influencing healthcare workers stress heights. The TEST model plays a key role in identifying main predictors of stress that influence a nurses' capability to successfully deliver standard and prudent care in public health hospitals. According to Sonmez et al. (2023), the TEST model establishes a support mechanism for reducing work-related stress predictors. The model related to study variables by understanding their influence on the mental wellness of nurses. The TEST model helped to identify how variables within the healthcare environment such as physical working environment, organizational factors, nurse relationship with colleagues and care recipient

attitude towards nurses affect mental wellness of nurses. The interaction informed strategies and interventions for supporting nurses in delivering interventions capable of assisting care recipients (Rippon et al., 2020).

The TEST model was significant in investigating the influence of predictors of stress on mental wellness of nurses in Embu and Tharaka Nithi counties in Kenya. The theory helped in studying study variables namely the physical work environment, organizational factors, care recipients' attitude towards nurses, nurse colleague relationships and self-efficacy as a moderation variable on the predictors of stress. The benefits of selecting the TEST model for the study was because it demonstrated how perceived therapeutic capacity to participate with individuals displaying behaviors that challenge their work output demonstrates the level of stress experienced by a medical provider, the nurse. The main drawback of the model was the inability to offer diversified views on facilitators of stress as it only provided a repetition of the identified predictors. Also, it failed to demonstrate the relationship between variables and to elaborate how specific predictors contribute to stress through their interaction. It also did not show the influence of the moderating variable on dependent variables. The limitations above were addressed by the PE fit theory.

Figure 2.1

The Therapeutic Engagement Stress Theory (TEST) model



The TEST Model is a framework for identifying the relationship between predictors of stress and the facilitating factors from (Source: Sonmez, Makarovs, & Allum, 2023)

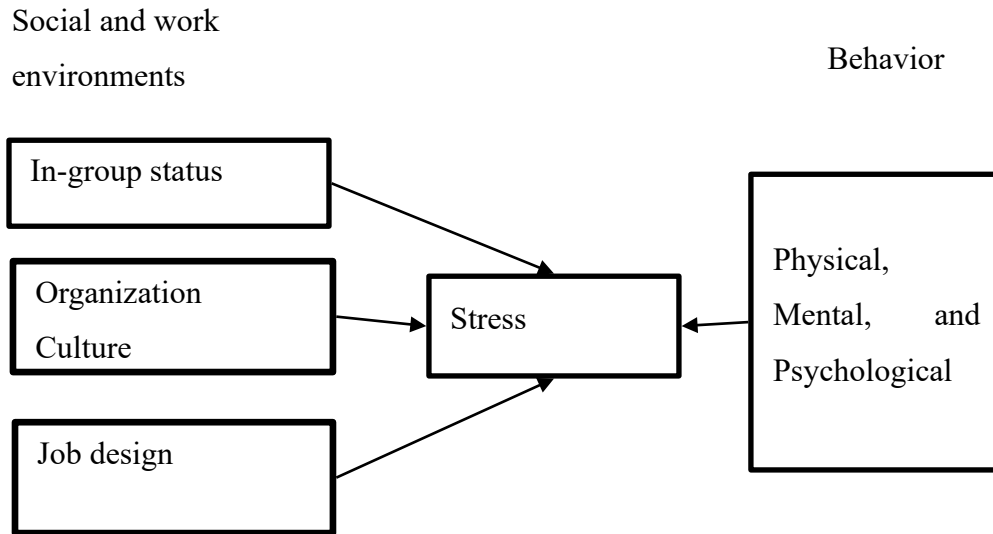
2.10.2 The Person-Environment Fit Theory

The Person-Environment (PE) Fit theory acted as a theoretical framework for testing the influence of predictors of stress on mental well-being of nurses. The PE fit theory falls under theories of stress developed by Kurt Lewin in 1909; and is very influential in identifying predictors of stress in a population. The theory was developed to describe the relationship that exists between a person and their environment. The study variables associated with the model are self-efficacy and worklife balance. According to Holmbeck et al. (2008), social and work environments, in-group status, organizational culture, and job design play a distinctive role in influencing an individual's behavior. The theory also adopts a person-centered, differentiated viewpoint, which claims that variations in traits like intelligence, personality, work motivation, or emotions account for behavioral variations in individuals. The theory relates to study variables namely the physical working environment, the organizational predictors, and care recipients' attitudes towards nurses, the nurse-colleagues relationship and self-efficacy.

The PE Fit theory was selected to guide the study objectives because it assists in identifying how an individual relates with the environment. The interaction between the environment and the individual affects their behavior, motivation, mental, and physical wellbeing. The more optimal the Person-Environment relationship is, the better the physical, mental, and psychological functioning of the person. Catabay et al. (2019) argued that the impact of stress on mental wellbeing of a person depends on resources within the internal and external environment of an individual. Also, Hish et al. (2019) argued that stress limits the sense of mastery in an individual putting them at risk of unfavorable outcomes such as depression. The PE fit theory played a vital role in this study by helping understand different sources of stress and their association with mental wellness of a person by identifying the relationship between self-efficacy of nurses and work-life balance, and mental wellness of nurses.

Figure 2.2

The relationship between a person and the environment



The P-E Fit theory aims at determining how the interaction between the environment and the individual affects their behavior, motivation, mental, and physical wellbeing (Source: Catabay et al., 2019).

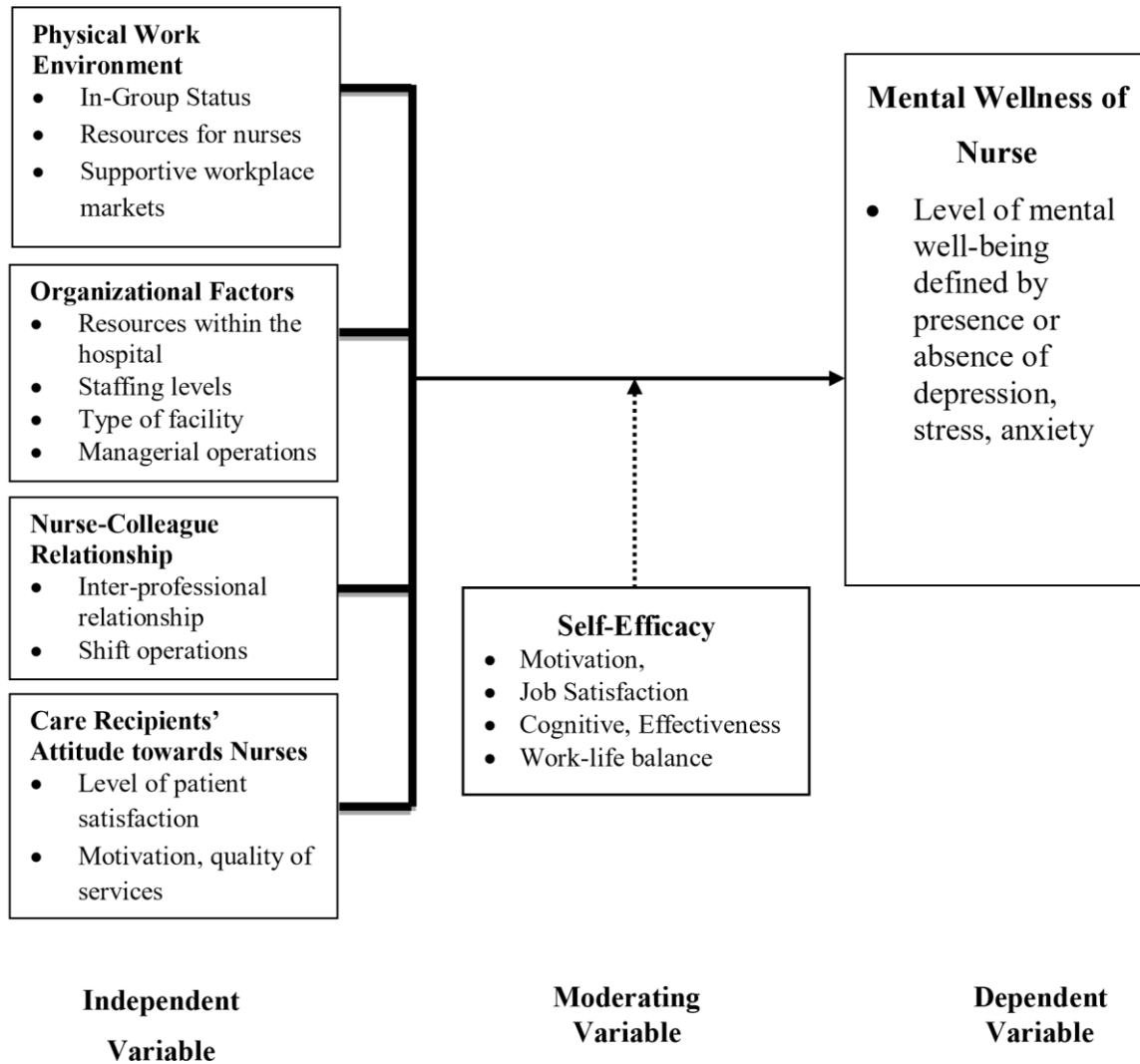
2.11 Conceptual Framework

The Therapeutic Engagement Stress Theory model helped in developing the conceptual framework for the study. The model identifies dependent, independent, and moderating variables. The identification of variables aided in creating the conceptual model. The dependent variable for the research was mental wellness. Mental wellness was selected as the dependent variable because its prevalence is determined by the presence of independent variables. The independent variables were; the physical work environment, organizational factors, nurse-colleagues' relationship, and care recipients' attitudes to nurses. Self-efficacy was the moderating variable of the study. Figure 2.3 shows the interaction between the study variables. The self-efficacy was measured with respect to work-life balance, workplace motivation, Job Satisfaction and Cognitive Effectiveness. The moderating variables influence how dependent and independent variables interact. The presence of one or more moderating variables influences the level of interaction between the dependent and independent variables.

Figure 2.3

Conceptual model of the relationship between Stress Predictors and Mental Wellness of Nurse

Stress Predictors



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The successive chapter describes the methodology used in the study to help achieve the objectives and to test research hypotheses. The main sub-sections covered were; research design, research philosophy, location of the study, target population, sample size and sampling procedure, data collection procedures, validity and reliability of instruments, data collection procedures, data analysis, and ethical issues.

3.2 Research Design

Descriptive research design was of great importance in this study. According to Ng (2011), a descriptive research design aims at describing how an independent variable affects a dependent variable to provide systematic information about a phenomenon. The hypotheses developed were tested upon analysis and synthesis of data collected. The importance of descriptive research design is found in its capacity to offer thorough and impartial explanations of social phenomena, which are necessary for well-informed policy and practice decisions. Researchers and practitioners can identify new trends, create hypotheses, and create focused interventions by using descriptive studies to precisely capture the current situation (Creswell & Creswell, 2018). Also, its methodological adaptability makes it possible to incorporate many data sources, which improves the breadth and depth of comprehension in intricate social contexts (Babbie, 2020). As such, descriptive research was very relevant for this research as it offered direction and clarity for both applied and theoretical study.

Descriptive research is widely applied in the study of behaviors and characteristics of healthcare providers and assists in determining patterns of mental health among populations (Paarima et al., 2025). The design was useful in this study because it aided in providing detailed and accurate picture of the behavior and characteristics of the nurses in regard to their mental wellness status. Also, Kumar (2019) carried out a demographic study that looked at how desert villages managed their water resources and the study employed descriptive methods to record behaviors and community traits without trying to identify underlying causes. This supplied crucial baseline information that influenced resource allocation plans and environmental policies (Kumar, 2019).

Similarly, voter demographics, preferences, and turnout trends have been captured through descriptive survey research on voting behavior during democratic elections in America, providing crucial information for political analysis and campaign strategy (Neuman, 2014). Research on teenage internet news consumption is another noteworthy example. It used descriptive techniques to pinpoint popular platforms and usage patterns, which helped create media literacy initiatives aimed at young audiences (Livingstone & Helsper, 2007). These papers demonstrate how descriptive research builds the basis for subsequent explanatory research and useful treatments.

Cantrell (2011) noted descriptive research design plays a crucial role in enhancing the observation of behaviors in their natural settings that helps to gain an insight to real-life situations. In this study, the descriptive research was useful in assisting the researcher study behavior in a population as it took place in their daily life. The outcome from the data collected and analyzed helped to gain a deep understanding of how variables influence each other and offered an effective insight that informed a direction for future studies. In addition, the descriptive statistics assisted in validating the sampling procedure by identifying the correct sample for the study. Descriptive study design was selected because it is cost-effective and takes less time to gather and analyze data (Creswell, 2014).

3.3 Research Philosophy

The study used the positivism research philosophy. Positivism, which has its roots in Auguste Comte and was expanded upon by Émile Durkheim, holds that social phenomena may be comprehended by employing empirical techniques to uncover underlying laws and causal links. In order to guarantee impartiality, dependability, and generalizability in social research, this philosophy places a strong emphasis on the application of quantitative data, scientific observation, and hypothesis testing. In order to gather data that can be statistically examined and identify trends and causal relationships in social behavior free from researcher bias, positivist researchers usually use organized techniques like surveys and experiments. According to Park et al. (2021), the positivism research philosophy uses objective observations and measurements to identify causal relationships between variables.

The philosophy was selected because it aligns well with the descriptive research design. Descriptive research entails methodically monitoring and characterizing traits or phenomena without changing variables. It provides information on the what, where, when, and how of social occurrences, but it doesn't address the reasons behind them. This design is very useful for investigating new topics, recording existing circumstances, spotting issues, and developing research ideas. There are two types of descriptive research: qualitative, which uses observations and interviews to give context and meaning, and quantitative, which uses surveys and statistical analysis. In order to prevent participant manipulation, it is usually cross-sectional and is carried out in natural environments (Cresswell, 2014).

The positivism research philosophy was the most relevant for this study because it helped to determine the interaction between independent and dependent variables. Émile Durkheim's groundbreaking study on suicide is a perfect illustration of the use of positivism philosophy. Durkheim linked social characteristics like gender and religion to differences in suicide occurrence by analyzing suicide rates across various social groups using descriptive and comparative methodologies. His work established the methodology for sociology by demonstrating how social realities might be investigated and forecasted objectively. Because it offered empirical support for the idea that social phenomena might be described in ways other than individual psychology, the descriptive design was important and influenced subsequent sociological study and policy (Durkheim, 1897). The application of positivism in social studies was brought to light by consumer choice market research surveys. Surveys that characterize customer behavior, tastes, and purchasing patterns are used in business-related social science research to give businesses useful information for customizing goods and advertising campaigns (Blainy, 2025). Because it aids decision-making without the need for experimental intervention and captures actual consumer patterns, this descriptive research design is important. Also, the study used a quantitative research approach as the main design that fits with the philosophy. Park et al. (2021) argue that the positivism philosophy aligns with the deductive approach. The current study utilized the deductive method to analyze the qualitative data, hence, the reason for selecting the philosophy.

3.4 Location of the Study

The locations of the study were Embu and Chuka Level 5 hospitals, Kenya. Embu Level 5 hospital is located in Embu County, Kenya. Embu County is the County number 14 in Kenya occupying an area of 2,821 square Kilo meters (KM²). The main counties adjacent to Embu County are Kitui County to the West, Kirinyaga County to the East, Machakos County to the South, and Tharaka Nithi County to the North. It has a population of approximately 600,000 people (Embu County Government, 2023). Embu Level 5 Hospital is located in Embu Town, along Embu-Meru Highway. Chuka Level 5 referral Hospital is located in Tharaka Nithi County. Tharaka Nithi County lies on the foothills of Mount Kenya occupying an area of 2609 KM². It borders Embu County to the South, Kirinyaga and Nyeri Counties to the West, Meru County to the North, and Kitui County to the East. It has a population of approximately 400, 000 people. Chuka County Referral Hospital is situated in Chuka Town (see appendix V).

3.5 Target Population

Kaye et al. (2023) identifies target population as a group of people that a study intends to carry out research on and draw a conclusion from. The target populations for the study were nurses from level 5 hospitals in Embu and Tharaka Nithi Counties in Kenya. Embu County has one level 5 Hospital while Tharaka Nithi County also has one level 5 hospital. Embu level 5 Hospital has for a long time been a provincial referral hospital covering the whole of Eastern Province and this made it a center of interest for the researcher. Also, Chuka level 5 Hospital was elevated to the status of level 5 in 2023, which provoked the interest of the researcher and therefore the choice of the hospital. Both hospitals fall under the level-5 categorization which represents healthcare organizations with largest number of nurses in Kenya. Nurses working in the Level 5 hospital are familiar with plans, policies, frameworks, and regulations guiding their practices, hence, must maintain high levels of professional standards (Ministry of Public Health and Sanitation, 2009). Also, being referral hospitals at the county level, they admit patients with diverse health conditions and from different parts of the county exposing nurses to many complex and demanding health situations that have a significant impact on their mental wellbeing. The hospitals also have more resources compared to other lower-level hospitals hence more services are offered including consultancy making them a good target for the study. The hospitals have doctors who have high levels of experience and have worked with nurses in different settings making them a reliable

source of nurses' health information. The Ministry of Health indicates that Embu Level 5 Hospital has a total of 200 nurses and 30 doctors while Chuka Level 5 Hospital has a total of 180 nurses and 20 doctors as per 2023 statistics (Ministry of Health, 2024). Also, both Embu Level 5 and Chuka County Referral Hospitals were selected because there has been no other study on nurses' mental wellness targeting nurses in the two hospitals based on the literature review conducted and based on other studies cited.

Table 3.1

Population of Doctors and Nurses in Embu and Chuka Level 5 Hospitals

Health Organization	Nurses	Doctors
Embu Level 5 Hospital	200	30
Chuka County Referral Hospital	180	20
Total	380	50

3.6 Sampling Procedure and Sample Size

A purposive sampling technique was used to select sample sizes of doctors from the two hospitals. A purposive sampling helps to select subjects whose characteristics are of great significance towards achieving study objectives (Palinkas et al., 2015). The purposive sampling focuses on identifying information-rich cases that can provide profound insights into the topic under inquiry. The quality and depth of the data gathered are improved by this method, which enables researchers to focus their attention on people or groups with pertinent experiences or knowledge (Creswell, 2014). The rationale for selecting purposeful sampling was the ability to select adequate and relevant sample size. Researchers can collect rich, detailed data that may be overlooked by other sampling techniques by choosing individuals who are very informed or experienced (Patton, 2002). Purposeful sampling is also beneficial since it focuses on particular people, which eliminates the need for big sample sizes and improves resource allocation for researchers. In addition, the approach provides flexibility by allowing researchers to examine different aspects of the phenomenon being studied using a variety of intentional sampling procedures (Patton, 2002).

By revealing a variety of viewpoints that can guide future study directions, this method aids in the formulation of hypotheses (Campbell, Greenwood, & Prior, 2024).

The research utilized the Taro Yamane formula to calculate a reliable sample size for data collection from nurses. The Yamane formula was used because it has been proven by statisticians as an effective formula for calculating the sample size by helping improve levels of accuracy using a reasonable margin error (Adam, 2020).

$$n = N / (1 + N(e)^2) \dots\dots\dots (1)$$

Where;

n represents the sample size N

signifies the study population e

is the margin of error.

