2021

The Effect of psychological safety on quality of healthcare services by health workers in Kitale County Referral Hospital.

Ouma, Edward Ochieng
Strathmore Business School
Strathmore University

THE EFFECT OF PSYCHOLOGICAL SAFETY ON QUALITY OF HEALTHCARE SERVICES BY HEALTH WORKERS IN KITALE COUNTY REFERRAL HOSPITAL

OUMA EDWARD OCHIENG

MBA-HCM 112004

RESEARCH THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION HEALTHCARE MANAGEMENT AT STRATHMORE UNIVERSITY

STRATHMORE UNIVERSITY BUSINESS SCHOOL

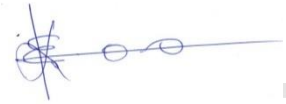
NAIROBI, KENYA

JANUARY 2021

DECLARATION

I declare that this research project has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the project contains no material previously published or written by another person except where due reference is made in the thesis itself.

Ouma Edward Ochieng



Signature .....

Date.... 18....February 2021

Approval

The research project of Ouma Edward Ochieng was reviewed and approved for examination by the following:

Dr. Pratap Kumar,

MD, PHD in Neuroinformatics

Senior lecturer and Academic director,

Institute of healthcare management,

Strathmore University Business School.

Signature: .....

Date: .....01 March 2021.....

Executive Dean,

Strathmore University Business School.

DEDICATION

In this intellectual discourse, I want to dedicate this research work firstly, to those that strive to make healthcare fraternity a better place than they found it. Secondly, as a special gratitude to my dear fiancé and the love of my life Doreen for her invaluable love, understanding and offering me that voice of encouragement when I needed it most.

ACKNOWLEDGEMENTS

A big thank you to Dr. Pratap Kumar, my supervisor, from whom I have benefitted from his professional erudition and experience in writing and plotting this research. To the faculty teaching staff, much appreciation for making this course interesting and providing me with the much needed mentorship at an opportune moment.

Deepest gratitude to both Kitale county referral hospital and County management team for providing their valuable time, insights and opportunity in carrying out this research. With appreciation, I acknowledge the technical support offered by Dr. Ann Mwangi in providing statistical analysis to this research project.

I am grateful to Ann our class coordinator for her much needed facilitation through her email reminders and timely updates just so that I am not behind schedule and seeing me through the process. I am also thankful to Veronica, my course coordinator for being part of the journey in making sure everything falls in place as planned. Once again to my support base; my family I am forever indebted to you.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

CIDP	County integrated plan
COR	Conservation of resource theory
IOM	International organization for migration
KCRH	Kitale county referral hospital
KQMH	Kenya quality model for health
SPSS	Statistical Package for Social Sciences
TAT	Trait activation theory
WHO	World health organization

DEFINITION OF TERMS

Healthcare quality: providing the care the patient needs when the patient needs it, in an affordable, safe, effective manner.

Individual psychological safety: Psychological safety refers to an individual's perception of the consequences of taking an interpersonal risk

Learning: an ongoing process of reflection and action, characterized by asking questions, seeking feedback, experimenting, reflecting on results, and discussing errors or unexpected outcomes of actions.

Organization psychological safety: involves creating an environment of fairness and trust where each individual is welcome to voice their opinions freely and fell confident there vies are respected in an institution

Team psychological safety: is defined as a shared belief that the team is safe for interpersonal risk taking

ABSTRACT

Healthcare organizations operate in a dynamic, complex industry full of high demands and accountability with an aim to deliver services to the patient and the stakeholders at large. It hence needs a collaborative approach in carrying out its mandate, meaning individual, team dynamics and its organizational climate comes into play. When quality is critical and effective safe patient care is warranted, then performance comes to play. As a result, health organizations that tend to enhance an environment that facilitates faster learning, creativity, and innovation tend to have a better chance of success. Where an individual can air their opinion without fear of repercussion, take interpersonal risk without fear of retribution as long as it intends to meet or even further the organizational goals. These, as a result, lead to increased patient safety due to no fear of reporting medical errors, enhanced team cohesion, innovative solutions to emerging challenges. However, information concerning, the role of psychological safety on quality of health in Kenya is scanty. The objective of the study was to determine the effects of psychological safety of healthcare workers on the provision of quality healthcare in Kitale County referral hospital. The research was underpinned by the theories of conservation of resources, trait activation, and social exchange. The study applied quota and convenience sampling techniques as well as a cross-sectional descriptive design. Primary data was collected through structured questionnaires. Data collected was analyzed by both correlation analysis and multiple regression via SPSS. Results showed that team psychological safety had non-significant relationship with quality of healthcare(p-value>0.05) while both the individual (p-value$=0.044$) and organization (p-value<0.001) psychological safety have significant relationship with quality of healthcare. These results conclude that individual and organizational psychological safety contributes to improvement in healthcare quality in Kitale county referral hospital. The study recommends that county governments and management of public hospitals should improve individual, team and organizational psychological safety as a way of driving creativity and innovation in enhancing healthcare quality.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

In 2005, the World Health Organization (WHO) presented a mandate to all countries to take active steps toward universal health coverage (UHC) and ensure the equitable provision of healthcare for all citizens irrespective of socio-economic standing. The 2030 agenda for sustainable development also presents an opportunity for governments to show their commitments towards UHC goal. Goal 3 of SDGs affirms this by targeting universal health coverage (UHC), emphasizing the importance of all people and communities having access to quality health services without risking financial hardship. Toward these goals, the WHO places great expectations on healthcare workers, who with support of government are tasked with managing and delivering quality healthcare services to realize UHC goal (WHO, 2013).

The realization of UHC goal depends on many governmental departments and aspects including improving infrastructure, healthcare workforce, increasing the number of facilities and improving existing healthcare centers from hospitals to local practices, developing information services and ensuring the supply of medicines and medical technologies. The WHO report (2013) at the Third Global Forum on Human Resource for Health indicated that, quality of health workers has implication on the achievement of UHC in low and middle incomes.

Achieving UHC is an important objective for all countries to attain equitable and sustainable health outcomes and improve the well-being of individuals and communities. Health system strengthening is a means to progress towards UHC. A functioning health system is organized around quality service delivery, which the human resource aspect is a key component in realizing the UHC goal. According to Hirak et al. (2012) psychological safety is a critical factor that is highly linked to service delivery since the quality of healthcare is affected by the climate of psychological safety of its workers. Thus, to

improve delivery of services, it is prudent that the psychology safety of healthcare personnel should be given prominent attention(Moreno-serra & Smith, 2012).

Psychological safety environment shows the formal and informal procedures that support as well act as a guide of uncluttered and trustful in-house work relations. Consequently, a psychologically safe atmosphere is workplace environment where employees and managers can freely share their opinion without the fear of being castigated or proscribed. On the contrary, Edmondson and Verdin (2018) defines psychological safety as a common belief for safety in undertaking relational risks by members of a particular group which later influence the performance of a team. The study looked at the various perceived psychological safety factors among healthcare workers that influence healthcare services in Kitale county referral hospital. At individual, team and organizational levels in order to be considered a psychologically safe work environment.

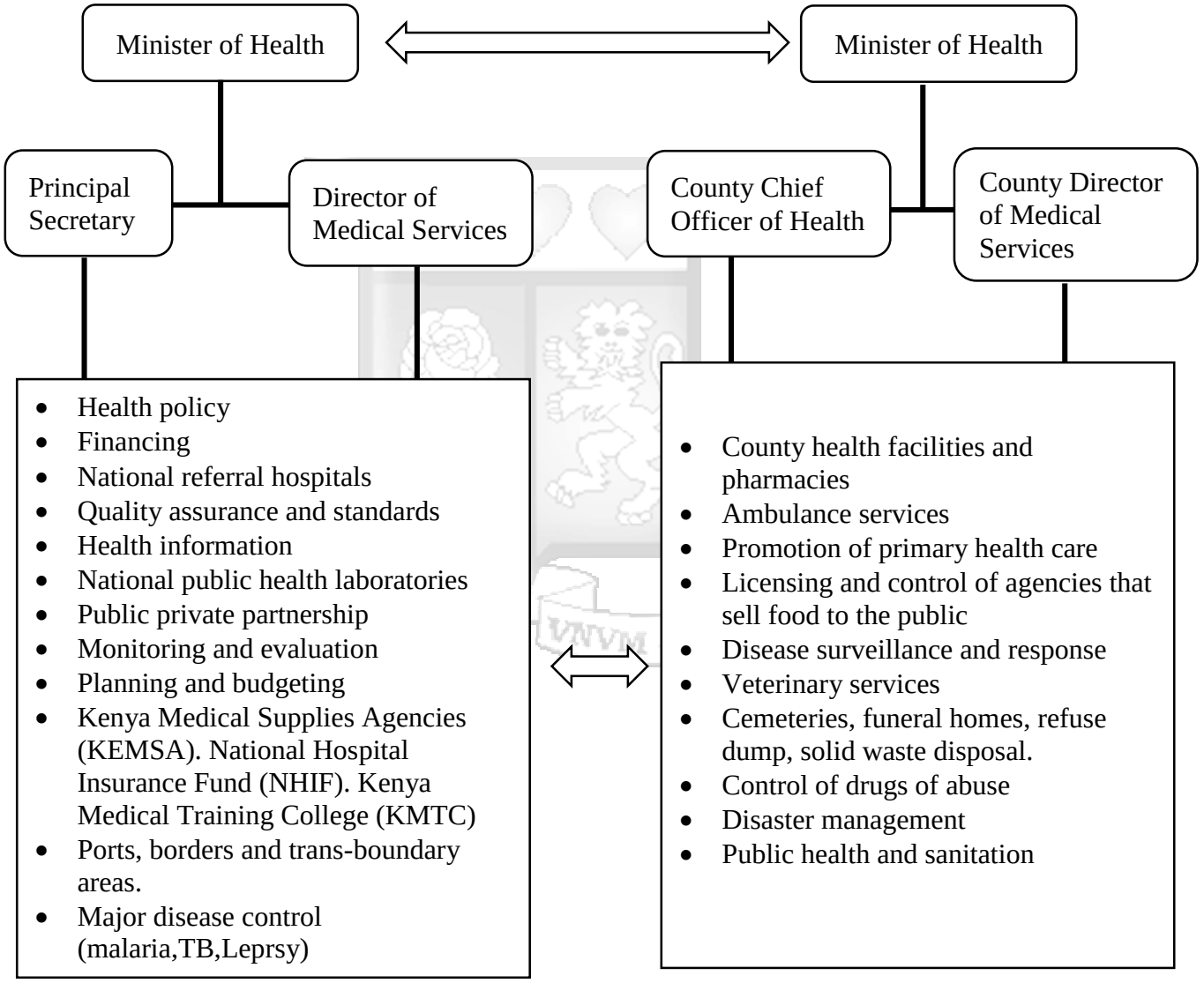
1.1.1 Kenya Public Health Service Model and Organizational Structure

The Constitution of 2010 (Fourth Schedule) established a two-tier health system, defining the distribution of functions between the national and county governments. The national level deals with: health policy; national referral hospitals; capacity-building and technical assistance to counties. The county level focuses on: county health facilities and pharmacies; ambulance services; promotion of PHC; licensing and control of the sale of food in public places; veterinary services; cemeteries, funeral parlors and crematoriums; and refuse removal, refuse dumps and solid waste disposal. This new scenario has led to concerted efforts to restructure human resource management, infrastructure development and maintenance, health financing, donor funding and partnerships, among others(MOH(Ministry of Health), 2018).

