COVID-19 RELATED STRESS, ADAPTIVE BEHAVIORS AND ACADEMIC STAFF PERFORMANCE IN PUBLIC UNIVERSITIES IN WESTERN, KENYA

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A Thesis Submitted in Partial Fulfillment for the Requirements of the Award of Degree of Master of Education in Educational Psychology of Masinde Muliro University of Science and Technology

NOVEMBER, 2023

DECLARATION

I hereby declare that this research thesis is my original work, and to the best of my knowledge it has not been presented elsewhere for award of a University degree or any other academic purposes

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REG.NO: EDO/G/01-53731/2019

SUPERVISORS' APPROVAL

This Thesis is submitted with our knowledge, as the student supervisors, we have read, recommended and approved the Thesis entitled "***COVID-19 Related Stress, Adaptive Behaviors and Academic Staff Performance in Public Universities in Western, Kenya"*.**

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DEDICATION

First and foremost, I thank the Almighty Living God for providing me the gift of life, energy, and strength, as well as the understanding and knowledge needed to conduct this research. Final, in appreciation for their unwavering support, i dedicate this work to my dear parents, Mr. Jacob Kiambi and Mrs. Jane Gakii and my beloved family.

ACKNOWLEDGEMENTS

I acknowledge and thank Prof. Moses Wesangula Poipoi and Dr. Rose Atieno Opiyo for being my supervisors. They have given me advice, insights, guidance, and constructive criticism. I am truly indebted to them. I am grateful to all of the critical readers who helped shape this study, especially Dr. Joel Ogutu and Dr. Bill Ouda of Department of psychology. I also want to express my gratitude to Mr. Zadok Maingi and Mr. Silvester Jaika Ndori, two of my close friends and fellow aspiring researchers, for their constant support and encouragement during this journey of academia. Lastly, I would want to express my gratitude to Mr. Victor Ochieng, my research assistant, and Mr. Julius Sila, my data analyst, for their invaluable help with data collection and analysis, respectively.

ABSTRACT

The emergence of Covid-19 was unexpected and has kept on toes education stakeholders globally in preparation for any future health menace. Covid-19 related effects have caused stress among professionals especially to the university academic staff, physically, emotionally, and psychologically. This has further induced stress that has led to a decline in their academic performance. Even so, little has been done about the pandemic effect on academic staff performance. The purpose of this study was to investigate Covid-19 Related Stress, Adaptive Behaviors, and Academic Staff Performance in Public Universities in Western, Kenya. The objectives of the study were: to establish factors associated with Covid-19 related stress among academic staff in public universities in Western Kenya, find out the effect of Covid-19-related stress on academic staff performance in public universities in Western Kenya, assess the effect of adaptive behaviors related to Covid-19 on academic staff performance in public universities in Western Kenya, determine the relationship between Covid -19 related stress, adaptive behaviors and academic staff performance in public universities in Western Kenya. The study was anchored on Transactional Stress Coping (TSSC) model. The research adopted a cross-sectional descriptive design. About 650 academic staff formed the total study population. Cluster, convenient, and disproportionate random sampling techniques were used to acquire a sample size of 247 respondents, however, only 245 (98.3%) responded to the questionnaire. The study adopted Taro Yamane's formula with a confidence level of 95% and a margin error of 0.05. Data was collected using a semi-structured questionnaire and interview schedule. Research ethics were maintained by giving respondents informed consent forms to fill. Piloting was conducted at Maseno University where the pilot study sample size was 10% of the 247 (study's sample size). Questionnaire items consistently yielded similar results with the Cronbach alpha ranging from 0.732 to 0.874. The supervisors and independent experts' judgments were used to ascertain the content validity. Descriptive statistics were presented in themes using frequencies and percentages, while inferential statistics were analyzed using, test-test and Pearson Correlation Coefficient and data presented in tables and charts. Six factors: unsupportive administration, fear of retrenchment and salary delay, unfriendly family environment, working publication manuscript, collaborative research grants were the major predictors of Covid-19 related stress among the academic staff. Covid-19-related stress caused a decline in academic performance with coefficients of r being -0.218, p=0.001, while a combination of individual and institutional Covid-19-related stress adaptive behaviors resulted in an improved academic staff performance with coefficients being r (245) =0.411, p= 0.00 and r (245) = .489, p= 0.00. The study recommends capacity building through competency based ICT trainings for academic staff, re-engineering of staff mental health and telehealth services and creating social support platforms for the academic staff communicate and share teaching and life experiences. Findings from this study benefit policy-making and future research on academic stress among any other distinct group of academia in future of other emergent events.