A sample size refers to the number of participants included in the study from the target population. The selection of study sample size involved two steps. The first step involved selecting the target population of nurses from level 5 hospital in Embu County and Chuka County Referral Hospital in Tharaka Nithi County. The 200 nurses from Embu Level 5 hospital and 180 nurses from Chuka County Referral Hospital formed the study population. The sample sizes were determined using the Yamane formula for sample size calculation. Assuming a margin error of 5%, $e = 0.05$, the sample size was calculated as follows:

Embu Level 5 Hospital

$$\begin{aligned} n &= 200 / (1 + 200(0.05)^2) \\ &= 200 / (1 + 200(0.0025)) \\ &= 133 \text{ nurses} \end{aligned}$$

$$\begin{aligned} \text{Chuka County Referral Hospital } n &= 180 / (1 \\ &+ 180(0.05)^2) \\ &= 180 / (1 + 180 (0.0025)) \\ &= 120 \text{ nurses} \end{aligned}$$

The study utilized the selected sample size of 133 nurses from Embu Level 5 hospital and 120 nurses from Chuka County Referral Hospital making a total sample size of 253 nurses. The study selected a sample from doctors to collect interview data. The total population of doctors in Embu Level 5 hospital is 30 and Chuka County Referral Hospital is 20 (Ministry of Health, 2015). A convenient sampling procedure was used to select 20% of doctors from each hospital (see eq. 2). Six (6) doctors from Embu Level 5 Hospital and four (4) doctors from Chuka County Referral level 5 hospital were selected to form a sample size of 10 doctors (see table 3). 20% is a good representation of the target population considering interviews do not attract a large sample size.

$$S_n = \left(\frac{20}{100} \right) * n \dots\dots\dots (2)$$

Where n is the study population

Therefore

Embu Level 5 Hospital;

$$\left(\frac{20}{100} \right) * 30 = 6 \text{ Doctors}$$

Chuka County Referral Hospital;

$$\left(\frac{20}{100} \right) * 20 = 4 \text{ Doctors}$$

Table 3.2

Sample Size of nurses and doctors in Embu and Chuka Level 5 Hospitals

Health Organization	Nurses		Doctors	
	Target Population	Sample Size	Target Population	Sample Size
Embu Level 5	200	133	30	6
Chuka county Referral	180	120	20	4
Total	380	253	50	10

3.7 Data Collection Instrumentation

The following part describes the instruments used to collect data for the study. The data collection and instrumentation section play a vital role in research by providing a clear understanding of how the researcher collected data, a process that is fundamental in evaluating the reliability and validity

of data collected (Smith, 2020). Two instruments have been described. These are the questionnaires and interviews.

3.7.1 Questionnaires

The study used online questionnaires targeting nurses from Embu Level 5 and Chuka County Referral hospitals to collect data. The questionnaires were derived from five scales which are; PCL-5, GSE, PMH, NIOSH Worker Well Being Questionnaire and Depression Anxiety Stress Scale -21 (DASS-21). Questionnaires are measurement instruments composed of a set of questions prepared in a careful manner to help determine answers to a study problem (Sari & Gallhofer, 2014). Questionnaires allowed the researcher to ask respondents questions to determine their opinion and perceptions towards the phenomenon under investigation (Creswell, 2014). Closed ended questionnaires were administered online where participants were provided with a list of enumerated alternatives. Online questionnaires were selected because they were cheap to administer and efficient in terms of reaching out to the target sample in a convenient and faster way than when one was to use an interview schedule (Ha, 2022). Also, online questionnaires gathered data from a large sample size within a short time.

Each questionnaire comprised two main parts. The first part of the questionnaire consisted of the participant's demographic features represented using sex, marital status, and the number of years in service as a nurse at the hospital. The second part comprised of main questions that were answered in a Likert Scale style. Five instruments were used to design questionnaires. These are the PCL-5, GSE, PMH and NIOSH Worker Wellbeing Questionnaire and DASS-21. The PCL-5 measures the mental wellness of nurses (Lutz et al., 1998). The scale consists of a 14-item questionnaire that tests the severity of PTSD symptoms in a person. A score of 31 to 70 is indicative of PTSD diagnosis (Blevins et al., 2016). The NIOSH Worker Well-Being Questionnaire tested independent variables; the physical environment, organizational factors, nurse-colleague relationship, and care recipient attitudes towards nurses, and moderating variables which were work-life balance, nurse motivation, and self-efficacy. Also, the Depression Anxiety Stress Scale-21 (DASS-21) scale was utilized in measuring three subscales namely anxiety, stress, and depression among nurses. The scores on each of the subscales were interpreted in terms of normal,

mild, moderate, severe, and extremely severe. Table 3 below shows the interpretation of results in each subscale based on severity.

Table 3.3
DASS-21 Scale Severity Ratings

Severity Level Subscale	Normal	Mild	Moderate	Severe	Extremely Severe
Anxiety	0-3	4-5	6-7	8-9	10+
Depression	0-4	5-6	7-10	11-13	14+
Stress	0-7	8-9	10-12	13-16	17+

In addition, the GSE determined the self-efficacy of nurses using measures such as motivation, job satisfaction, cognitive, and work effectiveness.

3.7.2 Interview schedule

Scheduled face-to-face interviews were used to collect qualitative data from doctors working in Embu Level 5 and Chuka Level 5 referral hospitals. The main rationale for selecting doctors was because they work together with nurses and has the potential of discovering challenges and issues facing nurses in their daily work routines. Therefore, the integration of doctors to the study offered an insight towards predictors of stress that influence nurses' mental wellness in their respective hospitals. Interviews were selected as main instruments for collecting data from doctors because they assisted in extracting deep feelings and attitudes of doctors regarding the issues researched on. Frost et al. (2020) found interviews to be vital type of qualitative research that produces rich data about lived experiences and the construal of life events in social studies. As such, interviews were relevant for this study because they were expected to clarify, help comprehend, and investigate the beliefs, actions, experiences of doctors towards mental wellness of nurses.

3.8 Validity and Reliability of Instruments

3.8.1 Validity

The instruments' validity was tested to determine their effectiveness in collecting the study data. The validity of research instruments was tested using a content validity method. Content validity measures the degree to which an instrument used in the assessment remains relevant and becomes a representative of the target content it is supposed to measure (Creswell, 2012; Rusticus, 2014). Content validity was selected for this study because it allowed the researcher to measure complex constructs such as the mental wellness scores in nurses and measures of independent variables that were difficult to observe directly. Patten (2016) notes content validity helps to assess the ability of instruments to measure key aspects of study variables and establish their relationship with other variables. According to Mahajan (2017), content validity ensures the questionnaires used consisted of quality set of items capable of representing domains of key concepts being measured. In this study, the content validity was selected because it brought out the real usefulness of the instruments in testing key variables and bringing out the specific construct being researched on. The testing of the instruments using content validity started with the conceptualization of the instruments by identifying the constructs in the study in form of components and their dimensions. In this study, the questionnaires were used and the measures of each question identified. The domain of the instrument was then identified. The domain for the study was mental wellness and the key variables measured were physical working environment, organizational factors, nurse-colleague relationship, care recipient attitudes towards nurses, and self-efficacy which was a moderation variable. Finally, the instrument items to be measured were developed and the validity of the content in each item measured and determined. The items tested the ability of research instruments to come up with scores that defined the presence of a stress predictor and therefore defining its validity. In this study, it helped to determine the instruments' abilities to cover all objectives.

3.8.2 Reliability

The study measured the reliability of instruments to help in determining the level of consistency of instruments across different parts of measuring instruments (Punch, 2009). The Cronbach's Alpha test of internal consistency was the most appropriate tool for measuring the reliability of instruments (Taber, 2018). It is an important tool for determining the internal consistency of an instrument especially when using a Likert Scale. The study results generated from piloting of study

instruments had a Cronbach's alpha coefficient value above 0.736, which showed the instruments had a high internal consistency and could be used to measure a similar construct in the main study.

3.8.3 Piloting of Study Instruments

A piloting of instruments aimed at testing the relevance of instruments and tools used in the main study by utilizing a smaller sample of the study. According to in (2017), piloting offers essential information for assessing different aspects of the study by addressing challenges in participant selection and data collection that might affect the outcome of the main study. In this study, piloting was used to test the reliability of instruments. Piloting of the instruments targeted nurses from Kitui County Referral Hospital, in Kitui County. Kitui County Referral hospital has a total of 253 nurses (Centre for Health Solutions, 2022). Nurses were selected randomly to achieve a population's sample size of 15%. According to Daniel (2012), the most convenient sample size for a pilot study should fall between 10% and 20% of the target population. 15% was selected because it falls in the average score in the current study. A sample size of 37 nurses from Kitui County Referral Hospital was selected for the pilot study. Kitui County Referral Hospital was selected for piloting of study instruments because it neighbors both Embu County and Tharaka Nithi Counties, and it was convenient for the researcher hence less costly. The findings from the piloting of study instruments were essential for this study because they helped in identifying trends nurses used to answer the questionnaires. The knowledge assisted in enhancing the distribution of questionnaires to participants in the main study especially through sharing survey links to participants more than once.

3.9 Data Collection Procedure

The researcher collected primary data using online questionnaire surveys and scheduled face-to-face interviews. Before collecting the data, relevant authorizations were collected. First, an introductory letter from KeMU was acquired that authorized the researcher to carry out the study and collect data from the target populations. A research permit from NACOSTI was granted to prove that the researcher was legally approved to carry out research in Kenya. The researcher applied for authorization to collect data from Embu Level 5 and Chuka County Referral Hospitals, with permission granted by the hospital's Chief Executive Officers (CEO). The corresponding

letters granting permission were presented to the researcher to prove the legality of the data collected from both hospitals.

3.9.1 Questionnaire Design

The research utilized questionnaires to collect the quantitative data. Questionnaires act as the most fundamental instruments for collecting data from individuals because they allow researchers to systematically acquire information related to opinions, knowledge, attitudes, and beliefs of the target population on the studied phenomenon (Creswell, 2014). In this study, questionnaires were used because it was possible to gather information from the sample size in a cost-effective manner (Kuphanga, 2025). Also, questionnaires ensure a standardized data collection process and facilitate statistical analysis that builds a causal influence between variables (Sreejesh et al., 2014). The use of standardized data collection items made it possible to establish the influence of independent variables on dependent variable.

Questionnaires were designed using the Qualtrics software. A link was developed and shared with target participants through their social media accounts provided by nursing managers in the two hospitals including emails and WhatsApp accounts. Qualtrics was selected as the software application for designing questionnaires because it helps to create surveys in real time with effortless collaboration and develops a link that is easily shared to the sample size. Contacts from sample participants were collected during the participants' recruitment. The researcher visited each of the hospitals to gather the list of nurses and doctors after getting an approval to carry out the research from the KeMU research ethics board (Appendix VI and Appendix VII). And through the nursing managers from the two hospitals, the researcher was able to get contact details of the nurses. The list of doctors was given from the human resources office. The selected participants were requested to allow their nursing manager to share their cell phone numbers and also give their consent to participate in the data collection exercise. The researcher sent the link to questionnaire participants using the contacts provided. The link was open for a month in order to give each participant a chance to respond since some participants did not get to access the questionnaires on the same day.

3.9.2 Interview Design

Scheduled face-to-face interviews were administered to the doctors to collect qualitative data. Face-to-face interviews are appropriate in qualitative research because they allow the researcher gather rich and detailed information about the participant regarding the phenomenon under investigation. Rutledge & Hogg (2020) notes face-to-face interviews offer an interactive and dynamic platform to collecting data through direct engagement with the participant. The interviews create an environment that allows the participant to uncover hidden issues leading to more detailed results. Also, the researcher captures wealthy information through actions and behaviors of the participant through the face-to-face interviews.

Interviews were conducted on doctors from Embu Level 5 and Chuka County and Referral hospitals. In cases where a doctor was not available when the researcher visited to carry out the interview, an appointment was booked for when the participant was to be available. The researcher took a month to collect interview data. Participants were free to select a day within this period when they were to be available for the interview. All participants availed themselves for face-to face interviews and took part in the interviewing process.

3.10 Data Analysis

The study collected both quantitative and qualitative data.

3.10.1 Quantitative Data Analysis

The data was checked for completeness and accuracy through data cleaning. Data was then coded and entered into Statistical Product and Service Solutions (SPSS) version 27. The quantitative data obtained was analyzed using descriptive and inferential statistics. Descriptive statistics include frequencies, percentages, means, and standard deviations. For inferential statistics, Pearson correlations and multiple linear regressions was used to test the research hypotheses at 5% significance level. The study used Pearson's product moment correlation to explore the relationship between stress predictors (care recipients' attitude towards nurses, physical work environment, nurse-colleague relationship, organizational factors and self-efficacy) on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.

To test hypothesis H0₁: There is no statistically significant influence of physical work environment on mental wellness of nurses in Embu and Tharaka Nithi Counties, Kenya; simple regression analysis was used. The simple regression equation was modeled as:

$$Y = \beta_0 + \beta_1 x_1 + \varepsilon \dots\dots\dots (3)$$

Where:

- Y = Mental Wellness of Nurses
- β_0 = Y intercept.
- β_1 = Regression coefficient.
- x_1 = Physical Work Environment
- ε = Error term.

To test hypothesis H0₂: There is no statistically significant influence of organizational factors on the mental wellness of nurses in Embu and Tharaka Nithi Counties, Kenya; simple regression analysis was used. The simple regression equation was modeled as:

$$Y = \beta_0 + \beta_2 x_2 + \varepsilon \dots\dots\dots (4)$$

Where:

- Y = Mental Wellness of Nurses
- β_0 = Y intercept.
- β_1 = Regression coefficient.
- x_1 = Organizational Factors
- ε = Error term.

To test hypothesis H0₃: There is no statistically significant influence of nurses-colleague relationship on mental wellness of nurses in Embu and Tharaka Nithi Counties, Kenya; simple regression analysis was used. The simple regression equation was modeled as:

$$Y = \beta_0 + \beta_3 x_3 + \varepsilon \dots\dots\dots (5)$$

Where:

- Y = Mental Wellness of Nurses
- β_0 = Y intercept.
- β_1 = Regression coefficient.
- x_1 = Nurse-Colleague Relationship
- ε = Error term.

To test hypothesis H04: There is no statistically significant influence of care recipients' attitudes towards the nurses on the mental wellness of nurses in Embu and Tharaka Nithi Counties, Kenya; simple regression analysis was used. The simple regression equation was modeled as:

$$Y = \beta_0 + \beta_1 x_1 + \varepsilon \dots\dots\dots (6)$$

Where:

- Y = Mental Wellness of Nurses
- β_0 = Y intercept.
- β_1 = Regression coefficient.
- x_1 = Care Recipients' Attitudes towards Nurses
- ε = Error term.

To test hypothesis H05: There is no statistically significant moderation effect of self-efficacy of nurses on the relationship between stress predictors on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya; hierarchical regression analysis was used. The hierarchical regression equations are modeled as:

$$Y = \beta_0 + \beta_1 \sum x + \varepsilon \dots\dots\dots (7)$$

$$Y = \beta_0 + \beta_1 \sum x + \beta_2 \sum z + \varepsilon \dots\dots\dots (8)$$

$$Y = \beta_0 + \beta_1 \sum x + \beta_2 \sum z + \beta_3 xz + \varepsilon \dots\dots\dots (9)$$

Where:

- x = Stress Predictors (composite of x_1 = Physical Working Environment; x_2 = Organizational Factors; x_3 = Nurse-Colleague Relationship and x_4 = Care Recipient's Attitudes towards Nurses)
- z = Self-Efficacy
- $\bar{x}z$ = Product of Stress Predictors and Self-Efficacy

3.10.2 Diagnostic Tests

The data collected was subjected to various diagnostic tests to ensure adherence to the assumptions of regression analysis, thus providing an accurate and reliable prediction of the relationship among the variables. The diagnostic tests included tests for normality, linearity, autocorrelation, heteroscedasticity and multicollinearity. Before using Ordinary Least Squares (OLS) regression,

error term must be normally distributed (Goyal & Jegadeesh, 2018). The current study tested the normality of error terms using Histograms and Normal P-P plot.

Multiple linear regressions further assumed that the data can be linearly arranged and that there exists linear relationship between the predicted values of the dependent variable and the regression residuals. To test for the linearity, the study used a scatter plot. In addition, Ordinary Least Squares (OLS) regression assumes that error terms are not related across the time. Therefore, autocorrelation tests whether consecutive error terms in the regression analysis are related (Corrado *et al.*, 2019). The study used Durbin-Watson (DW) test to test for autocorrelation. An acceptable range is 1.50 - 2.50 (Holmes, 2022).

Another assumption of the Ordinary Least Squares (OLS) regression is that the variance of error term across the sample is constant (homoscedastic) (Sarantsev, 2022). The study used BreuschPagan test to test for heteroscedasticity. Multicollinearity assumption requires that the predictor variables should not be highly correlated among themselves (Eberhardt, 2012). Multicollinearity problem results into inflation of regression coefficient resulting to false significance (Jones, 1995). The study used Variance Inflation Factors (VIFs) to test for multicollinearity. The VIFs shows the level of multicollinearity that can be tolerated without affecting the results of the regression analysis (Machiwal & Jha, 2018). A VIF below 4 or tolerance above 0.25 was acceptable (Holmes, 2022).

3.10.2 Qualitative Data Analysis

The deductive analysis approach assisted in analyzing interviews' data. The collected data was compiled and coded based on influences identified between dependent and independent variables. The patterns generated helped to develop common themes. The themes were analyzed to establish how the independent variable influenced the dependent variable. Each theme was represented using data collected from interview answers. An explanation of the reason for selecting a specific quote and its role in testing the research hypothesis was described during the analysis.

3.10.3 Operational Measures of Variables

The variables for the research were studied using the measures shown in Table 4 to assist in determining the corresponding objectives and indicators.

Table 3.4
Operationalization of Variables

Variable	Type of Variable	Objective	Measuring Indicator
Mental wellness	Dependent	To investigate the influence of stress predictors on the mental wellness of nurses in Embu and Tharaka-Nithi level 5 hospitals, in Kenya.	Level of mental well-being defined by presence or absence of: • Depression • Stress • Anxiety • In-Group Status
The physical working environment	Independent	To establish the influence of the physical work environment on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.	• Resources for nurses • Supportive workplace • Resources within the hospital
Organizational factors	Independent	To examine the effect of organizational factors on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.	• Staffing levels • Type of facility • Managerial operations

Variable	Type of Variable	Objective	Measuring Indicator
Nurse colleague relationship	Independent	To investigate the influence of nurses' relationship with colleagues at the workplace on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.	• Inter-professional relationship • Shift operations • Level of patient satisfaction
Care recipient attitudes towards nurses	Independent	To find out the influence of care recipients' attitude towards nurses' mental wellness in Embu and Tharaka Nithi Counties in Kenya.	• Motivation • Quality of services • Motivation
Self-efficacy	Moderating	To evaluate the moderation effect of self-efficacy on the relationship between stress predictors and the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.	• Job Satisfaction • Cognitive Effectiveness • Work-life balance

3.11 Ethical Issues

The study observed relevant ethical considerations during data collection. The research acquired an ethical approval from the university and the institution ethics' board that gives authority to conduct the research (Appendix VI). An ethical approval is a mandatory requirement for all researches involving human subjects and must be approved from an accredited institution's ethics review committee. The researcher also acquired a permit from NACOSTI (appendix VIII). NACOSTI helps to regulate and ensure all studies meet requirements of the research, science, and

technology and innovation sector. A sheet containing study information together with a consent form was sent to participants for reading, filling, and signing. The consent form described to participants, among other things, the reasons for carrying out the research, aims, and objectives, data collection techniques, roles of each individual participant, and expectations. A letter of authorization was acquired from each hospital that gave authority to the researcher to collect data from participants. All participants were required to fill the consent form as a requirement to take part in the survey. Rights of respondents, including right not to answer a question and freedom to withdraw from the research were shared. Privacy and confidentiality were observed during the study. Participants were not allowed to state their real names to safeguard their identity. Instead, participants were given anonymous codes (Participant A, B, C., and N) to identify them during the entire process of collecting and analyzing data. In addition, an assurance of the confidentiality and privacy of information shared was given to all participants. As such, the data collected was stored and safeguarded in a password-protected folder to avoid access by unwarranted users. All participants underwent a debriefing session to help counter emotional adverse effects after collecting data from them.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The main areas covered are the participants' response rate, results presented on demographic information for both questionnaires and interviews, and discussion of study objectives.