The Kenyan health system defines six levels of the hierarchy, as follows, that is Level Level One; community services, Level Two, dispensaries and clinics; Level Three, health centres, maternity and nursing homes; Level Four, sub-county hospitals and medium-sized private hospitals; Level Five, county referral hospitals and large private hospitals; and Level Six, national referral hospitals and large private teaching hospitals) of quality and which emphasis on early diagnosis. PHC services are primarily provided at levels 1 to 3

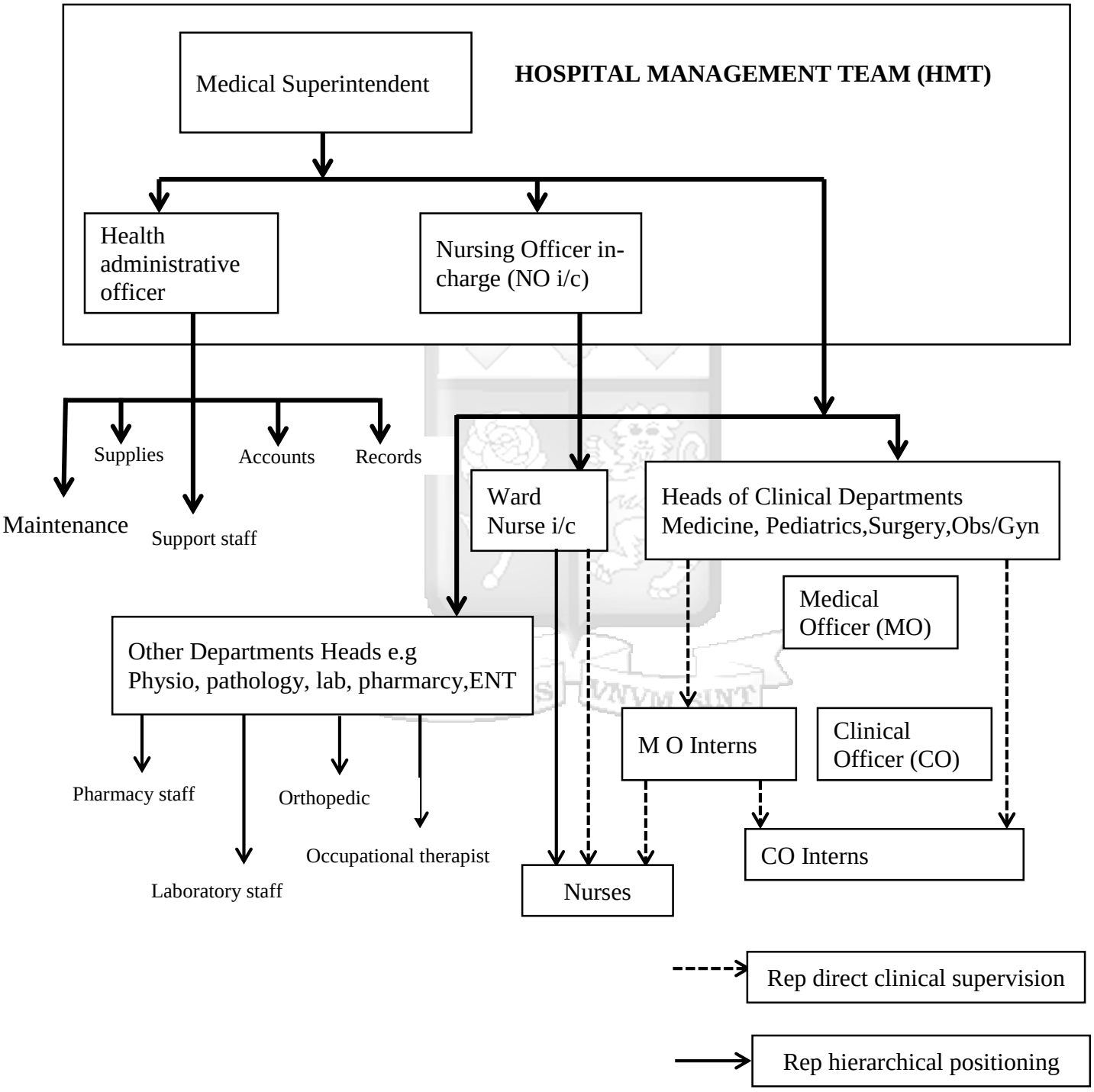
while specialized care is provided at level 4-6. At all level, the healthcare providers are expected to adhere to the Kenya quality model for health guidelines (Republic of Kenya, 2020).

Figure 1.1 Organizational structure



Source: Devolution Kenya (Barasa et al., 2017).

Figure 1.2 hospital organization structures



Source: Hospital organogram (Barasa et al., 2017).

1.2 Problem Statement

Health care quality lies at the heart of UHC goal in addressing the mortality and morbidity as well as improving the general wellbeing of community members. Lack of quality care is a contributor to approximately 60% of deaths due to conditions inherent in health care system, with the remaining portion occasioned by non-utilization of the health system. Improving quality of care require system-wide action to improve the conditions of health care system(Silva et al., 2018). Central to this is the health-care provider conditions that Barasa et al., (2018) notes are an important determinant to healthcare quality.

Kenya has adopted Universal Health Coverage as one of the big four priority agenda. In order to realize quality healthcare under UHC, the government has developed Health service quality standards and assessment criteria to provides the conceptual framework for quality improvement in Health Care in Kenya. The quality management protocol stresses that the dimensions of healthcare service quality include the hospital environment that patient and healthcare workers interact with constantly during service delivery, of which psychological safety is an important component(Republic of Kenya, 2020). Despite the acknowledgement in Kenya's healthcare quality protocol of the critical role of psychological safety on quality healthcare, little is known about this relationship in Kenyan healthcare system.

Limited research has been done in Kenya to assess psychological safety and healthcare quality in public hospitals. These studies include Muriuki (2018) who investigated quality of healthcare in private quality and concluded that environment factors determine healthcare quality. Kinyanjui (2019) investigated how environmental factors affect healthcare service quality under devolved system. Similar study was conducted by Theuri et al., (2020) on influence of working environment on service quality in public hospitals. All these studies have demonstrated the importance of hospital environment on quality of healthcare services, yet little is known on how psychological safety affects healthcare quality.

1.3 Research Objectives

This section outlines the general objective and the specific objectives that guided this study.

1.3.1 General Objective

To establish the effect of psychological safety of health workers in provision of quality healthcare in Kitale County Referral Hospital.

1.3.2. Specific Objectives

1. To determine the effect of individual psychological safety in provision of quality healthcare in Kitale County Referral Hospital.
2. To establish the effect of team psychological safety in provision of quality healthcare in Kitale County Referral Hospital.
3. To establish the effect of organization psychological safety in provision of quality healthcare in Kitale County Referral Hospital.

1.4 Research Questions

1. What is the effect of individual psychological safety on the provision of quality healthcare at Kitale County Referral Hospital?
2. What is the effect of team psychological safety on the provision of quality healthcare at Kitale County Referral Hospital?
3. What is the effect of organizational psychological safety on the provision of quality healthcare at Kitale County Referral Hospital?

1.5 Significance of the Study

This study enhanced the knowledge of psychological safety by advancing this knowledge in different contexts and forming a basis for further future studies. Most of the current studies on psychological safety that have been done, are in the developed world, which has different settings as compared to the developing countries. This study will provide significant insight into levels of psychological safety in the Kenyan health sector and its relationship to service provision in the current health setup. Accordingly, the studies which investigate the association between psychological safety and quality of health care comprehensively remain limited. Hence, this study will provide further understanding of this association in the Kenyan health care background.

This study will proffer managerial implications by providing insights into how existing levels of psychological safety can be tapped into for quality improvement in the health sector. The county government and management of county health institutions will be in a position to develop better health policies and establish better working conditions related to psychological safety issues.

1.6 Scope of the Study

The study was limited to the three levels of psychological safety; individual, team and organization (A. Abror) and how they affect quality of health care in Kenya. The study was conducted in Transnzoia County, specifically Kitale county referral hospital and spanned a period of three months from February-April. Quantitative approach guided the study through correlational study design that made use of structured questionnaires to collect data.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of various literature, in line with the study objectives. The section also outlines the factors that influence psychological safety, the outcomes of psychological safety, and the influence of boundary factors such as organizational commitment on the consequences of psychological safety. An outline of the theoretical review and conceptual framework is given.

2.1.1 Psychological safety

Psychological safety is an individual or team belief, that one will not be punished or humiliated for speaking up with ideas, questions, concerns or mistakes. Psychological safety is a phenomenon that has existed over the years. Besides prompting the spirit of vitality, psychological safety encourages managers as well as workers to take risks and be more innovative and creative. Moreover, psychological safety shows the strong belief that individual workers have on their superiors as well as colleagues in terms of the response to the introduction of innovative ideas, feedback requests, questions or blunder reporting. Overall, psychological safety can be used at the individual or team level or as an organizational construct. In the health care sector, the phenomenon is linked with employees being involved in self-correcting behaviors as they believe that they will not be punished in case they make mistakes (Donovan & Mcauliffe, 2020).

Psychological safety in a work environment is determined by several factors including the level of authority, hierarchy and the respect that individuals receive depending on their position in a social system. Psychological safety in the health care is significantly important because career paths in the sector are highly siloed. Because of the significance of determining the ability of individuals to learn and develop, it is essential to examine how psychological safety is influenced by the effectiveness of a leader and, in turn, learning and development. Work type, which shows high variation in the healthcare sector, is another critical factor in terms of determining psychological safety. This variability affects the uncertainty and complexity of the work itself, and by extension psychological safety(Newman et al., 2017). The study looked at the various perceived psychological

safety factors among healthcare workers that influence healthcare services in Kitale county referral hospital. At individual, team and organizational levels in order to be considered a psychologically safe work environment.

2.1.2 Quality of Healthcare Services

Healthcare quality is defined in unique ways by world health organization WHO and IOM. Based on the IOM (2013), healthcare quality refers to the level to which health services for individuals and populations increases the likelihood of desired health outcomes and is consistent with current professional knowledge. WHO (2006), on the other hand, defines healthcare quality as process used to make strategic choices in health systems. According to Mosadeghrad (2014), healthcare quality is the use of medical science as well as technology in a way that capitalizes on its value to health without correspondingly increasing the risk. Mosadeghrad (2014) distinguishes three elements: technical quality, interpersonal quality and amenities. Technical quality refers to the effectiveness of care in terms of producing attainable health gain, while interpersonal quality focuses on accommodating needs and preferences of patients and amenities refer to the organizational attributes and physical surroundings.

Quality healthcare, according to the model developed by Bucke et al., (2020) has three dimensions: systemic, technical and generic. Technical quality focuses on the professional work-content within a given area. Systemic quality, on the other hand, focuses on the process and system quality that operate across the boundaries between work areas. Generic quality is the dimension that focuses on inter-personal relationships. According to Al-Damen (2017), service quality can be separated into two distinct parts: functional and technical. Technical quality involves the delivery of core services or their outcomes that is what is offered and received, whereas functional quality is the process of delivering services or the way in which the consumers receives the service, that is, how the service is offered and received.

The attributes of health service quality can be classified into four themes: (1) safe (2) effective (3) desired outcomes and (4) a culture of excellence. Effective, which is the first attribute, refers to features like proper treatment, including interventions, assessment and

response; consistent, equitable and timely. Safe, which is the second attribute for defining quality healthcare, is the foundation upon which all other aspects of quality care are built. This perspective is describing this attribute, which is regarded as the psychological, environmental and physiological factors of a healthcare event. Accurate medication, infection control practices and complying with the international protocol on preventing complications related to surgery (Allen-duck et al., 2018).

Culture of excellence is the third attribute of quality healthcare. The framework for a culture of excellence that emerged in the literature incorporates collaboration, communication, compassion, competence, advocacy, respect, responsibility, and trustworthiness. Desired health outcomes, the final attribute, is characterized by goal achievement, the best possible results, shared decision making, patient centered care, and patient satisfaction. Engaging patients to make decisions about their health is essential in the delivery of quality health care. Identification of a patient's needs, preferences, and abilities is also essential to promoting the attainment of desired health outcomes (Allen-duck et al., 2018).

The study focussed on the systemic aspects and attributes of quality healthcare (safety, effectiveness, culture of excellence, and desired outcomes) and the role of psychological safety in its provision by the healthcare workers.

2.2 Theoretical Framework

The theoretical framework provides the models that elucidate the purpose of the research problem under investigation. The research will be underpinned by three theories: the trait activation theory the conservation of resources theory and social exchange theory.

2.2.1 Conservation of Resources Theory

The main tenet of the conservation of resources (COR) model (Hobfoll), contends that people will seek to acquire, retain, nurture and protect the things they hold with high regard. COR theory is based on the notion that cognitions have an evolutionary-based built-in and a strong bias to overweight resource loss and underweight resource gain. The theory holds that stress occurs when central or critical resources threaten with loss, the loss of main or essential resources occurs, or when essential or crucial resources are not obtained despite

the best efforts. The Conversation of Resources model is essentially a motivational framework that describes peoples' behavior through the evolutionary need to maintain survival by acquiring or conserving resources, which is principal to human behavioral genetics(Cooper &Campbell, 2017).

Individuals use critical resources to respond to stress as well as developing a reservoir of sustaining resources for times of future need. Moreover, the process of obtaining as well as retaining of social, material and personal resources creates in organizations, families and individuals that can meet stressful challenges(Singh & Shaffer, 2017). The theory highlights how resources in office including relationship networks and supportive organizational practices positively influence work outcomes. The theory offers great insight on coping mechanisms in workplaces through conservation of critical resources like nurturing up relationship and networks held in high regard by healthcare workers(Obrenovic et al., 2020). However, the theory proposes that the effect of psychological safety is more likely to be pronounced at organizational level but not at individual staff level. Thus, the study sought to use the theory to account for the role of psychological safety on quality of healthcare at Kitale county referral hospital, more so the role of organization safety. However, the theory has been criticized for its weaknesses in accounting for individual psychological safety thereby explaining the use of trait activation theory.

2.2.2. Trait Activation Theory

The principle of Trait Activation Theory, Noe et al., (2016) contends that the traits of a personality are latent inclinations to behave in a particular way. Notably, habits are as an expression of responses to trait-relevant situational cues (e.g., nurturance in responding to a call for help), and gaining of intrinsic satisfaction is from showing one's traits. The basic tenant of Trait Activation Theory is therefore not new. The theory builds on that notion, though in various ways in workplace settings. It states that employees will seek for and derive intrinsic satisfaction from a work environment that allows for the easy expression of their unique personality traits (Magni et al., 2011).