TABLE OF CONTENTS

TITLE **PAGE**

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ACRONYMS

A.P. A	:	American Psychology Association
AIDS	:	Acquire Immunodeficiency Syndrome
B.C	:	Before Christ
GDP	:	Gross Domestic Product
GMAT	:	Graduate Management Admission Test
GRE	:	Graduate Record Examination
IELTS	:	International English Language Testing System
ILO	:	International Labour Organization
MMUST	:	Masinde Muliro University of Science and Technology
MoE	:	Ministry of Education
MoH	:	Ministry of Health
NUC	:	Nigeria Universities Commissions
SARS	:	Severe Acute Respirator Syndrome
SCT	:	Stress Coping Strategies
SPSS	:	Statistical Package for Social Sciences
WHO	:	World Health Organization
WRS	:	Work Related Stress
Y.F.	:	Yellow Fever

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter covers the background of the study, statement of the problem, the study objectives, research hypotheses, and oversight of the study, delimitation of the study, limitation, theoretical framework, conceptual framework and operational definition of terms.

1.2 Background of the Study

Stress is perceived to be a tie between environmental demands and available resources that impose strain on an individual's physical, mental and emotional well-being. (Ouagazzal, 2021; Jeyasingh, 2022). According to Schoger (2023), stress arises when a disequilibrium manifests between situational demands (stressors) and the available resources, however there is always the need to adapt or cope with those demands. Stress variedly manifests itself among people and especially professionals such as doctors, teachers, tutors, instructors, and academic staff in universities (ILO, 2016; Mkumbo, 2014; Sun and Wang, 2011), however, in times of emergencies it tends to escalate (Kerautret et.*al.* 2023; Saradha & Saravanan, 2023; Stubbe, 2023).

Studies show that close to 50% of both academics and non-academic employees in higher learning institutions are under threat of stress (Adewale, 2017). Although this study gives a combined percentage of the affected employee without specifics to academic staff other studies from several regions across the globe indicate that academic staff in institutions of higher learning have moderately been experiencing stress before Covid-19 pandemic

appeared. For example, in the United Kingdom, studies indicate that stress is widespread in universities with close to 50 % of academic staff and researchers being affected (Bowen *et.al.,* 2016; Pilkington, 2016; Kinman, 2014; Kinman & Wray, 2013; Tytherleigh *et.al.,* 2005). In China, in a study conducted in one of the Chinese universities, 90.1 % of the lecturers experienced some level of stress, in India among the Indian colleges 74% teachers reported some signs of stress (Rana & Soodan, 2019).

Similarly, in West- Africa- North East Nigeria, study shows that the majority of their teachers working in vocational colleges in North East Nigeria were faced with thoughts of stress mainly emanating from overwork, squeezed class size, and unmotivated learners among other factors like increased indiscipline. In Ethiopia, work-related stress among academic staff at one of the Ethiopian universities was reported to be at 60.4 % (Kabito *et.al.,* 2020), and in Tanzania work-related stress among the academic staff was reported to be at 75% (Mkumbo, 2014). In Kenya, no such related studies have been conducted among the academic staff in higher learning institutions. Nonetheless, studies show that stress is also widespread among the general workforce in Counties (Asaloei *et.al.,* 2020). According to Mwangi (2014) predictors of the rising stress level among professionals include but not limited to paradigm shift in various sectors: education, economics, labour, ICT, and health among others. In a study conducted by Labrague *et.al.,* (2020) professional nurses in Philippines believed that toxic leadership affected their job performance. Similarly, an empirical study conducted among the construction project managers findings indicate that burnout, anxiety and stress reduces the level of performance among the project managers (Wu *et.al.,* 2019).