4.2 Response Rates

The response rates shown in Table 5 below came from the sample size of 253 nurses -133 from Embu Level 5 and 120 from Chuka County Referral Hospital, and 10 doctors, 6 from Embu Level 5 and 4 from Chuka County Referral Hospitals. The questionnaires were distributed to nurses forming the sample size through an online link. The link was first sent to nurses at Embu Level 5 hospital upon getting an approval letter from the hospital's managing director to continue with data collection (Appendix III). Similarly, after collecting data from Embu, the link was shared with nurses at Chuka County Referral hospital. Data was collected at different times because approvals to collect data were given at different times as can be seen in the approval letters (see appendix III). At Chuka, nurses were very receptive of the data collection exercise. The doctors who responded to the interview were identified and data recorded in Table 5 below.

Table 4.1
Study's response Rate from Questionnaires and Interviews

Health Organization	Sample Size	Nurses Respondents	Response Rate	Sample Size	Doctors Respondents	Response Rate
Embu Level 5 Hospital	133	126	94.74%	6	6	100.0%
Chuka County Referral Hospital	120	119	99.16%	4	4	100.0%
Total	253	245	96.84%	10	10	100.0%

Table 5 shows the response rate for each category of respondents. A total of 253 questionnaires were shared with nurses in Embu level 5 and Chuka County Referral Hospitals targeting 133 and 120 nurses from each hospital respectively. 245 out of 253 respondents took part in answering questionnaires representing a response rate of 96.84%. The response rate for nurses at Chuka County Referral Hospital was higher than that of Embu Level 5 hospital. 99.1% for Chuka versus 94.7% for Embu. In addition, 10 structured face-to-face interviews were administered targeting 10 doctors, 6 from Embu Level 5 and 4 from Chuka County Referral hospitals. Result reveals that 6 doctors from Embu Level 5 and 4 from Chuka County Referral Hospital responded, which was a 100% response rate. The response rate supports Creswell (2014) recommendation that a response rate of 80% and above is acceptable for research. The outcome implies that nurses across the two hospitals were eager to engage in the data collection in order to learn about their mental wellness.

4.3 Reliability of Research Tools

Before collecting the data from the target participants, piloting of quantitative study instruments was conducted to determine their reliability. The piloting took place at Kitui Level 5 hospital where all six variables were tested based on the number of items per each variable. The number of items represented the total number of questions asked per variable. The results from testing of study variables are shown in table 6 below.

Table 4.2
Reliability of Variables

Variable	No. of items	Cronbach's Alpha Value
Mental wellness	38	0.733
The physical working environment	4	0.741
Organizational factors	8	0.739
Nurse-colleague relationship	7	0.723
Care recipient attitudes towards nurses	7	0.728
Self- efficacy	10	0.752
Overall	76	0.736

From table 6, 27 responses were collected from 37 targeted nurses, which was a 78.4% response rate. The Cronbach Alpha of coefficient was used to test the reliability of research instruments because it helps to give data generalization (Mugenda & Mugenda, 2012). The Cronbach alpha coefficient values from all variables in the study were greater than 0.7 with an average coefficient of 0.736. The values helped to shed light on each of the constructs used in the study indicating adequate reliability. Also, the overall Cronbach coefficient agrees with Taber (2018) who considered data showing a threshold alpha value of 0.7 and above indicates the tests are reliable.

4.4 Demographic Information of participants

The first step of data collection was to establish the demographic characteristics of participants of both nurses and doctors.

4.4.1 Demographics Information of the Nurses

The main characteristics of nurses studied were gender, marital status, and years of working experience as shown in table 7 below.

Table 4.3
Demographic Characteristics of Nurses

Demographic Characteristics of Nurses		Frequency	Percentage
Gender	Females	179.00	73%
	Males	50	20%
	Prefer not to say	16	7%
	Total	245	100.0%
Marital Status	Married	159	65%
	Never Married	3	1%
	Divorced	15	11%
	Widowed	55	22%
	Separated	13	5%
	Total	245	100.0%
Years of Working Experience	Less than 1 Year	18	7%
	1-5 Years	55	23%
	6-10Years	94	38%
	11-20 Years	58	24%
	Over 20 Years	20	8%
	Total	245	100.0%

Table 7 shows result on demographic characteristics of nurses categorized into gender, marital status, and years of working experience. The three characteristics were selected because they are highly associated with the mental wellness of nurses. From the outcome, 179 female nurses responded to the questionnaire representing a 73% response rate, followed by 50 male nurses at 20% response rate. 16 participants (7% response rate) preferred not to state their gender. The outcome implied that female nurses formed the largest population in both hospitals. Peng et al. (2022) while investigating factors that influenced the wellbeing of healthcare workers during the COVID 19 pandemic identified gender differences and age as major determinants of nurses' health.

Results from the studies above demonstrate the significance of integrating demographic characteristics in studying nurses' mental wellness. The results above agree with Kenya National Bureau of Statistics (2022) survey findings that women make up the largest population of the healthcare workforce in Kenya. Also, a study by Tzeng et al. (2024) revealed female healthcare workers experience higher levels of emotional distress than male healthcare workers. Chairassamee & Chancharoenchai (2025) established similar results, but noted women healthcare workers in rural areas have high prevalence of mental health compared to workers in urban areas. The high population of female nurses recorded in the demographics in the table above will be tested to determine their level of mental wellness.

Results on marital status of nurses from the Referral Hospitals are also presented on table 7. Results showed 159 nurses (65%) were married followed by 55 nurses (22%) who were widowed. Also, 15 nurses (11%) were divorced, 13 nurses (5%) separated, and 3 nurses (1%) were never married. The findings implied that majority of the nurses were married, which agrees with the outcome of (Kenya National Bureau of Statistics, 2022) that most employees in the Kenyan healthcare workforce are married. The marital status as a demographic characteristic was selected for this study because it contributes towards understanding mental wellness of individuals. Mishra et al. (2024) while studying the impact of marital status on mental health found marital status as a key predictor of mental health of employees. According to Tai et al. (2014), the marital status is a key determinant of mental wellness of nurses, where married nurses tend to manage their mental health more effectively than single, widowed, and separated people as proved in Robles et al. (2024) study outcome.

Results on the number of years of working experience of nurses from the County Referral Hospitals are also shown on table 7. Results from the table 4.3 shows 94 nurses (38%) had worked for between 6 and 10 years, which represented the majority of participants. 58 nurses (24%) had worked for between 11 and 20 years while 55 nurses (23%) had worked for between 1 and 5 years. The rest of the participants, 18 and 20, had worked for less than 1 year and over 20 years respectively. Schroeder, Kelly, & Leighton (2023) established that staffs' years of working experience affect their ability to handle workplace stress and anxiety, making it a key determinant of wellness of healthcare workers and particularly nurses. According to Yi & Lee (2024),

psychological wellbeing is lower during first years of working and increases gradually until the third year when it tends to decline. Nurses with more experience have greater work resilience, which shows their ability to manage coping mechanisms (Tokac & Razon, 2021).

4.4.2 Demographic information of doctors

The study collected data from doctors selected from Embu level 5 and Tharaka Nithi referral hospitals. The data was qualitative and the demographic characteristics of participants are shown in table 8 below.

Table 4.4
Demographic characteristics of doctors

	Frequency	Percentage
Male	7	70%
Female	3	30%
Total	10	100

Doctors play a crucial role towards understanding mental wellness of nurses within a health organization because they engage with nurses on day-to-day activities and are able to identify and recognize mental challenges affecting the nursing staff. The outcome from table 8 shows the male respondents were higher than female respondents, 7 against 3. The results support findings from Mureithi (2023) who established that women doctors remain the minority in the Kenyan health care workforce. The results from table 8 imply male doctors continue dominating the workforce. The results agreed with (FSD Kenya, 2022) observations that two-thirds of doctors' populations in Kenya are male with 75% of these being specialists in different areas.

4.5 Diagnostic Tests

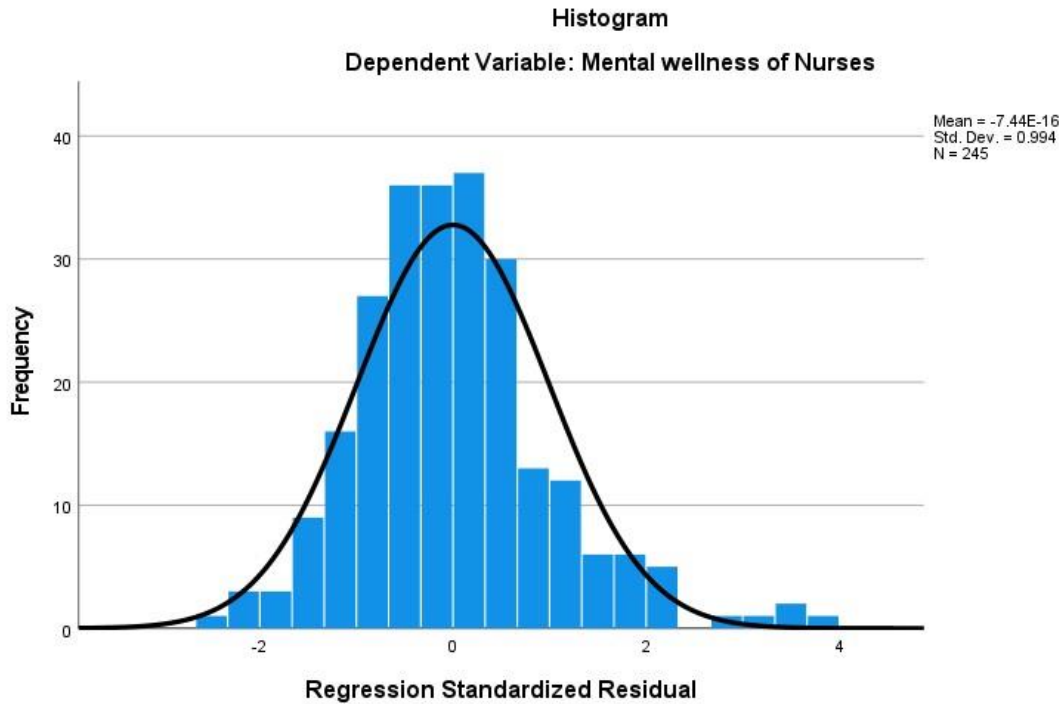
The study carried out multiple linear regressions to test the study hypotheses. However, prior to undertaking regression analysis, the study performed diagnostic test to establish the appropriateness of the data with respect to assumptions of the multiple regression analysis. The data collected was subjected to various diagnostic tests to ensure adherence to the assumptions of regression analysis, thus providing an accurate and reliable prediction of the relationship among the variables. The diagnostic tests included tests for normality, linearity, autocorrelation, heteroscedasticity and multicollinearity. With respect to normality, error term must be normally distributed (Goyal & Jegadeesh, 2018).

4.5.1 Normality Test

The current study tested the normality of regression residuals using Histogram fitted with normality curve as well as Normal P-P plot. Figure 4 shows the histogram.

Figure 4.1

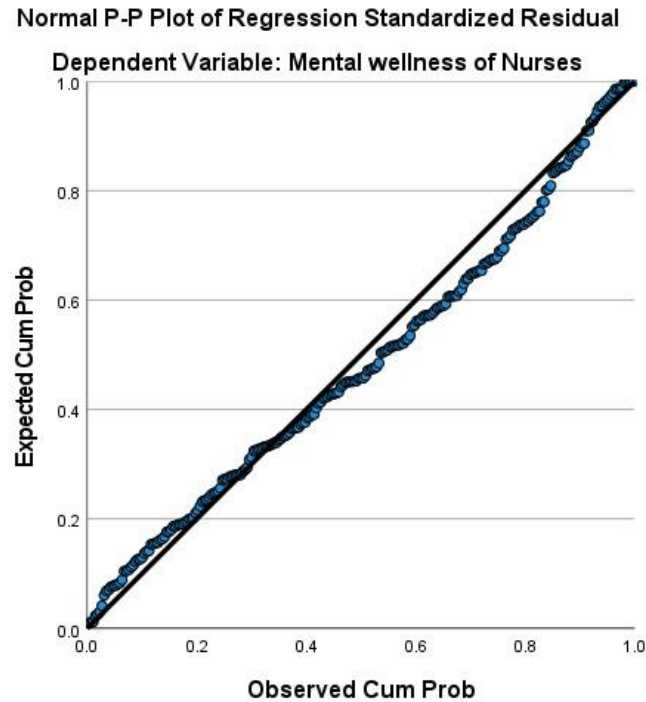
Histogram for Regression Standardized Residual



The results indicated that the standardized residuals were fairly normal with majority of the error terms being around zero. This implies that the modeled data was normally distributed and thus meeting the normality assumption for the multiple linear regression. Figure 5 shows the results for the normal p-p plot.

Figure 4.2

Normal P-P Plot



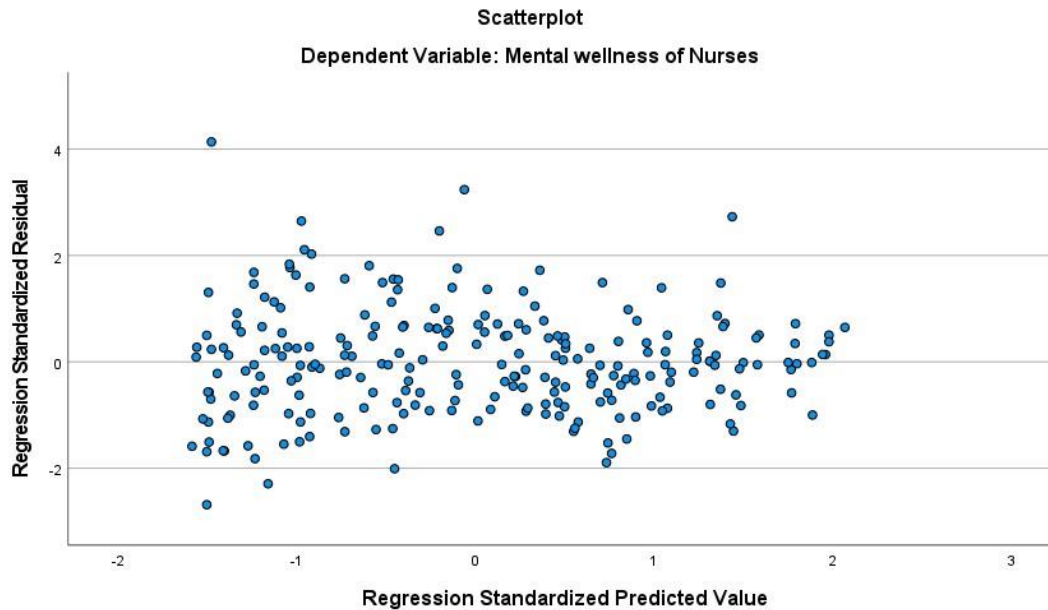
The regressed standardized residuals indicated that the data is normally distributed since most of the values are around the line of best fit through the origin. Therefore, normality assumption was accepted in this study.

4.5.2 Linearity Test

Multiple linear regression further assumes that the data can be linearly arranged and that there exists linear relationship between the predicted values of the dependent variable and the regression residuals. To test for the linearity, the study used a scatter plot as shown in Figure 6.

Figure 4.3

Scatter Plot for Linearity



The study established that the standardized predicted values and residuals were uniformly distributed around zero and best fit line is at zero. This therefore implies that there is linear relationship between the predicted values of the dependent variable and the regression residuals. Therefore, the linearity assumption was accepted in this study.

4.5.3 Autocorrelation

With respect to autocorrelation, linear regression assumes that consecutive error terms are not related across the time (Corrado *et al.*, 2019). The study used Durbin-Watson (DW) test to test for autocorrelation. The Durbin-Watson (DW) test results are shown in Table 9.

Table 4.5*Durbin-Watson (DW) test*

Model	R	R Square	Std. Error of the		
			Adjusted R Square	Estimate	Durbin-Watson
1	0.438 ^a	0.192	0.178	0.41040	1.830

a. Predictors: (Constant), Care recipients' attitude towards nurses, Physical working environment, Nurse-Colleague Relationship, Organizational Factors b. Dependent Variable: Mental wellness of Nurses

The Durbin-Watson (DW) value was 1.830. An acceptable range is 1.50 - 2.50 (Holmes, 2022). Therefore, the study confirmed that the consecutive error terms are not related and thus autocorrelation problem ruled out. This implies that there was independence of the error terms.

4.5.4 Heteroscedasticity

Another assumption of the multiple linear regression is that the variance of error term across the sample is constant (homoscedastic) (Sarantsev, 2022). The study used Breusch-Pagan test to test for Heteroscedasticity. This was done by performing regression analysis between the independent variables and the squared unstandardized residuals. The results of the regression model are shown in Table 10.

Table 4.6*Breusch-Pagan Test for Heteroscedasticity*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.392	4	.348	4.271	.062b
	Residual	19.473	239	.081		
	Total	20.865	243			

a. Dependent Variable: Squared Residuals

b. Predictors: (Constant), Care recipients' attitude towards nurses, Physical working environment, Nurse-Colleague Relationship, Organizational Factors

The regression between the independent variables and the squared unstandardized residuals was not significant ($p>0.05$) and thus failing to reject the null hypothesis of homoscedastic. This implies that the variance of error term across the sample is constant (homoscedastic) and thus heteroscedasticity problem ruled out.

4.5.5 Multicollinearity

Multicollinearity assumption requires that the predictor variables should not be highly correlated among themselves (Eberhardt, 2012). Multicollinearity problem results into inflation of regression coefficient resulting to false significance (Jones, 1995). The study used Variance Inflation Factors (VIFs) to test for multicollinearity. The VIFs shows the level of multicollinearity that can be tolerated without affecting the results of the regression analysis (Machiwal & Jha, 2018). Table 11 shows the Collinearity Statistics.

Table 4.7

Collinearity Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Physical working environment	0.573	1.746
	Organizational Factors	0.410	2.439
	Nurse-Colleague Relationship	0.553	1.809
	Care recipients' attitude towards nurses	0.991	1.009

A VIF below 4 or tolerance above 0.25 is acceptable (Holmes, 2022). The tolerance values ranged between 0.410 and 0.991 and the VIF values ranged between 1.009 and 2.439. The study therefore confirmed that the predictor variables are not highly correlated among themselves and thus no multicollinearity problem. Having confirmed all the assumptions of linear regression, the study carried out the regression analysis between the various stress predictors and stress of nurses in Embu and Tharaka Nithi Counties in Kenya.

4.6 Results on mental wellness of nurses

As the main aim of the study was to determine the influence of stress predictors on the mental wellness of nurses, it was necessary to identify the mental state of nurses. Nurses were asked questions to determine their levels of mental wellness and were tested using the PTSD Checklist 5 (PCL-5), PMH scale and the DASS-21 scale. The data from each of the scales was analyzed and the data presented below.

4.6.1 PCL-5 and mental wellness of nurses

From table 12 below, n is the number of participants while % is the percentage of each value.