Researchers have also incorporated the trait model to extend the understanding of boundary conditions on the association between work outcomes and psychological safety. Newman et al., (2017) notes that the behavioral expression of a trait is, in most situations, awakened

because of the existing environment or situation known as the trait-relevant situational cues. The theory holds that the influence of personality traits may rely on incentives provided by the context (situational cues), and thus explains how organizational climates, like psychological safety climate, might interact with the employee's personality traits, to envisage their work attitudes and behaviors(Budianto, 2021).

Researchers use the trait activation theory that a climate of psychological safety is necessary to intensify the positive effects of an individual's predisposition to act proactively, embodied in personality traits such as extraversion, proactive personality, and learning goal orientation. As such, the individuals are more likely to be engaged in proper work behaviors like information sharing and voice behavior in environment that are characterized by high levels of psychological safety, with such environments providing opportunities and cues for expression of their traits (Newman et al., 2017). These can lead to better delivery of services, and in the present research, quality health care. However, the theory notes that individual psychological safety may lead to more or less outcomes depending on moderating factors. Hence this theory provides a suitable framework to analyze the significance or non-significant effect of different categories of psychological safety on quality of health care in Kitale County Referral Hospital. The study will apply both the conservation of resources and trait activation theories among Healthcare workers in Kitale County Referral Hospital to analyze effects of psychological safety in driving quality of health care. These two theories best served to offer an understanding that guided to the gaps as earlier discussed in realizing the factors influencing psychological safety in a health care set up.

2.3 Empirical Review

This section reviews the various research articles that pertains to psychological safety in provision of quality healthcare in different contexts.

2.3.1 Individual psychological safety and Healthcare quality

Psychological safety was introduced in 1965 as a way of enhancing organization learning and change. Psychological safety was seen as a process through which employees are

encouraged to be their own self. Psychological safety is thus defined as “feeling able to show and employ one’s self without fear of negative consequences to self-image, status, or career”(Frazier, 2017). In recent times, psychological safety has been defined as More recently, Edmondson (1999) defined psychological safety as a shared belief that an individual or team is safe for interpersonal risk taking. Psychological safety is classified into individual, team and organizational safety.

An individual's sense of psychological safety in the workplace is likely to be shaped by ongoing interpersonal interactions among close co-workers. However, words and actions of top management may contribute to perceptions of psychological safety, as might individually differences in temperament. The most salient influence is the perceptions of those individuals with whom they work most closely with. Psychological safety describes beliefs about interpersonal interaction, and those interactions that are best situated to affect these beliefs that a local workgroup or team contains (Albritton et al., 2019).

Interpersonal relations among employees that are supportive and trusting should also foster psychological safety. The basis for interpersonal trust can be either cognitive or affective. Cognitive-based belief concerns the reliability and dependability of others. Affective faith is rooted in the emotional relationships between individuals. Individuals who trust each other emotionally generally express concern for the welfare of each other, believe in the 'intrinsic virtue' of such links, and are willing to make future emotional investments in the relationship. (Donovan & Mcauliffe, 2020).

Individual psychological safety is linked to various outcomes in organizations. Singh et al., (2013) in their cross-sectional study examined the influence of individual psychological safety on employee performance of different races in Australia. Using social and racial identity theories, it was established that employees feel more psychologically safe in supportive diversity climate, impacting positively on their productivity. The study also found that, diverse climate moderates the relationship between psychological safety and employee performance.

Kim et al., (2020) in the study examined the relationship between employee engagement and individual Psychological Safety within the Federal Workforce of United States by

utilizing correctional study design and hierarchical linear regression. The findings indicated that psychological safety was found to be a significant predictor of employee engagement and vice versa. Hence it was concluded that psychological safety and employee engagement are positively related.

In a survey conducted in hospital, Greene, Gilmartin and Saint (2020) examined the influence of psychological safety on using recommended health care–associated infection (HAI) prevention practices in Canada. Using multivariable regression, results indicated psychological safety is associated with increased odds of regularly using urinary catheter reminders or stop-orders and/or nurse-initiated urinary catheter discontinuation. Psychological safety is a way of improving the use of recommended health care–associated infection (HAI) prevention practices. Therefore, this current study looked at what were the individual factors that tend to be perceived as psychological safety to the healthcare worker in Kitale County Referral hospital.

2.3.2 Team Work Psychological Safety and Healthcare Quality

Health care involves the participation of different stakeholders who include patients, family and diverse team. The involvement of these stakeholders is key to provision of exceptional quality care. At the level of health personnel, coordination and collaboration of health workers is an essential way to provide quality care. In any healthcare teams, the diversity of the team members involves bringing together a range of functional expertise to handle a task at hand in either normal tasks or ongoing operational work. Multifunctional healthcare teams are more likely to be efficient, effective, innovative, and better at-risk management when there exists psychological safety amongst the team members(Frazier, 2017). Donovan et al., (2021) notes that this happens when a favorable climate exists within healthcare organizations for staff to express their broad range of ideas, considerations, and compromises as a way of avoiding costly errors that can affect patient safety.

The importance of team psychological safety has been highlighted by various scholars. For instance, Jha (2018) suggests that when teams are psychologically safety allows team members to have a shared belief that they can share ideas freely, have the voice to speak without and can take interpersonal risks. This point is emphasized by Edmondson (2004)

that team members need to have trust towards each other and trust to the team leader noted that team members' trust towards the leader is needed to develop psychological safety. Accordingly, they explain that when members have a secure and favorable emotional connection with the each other and the leader, they are more open to sharing information which will resultantly improve team performance. Notwithstanding its significance, psychological safety is associated with various outcomes in healthcare such as improved team learning, workplace creativity and team performance. These outcomes make psychological safety particularly important within high stakes work environments, such as healthcare organizations (Abror;, 2016).

A study by Kessel et al., (2012) entitled psychological safety, knowledge sharing, and creative performance in healthcare teams was carried out in UK through mixed methodology. Results demonstrated that the feeling of psychological safety in teams contributes to the team's creative performance. Furthermore, results revealed that psychological safety contributes to knowledge-sharing activities within teams leading to improved team. The findings concluded that knowledge sharing mediates the relationship between psychological safety and creative performance.

In their meta-analysis study, Marlow, Marlow et al., (2017) investigated the influence on team communication on performance. The following insights were highlighted. First, psychological safety improves communication quality which significantly impacts team performance. Secondly, psychological safety enhances different communication types (knowledge sharing, information elaboration etc.) which has a positive relationship with team performance. These results indicated the necessity of a team developing psychological safety as an aspect of team science.

A systematic review of psychological safety was carried out by Newman et al., (2017) with an aim of highlighting gaps in the literature and providing direction for future work. This review has highlighted the myriad of positive workplace outcomes associated with individual and team psychological safety that indicate to managers the importance of engaging in supportive leadership behaviors, fostering bonds between team members, and leveraging supportive organizational practices to build psychological safety at work. This

study suggests the importance of psychological safety for organizations today as a way of contributing to work outcomes for individuals, teams, and organizations alike.

A retrospective survey study conducted by Appelbaum et al., (2019) investigated the perceived influence of power distance, psychological safety on team effectiveness. Based on Step-wise regression analysis, results revealed that perceived team effectiveness is dependent on psychological safety, mediated by team cohesion and team communication. Similar study by Appelbaum et al., (2016) analyzed the effects of power, leadership and psychological safety on resident reporting adverse events among different cadre of health. Based on experimental study it was established that perceived power distance and leader inclusiveness significantly predicted psychological safety, which, in turn, predicted intention to report adverse events. Psychological safety was also found to significantly mediate the relationship between power distance and intention to report and leader inclusiveness and intention to report adverse events. Perceived power distance and leader inclusiveness both influenced the reporting of adverse events through the concept of psychological safety.

Jha (2018) in a cross-sectional study examined the relationships between team psychological safety and team performance from different organizations in Australia. Using moderated mediation analysis through PROCESS Macro and hierarchical regression analysis in SPSS. Findings show that psychological safety affect team performance and is moderated positively by psychological empowerment. Team psychological safety at Kitale County Referral Hospital was assessed by looking at some of the relatable parameters aforementioned and their effects in influencing quality healthcare.

2.3.3 Organization Level Psychological Safety and Healthcare Service Delivery

Psychological safety is not only essential at individual and team level but also at organizational level. Organizational level psychological safety is viewed as the belief that health workers have in the organizational climate created to foster ideas sharing, risk taking and voicing their opinions(Singh & Shaffer, 2017). The antecedents of psychological safety at organization level are similar to the factors occasioning individual and team psychological safety (Donovan & Mcauliffe, 2020). Newman et al., (2017) support this

assertion by noting that the most important factor in fostering organization level psychological is top leadership. Organizational level psychological safety is associated with various organization outcomes discussed below.

Salas et al., (2018) in their systematic review study sought to understand how best a health care organization can be improved via psychological safety. Psychological safety plays an integral role in transforming healthcare organization by promoting learning and team performance in health care. It was further established that psychological safety allows individuals to report adverse events and engaged more in error management thereby transforming organizations for the good. It was also reported that in psychological safety it is positively associated with quality improvement within health care organizations.

Abror (2016) in his study investigated the relationship between psychological safety, self-efficacy and organizational performance among Indonesian companies using correlation study design and structural equation modelling. Findings demonstrated that psychological safety contributes greatly to organizational performance and self-efficacy. The findings suggest that team with higher level of psychological safety experiences better organizational performance.

Guchait, Abbott, Lee, Back and Manoharan (2019) analysed the influence of perceived forgiveness climate on organizational service recovery performance as mediated by psychological safety and organizational fairness from casino employees in USA. Using cross-sectional study design analyzed through multiple regression analysis, this study revealed that perceived forgiveness contributes to better organization service performance through psychological safety. The findings suggest that organizations should promote a psychological safe climate of forgiveness to enhance employees' service recovery performance.

Edmondson & Verdin (2018) in their systematic review conducted a literature review on the role of psychological safety on organizational error management. The findings revealed that in a psychologically safe environment, organizational error management is better enhanced as people believe that mistake do not necessarily lead to punishment. Psychological safety was also discovered to foster the confidence to report, discuss,

manage, and learn from error. Psychological safety also allows people to ask questions when in doubt about a procedure or result, and to team up to solve problems as they occur. A psychologically safe environment thus was concluded is a better way of improving organization performance via error management.

2.4 Summary of Knowledge Gap

The relationship between psychological safety and healthcare quality service is largely unexplored, particularly regarding the three levels of psychological safety and how they affect quality healthcare services. The study will contribute to the existing literature by focusing on these three level of psychological safety in healthcare sector. Moreover, most of the existing research on psychological safety in healthcare sector as largely focused on conceptual understandings, perception of health-workers, and factors influencing psychological safety. The few studies conducted in healthcare sector has mostly been on team level psychological safety ignoring individual and organizational psychological safety. The study contributes to the healthcare quality literature by investigating how different aspects of psychological safety impacts delivery of healthcare.

2.4.1 Table on summary of knowledge gap

Below is table 2.1 showing the summaries of studies on psychological safety and the respective gaps.

Table 2.1: Summary of knowledge gap

Authors		Aim	Findings	Gaps
1.	Singh et al., (2013)	1.The influence of individual psychological safety on employee performance of different races in Australia	1.Employees feel more psychologically safe in supportive diverse climate, impacting positively on their productivity. 2. Diverse climate moderates the relationship between psychological safety and employee performance.	Perceptions of individual and team psychological safety needs to be explored
2.	Kessel et al., (2012)	Psychological safety, knowledge sharing, and creative performance in healthcare teams in UK.	The feeling of psychological safety in teams contributes to the team's creative performance	Need to determine individual psychological safety effectiveness
3.	Abror (2016)	relationship between psychological safety, self-efficacy and organizational performance among Indonesian companies	1.Demonstrated that psychological safety contributes greatly to organizational performance and self-efficacy. 2.Team with higher level of psychological safety experiences better organizational performance	Determine factors influencing individual psychological safety leading to organizational performance
4.	Kim et al., (2020)	To identify environmental climates which promote and support psychological	There exists a positive relationship between leaders and team members that foster psychologically safe	1.Knowledge of factors influencing psychological safety.