The emergence of Covid-19 disease has further heighted the levels of stress among the academic staff in universities (Akah *et.al.* 2022). According to Mukherjee (2020) further changes associated to Covid-19-pandemic have halted teaching and research. The struggle to ensure continuity in teaching continue to haunt the academic staff and conversely implicating on their mental health (McDonald *et.al.,* 2023). A study conducted by Flaherty revealed that faculty members in universities were under job pressure with some not able to withstand. In the study, 40% percent of the survey respondents who were professor felt like quitting their jobs due Covid-19 impacts. A more impact was seen among the early career faculty members with 48% percent of them feeling as if they could quit their jobs (Flaherty, 2020; Duncan *et.al.,* 2022). Although, some of these studies have reported results with low percentages in terms of prevalence of stress among non-academic professionals, in contrary it is evident that academic staff are always troubled professionals. The worrying aspects being workload, professional advancement, infrastructure, and the work atmosphere that is conversely reflected by decline/reduced academic staff performance (Ubogu & Oghounu, 2022).

Performance is a complex interplay between seven performance criteria: productivity, quality of work life, profitability/budget-ability, effectiveness, efficiency, and quality (Parwati *et.al.,* 2020). At the point where any of those performance criteria is compromised, accomplishment of goals and objectives in relation to better performance would also be compromised (Elena-Iuliana and Maria, 2016; Carpenter & Krause, 2012). According to Türk (2016) academic staff performance is a crucial component of the managerial control system designed to enhance University staff activities and work related

results. In turn, this leads to an exchange of academic ideologies and wishes between the employer and the academic staff. Further, Yeshaneh and Mulu (2022) states that academic staff performance may also be characterized by achievement of team's and an individual's shorter and long-term professional. In addition, academic staff performance among university faculty members may be characterized by evidence of the scholarly performed that include: publishing in recognized journals, participation in scholarly conferences and symposiums, research grants and funding applications, among others (Abubakar *et.al.*, 2018).

Stress among the university academic staff hampers their performance (Bantu, 2010); decreases motivation (Adewale *et.al.,* 2017); impede productivity (Yousefi & Abdullah, 2019); and social support system (Frazier *et.al.,* 2019). According to Moen's *et.al.*, 2013 study, academics perceived low salaries or income, inflexible teaching /work schedules, unfriendly family work, and unsupportiveness from colleagues as the causes of strain and stress in workplace. During Covid-19, stress related to Covid-19 pandemic heighted in institutions of learning across all regions, which triggered a reduction in academic staff performance (Kabito *et al.,* 2020; McDonald *et.al.,* 2023). Scholars linked the heightening of stress to the new paradigm shift in the sector of education due to the Covid-19 pandemic and related factors that include, changing economies, an increase in job insecurities, unsupportive management, technological advancement, and the emergence of health emergencies (Kabito *et al.,* 2020; Mwangi, 2014). For example, many academic staff members, for instance, found themselves in conflict between the necessity of implementing online learning and the availability of reliable internet access, powerful computers, and

technological know-how (Penado *et.al.,* 2021). Others encountered delays in peer review and publication of non-Covid-19 manuscripts (Horbach, 2021); while still others faced the suspension of research funds for funded projects and the pressure to finish them on schedule (Singh *et.al.,* 2020).