Table 4.8

Results from the PTSD Checklist 5 (PCL-5)

Question	Scale 1 (f / %)	Scale 2 (f / %)	Scale 3 (f / %)	Scale 4 (f / %)	Scale 5 (f / %)	Mean	Std. Dev
Repeated, disturbing, and unwanted memories of the stressful experience?	0 / 0.0%	50 / 20.4%	179 / 73.1%	16 / 6.5%	0 / 0.0%	1.86	0.500
Suddenly feeling or acting as if the stressful experience were happening again?	15 / 6.53%	159 / 64.9%	3 / 1.22%	16 / 6.12%	52 / 21.22%	1.70	1.320
Feeling very upset when something reminds you of the stressful experience?	0 / 0.0%	20 / 8.2%	55 / 22.4%	94 / 38.4%	76 / 31.0%	2.92	0.970
Having strong physical reactions when something reminds you of the stressful experience?	1 / 0.4%	24 / 9.8%	86 / 35.1%	66 / 26.9%	68 / 27.8%	2.72	0.990
Avoiding memories, thoughts, or feelings related to the stressful experience?	1 / 0.4%	38 / 15.5%	85 / 34.7%	66 / 26.9%	55 / 22.5%	2.69	1.110

Question	Scale 1 (f / %)	Scale 2 (f / %)	Scale 3 (f / %)	Scale 4 (f / %)	Scale 5 (f / %)	Mean	Std. Dev
Avoiding external reminders of the stressful experience?	2 / 0.8%	36 / 14.7%	73 / 29.8%	60 / 24.5%	74 / 30.2%	2.69	1.100
Trouble remembering important parts of the stressful experience?	1 / 0.4%	55 / 22.4%	70 / 28.6%	58 / 23.7%	61 / 24.9%	2.50	1.107
Having strong negative beliefs about yourself, other people, or the world?	1 / 0.4%	32 / 13.1%	73 / 29.8%	66 / 26.9%	73 / 29.8%	2.27	1.402
Blaming yourself or someone else for the stressful experience or what happened after it?	1 / 0.4%	48 / 19.6%	55 / 22.4%	72 / 29.4%	69 / 28.2%	2.65	1.101
Having strong negative feelings such as fear, horror, anger, guilt, or shame?	1 / 0.4%	51 / 20.8%	78 / 31.8%	67 / 27.3%	48 / 19.6%	2.45	1.040
Loss of interest in activities that you used to enjoy?	1 / 0.4%	61 / 24.9%	73 / 29.8%	58 / 23.7%	52 / 21.2%	2.34	1.060
Feeling distant or cut off from other people?	2 / 0.8%	64 / 26.1%	80 / 32.7%	48 / 19.6%	51 / 20.8%	2.34	1.100
Trouble experiencing positive feelings?	1 / 0.4%	56 / 22.9%	83 / 33.9%	57 / 23.3%	48 / 19.6%	2.39	1.060
Irritable behavior, angry outbursts, or acting aggressively?	3 / 1.2%	62 / 25.3%	65 / 26.5%	66 / 26.9%	49 / 20.0%	2.39	1.106

Table 12 above shows the results from the 14-item questions on the PCL-5 questionnaire for nurses (appendix V (a)). The data from responses above was used to determine the occurrence of PTSD

among nurses and results are presented in table 13 below. n represents the number of participants and % is their respective percentage.

Table 4.9

The prevalence of PTSD among Nurses in Embu Level 5 and Chuka County Referral Hospitals

PTSD Scale Score	0-30		31-70	
Gender	N	%	N	%
Male	12	4.86	38	15.51
Female	43	17.6	136	55.5
Prefer not to say	4	1.63	12	4.9
Total	59	24.09	193	75.91

Findings from table 13 reveals the number of participants who scored the range of values, 0-30 and 31-70, based on the data generated in table 4.8. According to (Blevins et al., 2016), the PCL5 scores assist physicians to recommend treatment for patients when their scores fall within the range of 31 and 80. The PCL-5 scale used for this research had 14 questions. Hence, the range of scores was between 31 and 70. Patients whose scores are within this range are supposed to be booked for PTSD treatment. From table 4.6, 38 male and 136 female nurses representing 15.51% and 55.5% respectively scored between 31 and 70. 12 nurses whose gender was unknown also scored between 31 and 70. The total number of nurses whose scores showed presence of PTSD symptoms, between 31 and 70, was 193, 75.91% of the population compared to 59 (24.09%) who did not record any signs of PTSD symptoms (between 0 and 30). The results are an indication that majority of nurses in the two referral hospitals had PTSD symptoms, hence, the need to identify the predictors that influence their stress levels. According to Yoon et al. (2023), the prevalence of PTSD among nurses increased after the Covid-19 pandemic. The increase in the number of PTSD cases after the pandemic is one of the reasons behind the high number of nurses recording PTSD symptoms in this study. Wadh & Suleiman (2024) conducted a cross-sectional study targeting nurses working in dispensaries in Mombasa County and established 12.6% of nurses had PTSD related symptoms. The results, however, did not target nurses in main healthcare centers which could have yielded better and valid results. The current study investigated the issue targeting nurses from two level-5

hospitals to fill the gap. Also, the findings from the table 12 resonate with Berlin et al. (2023) study outcome showing the escalating rates of nurse health due to mental disorders.

Berlin and colleagues utilized questionnaires to identify nurse's mental wellness that was not adequate to gather full results. To address this issue, the current study used a combination of questionnaires and interviews.

The study sought views of doctors on the mental state of nurses. In responding to question 2 from the interview (appendix VI), a doctor participant claimed:

“Generally, nurses in Embu Level 5 hospital faces mental health struggles” (Participant No. 3).

The results support the views from the Global Health Institute (2023) that established that mental wellness as one of the key threats to the health and psychological well-being of nurses. Generally, the statement above resonates with the findings from Ustan (2021) that established the mental well-being of healthcare providers as a major issue of concern in healthcare sectors today.

Also, another participant while responding to the same question 2 claims:

“The mental wellness of nurses at Chuka County Referral Hospital appears to be a mix of resilience and strain. ... Personal interaction with nurses often reveals signs of burnout, such as fatigue and reduced job satisfaction” (Participant No. 6).

The findings from doctors above adhere to Berlin et al. (2023) study that identified poor job satisfaction and high levels of burnout as major causes of stress among nurses. Also, the Pan American Health Organization (2023) established that nurses experience a lot of pressure and other work-related influences that contribute to mental health problems. However, the outcome from the study above did not utilize the quantitative data to test the level of mental wellness of nurses; hence, could not be generalized to the larger population. In this study, the data from nurses was collected using questionnaires where a large number of nurses was investigated making it easier to generalize results to a larger population. Another doctor while responding to question 2 added. *“The majority of mental problems in nurses are contributed by having many patients, less supplies that lead to mental challenges while caring for patients”* (Participant No. 2). Nurses are overwhelmed by their workplace duties as they try to meet demands of large number of patients leading to burnout and eventually stress. The above statement resonated with the findings from Kameg et al. (2021) who identified burnout due to work overload as one of the major causes of depression, anxiety, and

stress among nurses. Still responding to the same question and in demonstrating the prevalence of mental health among nurses, another participant argued: “*some of these mental health challenges include long working hours, high patient loads, limited resources, and also emotional demands from treating patients with complex and chronic issues*” (Participant No. 10).

The findings support Watermeyer et al. (2023) who established that increased workloads as key causes of high levels of stress and burnout among nurses. In addition, lack of resources as a contributor towards stress among nurses was established by Belay et al. (2021) who established high prevalence of psychological distress among nurses with predictors such as lack of resources causing poor mental wellness.

I am often carefree and in good spirits

4.6.2 Positive Mental Health Scale (PMH) on Mental Wellness of Nurses

Mental wellness of nurses was also tested using the Positive Mental Health Scale to help test the anxiety levels of nurses. The descriptive results are shown in table 14 below. From the table, f is the number of respondent while % is the corresponding percentage. Also, Std. Dev is for the standard deviation that measures how spread the values are around the mean.

Table 4.10

Results of nurse anxiety levels using the Positive Mental Health Scale

Statement	Strongly Disagree f (%)	Somewhat Disagree f (%)	Neither Disagree Nor Agree f (%)	Somewhat Agree f (%)	Strongly Agree f (%)	Mean	Std. Dev
I enjoy my life	1 (0.41%)	73 (29.80%)	62 (25.31%)	70 (28.50%)	39 (15.92%)	2.298	1.074
All in all, I am satisfied with my life	3 (1.22%)	73 (29.80%)	61 (24.90%)	55 (22.45%)	53 (21.63%)	2.335	1.153

Statement	Strongly Disagree f (%)	Somewhat Disagree f (%)	Neither Disagree Nor Agree f (%)	Somewhat Agree f (%)	Strongly Agree f (%)	Mean	Std. Dev
In general, I am confident	1 (0.41%)	26 (6.53%)	72 (29.39%)	42 (17.14%)	104 (42.45%)	2.906	1.084
I manage well to fulfil my needs	5 (2.04%)	27 (11.02%)	67 (27.35%)	41 (16.73%)	105 (42.86%)	2.873	1.147
I am in good physical and emotional condition	2 (0.82%)	19 (7.76%)	51 (20.82%)	35 (14.29%)	138 (56.33%)	3.176	1.062
I feel that I am actually well equipped to deal with life and its difficulties	3 (1.22%)	19 (7.76%)	54 (22.04%)	40 (16.33%)	129 (52.65%)	3.114	1.077
Much of what I do brings me joy	1 (0.41%)	26 (10.61%)	49 (20.00%)	47 (19.18%)	122 (49.80%)	3.073	1.076
I am a calm, balanced human being	3 (1.22%)	53 (21.63%)	61 (24.90%)	75 (30.61%)	53 (21.63%)	2.543	0.721

Results from table 14 show high level of agreement on the statement “I manage well to fulfill my needs” and “I am in good physical and emotional condition” showing 14.29% and 56.33% of

nurses strongly agreeing respectively. The outcome shows majority of nurses believed they were highly resilient and had the capacity to manage their psychological challenges. Also, 73 nurses and 62 nurses representing 29.8% and 25.32% respectively were uncertain about enjoying their lives at the workplace. Similarly, 49 nurses and 26 nurses that represented 20% and 10.61% respectively did not find anything that brought joy in their lives at the workplace. In terms of emotional balance and confidence, results show 42.45% of nurses believed they were confident about their mental wellness, supporting literature from Aruta et al. (2022) who emphasized on the importance of having confidence among nurses as a factor that protects them from adverse psychological effects. However, there were concerns over the mental health of participants who seemed to have no idea of their situations where 72 nurses (29.39%) neither agreed nor disagreed they were confident about their psychological health conditions. Kameg et al. (2021) emphasized upon the importance of nurses' awareness of their mental health conditions for their good health and well-being. The results resonate with Ustun (2021) findings that the mental well-being of nurses is under major threat calling for the need to identify major causes of the problem. Whereas Ustun studied nurses from the psychiatric department, the current study targeted nurses in all hospital departments in two counties, Embu and Chuka, making the findings more general and highly replicable.

In general, the PHM scale outcome showed gaps in the emotional well-being and life satisfaction among nurses as highlighted in the results. The results supported literature that showed the working environment contributed to stress and burnout that affected the health and mental wellness of nurses. Ali et al. (2021) associated the increasing mental wellness concerns among nurses to the COVID-19 pandemic effects where the study noted nurses had higher levels of stress, anxiety, and burnout. However, the reliance on questionnaires as the only tools to collect data limited the reliability of the study results. The gap was addressed by using a combination of interviews and questionnaires. In supporting the nurses' data, the study sought to find the opinion of doctors regarding the state of the working environments and their influence on nurses' mental wellness.

The findings above were supported by qualitative data collected using interviews targeting doctors. In responding to question 3 of the interview, one participant argued:

“Major predictors of stress among nurses at the hospital include overwhelming workload, inadequate staffing and the lack of essential resources like medical supplies and equipment” (Participant No. 6).

The results agree with Kailay et al. (2024) study that established social well-being, limited resources, and workplace well-being as key elements that contribute to mental health problems among nurses. Kailay and colleagues’ study was limited to relying on qualitative data only, a gap that the current study filled by using results from both qualitative and quantitative research.

Also, another doctor while responding to question 11 from the interview said:

“Constant exposure to traumatic incidences can lead to hyper vigilance, nightmares, and emotional humbling leading to increased levels of anxiety” (Participant No. 3). The statement showed the connection between trauma and anxiety showing past traumatic experiences as key causes of anxiety. Results supported Ali et al. (2021) that established high levels of distress, depression, burnout, and anxiety among frontline nurses in Kenyan tertiary facilities due to exposure to complex health events.

In describing the mental wellness of nurses based on their lines of duty, one of the doctors responded to question 11 and said:

“Nurses working at the reception, especially in emergency units, are often faced with many challenges because of bad experiences they have with victims of accidents and this makes them mentally disturbed” (Participant No. 5).

The results above demonstrated the causes of poor psychological well-being among nurses based on their experiences with patients. The views supported literature from Ali et al. (2021) who established front-line nurses in hospitals face disturbing experiences that contribute to their increasing levels of stress and anxiety. Ali and friends’ study was limited to only questionnaires without specific instruments to measure the level of stress and anxiety. The gap was filled in the current study by designing questionnaires with reference to the DASS21 scale that helped to measure levels of stress, anxiety, and depression.

4.6.3 DASS21 and Mental Wellness of Nurses

The third scale used to investigate the mental wellness of nurses was the Depression Anxiety Stress

Scale-21 found in appendix V (g.7). The results from data analysis are shown in table 14 below. From the table, *f* is the number of participants while % is the percentage of the participants in each item. The mean values are calculated by summing each participant's score from the 10 items on the questionnaire and dividing by 10. The recorded mean value is an average mean from all 245 participants. Std. Dev is the standard deviation that measures how spread the values is within the mean.

Table 4.11
Depression Anxiety Stress Scale-21 and Mental Wellness of Nurses

Statement	Not at all f (%)	Some of the time f (%)	Good part of the time f (%)	Most of the time f (%)	Mean	Std. Dev
I find it hard to wind down	1 (0.4%)	30 (12.2%)	49 (20.0%)	165 (67.3%)	2.620	0.682
I was aware of dryness of my mouth	4 (1.6%)	16 (6.5%)	48 (19.6%)	177 (72.2%)	2.616	0.683
I don't seem to experience any positive feeling at all	2 (0.8%)	22 (9.0%)	44 (18.0%)	177 (72.2%)	2.351	0.718
I experience breathing difficulty	1 (0.4%)	32 (13.1%)	92 (37.6%)	120 (49.0%)	2.257	0.776
I experience trembling	1 (0.4%)	47 (19.2%)	85 (34.7%)	112 (45.7%)	2.176	0.833
I feel that I use a lot of nervous energy	1 (0.4%)	64 (26.1%)	71 (29.0%)	109 (44.5%)	1.914	0.899
I am worried about situations in which I might panic and make a fool of myself	2 (0.8%)	104 (42.4%)	52 (21.2%)	87 (35.5%)	2.604	0.648
I feel that I have nothing to look forward to	2 (0.8%)	104 (42.4%)	52 (21.2%)	87 (35.5%)	2.502	0.745

Statement	Not at all f (%)	Some of the time f (%)	Good part of the time f (%)	Most of the time f (%)	Mean	Std. Dev
I find it difficult to work up the initiative to do things	1 (0.4%)	19 (7.8%)	56 (22.9%)	169 (69.0%)	2.343	0.739
I tend to over-react to situations	2 (0.8%)	31 (12.7%)	54 (22.0%)	158 (64.5%)	2.294	0.791

The scores generated from the analyzed data in table 15 were used to determine the severity of anxiety, depression, and stress among nurses following the severity scale and the results shown in table 16 below.

Table 4.12

The severity of depression, anxiety, and stress as found from DASS21

	Normal F %	Mild F %	Moderate F %	Severe F %	Extremely Severe F %
DASS-21					
Depression	12 4.90%	22 8.98%	54 22.04%	41 16.73%	116 47.35%
Anxiety	10 4.08%	20 8.16%	52 21.22%	31 12.65%	132 53.88%
Stress	8 3.27%	17 6.94%	44 17.96%	37 15.10%	139 56.73%

The outcome from the analysis of nurses' data using the DASS scale shows nurses recorded high scores in three subscales, anxiety, depression, and stress. Stress had the highest responses with 139 nurses (56.73%) recording extremely severe cases. Also, most nurses had extremely severe symptoms of depression at 116 nurses representing 47.35% of the response rate. Also, the level of anxiety was high with 132 nurses recording severity levels exceeding 10 points (see table 16) hence demonstrating extremely severe levels of anxiety. The results were an indication that majority of nurses working at Embu Level 5 and Chuka County Referral Hospitals experienced moderate to extremely severe cases of depression, anxiety, and stress scoring between 8 and 12 points (refer to table 15). The outcome agreed with Kameg et al. (2021) study that depression, burnout and anxiety are key causes of poor mental wellness among nurses. Kameg and colleagues utilized the CCAS scale, GAD-7 and the PHQ-8 to collect data. However, the study did not collect diversified data since it relied only on questionnaires on nurses alone. In the current study, doctors were integrated in the methodology to make data collection more diversified. In addition, the effectiveness of combining different instruments in testing the mental wellness of nurses was revealed in the study. The utilization of more than three scales led to achievement of reliable and valid results. Aruta et al. (2022) utilized only one instrument, the WEMWBS, which despite being highly effective in measuring the level of mental wellness of nurses, lacked reliability because it could not capture all elements of stress measurement that define the level of mental wellness. In this study, different scales were utilized and data from questionnaires supported by data from interviews.

Also, ICN (2021) featured similar results when investigating causes of stress among nurses in Kenyan hospitals where more than 80% of nurses were found distressed. However, the study did not have reliable instruments to determine stress levels and to address the problem, the current study used the DASS-21 scale to determine depression, anxiety, and stress symptoms among nurses. Similarly, this study outcome supported findings from a study by Jaika et al. (2022) who identified factors such as stress, burnout, and anxiety as major causes of mental wellness among nurses. The study relied on one scale, the PHQ-9, to measure depressive symptoms in nurses. The scale limited the validity of results and in the current study multiple scales were utilized that was highly validated and reliable.

Also, the study used data from qualitative data analysis to establish the opinions of doctors on anxiety and depression levels as predictors of mental wellness among nurses. One of the doctors, participant number 8, while responding to question 9 claimed:

“Workplace bullying and harassment, and excessive workloads are common stress predictors that nurses experience at hospitals” (Participant No. 8).

Another doctor established job satisfaction as a major threat to nurse health. In responding to question 10, the participant said:

“The lack of the hospital management to act on the improvement of personal and labor resources, promotion of widespread and professional relationship of nurses affect their work output leading to poor professional satisfaction” (Participant No. 5).

The results confirmed the findings from ICN (2021) study that established poor hospital management as one of the causes of psychological well-being of nurses where the staff lacked resources and capabilities to carry out their duties. Also, lack of good managerial practices such as failure to manage shift hours led to burnout among nurses that was a leading cause of stress and depression.

4.7 Influence of Physical Working Environment on Mental Wellness of Nurses

One of the specific objectives of the study was to determine the influence of the physical working environment on the mental wellness of nurses in Embu and Tharaka Nithi Counties. The physical working environment refers to the hospital, where nurses carry out their operations. In Kenya, there has been a lot of concern regarding the status of hospital environments in terms of their influence on health providers' mental health (WHO, 2022). The physical work environment was one of the perceived predictors of stress that influences the mental wellness of nurses. In dealing with this variable, the main focus was to test features of the physical workplace environment as key predictor of stress and to determine their influence on the mental wholesomeness of nurses.