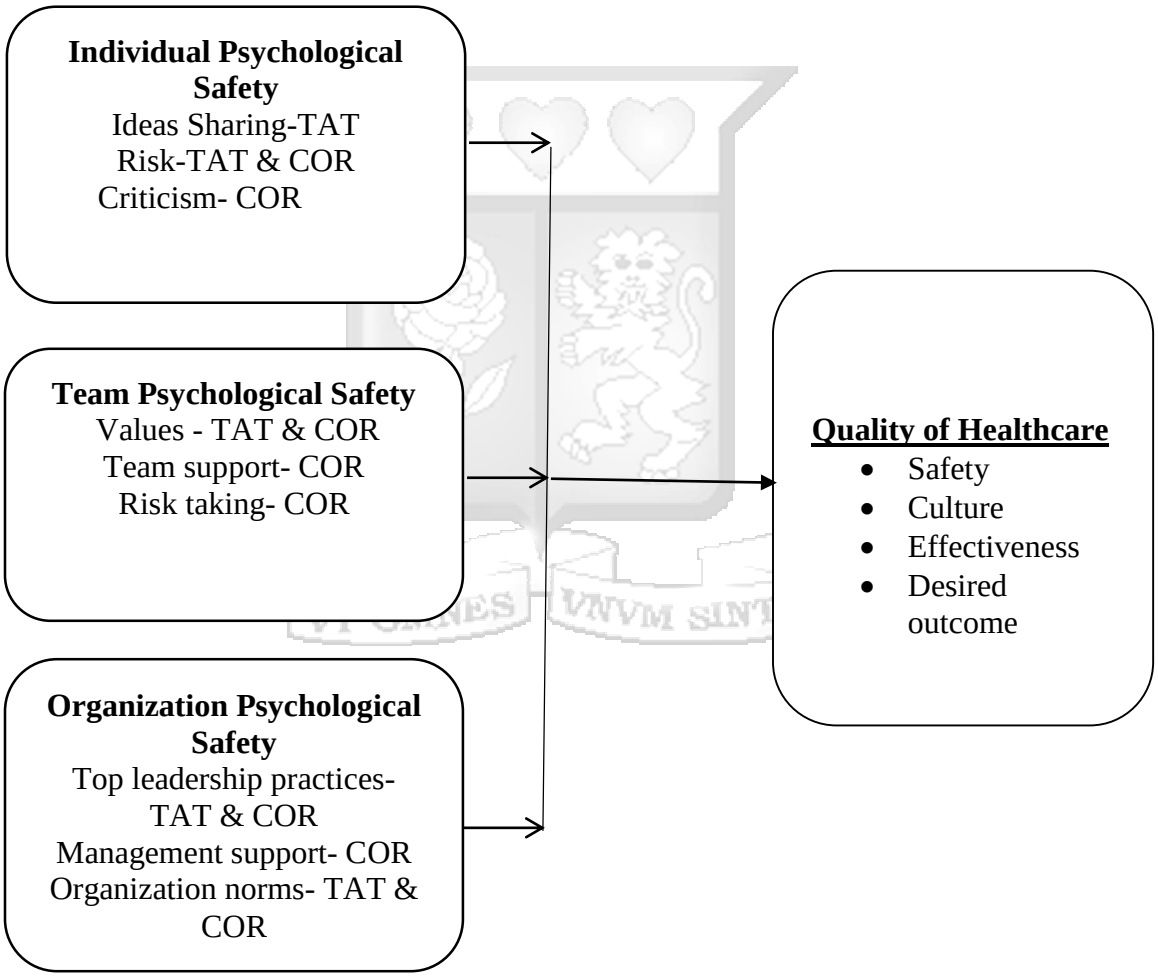
		safety in healthcare organizations.	environment in some specific leadership behaviors, including leadership inclusiveness, trustworthiness, change oriented leaders, and ethical leadership.	2.Focuses on teams, individual and organizational psychological safety
5.	Edmondson & Verdin (2018)	Role of psychological safety on organizational error management	1.Organizational error management is better enhanced as people believe that mistakes do not necessarily lead to punishment in a psychologically safe environment. 2.Foster the confidence to report, discuss, manage, and learn from errors.	Levels of psychological safety in organizational error management
6.	Albritton et al., (2019)	To understand psychological safety in Healthcare and Education organizations.	There exist similarities and differences on psychological safety in the two organizational contexts.	1.It explores team and organizational psychological safety. 2.Hence further research on influence of individual psychological safety

Table 2.1 above shows the various studies done on psychological safety around the world with their findings and existing gaps for further exploration.

2.5 Conceptual Framework

The model represents the different interactions between the independent and dependent variable. The concept is illustrated by looking at psychological safety in the aspects of individual, team and organization levels based on the theoretical models, and the effects in provision of quality care.

Figure 2.1: Conceptual framework



Conceptual framework fig 2.1, shows the study independent variables psychological safety levels and their probable relationship between the Trait Activation Theory and Conservation of Resource Theory and aspects of provision of quality health care as the dependent variables. Independent variables include the individual, team, and organizational levels of psychological safety. The Dependent variables include safety, culture, effectiveness, and desired outcomes.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the research design, collection of data, and analysis methods used in the study. How data was collected, analyzed, and interpreted is also discussed. Discussion on data validity and reliability and its application to the study.

3.2 Research Design

This is a cross-sectional descriptive study design. The approach allows observation of a representation of a population within a specific time. Cross-sectional study entails the collection of data at one point in time and, therefore, was suitable for analyzing the effects of psychological safety to provision of quality health services. Cross-sectional study design offers advantages in data collection within shortest time and minimal cost. It also allows for researcher to establish relationships between variables. This design was selected because of these benefits, more so because of its ability to establish relationship that is important to tests the effect of psychological safety on quality of healthcare.

3.2 Study Area

The study was conducted at Kitale county referral hospital formerly a district hospital, which is now a level 5 public facility located in Kiminini sub county, Transnzoia County. It is a high volume facility with a bed capacity of 250 and more than 100 percent bed occupancy rate. The facility serves a catchment population of 95,000 with a staff establishment of 600 workers comprising of highly skilled specialist medical doctors (Surgeons, Pediatricians, Radiologists, Physicians), medical officer's, registered nurses, registered clinical officers, allied health workers and support staff. The registered skilled healthcare workers at the time of the study was 358. It has an administrative and departmental block, offers curative, preventive and rehabilitative health services. Daily out-patient output is at 1500, and inpatient is at 280. (District Health Information Systems,2020) Although the hospital is yet to be ISO certified it adheres to county and national government national quality policy. (Kenya Quality Model for Health,2011).

The hospital provided a vantage point in realizing this study as no such study has been carried out and the participants are going to be drawn from the institution.

3.3 Study Population

The study population was the 358 registered health workers in the county as provided by county public service management employment records (Transnzoia County CIDP, 2018). The study was carried out in Kitale county referral hospital. KCRH is a level 5 public county hospital situated in Transnzoia county, western part of Kenya. It's a busy hospital with a total of 600 skilled and semi-skilled healthcare workforce and a catchment population of approximately 90,345 (Transnzoia County CIDP, 2018). The study focused on the skilled registered healthcare workers since they directly affect provision of healthcare hence a bigger impact on quality and hence the selection of the various cadres as respondents. Health care workers working in KCRH were eligible for the study; both on contractual and permanent basis of employment. Healthcare workers on attachment were excluded from the study.

3.4 Sampling Design

The study sample size was calculated based on Yamane (Education, 2020) formula for known population.

Formula:

$\mathbf{n_Y = N / (1 + Ne^2)}$ where N is the population and e is 0.05

workings:

$358/ (1+358*0.05^2)$

358/ (1+0.895) =*358/1.895

=188.91

Based on the Yamane formula, the sample size of the study was 188 health workers distributed as shown in table 3.4.1 below.

3.4.1: Sampling Frame on Health Workers

Table 3.1 below demonstrates the sampling frame of healthcare workers.

Table 3. 1: Sampling Frame of the Health Workers

Health Workers	Population	Sample Size
Doctors	50	26
Nurses	172	90
Clinical officers	31	16
Medical laboratory technician	21	11
Allied health staff	84	45
Total	**358**	**188**

3.4.2 Sampling Procedure

The study utilized non-probability sampling in the form of quota and convenience sampling which was used to select the study respondents. Nonprobability sampling was used due to the difficulty of accessing sampling frame of the health workers. The quota sampling was used to categorize the respondents based on different cadres, specialty of health workers at Kitale and convenient sampling was used to select respondents that were readily available for the study. Convenient sampling was used to select readily available respondents at the time of data collection due to challenges in accessing the whole healthcare workers because of COVID-19 restrictions.

3.5 Data Collection

Quota and convenience sampling were used to select participants. Primary data was collected by way of structured questionnaires to selected healthcare respondents at Kitale county referral hospital. Structured questionnaire was utilized because the goal of study was to test relationships between psychological safety and quality of healthcare. The questionnaire was divided into two sections namely: demographic information and the second section consisted of structured questions in a five-point Likert style ranging from 1 = strongly disagree to 5 = strongly agree for all study variables Questionnaire on the study individual, team and organizational psychological safety was developed by adapting and modifying questions from previously conducted studies outside Kenya (Albritton et al.,

2019; Donovan & Mcauliffe, 2020). Questions from these studies have demonstrated reliability scores above 0.7 hence their adaptability in the current study. Questions on Quality of health care was adapted from the Kenya Quality Model of Healthcare manual. Given that psychological safety is still measured at subjective level with no objective measures developed yet, questions used were likert based rending the findings to be merely perceptions. The questionnaire at individual psychological safety covered subjects on idea sharing, value to individual opinion, risk taking or mistake and constructive criticism aspects. The questionnaire at team psychological safety covered subjects on trusts, respect and honesty in team, team supports and risk taking. The questionnaire at organization psychological safety covered subjects on victimization, top leadership, management support, team norms and culture of risk taking. The questionnaire on quality of healthcare covered subjects on patient safety, time care, errors reporting and honest and compassionate care. Data collection was conducted over a one mand period between March 2021- April 2021. Questionnaire was self-administered by the researcher who works at Kitale county referral hospital.

3.6 Research Quality

Research quality was measured through the reliability and validity of the study.

3.6.1 Reliability

The reliability of the study was tested through conducting a pilot study on a smaller population of health workers conveniently selected from one of Sub-counties of Trans-Nzoia County. A total of 18 respondents were involved and were taken through the questionnaire. Following their participation, the researcher gained more insights into the clarity of questions and reliability of the research instruments. Research assistants were trained on how to administer the interviews hence improved the quality of information collected. The results of the pilot study were used to test the reliability of the research instrument, and this was verified through the Cronbach Alpha test, which was performed through SPSS. A cut-off of 0.7 was used to indicate whether the instrument was reliable or not as suggested by Quinlan, Babin, Carr & Griffin, (2019). From the results, the study variables had Cronbach values above 0.7 hence the instrument was reliable.

3.6.2 Validity of the Research Instrument

Mugenda and Mugenda (2003) define validity as the extent to which results reflect item being studied. Validity is measured through content and construct validity. To ensure content and construct validity, expert advice from supervisor and instruments on the study variables were adapted from studies that had proven their validity.

3.7 Data Analysis

The data analysis process involved cleaning, classification, coding, and tabulation of collected data so that they were amenable to analyze. Descriptive statistics involved analysis of mean, proportions, standard deviation and percentages (Quinlan, Babin, Carr & Griffin, 2019). The study also performed a Logit regression model to examine the relationship between the various levels of psychological safety (individual, team, and organizational) and provision of quality health care. Logit model was used for the reason that the study dependent variable was categorical which met the conditions for using Logit regression model as opposed to ANOVA that require the dependent variable to be continuous. Therefore, the estimated linear regression model for this study was:

$Y = \beta_0 + \beta_1 X_1 + \varepsilon$

Where:

Y = quality of healthcare (dependent variable)

β_0 = constant or intercept which is the value of dependent variable when all the independent variables are zero

β_i = Regression coefficient for Psychological Safety

X_1 = Psychological Safety

Multiple regression model (MLR) below;

$Y = \beta_0 + \beta_i X_i + \varepsilon$, where (i= 1, 2, 3,) …… (i)

Where i is the independent variable in the study (Psychological safety) and e is the error term

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$, where (i = 1, 2,3) …… (ii)

Where i are the independent variables as stated in equation (i) above, (i.e. individual, team, and organizational psychological safety) and e is the error term

The study used two regression model, with the first model testing the relationship between one independent variable and second with all the 3 independent variables. The model was tested through Logit model in SPSS.

Table 3. 2: Operationalization of the Study Variables

Variable	**Indicators**	**Measures**	**Data Analysis**	**Supporting Literature**
Individual psychological safety	Ideas Sharing Risk Taking Criticism	5-point rating scale 1 = Strongly Disagree and 5 = Strongly Agree	Descriptive and Inferential	(Appelbaum et al., 2019; Newman et al., 2017)
Team Psychological safety	Values Team support Risk taking	5-point rating scale 1 = Strongly Disagree and 5 = Strongly Agree	Descriptive and Inferential	(Jha, 2018; Kim et al., 2020)
Organizational Psychological safety	Top leadership practices Management support Organization norms and culture	5-point rating scale 1 = Strongly Disagree and 5 = Strongly Agree	Descriptive and Inferential	(Albritton et al., 2019; Frazier, 2017)
Quality of Healthcare services	Safety Culture Effectiveness Desired outcome	5-point rating scale 1 = Strongly Disagree and 5 = Strongly Agree	Descriptive and Inferential	(Bucke et al., 2020)

3.8 Ethical Considerations

Ethical review and approval was sought from Strathmore University Institutional Research and Ethics Committee (SU-IREC) and NACOSTI for licensure before proceeding to the field. Permission to carry out the research at Kitale County referral hospital was obtained. The respondents were informed before-hand of the goal and purpose of the study, and with this, their participation was voluntary only after assenting and consenting. Participants had the right to refuse to participate in the study as well as the right to withdraw from the study without suffering any consequences. Finally, assurance was given to the respondents that the information collected was confidential, and therefore there was no risk in their participation.

CHAPTER FOUR

4.0 PRESENTATION OF RESULTS AND INTERPRETATION

4.1 Introduction

This study was conducted to establish the effects of psychological safety on the quality of healthcare service rendered by the health workers at Kitale County Referral Hospital (KCRH). This was achieved by studying three objectives i.e. to establish the effects of individual psychological safety, team psychological safety and organization psychological safety on provision of quality healthcare services. Data was collected through face-to-face interviews from different cadres of health care workers at KCRH. The results of the study are presented in the sections below.

4.2 Response Rate

The study initially targeted 188 healthcare workers at KCRH. However, due to ensuing pandemic caused by the novel COVID-19, a response rate of 100% could not be achieved at the time of data collection. A total of 114 healthcare workers were interviewed giving a response rate of 61%. According to Richardson (2005), a response rate of 60% is desirable and that above 80% is good. Hence it can be concluded that responses rate for the study was fit for data analysis and interpretation of findings.

Table 4. 1: Response Rate

Questionnaires	Frequency	Percent
Interviewed	114	61%
Not interviewed	74	39%
Total	188	100%

Table 4.1 above depicts 114 healthcare workers were interviewed which was 61% of the total healthcare workers.

4.3 Socio-demographic Characteristics of Respondents

4.3.1 Distribution of Respondents by Gender

The results in figure 4.1 present the results of the distribution of respondents by their gender. It shows that the male respondents were slightly high in number (58%) compared to their female counterparts.

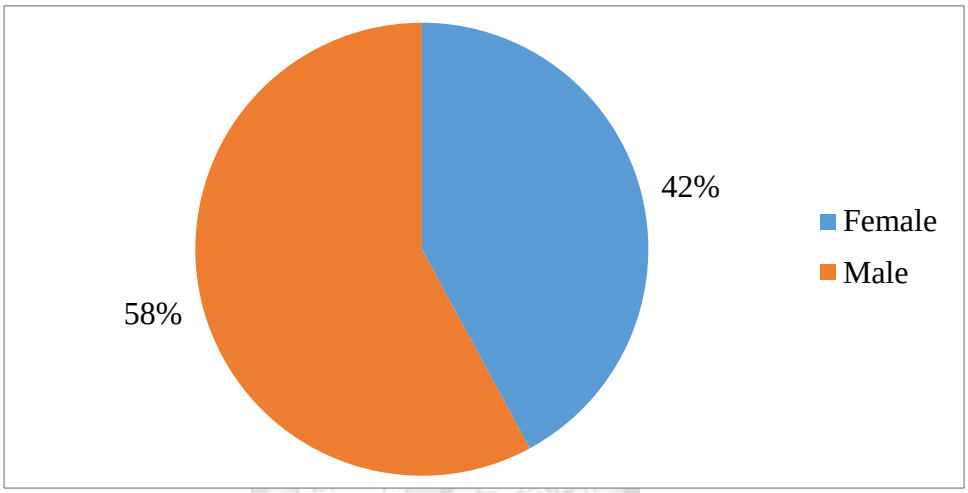


Figure 4. 1: Gender of the Respondents: the male gender were the majority with 58% and female at 42% among the total respondents.

4.3.2 The Position of the Respondents at the Hospital

The respondents were from different cadres with no specific cadre dominating as respondents. The results are as shown in Table 4.2.

Table 4. 2: Position of the Respondents at the Hospital

Position at the hospital	Frequency	Percent
Nurse	32	28%
Clinical officer	31	27%
Specialist	22	19%
Medical doctor	15	13%
Laboratory Technician	9	8%
Pharmacist	5	4%
Total	114	100%

4.3.3 Level of Education of the Respondents

The results in table 4.3 indicates that majority of the respondents (56%) level of education was at diploma The rest were nearly equally distributed among Masters and Bachelors level of education.

Table 4. 3: Level of Education according to Healthcare Worker position at Kitale County Referral

Level of Education	Clinical Officers	Laboratory Technologists	Doctor	Nurse	Pharmacist	Medical Specialist	Total
Bachelor Degree	2	3	13	5	1	2	26
Diploma	29	6	0	24	2	2	63
Master's Degree	0	0	1	3	2	17	23
Total	31	9	14	32	5	21	112

4.3.4 Distribution of Respondents by their Work Experience

Table 4.4 presents the minimum years of work experience of healthcare workers at KCRH was at least 2 years, while majority had worked for more than 10 years.

Table 4. 4 Work experience of the Respondents

Work experience	Frequency	Percent
More than 10 years	70	62%
2-5 years	24	21%
6-10 years	19	17%
Total	113	100%

4.3.5 Distribution of Respondents by their Age

The results in table 4.5 implies that the respondents were distributed across the various age brackets as a third (35%) which formed a simple majority were within the youth age bracket of between 18 and 35 years followed by those between 35 and 45 years of age (28%).

Table 4. 5: Age of the Respondents

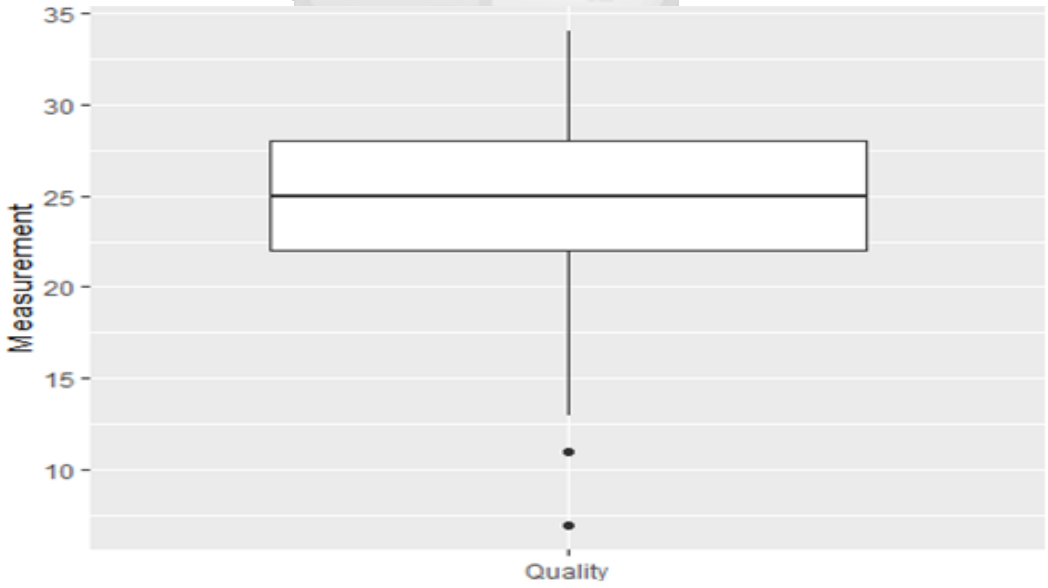
Age of the respondent	Frequency	Percent
25-35 years	40	35%
36-45 years	32	28%
46-55 years	22	19%
56 years and above	20	18%
Total	114	100%

4.4 The Quality of Health Care Services

The dependent variable of the study was the quality of health care services offered at KCRH. This objective was achieved through analyzing a set of 5-point Likert questions. The means and the responses for each of the Likert statements were as presented in Table 4.6. Majority of the respondents (65.8%) were in agreement that the safety of the patients in the hospital had improved as also indicated by a mean of 3.52. They also agreed that patients were increasingly treated with compassion and respect (mean=3.53). Majority of the participant (73%) agreed that the health personnel were committed to identifying and addressing patient safety risks (mean=3.77) and 80% agreed that the managers expected the health personnel to always focus on patient safety (mean=3.9). In terms of timely care being delivered by the health personnel only 54% agreed as also shown by a mean of 3.34. Less than half of the participants (45%) were in agreement that the health services offered met the Kenya Quality Model Health standards (mean=3.13). In addition, the results indicate that the respondents were neutral on whether the managers in the hospital made it easy to report errors (mean=3.31). The overall mean of 3.5(Agree = 4) and this suggests that the respondents were in agreement that quality healthcare is provided at KCRH.

Table 4. 6: Quality of the healthcare services at KCRH

Statements	Strongly disagree	Disagree	Neither disagree	Agree	Strongly agree	Mean	SD
Patient safety has improved in the hospital	5 (4.5%)	16 (14.4%)	17 (15.3%)	62 (55.9%)	11 (9.9%)	3.52	1.008
Timely care is delivered by health personnel	6 (5.6%)	15 (13.9%)	29 (26.9%)	52 (48.1%)	6 (5.6%)	3.34	0.978
Patients are increasingly treated with compassion and respect	6 (5.4%)	16 (14.4%)	17 (15.3%)	57 (51.4%)	15 (13.5%)	3.53	1.069
Health service offered meets the Kenya Quality Model for Health (KQMH) standards	9 (8.1%)	25 (22.5%)	27 (24.3%)	43 (38.7%)	7 (6.3%)	3.13	1.088
The health personnel will be committed to identifying and addressing patient safety risks	2 (1.8%)	8 (7.2%)	20 (18.0%)	65 (58.6%)	16 (14.4%)	3.77	0.852
Managers in the hospital will make it easy to report errors.	5 (4.5%)	20 (18.0%)	29 (26.1%)	50 (45.0%)	7 (6.3%)	3.31	0.989
Managers in the hospital will expect health personnel to focus on patient safety.	2 (1.9%)	6 (5.6%)	13 (12.0%)	67 (62.0%)	20 (18.5%)	3.9	0.831
Overall						3.5	0.973



Source (survey data)

Figure 4.2: Box plot Overall Quality score

4.5 Effects of Individual Psychological Safety on Provision of Quality Healthcare

The first objective of the study sought to establish the effect of individual psychological safety on the provision of quality healthcare at KCRH. Through a set of Likert questions, it was noted that the respondents were undecided or neutral to this objective as indicated by an overall mean of 3.37as indicated in table 4.7. Specifically, majority of the respondents (81%) agreed that they were confident to share opinions about their work with their co-workers (mean=4.19). Also 74% agreed that they were confident to give opinions to nurse-in charge or the hospital director (mean=3.81) as well as 81% agreed that they were honest and open about the mistakes they make (mean=4.01). However, the respondents were undecided on whether individuals were comfortable to assert themselves in meetings as shown by a mean of 3.4. Further they were undecided on whether they were allowed to engage in shared decision-making at the hospital (mean=3.23). Additionally, the respondents were neutral that the health personnel would not criticize them for making mistakes (mean=2.65). The results also revealed that the respondents disagreed that it was difficult to ask for help from the other health personnel (mean=2.31). This suggests that the health workers perceived that, they experience individual safety in some aspects and not in every dimension of psychological safety.

Table 4. 7: Individual psychological safety

Statement	Strongly disagree	Disagree	Neither disagree	Agree	Strongly agree	Mean	SD
Individuals are more comfortable in asserting themselves in meetings	5 (4.5%)	15 (13.4%)	34 (30.4%)	46 (41.1%)	12 (10.7%)	3.4	1
I am allowed to engage in shared decision-making at the hospital	14 (12.6%)	12 (10.8%)	33 (29.7%)	39 (35.1%)	13 (11.7%)	3.23	1.181
I am confident to give some opinions about my job to my coworkers	1 (0.9%)	8 (7.1%)	12 (10.6%)	40 (35.4%)	52 (46.0%)	4.19	0.95
I am confident to give some opinions nurse in charge/ hospital director	7 (6.2%)	6 (5.3%)	16 (14.2%)	56 (49.6%)	28 (24.8%)	3.81	1.065
It is difficult to ask other health personnel for help	31 (27.4%)	46 (40.7%)	9 (8.0%)	24 (21.2%)	3 (2.7%)	2.31	1.166
I am open and honest about the mistakes I make	2 (1.8%)	9 (8.0%)	11 (9.7%)	55 (48.7%)	36 (31.9%)	4.01	0.95
The health personnel will not criticize me for making mistakes	21 (19.1%)	31 (28.2%)	28 (25.5%)	25 (22.7%)	5 (4.5%)	2.65	1.161
Overall						3.371	1.067

Key: 1.00-1.79=Strongly Disagree 1.80-2.59=Disagree 2.60-3.39=Neutral 3.40 4.19=Agree 4.20-5.00 =Strongly Agree

4.6 Effects of Team Psychological Safety on Provision of Healthcare

The second objective of the study was to determine the effect of team psychological safety on the provision of quality health care at KCRH. This objective was also achieved through analyzing the means of a set of Likert questions and the results are presented in table 4.8. In general, majority of the respondents agreed that team psychological safety indeed determines the quality of the healthcare services offered by health personnel as indicated by an overall mean of 3.792. Specifically, 77% of the respondents agreed that in teams, it is easy for them to discuss issues and problems (mean=3.97), at the same time 82% agreed that in their respective teams the members value and respect one another's contributions (mean=4.04). Further 81.7% of the respondents agreed that in teams, they are able to talk about their mistakes and share ways to prevent and learn from them (mean=4.05). Majority of the respondents (77%) also agreed that members in their teams are able to help each other to understand and become better in their work as shown by a mean of 3.95. On the other hand, the respondents were undecided on whether when someone makes a mistake in a team, it is often held against them (mean=2.95). The results indicate an existing good team work culture within KCRH working environment.