One approach used to study the objective was collecting quantitative data from nurses through the use of questionnaires. The main variable tested was the physical work environment. The key indicators of the work environment were in-group Status, resources for nurses, and a supportive workplace. Results to test the influence of physical working environment on mental wellness of nurses are discussed below.

A questionnaire was developed using the NIOSH Nurse Well-Being scale consisting of four items. The opinion of nurses on the four items was tested in a 5-item likert scale. From table 17. f represents the number of responses in a particular question and % is the percentage response rate. The mean values are calculated by summing each participant's score from the 10 items on the questionnaire and dividing by 4. The recorded mean value is an average means from all 245 participants. Std Dev is the standard deviation that measures how spread the values is around the mean.

Table 4.13
Physical Work Environment on Mental Wellness of Nurses

Statement	Strongly Disagree f (%)	Somewhat Disagree f (%)	Neither Disagree Nor Agree f (%)	Somewhat Agree f (%)	Strongly Agree f (%)	Mean	Std. Dev
The environmental conditions at workplace are perfect	39 (16%)	53 (22%)	92 (38%)	27 (11%)	32 (13%)	2.78	1.28
The physical surrounding is well kept	39 (16%)	51 (21%)	85 (35%)	22 (9%)	46 (19%)	2.65	1.27
The accommodation for disabilities and special needs are observed	51 (21%)	41 (17%)	70 (29%)	17 (7%)	63 (26%)	2.49	1.25
I feel discriminated because of my gender and social background	41 (17%)	24 (10%)	51 (21%)	22 (9%)	104 (43%)	2.18	1.32

The use of NIOSH scale assisted in bringing out each of the indicators of stress in the physical work environment leading to the establishment of the results. The outcome from the questionnaires revealed that poor infrastructural problem is common in the County Referral Hospitals. The mean values fell between 2.18 and 2.78 implying overall, physical working environment contributed to poor mental wellness of nurses. The physical work environment has a major influence on the operation of nurses and a number of variables have been associated with the problems. Results indicated 38% of respondents (16% SD and 22% D) believed environmental conditions including heating, lighting, and ventilation were not in perfect conditions while 24% (11% A and 13% SA) believed the environmental conditions were favorable. However, majority of respondents (38%) neither agreed nor disagreed. The results resonated with Saladino et al. (2022) study findings that factors within the workplace environment affect the delivery of services by individual nurses.

Although Saladino and colleagues' study targeted nurses from the USA, and relied on secondary data, the current study collected data from primary sources and targeted nurses from Kenya; hence, filling the gap in research. In addition, factors such as crowding, poor infrastructure, and safety hazards have been identified. The prevalence is higher in hospitals with poor infrastructure. Results showed 37% (16% SD and 21% D) of nurses somewhat disagreed or totally disagreed that the physical surrounding such as infrastructure, buildings and hospital design were well kept. Literature from Hamed et al. (2020) stated that poor infrastructure causes trauma and stress, which the current research supports.

Hospitals should also consider needs of special groups of patients, especially those with disabilities and there was a question to that effect in the questionnaire. The question sought to determine how the hospitals accommodate people with disabilities and special needs. Outcome from table 17 shows both hospitals had done a tremendous job in considering patients and visitors with disabilities at the workplace with 51 and 41 nurses representing 21% and 17% respectively, totally and somewhat agreeing that the accommodation for disabilities and special needs was well observed. Also, a mean value of 2.49, slightly below the average of 2.5, shows the respondents agreed to the issue on the question. The findings support Nordfjaern et al. (2020) study that identified the importance of using a multi-disciplinary approach to accommodate diverse needs of patients. The study found nurses in a multi-disciplinary team get greater opportunities to interact

and meet different needs of patients leading to positive relationships that end up improving nurse health. However, the study relied on web-based questionnaires and the current study improved the findings by including interviews from doctors to support nurses' views.

Also, Mutua et al. (2022) reported that nurses working in high-intensive care areas like the theatre department experience tremendous challenges related to safety and burnout, which affected their mental wellness. Nurses from both, Embu and Chuka hospitals agreed to the fact that they do not enjoy working under their prevailing environments. Mutua's study did not use a specific tool to determine the influence of the physical work environment on mental health of nurses. The current study filled this gap by using the NIOSH scale to generate questions for nurses. In addition to the above and in reference to Shigemura et al. (2021) study the psychological distress caused by poor workplace environment has been a major concern in many hospitals. The study targeted nurses in Asian region and similar findings in Kenya revealed an indication that the physical work environment causes stress among nurses. The studies above by Karanikola and Shigemura, used only one tool to collect data, which led to their gaps. The gaps were addressed in the current study by using both questionnaires and interviews to collect data.

Another indicator of the physical working environment as shown in table 17 that influenced the behavior of nurses at Embu and Tharaka Nithi Counties was the level of discrimination at the work place. Results indicated that 9% and 43% of nurses agree and totally agree, respectively, that the workplace environment discriminated against them. The results tend to agree with Wambui & Githui's (2019) study findings that Kenya's hospital environments have poor working standards with the majority of staff feeling discriminated against and unwanted within their working stations. Although the study established similar results to the current research, authors did not use specific tools to measure the physical working environment as an indicator of stress. In the current study, the NIOSH scale was utilized to measure the variable.

The study sought the opinions of doctors towards the influence of the physical work environmental on mental wellness of nurses for triangulation purposes. The doctors responded to interview questions shown in appendix VI. In responding to question 4 of the interview, a doctor said:

“Poorly maintained medical facilities slow down tasks, increasing physical fatigue and adding to stress” (Participant No. 2).

The sentiments made by the participant agree with Karanikola et al. (2022) study outcomes showing a positive correlation between the type of environment where the nurses work and the emerging mental wellness issues. The workplace environment including lack of resources and poorly maintained working stations contributed to stress. However, the study only used secondary data which was limited to originality. The gap was filled in current study by correcting raw data from primary sources, both quantitative and qualitative.

Another doctor argued:

“In a well-built hospital with the necessary equipment, personnel and no toxicity help boost morale of the nurses to perform their duties well, not under pressure and on time” (Participant No. 5).

The above statements agree with Shigemura et al. (2021) who found that most nurses suffer mental health problems by experiencing patients undergo painful situations due to lack of facilities and equipment to support their illnesses. The events disturb nurses emotionally and mentally causing mental health problems. The study, however, showed a gap in using instruments without specific tools for measuring the results. The gap was filled in current study by using questionnaire instruments with validated measurement tools.

In addition to the same, another doctor said:

“When patient areas are crowded, nurses may struggle to maneuver and provide effective care. This leads to frustration and physical strain and contributes to the psychological distress among nurses..... increased patient workloads bring more demands on nurses` physical and mental ability which drives nurses towards burnout and fatigue” (Participant No. 1).

Doctors claimed the hospitals lacked adequate spaces because of the overwhelming number of patients. The results agree with Nordfjaern et al. (2020) who found out nurses often attend to huge crowds of patients while the hospitals lack necessary equipment and amenities to support the large number of patients. As such, nurses get overwhelmed and suffer physical and emotional exhaustion leading to stress. The study showed gaps in using a big sample but little time to correct data. The

current study closed this gap by targeting large number of participants and allowing them time to respond to questions in the questionnaires.

In response to question 4 and addressing the issue of overcrowding and its influence on nurses, two doctors said:

“Sometimes in the hospital, patients are too many. Nurses struggle to give adequate healthcare and this causes stress” (Participant No. 9).

The sentiments also support findings from Nordfjaern et al. (2020) who established that large number of patients attended to by a single nurse cause psychological distress.

Another doctor said:

“Poor building structure makes giving services more difficult and tedious, leading to mental stress” (Participant No. 5).

The sentiments above touch on the nature of the physical working environment and supports findings from Hamed et al. (2020) who stated that poor infrastructure causes trauma and stress, which also supports research from Hamed et al. (2020) who established that poor infrastructure causes trauma and stress.

Finally, safety hazards and nurse safety were identified as a key indicator of stress in the physical work environment. One doctor found safety hazards to influence the working of nurses. Such environments cause emotional and psychological effects. Participants No. 10 while responding to interview question 4 argued:

“Nurses are exposed to different types of hazards on daily basis because of the lack of sufficient protection equipment and poor sanitation at hospitals.” (Participant No. 10).

In the above statement, the doctor implied that hospitals lacked the ability to safeguard nurses’ work environment affecting them physically and emotionally. Also, doctors identified risks within the work environment that influenced the work output of nurses. A response from Participant No. 3 responding to question 4 shows:

“Health risks are mostly experienced in cases where some patients suffer from contagious conditions like hepatitis, tuberculosis whereby nurses’ risk getting infections as hospitals lack quality personal protective equipment.” (Participant, No. 3).

The observation made by the doctor above shows the type of physical work environment that nurses' work in and its influence on their mental wellness. Saladino et al. (2020) claimed the environment exposes nurses to major psychological and emotional challenges.

The researcher also sought to test the research hypothesis for the above objective. The hypothesis states: There is no statistically significant influence of physical work environment on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. To test this hypothesis, the study regressed physical work environment against mental wellness of nurses and results shown in table 18.

Table 4.14

Model Summary of Physical Work Environment on Mental Wellness of Nurses

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.212 ^a	0.045	0.041	0.50783

a. Predictors: (Constant), Physical Working Environment

R-Value shows the correlation coefficient between the predicted and observed values of the dependent variables. For simple linear regression, this is the same as the correlation between the dependent variable and independent variable (Morgan, 2017). A R-Value of 0.212 reveals that there was a weak relationship between physical working environment and mental wellness of nurses. This therefore implies that the model fits the data. The R Square value shows the amount of variance in the dependent variable explained by the independent variable (Vanderstoep & Johnston, 2019). With respect to this, the study found a R-Square value of 0.045 which implies that 4.5% of the variance in the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya is explained by physical working environment.

Adjusted R Square measures the amount of proportion of variance explained by the model while accounting for the number of predictors while adjusting for non-significant predictors (Creswell & Creswell, 2018). The current study notes that 4.1% is explained by the model while factoring non-significant predictors (Adjusted R-Square = 0.041). The standard error of estimate shows the precision of the model. The standard error of estimate was 0.50783 and thus high precision of the

model in its prediction. The study further sought to determine the significance of the model as a whole and whose findings are shown in Table 19

Table 4.15

Model Significance of Physical Work Environment on Mental Wellness of Nurses

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.926	1	2.926	11.347	.001 ^b
	Residual	62.409	242	.258		
	Total	65.335	243			

a. Dependent Variable: Mental wellness of Nurses

b. Predictors: (Constant), Physical Work Environment

The study revealed that the model as a whole was significant at 5% significance level as revealed by p-value less than 0.05 ($p=0.001$) and F-Statistic value of 11.347 with one degree of freedom on regression and 242 degrees of freedom on the residuals. This implies that the models provide a better fit for the data more than a model with zero predictors. The study further sought to estimate the model coefficients in order to establish the sensitivity of the model. Table 20 shows the results.

Table 4.16

Model Coefficients of Physical Work Environment on Mental Wellness of Nurses

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.987	0.151		13.128	0.000
Physical working environment	0.167	0.050	0.212	3.368	0.001

a. Dependent Variable: Mental wellness of Nurses

The study established that physical working environment was a significant predictor of mental wellness of nurses as shown by t-statistic of 3.368 and p-value less than 0.05 ($p=0.001$). Focusing on the unstandardized beta coefficient of 0.167, it implies that one unit increase in physical working environment conditions results into 0.167 units increase in the mental wellness of nurses and vice

versa, with other factors held constant. The first hypothesis “H0₁: There is no statistically significant influence of physical work environment on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya” was therefore rejected at 5% significance level. This therefore implies that physical work environment has significant influence on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. The following model explains the influence of physical work environment on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.

$$Y = 1.987 + 0.167x_1 + 0.50783 \text{ Where:}$$

Y = Mental Wellness of Nurses

x_1 = Physical Working Environment

4.8 Influence of Organizational Factors on Mental Wellness of Nurses

The second objective sought to find out the influence of the organizational factor as a predictor of stress on the mental wellness of nurses in Embu and Tharaka Nithi Counties. The study described organizational factors as the support and resources that a healthcare organization gets to help run health activities. Such include the management system, the resources available for nurses, and the type of the healthcare organization which have a potential influence on nurses' work output. According to Lim et al. (2022), the influence of organizational factors as a key determinant of the nurse's job performance has received much attention upon realizing elements such as resources allocated to nursing and managerial factors contribute to the level of work output of nurses. Nurses get exposed to various conditions that increase health risks leading to many of them suffering from mental conditions.

The results from the descriptive statistics that tested the influence of organizational factors on mental wellness of nurses is discussed below. The objective was tested using questions developed using the NIOSH Worker Well-Being Questionnaire. A total of 8 items were asked and the responses recorded in the table 21 below. The opinion of nurses on the eight items was tested in a 5-item Likert scale. f represents the number of responses in a particular question and % is the percentage response rate. The mean values are calculated by summing each participant's score from the 8 items on the questionnaire and dividing by 8. The mean value recorded is an average

mean from all 245 participants. Std. Dev is the standard deviation that measures how spread the values is around the mean.

Table 4.17
Organizational Factors on Mental Wellness of Nurses

Statement	Strongly Disagree f (%)	Somewhat Disagree f (%)	Neither Disagree Nor Agree f (%)	Somewhat Agree f (%)	Strongly Agree f (%)	Mean	Std. Dev
At my organization, I am treated with respect	19 (8%)	41 (17%)	56 (23%)	85 (35%)	41 (17%)	3.30	1.24
My organization values my contributions	34 (14%)	36 (15%)	51 (21%)	63 (26%)	58 (24%)	3.05	1.28
My organization cares about my general satisfaction at work	36 (15%)	27 (11%)	85 (35%)	51 (21%)	44 (18%)	2.27	1.26
My organization is willing to extend resources...	46 (19%)	24 (10%)	78 (32%)	46 (19%)	49 (20%)	2.69	1.27
I trust the management at my organization	32 (13%)	32 (13%)	66 (27%)	66 (27%)	49 (20%)	2.96	1.28
My organization is committed to employee health and well-being	46 (19%)	24 (10%)	78 (32%)	46 (19%)	51 (21%)	2.69	1.27
My organization encourages me... to engage in healthy behaviors	49 (20%)	22 (9%)	87 (36%)	51 (21%)	34 (14%)	2.62	1.27

Statement	Strongly Disagree f (%)	Somewhat Disagree f (%)	Neither Disagree Nor Agree f (%)	Somewhat Agree f (%)	Strongly Agree f (%)	Mean	Std. Dev
I receive recognition for a job well done	70 (29%)	29 (12%)	68 (28%)	39 (16%)	36 (15%)	2.48	1.39

One of the factors researched on as having an impact on the nurse mental wellness was the type of treatment the nurses received from their respective hospitals. Results indicated that 17% strongly disagreed and 35% disagreed that they were treated with respect at their work place by their managers. Nurses felt the hospital management did not provide them with the expected treatment. Only 25% (8% and 17%) of respondents agreed and strongly agreed the organization treats them well. Results above agree with Afriyie (2020) findings that organizational factors such as the type of management, the resources available for nurses, and the type of the healthcare organization have a potential influence on nurses' work output.

Another element of the organization found in table 21 that influenced the working of nurses and has an influence on their mental wellness is the ability of the management to value the contribution of individual nurses. Results indicated 121 respondents with 24% strongly disagreeing and 26% disagreeing the hospital management valued their individual efforts and some went unrecognized despite working for long hours and addressing critical issues among patients. However, a total of 80 nurses (29%) agreed the hospital management valued their contributions. Results resonated with Lim et al. (2022) study findings that nurses get exposed to different risk factors in the workplace that affect their output. Also, the level of trust that nurses have towards their managers (item 5 in table 20) was low with a mean of 2.96, showing that majority of nurses reported low level of trust in their manager. The findings tend to support Ward et al. (2025) study outcome that a positive relationship between the hospital management and nurses contribute to nurses' wellbeing. Ward and colleagues' study was limited to the use of secondary data that was prone to bias and lacked

reliability. The current study filled this gap by using primary data and testing the research instruments for reliability.

The outcome from data analysis in table 21 revealed nurses from both hospitals, Embu and Chuka, had negative attitudes towards the type of healthcare management systems used because they contributed negatively to their work output. When asked regarding their willingness to work in their respective hospitals, nurses claimed organizations were poorly run and lacked good managerial practices. Cases such as nurses being harassed by seniors and even patients were identified which increased anxiety levels of nurses. The outcome supports Babapour et al. (2022) findings that poorly organized workplaces lead nurses to failing to deliver quality care to patients and eventually this affects their mental wellness abilities. In this study, it was established that lack of coordination in healthcare influenced the outcome of individual nurses. Whereas the outcome from questionnaires targeting nurses from Embu and Tharaka Nithi revealed lack of satisfaction with management of the hospitals, some respondents indicated that they were being treated accordingly.

Also, from table 21, 36 (15%) and 39 (16%) of respondents strongly disagreed and disagreed they received recognition for job well done. The number of nurses that agreed they got recognition, however, was also high with 70 respondents (29%) agreeing to the statement. The findings adhered to Liu et al. (2022) study outcome that found workload and time pressure, interpersonal relationships and management issues, resource and environmental problems, and professional and career issues as major problems nurses face while giving services to patients. The study by Liu and colleague was done in public hospitals in China and same results have been replicated in public hospitals in Kenya, an indication that lack of resources contributed to increasing mental health conditions among nurses.

Finally, nurses were asked their perceptions about the commitment of the hospital to their health and wellbeing. Results from table 21 showed 97 respondents, 51 strongly disagree and 46 disagree that the hospitals are committed to health and well-being of employees while 68 respondents agreed they were being treated well. Also, in terms of encouraging healthy behavior by hospital management, 85 respondents, 34 strongly disagree and 51 disagree, that their organization

provided opportunities to engage in a healthy behavior while 71 believed the hospitals promoted healthy behaviors. The outcome supports Kabunga & Okalo (2021) study findings that majority of nurses in Uganda suffer from PTSD because of exposure to situations that worsen their behavior and feelings. Also, Kahenda (2022) from Kenya came up with similar results where he claimed the preference of stress, anxiety, and depression was high among nurses because of unsupported workplace environments and lack of adequate resources. The two studies above used questionnaires to collect opinions of nurses, which was not reliable. In this study, this gap was covered by collecting data from doctors through interviews.

Qualitative data from interviews (appendix VI) was analyzed to support results from questionnaires on the influence of the organizational factors on the mental wellness of nurses. Doctors identified limited resources, discrimination, poor motivation, staff shortages, long shift hours, and personal life demands as key themes related to organizational factors. During the interview, doctors pointed out that the hospital management was reluctant to address issues facing nurses. Participant No. 3 from Embu Level 5 hospital while responding to question 5 from the interview claimed:

“Managerial factors such as discrimination against nurses and lack of motivation to carry out individual work, worsens nurse stress levels and causes psychological health problems.” (Participant, No. 3).

The findings support outcome from Ward et al. (2025) study that showed hospital management influences the outcome of nurses with poor relationship between the management and nurses causing low morale and motivation leading to low quality of services.

Also, another doctor while responding to question 5 argues:

“Insufficient resources such as medical supplies and equipment and medication, forces nurses to manage with what they have at hand leading to frustration, anxiety that leads to stress” (Participant No. 8).

The response above supports findings from Babapour et al. (2022) who established that workplaces with poor organization tend to cause low input from nurses; hence, affecting the quality of care offered to patients. Nurses end up suffering from mental health problems because of lack of satisfaction at the workplace.