Table 4. 8: Team psychological safety

Statements	Strongly disagree	Disagree	Neither disagree	Agree	Strongly agree	Mean	SD
In my team(s), it is easy to discuss difficult issues and problems.	3 (2.7%)	7 (6.2%)	17 (15.2%)	48 (42.9%)	37 (33.0%)	3.97	0.991
When someone makes a mistake in my team(s), it is often held against him or her	17 (15.3%)	26 (23.4%)	25 (22.5%)	32 (28.8%)	11 (9.9%)	2.95	1.242
Members of my team value and respect each other's' contributions.	2 (1.8%)	7 (6.2%)	11 (9.8%)	57 (50.9%)	35 (31.2%)	4.04	0.91
In my team(s), people talk about mistakes and ways to prevent and learn from them	1 (0.9%)	5 (4.6%)	14 (12.8%)	57 (52.3%)	32 (29.4%)	4.05	0.832
Members of my team(s) help others understand become better in their work	3 (2.8%)	9 (8.3%)	13 (11.9%)	49 (45.0%)	35 (32.1%)	3.95	1.013
Overall						3.792	0.9976

Key: 1.00-1.79=Strongly Disagree 1.80-2.59=Disagree 2.60-3.39=Neutral

3.40-4.19=Agree 4.20-5.00 =Strongly Agree

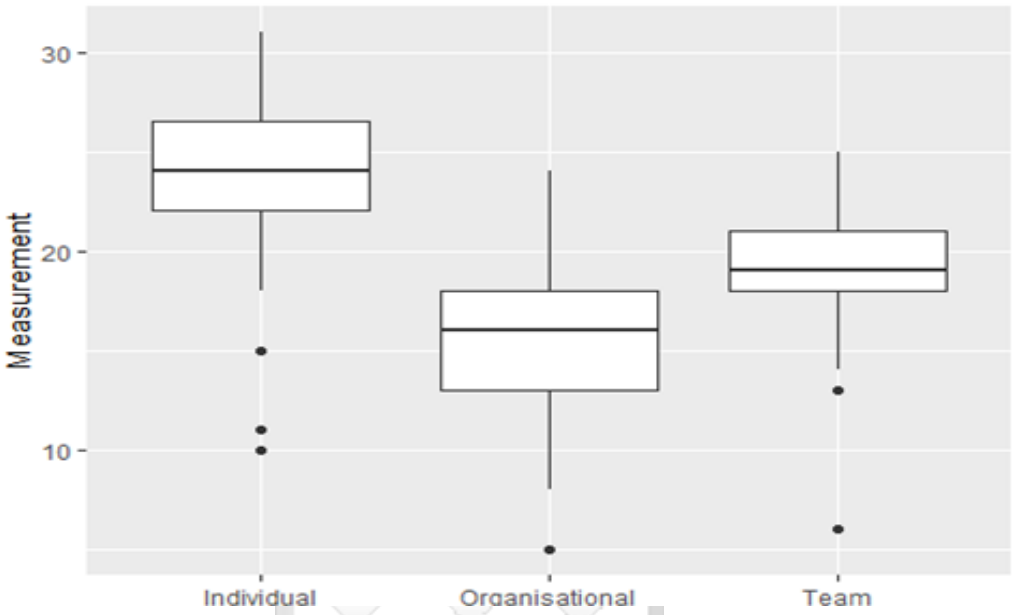
4.7 Effects of Organization Psychological Safety on provision of Healthcare

The last objective of the study was to establish the effect of organization psychological safety on the quality of the health services provided by the hospital. From table 4.9, it is evident that the respondents were neutral on whether organizational psychological safety affects the quality of healthcare services offered by the health personnel as revealed by an overall mean=3.148). The respondents were neutral (neither agree nor disagree) that they were able to bring up problems and tough issues without fear of victimization (mean=3.12). They were also neutral that no one in the hospital would deliberately act in a way that undermined their efforts (mean=3.22). The respondents further, were neutral on the statement that the hospital management had created a good climate that fostered respect for each other at work (mean=3.38). The respondents also showed neutrality on whether the hospital encouraged taking of risks as compared to other institutions and also on whether the hospital management promoted team norms for different teams as shown by means of 2.84 and 3.28 respectively. On this given objective the results suggest that the health worker's organization psychological safety is not felt at KCRH.

Table 4. 8: Organization Psychological safety

Statements	Strongly disagree	Disagree	Neither disagree	Agree	Strongly agree	Mean	SD
Health personnel are able to bring up problems and tough issues without fear of victimization	8 (7.2%)	28 (25.2%)	27 (24.3%)	39 (35.1%)	9 (8.1%)	3.12	1.102
No one in the hospital would deliberately act in a way that undermines my efforts	3 (2.7%)	32 (28.8%)	26 (23.4%)	38 (34.2%)	12 (10.8%)	3.22	1.065
The hospital management has created a good climate that fosters respect for each other at work	5 (4.6%)	19 (17.6%)	25 (23.1%)	48 (44.4%)	11 (10.2%)	3.38	1.039
Compared to other health institutions, the hospital management encourages taking of risks	12 (10.8%)	40 (36.0%)	27 (24.3%)	29 (26.1%)	3 (2.7%)	2.74	1.051
The hospital management promote team norms for the different teams	6 (5.4%)	21 (18.9%)	28 (25.2%)	48 (43.2%)	8 (7.2%)	3.28	1.028
Overall	6%	25%	24%	37%	8%	3.148	1.057

Key: 1.00-1.79=Strongly Disagree 1.80-2.59=Disagree 2.60-3.39=Neutral 3.40 4.19=Agree 4.20-5.00 =Strongly Agree



We observed that the median score for organization were lower compared to those of individual and team safety. Source (survey data).

Figure 4.3: Box plot for the total scores per domain

4.8 Difference in Psychological Safety Across Cadre of Workers

The results in table 4.10, revealed a statistically no significant difference in individual psychological safety, organization psychological safety and team psychological safety across cadre of workers.

Table 4.9: Difference in psychological safety by cadre

	CO (N=31)	Doctor (N=37)	Lab/Pharmacy (N=14)	Nurse (N=32)	p value
Individual					0.0951
No	22 (36.1%)	15 (24.6%)	5 (8.2%)	19 (31.1%)	
Yes	8 (17.4%)	20 (43.5%)	5 (10.9%)	13 (28.3%)	
Team					0.1181
No	8 (34.8%)	7 (30.4%)	5 (21.7%)	3 (13.0%)	
Yes	20 (24.1%)	27 (32.5%)	8 (9.6%)	28 (33.7%)	
Organizational					0.6481
No	11 (22.4%)	15 (30.6%)	6 (12.2%)	17 (34.7%)	
Yes	19 (32.2%)	18 (30.5%)	7 (11.9%)	15 (25.4%)	

4.9: Association between Quality and Individual, Team and Organizational safety

The association between quality and various aspects of psychological safety was tested through subjective measures of the variables. We observed that there was a statistically significant association between Individual safety and quality, with a higher proportion of respondents who reported that they had individual safety reported quality care (64.3%), compared to those who reported lack of individual safety (43.9%) (p-value=0.044). There was also a significant association between organizational safety and quality with a higher proportion of respondents who reported that there was organizational safety reported Quality care (80.4%), compared to those who reported lack of organizational safety (25.5%) (p-value<0.001). However, there was no statistically significant association between team safety and quality of care since the p-value was greater than 0.05. These results should be treated with caution since psychological safety and quality of healthcare were measured through subjective measures (perception).

Table 4.10: Association between Quality and Individual, Team and Organizational safety

	Quality			Chi-square
Variable	**No (N=48) Freq (Row %)**	**Yes (N=57) Freq (Row %)**	**Total (N=105)**	**p value**
Individual				0.044
No	32 (56.1%)	25 (43.9%)	57 (57.6%)	
Yes	15 (35.7%)	27 (64.3%)	42 (42.4%)	
Team				0.273
No	12 (57.1%)	9 (42.9%)	21 (20.8%)	
Yes	35 (43.8%)	45 (56.2%)	80 (79.2%)	
organizational				< 0.001
No	35 (74.5%)	12 (25.5%)	47 (45.6%)	

Yes	11 (19.6%)	45 (80.4%)	56 (54.4%)

4.10: Regression Analysis

The researcher further fit a multiple logistic regression where we assessed the three factors using the raw total scores. The results are as shown in table 4.12. We observed that as the adjusting for the individual and team scores for one-unit increase in the organizational score the odds of reporting existence of quality health care increased significantly by 70% (OR=1.7 95%CI: 1.38,2.18). The Team and individual scores were not statistically significant in the adjusted model. However, these results should be treated as mere perceptions of health works how different constructs of psychological safety affect quality of healthcare.

Table 4.11: Regression

Characteristic	AOR	95% CI	p-value
Individual	1.02	0.87,1.2	0.8
Team	1.04	0.83,1.31	0.7
Organizational	1.7	1.38, 2.18	<0.001

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 Introduction

Under this Chapter, key findings from the study are discussed in light of experiences reported from other studies in Kenya and elsewhere. This chapter will also incorporate the conclusion and recommendations on gaps realized from the study.

5.2 Discussions

5.2.1 Individual Psychological Safety and Provision of Quality Healthcare at KCRH

Findings revealed that the overall mean for individual psychological safety was 3 indicating that healthcare workers at KCRH were undecided as to whether they experience individual psychological safety. This could mean that individual expression of healthcare worker's voices is still limited at the county referral health center. Individual psychological safety is an aspect of individual differences such as personality traits of the various health workers and depending on these differences they manifest how health worker's perceive their psychological safety status in a work environment (Prasad Singh et al., 2020). However, this was not within the scope of the study and can be premise for future studies. The findings showed that the perceptions of individual psychological safety have no significant relationship with quality of health care at KCRH. This suggests that individual psychological safety among health care workers can lead to them taking interpersonal risks to address challenges within the working environment hence leading to improvement in quality of health care. These findings also contract with the studies by Albritton et al., (2019; and Singh et al., (2013) whose results showed that individual psychological safety significantly impacts on employee productivity and organization performance.

5.2.2 Team Psychological Safety and Provision of Quality Healthcare in KCRH

The findings demonstrate that the healthcare workers at KCRH agree that team psychological safety exists at the county referral facility. This seem to be in line with most health care team studies that health institutions operate on a culture of teamwork as the basis of organizational performance. Care delivery in healthcare organizations involves a multitude of professional roles, configured in different structures and completing varied tasks and with team sizes ranging from dyadic teams (care provider and patients) to multi-

teams(Edmondson & Verdin, 2018). Care teams as the foundation of health care service delivery complete tasks that includes: diagnosis, complex problem solving, treatments and to intensive psychomotor work requiring coordination (Salas et al., 2018)2018). Familiarity between team members has been attributed to team psychological safety amongst healthcare workers (Kessel et al., 2012). The likelihood of familiarity in the study as a reason for team psychological safety is supported by the fact that 70% of the healthcare workers had worked in the facility for over 10years.

Team psychological safety was not perceived to be a contribution factor of quality healthcare at KCRH, as per the study results. These findings imply that much as there is team psychological safety in an institution if it is not properly channeled and utilized to solve the daily health challenges of healthcare provision then there would be probable lack of quality care. Hence institutions that foster team psychological safety are more likely to experience improvement in quality health care. Presence of team psychological safety means that team members feel safe to report mistakes, ask questions, tolerate positive criticism or make suggestions, and the end result is improvement in healthcare quality (Kim et al., 2020). Team psychological safety also allow different healthcare workers to gain knowledge that they can build on, and the organization gains the opportunity to explore where their systems and processes are working and where they are not, (Jha, 2018).

Other studies, also suggest that team psychological safety can contribute to improvement in healthcare quality contrary to the current study. This divergence could be attributed to organization's probable improper processes and lack of a climate that foster team norms and culture that enhances quality improvement through reporting of errors, relevant trainings and provision of tools. Indeed, Appelbaum et al., (2016), for example, found that team psychological safety increases healthcare quality as it improves employee productivity. In the same way, Marlow et al., (2017) Marlow, in their meta-analytical study established that team psychological safety positive impacts on healthcare quality as it enhances communication quality, team involvement and communication types (information elaboration and knowledge sharing).

5.2.3 Organization Psychological Safety and Provision of Quality Healthcare at KCRH

The findings revealed that the healthcare workers were neutral to the existence of organization psychological safety. This highlights the lack of satisfaction with organizational climate at the county referral health facility. Dissatisfaction with organizational climate (organizational psychological safety) has been attributed to challenges in devolved healthcare (Donovan et al., 2021). Longstanding issues with county government that has negatively impacted on organization psychological include: dissatisfaction with pay, unsafe working conditions and human resource management issues (Waithaka et al., 2020).

Organization psychological safety was perceived to be a contributing factor to improvement in quality healthcare at the county referral facility. This imply that improvement in organizational climate results in improvement in quality healthcare at the counties. Organization support, through supportive healthcare environments creates an open and respectful culture which as a consequence promotes speaking up and assertive communication (Edmondson & Verdin, 2018). Healthcare professionals, who believe that their organization values their contribution and cares about their wellbeing, are more likely to put their best foot forward and deliver quality care (Donovan & Mcauliffe, 2020). Organization psychological safety does impact on organization positively through familiarity across different teams in an organization (Donovan & Mcauliffe, 2020). In a healthcare organization, rotation amongst team members is part of organization culture, and this breeds familiarity across teams (Salas et al., 2018), which can lead to better performance if employees have stayed in an organization for long. This is evidenced in the current study where most health workers have worked at KCRH for over 10 years.

Organization psychological safety has also been suggested to impact positively on health care quality (Newman et al., 2017). Another systematic review study by Edmondson & Verdin, (2018) also highlighted the critical role that organization psychological safety plays in improving healthcare by helping improve organization error management. Interestingly, the study findings also showed that organization psychological safety holds the greatest effect in improving health care quality and not team psychological safety as study by Appelbaum et al., (2019) has demonstrated. This was supported by organization

psychological safety having an odds ratio of 1.7 as opposed to 1.04 for team psychological safety. This highlights the importance of organizational climate and support in provision of better healthcare quality.

The significance of organization psychological safety on quality of health care aligns with the assertion of conservation of resources theory. The theory asserts that psychological safety is only able to have a significant effect on quality of healthcare at organizational level. On the contrary, the non-significance of team and individual psychological safety confirms the tenets of trait activation theory. The theory suggests that effect of psychological safety may affect quality of healthcare depending on presence or absence of moderating factors.

5.3 Conclusion

The study had the main objective of establishing the effect of psychological safety of health workers in provision of quality healthcare in KCRH. From the findings as discussed above with regards to first objective of determining the effect of individual psychological safety in provision of quality healthcare in KCRH. Individual psychological safety in KCRH is limited though it has a significant influence on quality of health care. This suggests that efforts in improving individual psychological safety should be prioritized.

On the second objective, to establish the effect of team psychological safety in provision of quality healthcare in KCRH. The study realized that having team psychological safety does not necessarily lead to provision of quality healthcare especially if other elements have not been taken care off. These findings highlight that having team psychological safety hence team spirit, is not enough it needs to be supported and channeled with the right climate, resources and leadership style that can result to improvement in healthcare quality in public hospitals.

Finally, on the third objective which was to establish the effect of organization psychological safety in provision of quality healthcare in KCRH. Based on the findings summarized above, it can be concluded that healthcare organizations that provide organizational support and have a favorable organizational climate are more likely to experience better health care quality. The findings indicated that organizational psychological safety affects quality of healthcare more than individual psychological

safety. Hence it can be concluded that giving priority to organization safety is important in improving healthcare quality at the counties as it improves both individual and team psychological safety.

5.4 Recommendation

Based on the above findings, the following recommendations are made to Kitale County Referral Hospital; to policy makers, practice and future research.

5.4.1 Recommendations to Kitale County Referral Hospital

It is recommended that a more formal dissemination and review on training of the departmental heads on leadership skills, team work cohesion and better approaches in enhancing team participation in the hospital be instituted. This study found that as much as there was willingness of team work as indicated by the respondents there was lack of a systematic and a coordinated approach in realizing the full potential of teamwork hence hindering the team psychological safety. The hospital management team should provide a leadership style that is inclusive and transformational so as to drive and cultivate diverse team norms that enhance quality improvement of its health workers in provision of healthcare. This will help win confidence and trust by the health workers since they will perceive it as an organizationally safe work environment. The study recommends that the hospital management should create mechanisms that make it easy for healthcare workers to voice their opinions without being victimized.

5.4.2 Recommendations for policy change

The county government should provide more support to healthcare workers, address existing human management issues and establish mutual working relationship on addressing healthcare grievances in a more open, transparent and participatory manner. This can be achieved by providing and reviewing policies that look into the human resource and providing better terms that seek to enhance their psychological safety at work place. The study recommends that policy be put in place in that the leadership at the helm of healthcare management are persons who have undergone healthcare management course. This will go a long way in facilitating a psychological safe environment for health workers by providing competent leadership skills and hence drive creativity and innovation as a

result enhance quality healthcare. The study has demonstrated that organization psychological safety has a strong association with provision of quality healthcare.

The national and county government should create human resources management policies that are specific to improving work culture and environment, for instance, no victimization policy.

5.4.3 Recommendations for practice

The study recommends that health workers be encouraged on interpersonal risk so as to drive creativity and innovation by providing a more open-minded and positive culture as a way of improving their individual psychological safety. This study has indicated that majority of the respondents feel that their opinions are hardly heeded let alone voicing them. The health workers should take initiative and enroll in programs that enhances their individual skills and hence build their self-esteem and ultimately gain confidence in effectively communicating their concerns or ideas to their teams or management.

5.4.4 Recommendation for further study

Further study should be carried out to;

Understand factors influencing psychological safety at individual, team and organization level in a multi-facility setup. Examine factors impacting individual psychological safety at KCRH in future research. If resources allow future studies should involve both the core and support staff of Kitale County Referral Hospital. Examine the moderating and mediating factor on the relationship between psychological safety and health care quality in Kenya.

REFERENCES

Abror;, A. A. R. (2016). *Psychological safety and organisational performance in Indonesian companies: Preliminary findings*.

Albritton, J. A., Fried, B., Singh, K., Weiner, B. J., Reeve, B., & Edwards, J. R. (2019). The role of psychological safety and learning behavior in the development of effective quality improvement teams in Ghana : an observational study. *BMC Health Services Research*, *19*(1), 1–12.

Allen-duck, A., Robinson, J. C., & Stewart, M. W. (2018). Healthcare Quality Cncept. *Nurs Forum*, *52*(4), 377–386. https://doi.org/10.1111/nuf.12207.Healthcare

Appelbaum, N. P., Dow, A., Mazmanian, P. E., Jundt, D. K., & Appelbaum, E. N. (2016). adverse event reporting The effects of power , leadership and psychological safety on resident event reporting. *Medical Education*, *50*(3), 343–350. https://doi.org/10.1111/medu.12947

Appelbaum, N. P., Lockeman, K. S., Orr, S., Huff, T. A., Hogan, J., Queen, B. A., Dow, A. W., Appelbaum, N. P., Lockeman, K. S., Orr, S., Huff, T. A., Hogan, J., Queen, B. A., & Dow, A. W. (2019). Perceived influence of power distance , psychological safety , and team cohesion on team effectiveness. *Journal of Interprofessional Care*, *13*(2), 1–7. https://doi.org/10.1080/13561820.2019.1633290

Barasa, E., Nguhiu, P., & Mcintyre, D. (2018). Measuring progress towards Sustainable Development Goal 3 . 8 on universal health coverage in Kenya. *BMJ Global Health*, *3*(12), 1–14. https://doi.org/10.1136/bmjgh-2018-000904

Barasa, E. W., Manyara, A. M., Molyneux, S., & Tsofa, B. (2017). Recentralization within decentralization : County hospital autonomy under devolution in Kenya. *PLoS ONE*, *12*(8), 1–18.

Bucke, Veronica; Ruzevicius, Juozas; Buckus, R. (2020). *Service Quality Management at*

Lithuanian Healthcare Institutions.

Budianto, T. (2021). A Mediated Moderation Model: Personality, Team Psychological Safety and Team Performance. *Management Analysis Journal*, *10*(1), 1–11.

Cooper, Carly; Quick, C. (2017). *Conservation of Resources Theory Resource: Caravans and Passageways in Health Contexts in STRESS AND HEALTH THE HANDBOOK OF STRESS AND HEALTH* (First). Wiley Blackwell.

Donovan, R. O., Brún, A. De, & Mcauliffe, E. (2021). Healthcare Professionals Experience of Psychological Safety , Voice , and Silence. *Frontiers in Psychology*, *12*(1), 1–16. https://doi.org/10.3389/fpsyg.2021.626689

Donovan, R. O., & Mcauliffe, E. (2020). A systematic review of factors that enable psychological safety in healthcare teams. *International Journal for Quality in Health Care*, *32*(4), 240–250. https://doi.org/10.1093/intqhc/mzaa025

Edmondson, A. C., & Verdin, P. J. (2018). The Strategic Imperative of Psychological Safety and Organizational Error Management. In *How Could This Happen? Managing Errors in Organizations* (pp. 81–104). https://doi.org/10.1007/978-3-319-76403-0

Education, V. (2020). *Safety Practices Required of Welding Technicians for Effective Field Job Performance in Construction Industries in Nigeria*. *8*(1), 167–178.

Frazier, M. L. (2017). Running Head: A META-ANALYTIC REVIEW OF PSYCHOLOGICAL SAFETY. *Personel Psychology*, *70*(1), 113–165. https://doi.org/10.1111/peps.12183.This

Jha, S. (2018). Team psychological safety and team performance. *International Journal of Organizational Analysis*, *27*(4), 1–20. https://doi.org/10.1108/IJOA-10-2018-1567

Kessel, M., Kratzer, J., & Schultz, C. (2012). Psychological Safety , Knowledge Sharing , and Creative Performance in. *Creativity and Innovation Management*, *21*(2), 147–

157. https://doi.org/10.1111/j.1467-8691.2012.00635.x

Kim, S., Lee, H., & Connerton, T. P. (2020). How Psychological Safety Affects Team Performance : Mediating Role of How Psychological Safety Affects Team Performance : Mediating Role of Efficacy and Learning Behavior. *Frontiers in Psychology*, *11*(3), 1–16. https://doi.org/10.3389/fpsyg.2020.01581

Kinyanjui, A. A. E. (2019). ENVIRONMENTAL FACTORS AND HEALTH CARE SERVICE DELIVERY UNDER THE DEVOLVED SYSTEM IN KENYA : A CASE STUDY OF LEVEL 5 HOSPITALS IN KIAMBU COUNTY. *International Journal of Economics, Commerce and Management, United Kingdom*, *7*(12), 594–632.

Magni, M., Caporarello, L., & Basaglia, S. (2011). Innovating with technology in team contexts : A trait activation theory perspective. *Thirty Second International Conference on Information Systems, Shanghai 2011*, *2*, 1–20.

Marlow, S. L., Marlow, S. L., Lacerenza, C. N., Paoletti, J., & Burke, C. S. (2017). Does team communication represent a one-size-fits-all approach ?: A meta- analysis of team communication and performance Organizational Behavior and Human Decision Processes Does team communication represent a one-size- fi ts-all approach ?: A meta- analy. *Organizational Behavior and Human Decision Processes*, *144*(3), 145–170. https://doi.org/10.1016/j.obhdp.2017.08.001

MOH(Ministry of Health). (2018). *Kenya Health Sector Strategic Plan*.

Moreno-serra, R., & Smith, P. C. (2012). Universal Health Coverage 1 Does progress towards universal health coverage improve population health ? *The Lancet*, *380*(9845), 917–923. https://doi.org/10.1016/S0140-6736(12)61039-3

Mosadeghrad, A. M. (2014). Original Article Factors influencing healthcare service quality. *International Journal of Health Policy and Management*, *3*(2), 77–89. https://doi.org/10.15171/ijhpm.2014.65

Muriuki, H. K. (2018). *A Study of inpatient service quality at Ladnan hospital*.

Strathmore University.

Newman, A., Donohue, R., & Eva, N. (2017). Human Resource Management Review Psychological safety : A systematic review of the literature. *Human Resource Management Review*, *27*(3), 1–15. https://doi.org/10.1016/j.hrmr.2017.01.001

Noe, R. A., Noe, R. A., Tews, M. J., & Michel, J. W. (2016). Managers ' informal learning : a trait activation theory perspective. *International Journal of Training and Development*, *21*(1), 1–18. https://doi.org/10.1111/ijtd.12092

Obrenovic, B., Jianguo, D., & Khudaykulov, A. (2020). Work-Family Conflict Impact on Psychological Safety and Psychological Well-Being : A Job Performance Model. *Frontiers in Psychology*, *11*(3), 1–18. https://doi.org/10.3389/fpsyg.2020.00475

Prasad Singh, J., Sewda, A., & Shiv, D. G. (2020). Assessing the Knowledge, Attitude and Practices of Students Regarding the COVID-19 Pandemic. *Journal of Health Management*, *22*(2), 281–290. https://doi.org/10.1177/0972063420935669

Republic of Kenya. (2020). *Universal Health Coverage Implementation in Kenya*.