Also, a response from a doctor in Embu level 5 hospital agreed to the fact that nurses lacked behavioral support from their managers. The doctor in answering question 5 from the interview claimed:

“Good management means nurses are heard and concerns raised by them addressed, and the organization does, to the best of its capabilities to make sure that such concerns are taken care of at once.” (Participant, No. 7).

In response to the same question, another doctor noted:

“Uncooperative and unsupportive management can lead to feelings of discrimination against nurses. Lack of appreciation to nurses may deteriorate their confidence leading to subsequent stress” (Participant No. 1).

The statement tends to support Afriyie (2020) results that found the lack of effective communication between nurses and partnering organizations affect workplace network making it hard for nurses to therapeutically engage with patients and colleagues causing stress. Afriyie and colleagues’ study was limited to using secondary data but the current study filled the gap by using primary data collected using interviews and questionnaires.

Also, while responding to question 5, a doctor claimed:

“Supportive leadership is critical in management of stress. If managers are noncooperative, unapproachable, and lack effective communication skills, it can lead to a feeling of isolation among nurses” (Participant No. 10).

The results support Liu et al. (2022) study that found interpersonal relationships and management issues, and professional and career issues as major problems nurses face while giving services to patients. Also, the statement by participant No. 10 supports findings from Berlin et al. (2023) that poor management of healthcare organizations contribute to high burnout among nurses. The study utilized the quantitative research approach that created a gap in data collection. The current study combined quantitative and qualitative data to bridge the gap.

Also responding to the interview question 5, participant No. 5 noted:

“In a well-built hospital with necessary equipment, personnel, and no toxicity helps boost morale of its nurses to perform their duties well and on time. In an environment with toxicity, it demoralizes them, as they understand they are not appreciated. With lack of

resources/poor building structure, it makes giving of services more difficult and tedious.”
(Participant, No. 5).

The participant expounded on the findings from the questionnaires where nurses claimed they lacked good resources and the working environment was making them tired. The results are in agreement with findings from Nyaberi (2019) who established that the organization factors such as non-supportive management and teams, and lack of resources and health amenities to contribute to poor mental wellness.

The researcher carried out inferential statistics to test the hypothesis for the objective discussed above. The hypothesis states that there is no statistically significant influence of organizational factors on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. This was tested by performing a regression between organizational factors and mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya, and whose summary is shown in Table 22.

Table 4.18

Model Summary of Organizational Factors on Mental Wellness of Nurses

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.360 ^a	0.130	0.126	0.48475

a. Predictors: (Constant), Organizational Factors

The study found out that there was a weak correlation between organizational factors and mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya as shown by a R value of 0.360. This implies that the model provides a good fit for the data. R Square value of 0.130 implies that 13.0% of the variance in the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya is explained by organizational factors. Considering other additional predictors, organizational factors account for 12.6% of the variance in mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya due to the adjusted R square value of 0.126. A low standard error of the estimate of 0.48475 implies that the model has high precision. Table 23 shows whether the model is significant as a whole.

Table 4.19*Model Significance of Organizational Factors on Mental Wellness of Nurses*

<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	8.470	1	8.470	36.045	.000 ^b
	Residual	56.865	242	.235		
	Total	65.335	243			

a. Dependent Variable: Mental wellness of Nurses

b. Predictors: (Constant), Organizational Factors

The results indicate that the regression model is significant as a whole and thus implying that the model provides goodness-of-fit of the model as shown by $F(1,242)=36.045$ and $p<0.05$. Table 24 shows whether organizational factors are significant predictors of mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.

Table 4.20*Model Coefficients of Organizational Factors on Mental Wellness of Nurses*

Model	Coefficients		Standardized Unstandardized		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.855	0.110		16.922	0.000
Organizational Factors	0.209	0.035	0.360	6.004	0.000

a. Dependent Variable: Mental wellness of Nurses

The study revealed that organizational factors are significant predictors of mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya due to t-statistic value of 6.004 and p-value which is less than 0.05. Focusing on the unstandardized beta coefficient, the study notes that one unit increase in organizational factors increases the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya by 0.209 units and vice versa provided other factors are held constant. The study rejected the second hypothesis “H0₂: There is no statistically significant influence of

organizational factors on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya” at 5% significance level. This therefore implies that organizational factors have significant influence on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. The following model was therefore formulated to guide this relationship.

$$Y = 1.855 + 0.209x_2 + 0.48475 \text{ Where:}$$

Y = Mental Wellness of Nurses

x_2 = Organizational Factors

4.9 Influence of Nurse-Colleague Relationship on Mental Wellness of Nurses

The third objective of the study was to determine the influence of the nurse-colleagues' relationship at the workplace on the mental wellness of nurses and how nurses relate with their colleagues at the workplace is stipulated as one of the major predictors of stress in the workplace (Martin, 2021). In a work environment where nurses relate well with colleagues, the organization thrives and patient outcome increases. And therefore, the research aimed at establishing the lived experiences by nurses in the two hospitals under investigation, Embu and Chuka referral hospitals as represented in the table below.

The objective of nurse-colleague relationship was tested using questionnaires generated with the NIOSH Worker Well-Being Questionnaire found in appendix V (c). Table 25 shows the outcome of the data analysis collected from nurses to determine the influence of nurse-colleague relationship on the mental wellness of nurses. A total of 6 items were used to generate questionnaires to investigate the objective. Nurses were tested based on their opinions that were recorded in a Likert scale. f represents the number of responses in a particular question and % is the percentage response rate. The mean values are calculated by summing each participant's score from the 8 items on the questionnaire and dividing by 8. The recorded mean value is an average mean from all 245 participants. Std Dev is the standard deviation that measured how spread the values is around the mean.

Table 4.21*Nurse-Colleague Relationship on Mental Wellness of Nurses*

Statement	Strongly Disagree f (%)	Somewhat Disagree f (%)	Neither Disagree Nor Agree f (%)	Somewhat Agree f (%)	Strongly Agree f (%)	Mean	Std. Dev
I can share duties with my co-workers equally	18 (7.4%)	44 (18.0%)	34 (13.9%)	63 (25.8%)	85 (34.8%)	3.61	1.34
I count on my co-workers for support when needed	21 (8.6%)	53 (21.6%)	26 (10.6%)	68 (27.8%)	75 (30.6%)	3.48	1.38
I feel my job is secure when working as a team with my coworkers	16 (6.5%)	52 (21.2%)	39 (15.9%)	58 (23.7%)	79 (32.2%)	3.53	1.33
I have freedom to make choices when in a multi-disciplinary approach	30 (12.2%)	55 (22.4%)	51 (20.8%)	62 (25.3%)	45 (18.4%)	3.13	1.33
I do not experience fatigue when working in similar wards with my colleagues	49 (20.0%)	65 (26.5%)	56 (22.9%)	50 (20.8%)	24 (9.8%)	2.72	1.28
My colleagues treat me with respect	21 (8.6%)	44 (18.0%)	43 (17.6%)	73 (29.8%)	57 (23.3%)	3.33	1.38

Regarding the interpersonal relationship, nurses were asked their willingness to share duties with colleagues. Results showed 85 respondents strongly agreed to the question while 63 somewhat

agreed, representing 34.7% and 35.0% of the respondents respectively. However, 44 nurses (26.0%) disagreed with the statement. The rest, 44 nurses (18.0%) neither agreed nor disagreed they could share duties with co-workers. Also, participants showed ability to get support from coworkers with 79 of nurses, a 30.6% response rate, agreeing to the statement that they get assistance from colleagues when needed. Although the opinions of nurses were divided between somewhat agreeing and neither agreeing nor disagreeing, the results indicated the presence of a supportive workforce. The findings indicated that most nurses were willing to share their duties with coworkers showing the desire of nurses to establish a collaborative workplace environment. The insight developed from these findings demonstrates the need for a supportive network among nurses that helps to manage workplace stress. The results tend to liaise with Durmus and Sarikoc (2022) study outcome that collaboration between nurses influences their levels of stress, nurse job satisfaction, patient care, and the rate of medical errors. However, the study did not establish how the influence of this relationship with interpersonal relationship was an indicator of stress. In this study, the factor was tested and data collected using questionnaires and interviews. The study, though, did not identify how these challenges influenced the mental status of nurses. This study identified the relationship between the inter-professional collaboration with mental wellness establishing a positive association.

The next indicator of nurse-colleague relationship tested in table 25 was the job design. Nurses were asked their opinions regarding the freedom to make choices while in the workplace. Results showed about 30 and 55 respondents, representing 12.2% and 22.4% response rates, strongly disagreed and somewhat disagreed they had freedom to make autonomous decisions. However, 45 nurses (18.4%) and 62 nurses (25.3%) strongly agreed and somewhat agreed they have the freedom to make choices. 51 nurses, 20.8% remained neutral. The findings above revealed a significant number of nurses lacked ability to make autonomous decisions while working in a multidisciplinary approach, which contributed to their feelings of disempowerment and frustration causing negative mental wellness. The connection between nurses and colleagues was tested by asking them how their peers respected them. Results showed more than 73 nurses (29.8%) somewhat agreed and 57 nurses (23.3%) strongly agreed their colleagues respected them. However, 21 nurses (8.6%) and 44 nurses (18.0%) strongly disagreed and somewhat agreed they were never treated with respect by colleagues. The findings were attributed to the fact that nurses

wanted to maintain a positive inter-professional relationship. Tran et al. (2018) study established that the connection between the nurse and the workplace enhances the nurse's mental health. The findings from the current study supported Tran and colleagues research by establishing a positive inter-professional relationship that led to majority of nurses recording good relationship with colleagues. According to Trans and colleagues, workplace connection allows employees to increase their commitment to duties and promote a positive mental health impact leading to less stress. Wei et al. (2018) reveals a healthy working environment was favorable for nurse mental wellbeing. However, the study relied on secondary sources of data that were prone to errors and reliability issues while this study used primary quantitative and qualitative data that demonstrated the real-time situation.

The last indicator of nurse-colleague relationship that contributed towards achieving the study objective was the ability of the hospital to effectively manage shifts and ensure nurses work as a team to overcome work overloads and burnout. Results indicated 24 nurses (9.8%) strongly agreed and 50 nurses (20.8%) somewhat disagreed they experienced fatigue while working in wards with other nurses. At the same time, more than 49 nurses (20.0%) and 65 nurses (26.5%) strongly disagreed and somewhat disagreed, respectively, they never experienced fatigue when working in similar wards with colleagues. The findings above imply that nurses experience high workloads and burnouts in hospital wards because of the lack of teamwork and cooperation between workers. The outcome supports Payne et al. (2020) results that burnout at the workplace influences job satisfaction. Payne and his colleague established that lack of teamwork among nurses caused occupational burnout, which influenced the psychological wellbeing of nurses. Although this study outcome supports the findings from this literature, there was lack of reliability of instruments, which was well considered in this study by integrating major scales for determining mental health and mental wellness.

The study also sought to establish the opinion of doctors on the influence of nurse-colleague relationship on the mental wellness of nurses through the qualitative data analysis. The outcome identified positive or negative relationships, conflicts, lack of trust and poor management of workers' shifts causes nurse burnout as key themes related to the nurse-colleague relationship variable. One indicator of the nurse-colleague relationship identified from the interview transcript

was the Inter-professional relationship. In response to question 6 from the interview, one of the doctors from Embu Level 5 hospital said:

“Positive relationship fosters team work and reduces stress, as nurses can rely on one another and other colleagues for support” (Participant No. 4).

Another doctor, responding to same question, argued:

“... strained relationships characterized by conflicts, competition or lack of trust can lead to a feeling of isolation and anxiety, significantly impacting mental health” (Participant No. 6).

The findings show that lack of collaboration between nurses contributes to individual nurses being anxious and stressed. In supporting inter-professional interaction two doctors who answered question 6 claim:

“Nurses working in supportive cohesive teams often feel less stressed and more motivated. A culture of teamwork allows nurses to share workload and emotionally support each other during challenging times” (Participant no. 10). Another doctor claimed:

“Nurses may experience less stress and greater motivation when they work together. Teamwork enables shared workload and emotional support which is crucial in hospitals” (Participant No. 2).

Finally, job design as an indicator of nurse-colleague relationship was identified during the analysis of interview data. A doctor participant at Chuka County Referral Hospital supported the claims that a poor job design leads to burnout of nurses influencing their mental wellbeing. In responding to question 9, a doctor claimed:

“Poor management of shift work makes nurses have disrupted and incomplete resting hours leading to physical exhaustion and challenges meeting job demands” (Participant No. 10).

Inferential statistics was carried out to test the third hypothesis that states that there is no statistically significant influence of nurse-colleague relationship on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. The hypothesis was tested by performing a regression between nurse-colleague relationship and mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.

Table 4.22*Model Summary of Nurse-Colleague Relationship on Mental Wellness of Nurses*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.437 ^a	0.191	0.188	0.46727

a. Predictors: (Constant), Nurse-Colleague Relationship

The study established that there was moderate relationship between the nurse-colleague and mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya as indicated by R value of 0.437. The R Square value of 0.191 implies that 19.1% of the variance in mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya is attributable to nurse-colleague relationship. Of this percentage, 18.8% of the variance could be explained by the significant predictors as shown by the Adjusted R Square of 0.188. The standard error of estimate in the model is 0.46727, which is less than 1 and thus implying a high precision of the model. The study further sought to determine the significance of the model as a whole and whose findings are shown in Table 27.

Table 4.23*Model Significance of Nurse-Colleague Relationship on Mental Wellness of Nurses*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.497	1	12.497	57.238	0.000 ^b
	Residual	52.838	242	0.218		
	Total	65.335	243			

a. Dependent Variable: Mental Wellness of Nurses

b. Predictors: (Constant), Nurse-Colleague Relationship

It was established that the model as whole was statistically significant as shown by a $F(4,242)=57.238$ and $p<0.05$. This indicates that the model provides a better prediction than a model with zero predictors. The study further sought to establish the sensitivity of the model and the significant predictors in the model as shown in Table 28.

Table 4.24*Model Coefficients of Nurse-Colleague Relationship on Mental Wellness of Nurses*

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
			0.113		
1	(Constant)	1.660	14.667	0.000	
		0.437	7.566	0.000	
	Relationship			0.240	0.032

Table

a. Dependent Variable: Mental Wellness of Nurses

The study established that nurse-colleague relationship was a significant predictor of mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya as shown by a t-statistic of 7.566 and a p-value less than 0.05 ($p < 0.05$). Focusing on the unstandardized beta coefficients, the study revealed that a unit increase in the level of nurse-colleague relationship results into 0.240 units increase in the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya, and vice versa, with other factors held constant. Therefore, the third hypothesis, stating that, “H03: There is no statistically significant influence of nurse-colleague relationship on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya” was rejected at 5% significance level. This therefore implies that nurse-colleague relationship has a significant influence on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. This resulted to the following model;

$$Y = 1.660 + 0.240x_3 + 0.46727 \text{ Where:}$$

Y = Mental Wellness of Nurses

x_3 = Nurse-Colleague Relationship

4.10 Influence of Care Recipient Attitudes towards Nurses on Mental Wellness of Nurses

The fourth specific objective sought to determine the influence of care recipients' attitude towards nurses' mental wellness in Embu and Tharaka Nithi Counties in Kenya. The attitude of care recipients towards nurses influences the level of stress among nurses. Care recipients refer to patients receiving medical care in hospitals and whose medical outcomes depend on their direct contact with nurses. As such, the objective tested elements of nurse-care and recipient's relationship such as poor nurse-patient relationship, conflicts between nurses and care receivers, the patients and their families that negatively influence nurses' output and could lead to stress.

The descriptive data analysis outcome from the influence of care recipients' attitudes towards nurses on mental wellness of nurses is shown below. The objective was investigated using questionnaires administered to nurses developed using the NIOSH Worker Well-Being Questionnaire (appendix V (d)). Table 29 shows the outcome of the data analysis collected from nurses to determine the influence of nurse-colleague relationship on the mental wellness of nurses. A total of 6 items were used to generate questionnaires to investigate the objective. Nurses were tested based on their opinions that were recorded based on the scale from "Never" to "Everyday". n represents the number of responses in a particular question, % is the percentage response rate. The mean values is calculated by summing each participant's score from the 6 items on the questionnaire and dividing by 6. The recorded mean value recorded is an average means from all 245 participants. Std Dev is the standard deviation that measures how spread the values is within the mean.

Table 4.25*Care Recipient Attitudes towards Nurses on Mental Wellness of Nurses*

Statement	Never f (%)	Once a year f (%)	Few times a month f (%)	Once a week f (%)	Few times a week f (%)	Everyday f (%)	Mean	Std. Dev
I look after certain patients impersonally, as if they are objects	114 (47%)	34 (14%)	32 (13%)	30 (12%)	20 (8%)	13 (5%)	1.41	1.73
I feel tired when I get up in the morning and have to face another day at work	14 (17%)	68 (28%)	37 (15%)	39 (16%)	39 (16%)	20 (8%)	2.18	1.74
I have the impression that my patients make me responsible for some of their problems	65 (27%)	54 (22%)	45 (18%)	24 (10%)	26 (11%)	29 (12%)	2.02	1.94
I am at the end of my patience at the end of my work day	68 (28%)	51 (21%)	29 (12%)	33 (13%)	36 (15%)	27 (11%)	2.10	1.96
I really don't care about what happens to some of my patients	129 (53%)	41 (17%)	30 (12%)	27 (11%)	11 (4%)	6 (2%)	1.07	1.45
I have become more insensitive to people since I've been working	104 (43%)	48 (20%)	36 (15%)	29 (12%)	17 (7%)	9 (4%)	1.34	1.58

Results shown in table 29 address the research objective to determine the influence of care recipients' attitude towards nurses on the mental wellness of nurses in Embu and Tharaka Nithi Counties. Care recipients determine the type and outcome of care based on how they perceive care provided to them. The data was collected in reference to Molina-Mula & Gallo-Estrada (2020) study findings that the interaction that the nurse has with their patients can contribute to positive

or negative mental wellness. Care recipients determine the outcome of the care provided and their safety is based on how they relate with nurses. Table 29 above showed the extent at which the relationship between care recipients and nurses influenced the mental wellness of nurses. Also, an average standard deviation of 1.8, calculated by summing standard deviation from all 6 items and dividing by 6, showed variability of responses meaning there was a difference in how the respondents responded to the questions asked. One of the indicators of the attitude of care recipients' attitudes towards nurses assessed was the level of patient satisfaction with health services as perceived by nurses. Nurses were asked about their personal views on patients and the results showed they viewed patients as objects many times in a year. The results revealed the extent to which nurses are dissatisfied with their duties and were no longer interested in their patient's well-being. Also, the analysis of questionnaire identified 54.5% of nurses believed their patients had negative attitudes towards them. The results aligned with Keykaleh et al. (2018) study outcome that showed nurses were responsible for the safety of patients and that poor coordination between nurses and care recipients influenced the outcome of care. The study's gap was seen in using one design to collect data where the questionnaires were the design used. The current study filled this gap by supporting the data collected using questionnaires with interviews targeting doctors. Low-esteem among nurses is a psychological issue that Aisa et al. (2021) claimed influences majority of nurses working in intensive care units because of constant conflicts with patients' family members and friends seeking to know the status of their patients. However, Aisa's study was based on an observation without a specific instrument to measure stress levels of nurses. This study has used the PMH-Scale to measure the attitude.

Another indicator of care recipient's attitude towards nurses and the corresponding mental wellness of nurses was motivation of nurses to attend to patients. In addressing this, nurses were asked about their attitude towards work in terms of their willingness to attend to daily duties. Results showed that nurses were not willing to go to work and this happened many times in a week, month, or a year. However, it was noted that none of the participants wished to miss their job even for a single day, an indication that they were afraid to lose their employment. The low willingness of nurses to attend to their duties agrees with study outcomes from Lee et al. (2022) who identified factors such as high number of care recipients, non-cooperative patients, and lack of psychological support from the hospital as key factors causing distress among nurses. Similar to Aisa and colleagues study

above, Lee and friends' study was limited in the lack of instruments to develop questionnaires. The gap in the mentioned study, was filled by using the PMH-Scale to build questions and that integrated interviews to support the data. Also, nurses were asked how they felt about patients' issues in terms of solving problems. Results showed majority of nurses claimed patients blamed them for their problems many times a week. The results confirmed the study findings from Shawa (2012) that patients have negative perceptions about nurses, which influences how nurses deliver care. Shawa results were limited because the author used research assistants to help participants answer questionnaires influencing the authenticity of data and introducing possible biases. In this study, participants were asked to respond to questions independently making the results more valid and non-biased.

Nurses were also asked their attitude towards attending to their duties at work. Results from table 28 revealed 68 nurses (28%) did not feel like attending work a few times a year while 39 nurses (16%) felt like going to work a few times a month. The nurses that felt like attending to work once a week and everyday were 39 and 20 representing 16% and 8% respectively. The results indicated nurses were reluctant to attend to their official duties at the workplace. The outcome could be related to poor relationship between nurses and patients, and also poor organizational factors. In supporting these claims, Molina-Mula & Gallo-Estrada (2020) established poor collaboration between nurses and patients to have a major influence on nurse's behavior at the workplace. Nurses get upset when they do not experience a positive interaction at workplace making them feel less interested in their duties. Also, Alshehry (2022) established that nurses were emotionally and physically abused by patients and their families, which reduced their job morale. The studies above lacked valid instruments to test nurses' attitudes, a gap the current study filled by using the NIOSH Worker Well-being questionnaire to investigate the nurses.

Related to the above, the quality of services given to patients by nurses was tested. Results showed nurses cared less about what patients thought about them. In some instances, nurses cared less about what happened to patients, an indication that they maintained a negative caring attitude towards patients. The behavior was attributed to the lack of motivation as demonstrated in Lee et al. (2022) study findings. Generally, indicators of patients' attitude to nurses, other than those identified in the conceptual framework, were burnout as revealed in question 2 and 4 where nurses

reported instances of fatigue because of dealing with large numbers of patients and responding to different types of claims. Also, emotional burden was identified in question 3 where nurses felt overly responsible for patients' problems but lacked necessary support from the hospital. In addition, nurses experienced detachment from care recipients where some patients became violent making it difficult for nurses to attend to their needs. Such instances contributed to nurses lacking direct contact with the patient which influenced the patient outcome and eventually, the nurse not delivering quality care to recipients. As such, the results showed attitudes, behaviors, and character of care recipients influenced the level of motivation, trust, and ability to deliver care by nurses, which influenced their mental wellness.

Qualitative data from the interviews was used to support the findings from the quantitative data and the results are discussed below. Three themes namely, negative and positive attitude of patients towards nurses, lowly motivated nurses failing to handle patients well, and conflicts with patients and families due to poor quality of services were identified from the analysis. Doctors claimed patients had negative attitudes towards nurses, which contributed to poor mental wellness. In supporting the above data, a doctor from Chuka County Referral hospital claimed nurses were always exposed to negative attitudes from the care recipients' thus lowering their self-esteem. In responding to the interview question 7, participants argue:

"Constant exposure to negative attitudes can impact nurse's self-esteem and confidence in their professional abilities. When nurses feel disrespected by patients, they are unable to validate their skills and efforts ..." (Participant No. 7).

The sentiments agree with Aisa et al. (2021) claims that constant conflict with patients' family members and friends seeking to know the status of their patients stresses the nurses. The lack of respect and continuous arguments from patients and families affect the morale and self-esteem of nurses.

Another doctor while answering question 7 claimed:

"Negative attitudes such as distrust and disrespect heighten the emotional toll on nurses, making their jobs more draining and contributing to stress" (Participant No. 8).

The statement agrees with Shawa (2012) results showing that most patients tend to have negative perceptions towards nurses, which affect how nurses deliver their services. Shawa study was

limited to possible biases because of the use of research assistant to help in data collection. The current study filled this gap by allowing participants the freedom to answer questions without being assisted by a third party.

Another doctor in answering the same question 7 said:

“Rude, uncooperative behavior, or abusive behavior from patients or their families can lead to emotional distress, frustrations, and reduced motivation” (Participant No. 3). The above sentiments are in support of Molina-Mula & Gallo-Estrada (2020) study that established some elements such as poor collaboration, violence, and lack of appreciation for nurse services as some of the key aspects affecting the relationship between nurses and patients was supported in the above statement.

Also, another participant from Embu Level 5 Hospital while responding to question 7 of the interview confirmed that poor interaction and conflicts between nurses and patients affected nurses’ mental health. The interviewee claimed:

“Challenging interactions with patients and their families may cause conflict. Dismissive attitude from patients challenges nurses in producing healthcare. This negatively affects their work, hence, causing frustration.” (Participation No. 1).

The above statement agreed with Keykaleh et al. (2018) who established that poor relationship between the nurse and the care recipient as a leading cause to job stress that may eventually cause mental health problems among nurses. The study showed a gap in lack of valid instruments to collect data. The current study closed this gap by using validated instruments.

Also, a doctor from Chuka County Referral Hospital confirmed a similar situation. In this particular response to question 7, the participant argued:

“Difficult interaction with patients or families can create conflicts leading to tense exchanges that further heightens stress. If a patient and families are uncooperative and dismissive, it hinders the nurse’s ability to deliver”. (Participant No. 8).

The quotes above demonstrated how doctors felt about nurses in hospitals and their corresponding influence to the nurses’ mental health. The findings were in agreement with Lee et al. (2022) study outcome that established nurses experienced psychological disturbances when dealing with patients requiring immediate and strict observation, which was a major factor contributing to stress.

The families of these patients were always eager to know the status of their members; hence, ending up causing violence or conflicts that posed threats to the emotional and psychological wellbeing of nurses.

Inferential statistics was carried out to test the fourth hypothesis of the study that states that there is no statistically significant influence of care recipients' attitude towards nurses on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. To test this hypothesis, the study regressed care recipients' attitude towards nurses against mental wellness of nurses as shown in Table 30.

Table 4.26

Model Summary of Care Recipients' Attitude towards Nurses on Mental Wellness of Nurses

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.147 ^a	0.022	0.018	0.51364

a. Predictors: (Constant), Care Recipients' Attitude towards Nurses

The study established that there was a weak correlation between care recipients' attitude towards nurses and mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya as shown by a R value of 0.147. R Square value of 0.022 implies that 2.2% of the variance in the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya is explained by care recipients' attitude towards nurses. Factoring other additional predictors, care recipients' attitude towards nurses' accounts for 1.8% of the variance in mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya due to the adjusted R square value of 0.018. A low standard error of the estimate of 0.51364 implies that the model has high precision. Table 31 shows whether the model is significant as a whole.

Table 4.27*Model Significance of Care Recipients' Attitude towards Nurses on Mental Wellness of Nurses*

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.413	1	1.413	5.354	0.022 ^b
	Residual	64.109	243	0.264		
	Total	65.522	244			

a. Dependent Variable: Mental wellness of Nurses

b. Predictors: (Constant), Care Recipients' Attitude towards Nurses

The results indicate that the regression model is significant as a whole and thus implying that the model provides goodness-of-fit of the model as shown by $F(1,243)=5.354$ and $p<0.05$ ($p=0.022$). Table 32 shows whether care recipients' attitude towards nurses is a significant predictor of mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya.

Table 4.28*Model Coefficients of Care Recipients' Attitude towards Nurses on Mental Wellness of Nurses*

Model	Standardized Unstandardized				
	Coefficients		Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.168	0.141		15.425	0.000
Care Recipients' Attitude towards Nurses	0.101	0.044	0.147	2.314	0.022

a. Dependent Variable: Mental wellness of Nurses

The study revealed that care recipients' attitude towards nurses is a significant predictor of mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya due to t-statistic value of 2.314 and p-value which is less than 0.05. Focusing on the unstandardized beta coefficient, the study revealed that one unit increase in care recipients' attitude towards nurses increase the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya by 0.101 units and vice versa

provided other factors are held constant. The study rejected the fourth hypothesis “H04: There is no statistically significant influence of care recipients’ attitude towards nurses on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya” at 5% significance level. This therefore implies that care recipients’ attitude towards nurses has a significant influence on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. The following model was developed from these results.

$Y = 2.168 + 0.101x_4 + 0.51364$ Where:

Y = Mental Wellness of Nurses

x_2 = Care Recipients’ Attitude towards Nurses

4.11 Moderating Influence of Self-efficacy on the Stress Predictors on the Mental Wellness of Nurses

The fifth objective aimed at establishing the influence of self-efficacy on the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. Self-efficacy is a term applied in different areas including counseling, clinical, education, health literature, and psychological settings. Self-efficacy defines an individual’s perceptions of their abilities to act in a specific manner under four main processes namely: affective, motivation, selection, and cognitive. The outcome from the analysis of quantitative and qualitative data is represented in sub-sections below.

A questionnaire was developed targeting nurses to help in addressing the above objective. The questionnaire was developed using the GSE scale found in appendix V (8). A total of 7 questions were asked and participants gave their opinions on a 4-scale meter (see appendix V (8)). The opinions given were categorized as not at all, hardly true, moderately true, and exactly true. Findings from the questionnaire data is presented in table 33 and the discussion of results done below the table. f represents the population while % is the percentage. The mean values were calculated by summing each participant’s score from the 7 items on the questionnaire and dividing by 7. The recorded mean value was an average means from all 245 participants. Std Dev is the standard deviation that measures how spread the values is around the mean.

Table 4.29
Self-efficacy and Mental Wellness of Nurses

Statement	Not At All f (%)	Hardly True f (%)	Moderately True f (%)	Exactly True f (%)	Mean	Std. Dev
I can always manage to solve difficult problems if I try hard enough	66 (27%)	75 (31%)	85 (35%)	17 (7%)	1.88	0.84
If someone opposes me, I can find the means and ways to get what I want	32 (13%)	87 (36%)	100 (41%)	24 (10%)	1.65	0.78
It is easy for me to stick to my aims and accomplish my goals	63 (26%)	61 (25%)	85 (35%)	34 (14%)	1.88	0.86
I am confident that I can deal efficiently with unexpected events	53 (22%)	73 (30%)	90 (37%)	27 (11%)	1.84	0.81
Thanks to my resourcefulness I know how to handle unforeseen events	51 (21%)	66 (27%)	100 (41%)	27 (11%)	1.84	0.79
I can solve most problems if I invest necessary efforts	83 (34%)	51 (21%)	83 (34%)	27 (11%)	2.02	0.86
I can remain calm when facing difficulties because I can rely on my coping abilities	68 (28%)	68 (28%)	90 (37%)	17 (7%)	1.92	0.82

To test the effectiveness and motivation of nurses, the question regarding the nurse' ability to manage and solve complex problems was asked. Haugan & Erikson (2021) established that self-efficacy was an important factor that influences the mental wellness of nurses. Results show majority of nurses were moderately sure they could solve challenging problems which was an indication that most nurses were somehow confident in their ability to tackle challenges. At the

same time, participants were asked their commitment to accomplish personal goals and results revealed the participants had moderate confidence in their work, and could achieve their personal goals. The results resonated with Li et al. (2023) outcome showing nurses faced significant number of issues that influenced their morale and motivation to work. Despite these conditions, nurses had to work hard to fulfill their job demands and it was out of this that some got influenced mentally. Whereas Li and colleagues study maintained a positive relationship between nurses' effectiveness at workplace and self-efficacy, there was no validation and reliability of instruments. The current study used a pilot study to test the reliability with the results indicating the questionnaire instruments were highly reliable.

The second indicator tested during the quantitative data was job satisfaction. Nurses were asked their ability to deal with unexpected outcomes and most nurses claimed they were not well prepared. The unforeseen situations increased anxiety and this could lead to mental problems. The findings tended to contradict with Verhaeghe et al. (2023) study outcome that the level of satisfaction with the workplace did not influence self-efficacy as other factors such as managerial styles and the nature of the working environment influences their perceived self-efficacy. Verhaeghe and colleagues relied only on questionnaires to collect data. The current study included qualitative data through interviews that picked the opinions of doctors. Also, Mangi et al. (2019) study established a correlation between self-efficacy and the performance of nurses in a hospital. However, the study had relied on secondary data that affected the reliability of results. The use of primary sources of data made the current study more appropriate in identifying real-time scenario and associating them with emerging issues.

The self-efficacy of nurses was investigated based on their ability to think critically and work independently when other nurses fail to cooperate as tested in the second question in table 34. Results showed that 100 nurses (41%) were moderately sure they got things done when others opposed them while 87 nurses (36%) felt they could not work independently. Only 32 nurses (13%) were very confident of working without the input of others. Findings above revealed that whereas nurses had the capacity and proficiency to provide services to patients, they needed support from colleagues in terms of making decisions because of lack of coordination while operating independently. The outcome conformed to Mangi et al. (2019) study that established that self-

efficacy enhanced nurses' positive performance. Mangi and others revealed lack of mentorship, support, and inadequate training programs made nurses perform poorly in clinical practice, which led to negative self-efficacy. Whereas the study contributed towards identifying how self-efficacy affected performance, there was no association of self-efficacy with mental wellness of nurses showing the study gap. Abo-Ali et al. (2021) studied the relationship between self-efficacy and mental health of nurses, but they lacked a tool to measure the level of mental wellness. To fill the lacuna, this study used a self-efficacy questionnaire scale that associated the results from participants with the level of mental wellness. In this case, results revealed low resilience that contributed to negative mental wellness.

The outcome from the self-efficacy scale in table 33 helped to identify the nurse's ability to manage and overcome stress. According to Brown (2019), individuals with positive self-efficacy were able to manage stress effectively. Participants were asked their abilities to solve difficult problems and how they handled situations when they occurred. Results showed 85 participants (35%) and 17 participants (7%) claimed moderately true and exactly respectively, that they could handle difficult problems. Also 75 respondents, (31%) and 66 respondents (27%) responded hardly true and not at all that they were able to manage difficult problems. Also, 87 nurses (36%) and 32 nurses (13%) responded hardly true and not at all true respectively that they were able to find solutions to problems individually. The outcome demonstrated poor stress management among nurses that resulted to negative self-efficacy. The findings supported Ugwu et al. (2020) results that self-efficacy influenced personal accomplishment by reducing burnout and allowing the individual to work in a high-demanding workplace. However, emotional exhaustion due to lack of support and motivation was found to contribute to low self-efficacy leading to mental issues among nurses. Maina et al. (2019) study that showed how self-efficacy influenced cognitive thinking of a person also worked well in this study. The authors showed poor cognitive ability caused by low self-efficacy contributed to stress, which was confirmed in this study when majority of respondents claimed they could not solve difficult problems on their own. The results from Ugwu et al. (2020) were limited to one instrument, the self-efficacy scale leading to a gap that was closed by integrating the questionnaire with interviews for the current research. Maina et al. (2019) study targeted one facility and used one instrument, a limitation addressed in this study by targeting two facilities and using both questionnaires and interviews.

Nurses were asked the influence of the work-life balance on their efficiency at work (see appendix V (e)). The work-life balance, as an indicator of the moderating variable, was found to have a contributing impact on self-efficacy of nurses as a predictor of stress among nurses. The findings are presented in figure below.

Table 4.30
Work-life Balance on Self-efficacy of Nurses

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
	f %	f %	f %	f %	F %
Work-life Balance					
I have the freedom to vary my work schedule	35 14.34	69 28.28	40 16.39	42 17.22	58 23.7
I have the freedom to work whenever is best for me	42 17.21	51 20.9	30 12.3	41 16.8	80 32.79

Results from table 34 indicated 35 (14.34%) and 69 (28.28) respondents strongly agreed and somewhat agreed respectively that they had freedom to vary the work schedule. However, 58 respondents (23.7%) strongly disagreed to the same statement. Also, the second question shows 32.79% and 16.8% of respondents strongly disagreed and somewhat disagreed they had freedom to work whenever was best for them. However, 14.34% strongly agreed and 28.28% somewhat agreed their job gave them freedom to manage work and personal duties. The findings above supported study by Mahendran et al. (2019) that established that burnout was one of the factors that influenced work-life balance among nurses. Mahendran and colleagues study revealed that work-life balance was associated with conditions of the physical work environment that influenced stress. In a similar finding, Xiao et al. (2023) established a direct influence of the work-life balance, that is, the ability of the nurse to effectively balance job demands and personal duties and psychological wellbeing. However, the two studies used questionnaires that were not validated. In this study, a pilot study was used to validate instruments helping to address the gap in (Xiao et al., 2023; Mahendran et al., 2019) studies.

Also, nurses were asked to give their opinions on how the workplace motivation influenced their efficiency at workplace (Appendix V (f)). Motivation as an indicator of the moderating variable, was found to contribute towards the self-efficacy of nurses in the workplace.

Table 4.31

Workplace Motivation on Mental Wellness of Nurses-work inspiration

<i>Frequency</i>	<i>My Work Inspires Me</i>	
	N	%
Always	20	8
Very Often	12	5
Often	12	5
Sometimes	93	38
Rarely	47	19
Almost Never	34	14
Never	27	11
Total	245	100

Results from table 35 revealed nurses were moderately motivated to go to work, which was directly associated with stress predictors like workplace environment, organizational factors, nurse colleague relationship, and care recipient's attitudes. Some level of motivation was recorded in questions "My work inspires me," with 10% of respondents (5% and 5%) reporting feeling inspired by their work often and very often respectively. The results indicated nurses found a purpose and meaning in their work that was closely related to organizational factors. The findings tended to support Kohnen et al. (2024) study outcome that the type of organizational leadership defines the worker's interest in the workplace. Kohnen et al. (2024) study established that nurses were rarely motivated leading to low performances. However, Kohnen and colleagues' study targeted only nurses and to fill the gap, this study sought the opinion of doctors. Also, nurses were established to be intrinsically motivated with 98 nurses (38%) feeling inspired by their work sometimes and 20 (8%) always feeling motivated. According to Obina et al. (2024), environmental motivations

such as creating a supportive workplace environment was established to inspire and motivate nurses. The study confirmed the findings from Obina and colleagues where a balanced workforce helped nurses achieve their professional desires. Obina used one approach, the quantitative research, that was inadequate to cover the study and this was improved in the findings of this study by adding interviews to questionnaires.

Nurses were also asked a question to state how often they felt like going to work and the responses recorded in table 36 below. f is the population and % is the percentage of responses.

Table 4.32
Workplace Motivation and Mental Wellness of Nurses- Tiredness

Frequency	I feel when I wake up in the morning and have to face another day at work	
	f	%
Everyday	20	8%
Once a week	39	16%
Once a month	37	15%
A few times a month	39	16%
A few times a year	68	28%
Never	41	17%
Total	245	100%

The possible causes of the negative feelings towards work included job dissatisfaction, burnout, and poor relationship with colleagues and patients. Chikobvu and Harunavamwe (2021) study established a direct association between work commitment and empathy influenced the level of satisfaction of nurses in their workplace. Highly motivated nurses are more likely to perform higher compared to low motivated nurses. Also, motivated nurses are more likely to cope with stress compared to non-motivated nurses. The findings showed nurses lacked motivation which affected their willingness to work. However, Chikobvu and Harunavamwe's (2021) study population was small limiting the ability to generalize results. This study filled the gap by targeting a large

population where more diverse views were found unlike Chikobvu and Harunavamwe (2021) whose data scope was limited.