Salas, E., Zajac, S., & Marlow, S. L. (2018). Transforming Health Care One Team at a Time : Ten Observations and the Trail Ahead. *Group & Organization Management*, *43*(3), 1–25. https://doi.org/10.1177/1059601118756554

Silva, D. B., Cristina, V., & Castro, G. De. (2018). Universal health system and universal health coverage : assumptions and strategies. *Ciência & Saúde Coletiva*, *23*(6), 1763–1776. https://doi.org/10.1590/1413-81232018236.05562018

Singh, B., & Shaffer, M. A. (2017). Antecedents of organizational and community embeddedness : The roles of support , psychological safety , and need to belong. *Journal of Organizational Behaviour*, *39*(3), 1–16. https://doi.org/10.1002/job.2223

Singh, B., Winkel, D. E., & Selvarajan, T. T. (2013). Managing diversity at work : Does psychological safety hold the key to racial differences in employee performance ? *Journal of Occupational and Organizational Psychology*, *86*(2), 242–263.

https://doi.org/10.1111/joop.12015

Theuri, M; Macharia, Stephen; Kamau, A. (2020). An Assessment of the Influence of Working Environment on Service Delivery in the Public Health Sector in. *Management and Economics Research Journal*, *6*(1), 1–9.

Waithaka, D., Kagwanja, N., Nzinga, J., Tsofa, B., Leli, H., Mataza, C., Nyaguara, A., Bejon, P., Gilson, L., Barasa, E., & Molyneux, S. (2020). Prolonged health worker strikes in Kenya- perspectives and experiences of frontline health managers and local communities in Kilifi County. *International Journal for Equity in Health*, *19*(23), 1–15.

WHO. (2013). *Universal Health Coverage*.

APPENDICES

APPENDIX I: Informed Consent

This informed consent form is for healthcare providers in the Kitale county referral hospital in Trans-Nzoia county and who are invited to participate in a research project, titled "Effects of psychological safety on quality healthcare services by health workers in Kitale county referral hospital".

Name of Principle Investigator _____

Name of Organization _____

Name of Sponsor _____

Name of Project and Version _____

This Informed Consent Form has two parts:

- **Information Sheet (to share information about the study with you)**
- **Certificate of Consent (for signatures if you choose to participate)**

Part I: Information Sheet

Introduction

I am Ouma Edward, pursuing a master's business administration degree in healthcare management at Strathmore University. I am doing research on effects of psychological safety on quality of healthcare services by health workers in Kitale County Referral Hospital.

I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.

This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of me or of another researcher assistant.

Purpose of the research

Assessing effects of psychological safety is of great importance in gauging an organizations effectiveness in eliciting the best organizational behaviors of their staffs in achieving their strategic goals. In the current setting the research has not been done before, therefore we want to understand better on what the healthcare workers perceive their organizational climate. We believe that you can help us by responding to the questionnaire about your organization and about the organizational practices in general. We want to learn what the healthcare staff who work in this institution feels about their individual psychological safety in the organization. We

want to learn what are the team psychological safety factors influencing provision of quality health care among healthcare workers, and its role to quality performance. We also want to know more about organizational culture and its effects on organization psychological safety because this knowledge might help us to learn how to better organizational practices in enhancing quality healthcare.

Type of Research Intervention

This research will involve your participation in a questionnaire that will take about half an hour, to complete.

Participant Selection

You are being invited to take part in this research because we feel that your experience as a health worker can contribute much to our understanding and knowledge of psychological safety of healthcare workers.

Voluntary Participation

Your participation in this research is entirely voluntary. The choice that you make will have no bearing on your job or on any work-related evaluations or reports. You may change your mind later and stop participating even if you agreed earlier.

Procedures

We are asking you to help us learn more about factors influencing psychological safety among healthcare workers in Kitale county referral hospital. We are inviting you to take part in this research project. If you accept, you will be asked to

Duration

The research take place for over 25 days. During that time, we will visit you three times for interviewing you at one-month interval and each interview will last for about one hour each.

Risks

There is a risk that you may share some personal or confidential information by chance, or that you may feel uncomfortable talking about some of the topics. However, we do not wish for this to happen. You do not have to answer any question or take part in the interview if you feel the question(s) are too personal or if talking about them makes you uncomfortable.

Benefits

There will be no direct benefit to you, but your participation is likely to help us find out more about psychological safety among staffs in healthcare organization.

Confidentiality

We will not be sharing information about you to anyone outside of the research team. It will not be shared with or given to anyone except the research department of Strathmore university.

Sharing the Results

Nothing that you tell us today will be shared with anybody outside the research team, and nothing will be attributed to you by name. Each participant will receive a summary of the results and further disseminated via policy briefs, working paper, and journal articles.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so, and choosing to participate will not affect your job or job-related evaluations in any way. You may stop participating in responding to the questionnaire at any time that you wish without your job being affected.

Who to Contact

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact any of the following:

Name: _____

Address: _____

Mobile number _____

e-mail: _____

This proposal has been reviewed and approved by Strathmore university IREC, which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the IREC,

Contact: _____

Name: _____

Address: _____

Mobile number: _____

It has also been reviewed by the Ethics Review Committee of the NACOSTI, which is supporting the study.

Part II: Certificate of Consent

(This section is mandatory)

I have been invited to participate in research about analyzing effects affecting psychological safety among healthcare workers in enhancing quality healthcare. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Print Name of Participant_____

Signature of Participant _____

Date _____

Day/month/year

APPENDIX II: Questionnaire

SECTION A: DEMOGRAPHIC

This section asks about general information. Please tick suitable option in the blank box.

1.Sex:

[ ] Male [ ] Female

2. Position at the hospital:

[ ] nurse [ ] Pharmacist [ ] Clinical Officer [ ] Medical Doctor

3. Level of Education that you have completed:

[ ] Diploma [ ] Bachelor Degree [ ] Master Degree [ ] PhD

4. Working experiences:

[ ] 2-5 Years [ ] 6-10 Years [ ] More than10 Years

5. Your Age

[ ] Less than 30 [ ] 30-40 Years [ ] 41-50 [ ] above 50 Years

SECTION B: INDIVIDUAL PSYCHOLOGICAL SAFETY

Please indicate your agreement or disagreement level with each of the following statements. Circle a number from 1 to 5 to indicate the extent to which you disagree or agree with the statement where 1 = Strongly Disagree and 5 = Strongly Agree

Statements	1	2	3	4	5
Individuals are more comfortable in asserting themselves in meetings					
I am allowed to engage in shared decision-making at the hospital					
I am confident to give some opinions about my job to my coworkers					
I am confident to give some opinions nurse in charge/ hospital director					
It is difficult to ask other health personnel for help					
I am open and honest about the mistakes I make					
The health personnel will not criticize me for making mistakes					

SECTION C: TEAM PSYCHOLOGICAL SAFETY

Please indicate your agreement or disagreement level with each of the following statements on team Psychological Safety. Circle a number from 1 to 5 to indicate the extent to which you disagree or agree with the statement where 1 = Strongly Disagree and 5 = Strongly Agree

Statements	1	2	3	4	5
In my team(s), it is easy to discuss difficult issues and problems.					
When someone makes a mistake in my team(s), it is often held against him or her					
Members of my team value and respect each other's' contributions.					
In my team(s), people talk about mistakes and ways to prevent and learn from them					
Members of my team(s) help others understand become better in their work					

SECTION D: ORGANIZATIONAL PSYCHOLOGICAL SAFETY

Please indicate your agreement or disagreement level with each of the following statements on Organizational Psychological Safety. Circle a number from 1 to 5 to indicate the extent to which you disagree or agree with the statement where 1 = Strongly Disagree and 5 = Strongly Agree

Statements	1	2	3	4	5
Health personnel are able to bring up problems and tough issues without fear of victimization					
No one in the hospital would deliberately act in a way that undermines my efforts					
The hospital management as created a good climate that fosters respect for each other at work					
Compared to other health institutions, the hospital management encourages taking of risks					
The hospital management promote team norms for the different teams					

SECTION E: QUALITY HEALTH CARE

Please indicate your agreement or disagreement level with each of the following statements on health service quality. Circle a number from 1 to 5 to indicate the extent to which you disagree or agree with the statement where 1 = Strongly Disagree and 5 = Strongly Agree

Statements	1	2	3	4	5
Patient safety has improved in the hospital					
Timely care is delivered by health personnel					
Patients are increasingly treated with compassion and respect					
Health service offered meets the Kenya Quality Model for Health (KQMH) standards					
The health personnel will be committed to identifying and addressing patient safety risks					
Managers in the hospital will make it easy to report errors.					
Managers in the hospital will expect health personnel to focus on patient safety.					

Thank you for taking the time to complete this questionnaire.

APPENDIX III: Research timelines

Name	Ouma Edward Ochieng				
Reg. no	112004				
Title	The effect of psychological safety on quality of healthcare services by health workers in Kitale County Referral Hospital				
Project start date	11/08/2019				
Project lead	Self				
SCHEDULE	**START**	**END**	**DAYS**	**% DONE**	**WORK DAYS**
Research proposal	11/08/2019	24/01/2020	35	100	20
Proposal defense	25/01/2020	10/02/2020	7		7
NACOSTI/IREC approval	10/02/2020	15/02/2020	5		5
Data collection	15/02/2020	15/3/2020	25		20
Writing of dissertation	20/03/2020	30/03/2020	10		10
Dissertation Defense	01/03/2020	7/04/2020	7		7
publication					

APPENDIX IV: Field Work Plan

Period	Activities
Day 1.	Constitute team of interviewers and personnel
Day 2.	Train the field personnel on the research instruments and interview
Day 3.	Assign the teams their specific roles
Day 4.	Logistics arrangements; transport, Lunch allowance
Day 5.	Schedule of research work in the facility-
Day 6-15	Collection, collation, data cleaning, analysis, entry
Day 20-30	Generating reports and sharing with the relevant stakeholders
Day 31-35	Feedback to the participant's and institutions

APPENDIX V: Budget Plan

Items	Particulars	Quantity	Unit cost	Per day	Amount
1. Co-ordinators	• Project coordinator • Statistician	1 1	20,000 20,000	- -	20,000/= 20,000/=
2. Equipment's					
	• Tablet	1	15,000	-	15,000/=
	• Flash USB drive	2	500	-	1000/=
3. Printing	• Printing ink (colored) • Printing paper(rim	4 cartridges 2	1500 500	-	6,000/= 1,000/=
4. Allowances for Research assistants/personnel	• Lunch	2 pax	1000	5	10,000/=
	• Transport	2 pax	500	5	5,000/=
	• Airtime	-	5000		5,000/=
5. Registration fee	• NACOSTI	-	1000	-	1,000/=
Grand Total					**84,000/=**

Appendix VI:SU-IERC Approval

Strathmore UNIVERSITY

7th April 2020

Dr Ouma, Edward
edwardouma7@gmail.com

Dear Dr Ouma,

RE: The Effect of Psychological Safety on Quality of Healthcare Services by Health Workers in Kitale County Referral Hospital

This is to inform you that SU-IERC has reviewed and **approved** your above research proposal. Your application approval number is **SU-IERC0748/20.** The approval period is **7th April 2020 to 6th April 2021.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

for: Dr Virginia Gichuru,
Secretary; SU-IERC

Cc: Prof Fred Were,
Chairperson; SU-IERC

STRATHMORE UNIVERSITY INSTITUTIONAL
ETHICS REVIEW COMMITTEE
(SU IERC)
07 APR 2020
TEL: +254 (0)703 034 000
P. O. Box 59857 - 00200
NAIROBI - KENYA

Appendix VII: Nacosti Approval

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **711057**

Date of Issue: **14/April/2020**

RESEARCH LICENSE

This is to Certify that Dr.. Edward Ochieng Ouma of Strathmore University, has been licensed to conduct research in Transnzoia on the topic: The Effect of Psychological Safety on Quality of Healthcare Services by Healthcare workers in Kitale County Referral Hospital for the period ending : 14/April/2021.

License No: **NACOSTI/P/20/4783**

711057

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is Guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014

CONDITIONS

1. The License is valid for the proposed research, location and specified period
2. The License any rights thereunder are non-transferable
3. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research
4. Excavation, filming and collection of specimens are subject to further necessary clearence from relevant Government Agencies
5. The License does not give authority to tranfer research materials
6. NACOSTI may monitor and evaluate the licensed research project
7. The Licensee shall submit one hard copy and upload a soft copy of their final report (thesis) within one of completion of the research
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice

National Commission for Science, Technology and Innovation
off Waiyaki Way, Upper Kabete,
P. O. Box 30623, 00100 Nairobi, KENYA
Land line: 020 4007000, 020 2241349, 020 3310571, 020 8001077
Mobile: 0713 788 787 / 0735 404 245
E-mail: dg@nacosti.go.ke / registry@nacosti.go.ke
Website: www.nacosti.go.ke