The study also sought to find the opinion of doctors by analyzing qualitative data from interviews (appendix VI) to establish the moderating effect of self-efficacy on predictors of stress on mental wellness of nurses. One of the key themes associated with self-efficacy identified by doctors was poor working conditions causing burnout and exhaustion. In responding to question 11 from the interview, participants said:

“The emotional strain from managing demanding cases without proper psychological support often led to burnout, stress, and anxiety. This leads to a feeling of worthlessness affecting both professional and personal well-being” (Participant No. 6).

The statement agreed with Maina et al. (2019) study that revealed the emotional state of a nurse influences their cognitive thinking and leads to poor cognitive ability caused by low self-efficacy contributing to stress. The findings revealed the possible sources of depression, stress, and anxiety among nurses was due to poor emotional satisfaction at the workplace.

Also, another doctor while responding to question 11 argues:

“Compassion fatigue usually results from emotional demands of care giving. Repeated experience erodes nursing caregiving activities” (Participant No. 3).

Also, another doctor while responding to question 11 of the interview argued:

“Self-efficacy is a predictor of stress that threatens the performance of nurses at the workplace and some of the causes include prolonged job strain and burnout” (Participant No. 1).

The results agree with Mangi et al. (2019) study that found self-efficacy to influence mental wellness of nurses. Organizations that lack support systems for nurses such as training and mentorship programs often pose threats to nurses' mental health due to increased strain leading to depression and stress.

Most doctors interviewed believed poor work-life balance had a positive influence on mental wellness of nurses as demonstrated by the random statements got from doctors while responding to question 7 of the interviews as found below.

“An imbalance caused by long shifts, inadequate rest and personal life demands including death, sickness, or burials of a family member can lead to chronic stress and burnout”
(Participant No. 6).

The sentiments made above tended to correspond with the findings from Obina et al. (2024) who established the nursing environment to influence the mental wellness of nurses, especially when nurses lacked a supportive workplace environment that recognized their individual challenges and tended to support them while both at home and attending to duties.

Other doctors responding to question 11 argued:

“Work-life balance affects nurses in carrying out their duties by affecting their psychological health and focus whereas a balanced lifestyle helps nurses rest and stay focused, while overwork can lead to fatigue reducing their concentration and decision making which can compromise patient care” (Participant No. 1).

“Work-life balance affects professional growth and development because a healthy work life balance allows nurses the time and energy to pursue professional development”
(Participant No. 10).

The above two statements made by different doctors correspond to findings from Chikobvu & Harunavamwe (2021) that revealed highly motivated nurses performed higher compared to low motivated nurses. Also, motivation allowed nurses to cope with stress leading to a positive mental wellness. The management contributed to the emotional professional growth of a nurse. Mulinge (2017) also established the relationship by claiming work-life balance had a negative influence on other factors such as motivation and nurses' health.

The fifth hypothesis of the study sought to test whether there was statistically significant moderation effect of self-efficacy of nurses on the relationship between stress predictors and the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. To test the moderation effect between predictor (X) and predicted variable (Y), a regression was performed to predict Y using X and M (moderator) while controlling for the interaction between X and M ($X*M$). If the model was significant and all the predictors together with their interactions, then there existed a moderation effect (Vanderstoep & Johnston, 2009). In this study, a moderated regression analysis was performed to predict mental wellness of nurses using stress predictors (care recipients' attitude

towards nurses, physical working environment, nurse-colleague relationship, and organizational factors) and self-efficacy as predictor variables while integrating the interaction between the stress predictors and self-efficacy. Table 37 shows the results for the model summary for moderated regression analysis.

Table 4.33

Model Summary for Moderation Effect

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	0.475 ^a	0.226	0.220	0.39971	0.226	35.348	2	242	0.000
2	0.557 ^b	0.311	0.302	0.37806	0.084	29.508	1	241	0.000

a. Predictors: (Constant), Self-Efficacy, Stress Predictors

b. Predictors: (Constant), Self-Efficacy, Stress Predictors, Stress-predictors*Self-efficacy

c. Dependent Variable: Mental wellness of Nurses

The study revealed that the stress predictors (care recipients' attitude towards nurses, physical working environment, nurse-colleague relationship, and organizational factors) and self-efficacy accounted for 22.6% (R Square = 0.226) of the variance in mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. However, the interaction between the stress predictors and self-efficacy enhanced the variance by 8.4% as shown by R Square Change of 0.084, which is significant at 5% significance level (Sig. F Change<0.05). This, therefore, implies that a 8.4% variance in the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya is due to the interaction between strategic stress predictors and self-efficacy. The moderation realized in this study was positive and thus an enhancing moderation or amplifying moderation. The study further sought to establish whether the moderated regression model was statistically significant as depicted in Table 39.

Table 4.34*Model Significance of Moderation Effect Model*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.295	2	5.647	35.348	0.000 ^b
	Residual	38.663	242	0.160		
	Total	49.958	244			
2	Regression	15.512	3	5.171	36.178	0.000 ^c
	Residual	34.446	241	0.143		
	Total	49.958	244			

a. Dependent Variable: Mental wellness of Nurses

b. Predictors: (Constant), Self-Efficacy, Stress Predictors

c. Predictors: (Constant), Self-Efficacy, Stress Predictors, Stress predictors*Self Efficacy

The study established that the model (Model 2) with the interaction between stress predictors and self-efficacy was statistically significant at 5% significance ($F(3,241) = 36.178$; $P < 0.05$). This implies that the model with self-efficacy as a moderator variable provides a better fit for the data more than a model without the moderator variable. The study further evaluated the beta coefficients of the moderation effect and results shown in Table 39.

Table 4.35*Coefficients for the Moderation Effect Model*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	1.030	0.174		5.912	0.000
	Stress Predictors	0.314	0.047	0.395	6.667	0.000
	Self-Efficacy	0.167	0.058	0.171	2.888	0.004
2	(Constant)	0.297	0.213		1.394	0.165
	Stress Predictors	0.611	0.071	0.769	8.663	0.000
	Self-Efficacy	0.391	0.069	0.401	5.708	0.000
	Stress predictors* Self-Efficacy	0.102	0.019	0.573	5.432	0.000

a. Dependent Variable: Mental wellness of Nurses

The study found that the interaction between the stress predictors and self-efficacy was statistically significant predictor of mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. This was due to t-statistic value of 5.432 and $p < 0.05$. Focusing on the unstandardized beta coefficients, one unit increase in the interaction between the stress predictors and self-efficacy would increase mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya by 0.102 units and vice versa, with other factors held constant. Therefore, the fifth hypothesis stating that; “H₀₅: There is no statistically significant moderation effect of self-efficacy of nurses on the relationship between stress predictors and the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya” was rejected at 5% significance level. The following model was developed;

$$Y = 0.297 + 0.611\bar{x} + 0.391z + 0.102\bar{x}z + 0.37806$$

Where:

$\bar{x}$ = Stress Predictors (composite of x_1 = Physical Working Environment; x_2 = Organizational Factors; x_3 = Nurse-Colleague Relationship and x_4 = Care Recipient's Attitudes towards Nurses)

z = Self-Efficacy
 $\bar{x}z$ = product of Stress Predictors and Self-Efficacy

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter gives the summary of the major findings of the study, conclusions and recommendations as well as suggestion for further studies.

5.2 Summary of Findings

The main objective of the research was to determine the influence of predictors of stress on the mental wellness of nurses. Results revealed all the five variables namely; the physical working environment, the organizational factors, the nurse-colleague relationship, care recipients' attitudes toward nurses, and self-efficacy which was used as a moderating variable on the stress predictors influenced mental wellness of nurses. Also, the outcome from qualitative statistics showed most of the nurses in Embu and Tharaka Nithi counties have poor mental health conditions according to doctors who stated that nurses had poor mental health.

5.2.1 The Influence of the Physical Work Environment on Mental Wellness of Nurses With respect to physical work environment, a number of nurses reported high levels of dissatisfaction with the infrastructure including ventilation, design, and lack of maintenance, which characterized the hospitals in this research and which can be generalized to other hospitals in Kenya. The overcrowding of patients and lack of enough resources leading to burnout and huge workloads overwhelmed nurses leading to anxiety, stress, and depression. Also, nurses lacked necessary support that negatively affected their morale to work, and lowered their self-esteem. The research established that the physical work environment had a statistically significant influence on the mental wellness of nurses in Embu and Tharaka Nithi counties in Kenya, at 5% significance level. With respect to this, the study found a R-Square value of 0.045 which implies that 4.5% of the variance in the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya is explained by physical work environment. One unit increase in physical work environment conditions results into 0.167 units increase in the mental wellness of nurses and vice versa, with other factors held constant. The first hypothesis "H₀₁: There is no statistically significant influence of physical work environment on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya" was therefore rejected at 5% significance level.

5.2.2 The Influence of Organizational Factors on Mental Wellness of Nurses

The study outcome revealed organizational factors such as resources within the hospital, staffing levels, type of facility, and managerial functions influenced mental wellness of nurses. The key indicators of organizational factors that influenced nurses' mental wellness at the two hospitals, Embu Level 5 and Chuka County Referral hospitals were poor management and lack of resources, lack of recognition and support, workplace culture and lack of engagement between staff and management, and staffing issues and heavy workloads. The indicators above reveal that both hospitals were poorly managed influencing how nurses operated leading to increased stress levels. The study further revealed that organizational factors were significant predictors of mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. R Square value of 0.130 implies that 13.0% of the variance in the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya is explained by organizational factors. The study noted that one unit increase in organizational factors increased the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya by 0.209 units and vice versa provided other factors are held constant. The study rejected the second hypothesis "H02: There is no statistically significant influence of organizational factors on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya" at 5% significance level.

5.2.3 The Influence of Nurse-Colleague Relationship on the Mental Wellness of Nurses

On nurse-colleague relationship, nurses claimed to have poor Inter-professional relationships that influenced them psychologically and emotionally leading to increased stress. The main indicators of nurse-colleague relationship as identified from the analysis of results were lack of teamwork and poor communication, conflicts between nurses, poor patient care because of lack of coordination, and poorly managed shift operations. The study established that nurse-colleague relationship was a significant predictor of mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. The R Square value of 0.191 implies that 19.1% of the variance in mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya was attributable to nurse colleague relationship. The study further revealed that a unit increase in the level of nurse colleague relationship results into 0.240 units increase in the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya, and vice versa, with other factors held constant. Therefore, the third

hypothesis, stating that, “H03: There is no statistically significant influence of nurse colleague relationship on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya” was rejected at 5% significance level.

5.2.4 The Influence of Care Recipients’ Attitude towards Nurses on Mental Wellness

Findings indicated that care recipients’ attitudes towards nurses influenced the mental wellness of nurses in Embu and Tharaka Nithi Counties. There was a significant trend showing negative perceptions and interactions between nurses and patients that contributed to reduced motivation, stress, and high job dissatisfaction. A low mean on the negative perceptions leading to low self-esteem indicated that nurses had frequent confrontations with care recipients that undermined their working capabilities causing psychological distress and therefore, low mental wellness scores. Also, results identified emotional burden and burnout as some of the factors that contributed to negative attitudes of care recipients to nurses. The situations were associated with lack of support from care recipients and their families. The study revealed that care recipients’ attitude towards nurses was a significant predictor of mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. R Square value of 0.022 implies that 2.2% of the variance in the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya is explained by care recipients’ attitude towards nurses. The study further revealed that one unit increase in care recipients’ attitude towards nurses increased the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya by 0.101 units and vice versa provided other factors are held constant. The study rejected the fourth hypothesis “H04: There is no statistically significant influence of care recipients’ attitude towards nurses on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya” at 5% significance level.

5.2.5 The Moderation Effect of Self-Efficacy on Stress Predictors on Mental Wellness of Nurses

The study found that the key indicators of self-efficacy that lead to poor mental wellness are lack of motivation at the workplace, nurses not fully satisfied with their workplaces, and lack of effective management practices to address emerging issues. Also, the work-life balance was found to influence the self-efficacy of nurses. Nurses claimed they had challenges managing their duties because of the interference from personal commitments and the lack of proper managerial practices at workplace. The study established that the interaction between the stress predictors and self-

efficacy was statistically significant on mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya. The interaction between the stress predictors and self-efficacy enhanced the variance by 8.4% as shown by R Square Change of 0.084, which is significant at 5% significance level (Sig. F Change<0.05). One unit increase in the interaction between the stress predictors and self-efficacy would increase mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya by 0.102 units and vice versa, with other factors held constant. Therefore, the fifth hypothesis stating that; “H05: There is no statistically significant moderation effect of self-efficacy of nurses on the relationship between stress predictors and the mental wellness of nurses in Embu and Tharaka Nithi Counties in Kenya” was rejected at 5% significance level.

5.3 Conclusion of the Study

The following section shows the conclusions made based on findings from each objective. The study concluded that there was significant influence of stress predictors on mental wellness of nurses. It was concluded that most nurses suffered from poor mental wellness. Majority of nurses experienced anxiety that was caused by lack of interest in life, poor life satisfaction, and problems addressing life challenges. In addition, most nurses experienced poor mental wellness because of experiencing high levels of stress, depression, and anxiety. Poor nurse health caused by feelings of stress, lack of interest and lack of pleasure to work, anxiousness and nervousness, and being unable to control oneself, led to poor mental wellness among nurses in Embu and Tharaka Nithi counties in Kenya.

5.3.1The Influence of the Physical Work Environment on Mental Wellness of Nurses The study concluded that the physical working environment influenced the mental wellness of nurses. The influences of the physical working environment causing poor mental wellness are: poor environmental conditions, unfavorable physical surrounding, lack of good accommodation for disabilities, and discrimination of workers based on social backgrounds and gender. The indicators of stress in the physical work environment are crowding and safety hazards.

5.3.2The Influence of Organizational Factors on Mental Wellness of Nurses

The study concludes that Organizational factors influenced the mental wellness of nurses. Poor managerial conditions, insufficient resources, and non-supportive leaders contributed to poor

mental wellness of nurses. The main indicators of stress were staff shortage and limited resources as key organizational factors causing stress among nurses.

5.3.3 The Influence of Nurse-Colleague Relationship on the Mental Wellness of Nurses It was concluded that nurse-colleague relationship influenced the mental wellness of nurses. The relationships include ability to share duties, getting support from co-workers, security and safety at workplace, freedom at workplace, respect, and the ability to work as a team. Though it was concluded that nurses had positive relationships with colleagues, there were instances where some colleagues were reluctant to perform their duties especially in shared chores, leading to burnout and fatigue. The key indicators of stress on nurse-colleague relationship were shift operations and inter-professional relationships.

5.3.4 The Influence of Care Recipients' Attitude towards Nurses on Mental Wellness The study concluded that care recipients' attitude towards nurses influenced mental wellness of nurses. The attitudes included the perspectives nurses had on patients, nurses' willingness to attend work, role of patients on nurse problems, caring for patients, and the level of nurse's sensitivity on patient issues. Patients also had negative attitudes towards nurses that left nurses stressed and unable to perform duties effectively. The presence of an uncondusive work environment characterized by rude patients and their families, and poor interaction between patients and nurses contributed to poor mental wellness of nurses. The main indicators of stress related to the care recipients' attitudes towards nurses were; the patient's level of satisfaction with the nurse, motivation, and quality of services.

5.3.6 The Moderation Effect of Self-Efficacy on Stress Predictors and Mental Wellness of Nurses The results on the influence of the moderation of self-efficacy on the stress predictors on the mental wellness of nurses showed that self-efficacy influenced the effectiveness and level of motivation of the nurses. Self-efficacy was tested based on the nurse ability to solve challenging problems, ability to relate well with others, accomplishing goals, and remaining calm when faced by challenging situations or individuals. The nurse's ability to manage the above determined their mental wellness with majority of nurses claiming they were unable to control themselves. Also,

the role of work-life balance on the self-efficacy of nurses was tested. Results showed nurses were not well prepared to balance between home and job responsibilities. Majority could not manage to vary work schedules and lacked freedom to do work at any time. Also, the level of inspiration that nurses got from their duties was low with 38% and 19% showing they sometimes and rarely felt inspired to work.

The study concluded that addressing the above predictors of stress was critical in enhancing the mental wellness of nurses, thereby potentially improving health care service delivery in Kenya.

5.4 Recommendations on Research Findings

The findings from the study helped come up with the following recommendations.

5.4.1 The influence of physical work environment on mental wellness of nurses

The results indicated that measures to alleviate the negative impacts of the physical work environment on nurses' mental wellbeing were urgently needed and therefore something needs to be done. Infrastructure upgrades should be a top priority for hospitals and other healthcare institutions in order to guarantee sufficient staffing, resources, and secure working conditions.

5.4.2 The influence of organizational factors on mental wellness of nurses

Results revealed organizational factors had a statistical significance towards influencing mental wellness of nurses. The findings call for the establishment of a welcoming and non-discriminatory workplace as essential in order to promote nurses' satisfaction at work. Resolving these problems is crucial for nurses' mental health as well as for guaranteeing that patients receive top-notch treatment.

5.4.3 The influence of nurse-colleague relationship on the mental wellness of nurses Hospitals should consider implementing training programs and strategies to enhance communication skills and teamwork among nurses. The main goal of the strategy is to encourage polite and respectful conversations, develop empathy, and provide nurses with the assistance they need to handle difficult situations. In order to accomplish the aforementioned, hospitals must think about putting in place initiatives to deal with burnout and offer nurses emotional support.

5.4.4 The influence of care recipients on the mental wellness of nurses

The results call for a need to enhance effective communication between nurses and care recipients. The managements should establish clear policies and procedures to address workplace conflicts and bullying, and provide support to affected nurses in non-judgmental environments. Hospitals need to address the detrimental influences of care recipients' attitudes on nurses' mental health by availing free mental health services for nurses so as for them to have fora to debrief and enhance interactions between nurses and patients. Hospitals can lower nurses' stress levels, increase job satisfaction among nurses, and ultimately improve patient care by fostering a more upbeat and encouraging work atmosphere.

5.4.5 The moderation effect of self-efficacy on stress predictors and mental wellness of nurses

Mentorship programs and opportunities for peer support to foster a sense of belonging and professional growth among nurses are effective in promoting self-efficacy and work-life balance. Finally, hospitals should cultivate a positive workplace culture that values respect, collaboration, and appreciation for individual contributions.

5.5 Recommendations for Further Research

The following are proposed recommendations for further research:

- i. It is recommended that future research focuses on unit-specific stress predictors and interventions to tailor support mechanisms for nurses working in different health care settings.

Future studies should consider exploring specific interventions to improve either the physical working environment, organizational factors, nurse-colleague relationship, care-recipient's attitude towards nurses, or self-efficacy by evaluating variables that have more weight towards the poor mental wellness of nurses. The findings from the study would contribute towards identifying key strategies that hospitals could implement to manage specific predictors of stress.

- ii. Selecting study participants working in specific units in the healthcare departments. Similar research to the one carried out should be conducted using same approaches, but targeting nurses working in specific departments such as the intensive care unit or the mental health department. The studies would facilitate specific means of identifying the influence of

predictors of stress in major departments and areas to help influence an evidence-based practice for creating policies directed towards specific health departments.

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