As opposed to increased stress levels, there is a positive correlation between higher job performance and lower stress levels. According to Diamantidis and Chatzoglou (2018) reduced stress levels can be achieved through institutional interventions such as safe work environments and managerial support. Lower stress level then causes a positive effect on employees' everyday work performance. Alonderiene and Majauskaite (2016) have also highlighted and demonstrated that instructional leadership style also influences employees' responses to stressful situations, which in turn affects their productivity. Academic staff at universities choose to employ a variety of strategies during the Covid-19 periods in order to cope with the education shocks. Some chose to join informal groups to exchange information through collaborative communications on doing online teaching (Bento *et.al.,* 2021). In support, Choy and Sappa's (2021) findings have indicated that educators who consistently engage in conversation and collaboration with supervisors at work can guarantee that students are provided with ample opportunities and appropriately guided to acquire work practices and rules, enabling them to take on active roles in the work community. On the other hand, a number of institutions developed and implemented flexible programs and curricula, such as research development programs (Fissi *et.al.,* 2022). Additionally, other institutions attempted to establish a collaborative communication channel between the administration and faculty, facilitating social learning

connections between educators and their peers, and expanding mental health welfare programs for academic staff (Ahmed *et.al.,* 2021).

The above parameters of academic staff are good indicators that lecturers' work-life in universities, especially Kenya, is not an easy one. Thus, this study is determined to assess Covid-19 related stress, adaptive behaviors and, effect on academic staff performance in MMUST and Kibabii University in Western Kenya during the Covid-19 pandemic.

1.3 Statement of the Problem

Covid-19 pandemic created avenues for increased stress among the academic staff in institutions of higher learning, especially universities. Academic staff in universities witnessed and experienced non-withstanding educational shocks since when Covid-19 disease was declared a health emergency. Many of these shocks related to institutional and organizational changes that were made in line with WHO and MoH health guidelines (WHO, 2020; Ngwacho, 2020). Covid-19 guidelines to general populations and institutions included: continuous wearing of face masks, restricted movements, prohibition of face to face learning and working from home (WHO, 2020). Fear of contracting Covid-19 disease and anxiety about future by both the employed and unemployed engulfed, decrease in social ties, stressful mediations about the fate academic calendar activities also was the day today worry of academic staff. Working from home needed the acquisition of new knowledge and understanding of various online working platforms advocated by employers across the globe in a bid to keep their employees working from home (Bolisani, 2020). This could has also caused stress due to less information technology (IT) skills as cited by Makokha and Mutisya (2016) where 68% of faculty members in Kenyan

universities were incapable of utilizing e-learning as a means of instruction when they urged to adopt e-learning. This triggers in the inquiry as to whether there was regarding degree of readiness exhibited by academic personnel in regard to online teaching amidst the Covid-19 pandemic (Mutisya & Makokha, 2016).

It is also evident from studies conducted in universities in the South Central and South Eastern regions of Kenya that academic staff performance in Kenyan universities was highly affected during Covid -19 pandemic by the Covid-19 related factors further causing psychological imbalance, strain, and stress. For example, in the southeastern region of Kenya, the faculty members encountered difficulties in providing high-quality curriculum implementation and similarly, at Kenyatta University, lecturers recorded a poor performance after, as compared to before the emergence of Covid-19 pandemic. These lecturers attribute this decline in performance to the overwhelming online schedules combined with other academic duties such as the preparation of teaching modules, marking of continuous assessment tests, and attendance to online post-graduate defenses (Kombo & Itumo, 2022).

These universities faced challenges encompassing a range of issues that might have triggered stress such as insufficient internet services, outdated technical competencies in information technology, insufficient laptops/computers in universities, inadequate e-learning resources, and insufficient subject matter/content (Kimiti & Kilika, 2022). At some point, these pinpointed challenges also affected how the academic staff interacted with their learners and fellow lecturers and how they carried out their academic work to

completion; this may have caused an imbalance, strain and stress. Despite of the inadequate adaptive behaviors to environmentally triggered stress institutions tried to increase internet bandwidths, enhance personnel support through creation of ICT online help centers and issue of free data bundles to learners, and monthly data bundle allowance for academic staff.

Although several studies have been carried out on the effect of Covid -19 and its effect on performance among several professionals in Western, Kenya no such similar study/ies have been carried out among the academic staff in any of the public universities. That does not guarantee that these universities were immune to the Covid-19 and education shocks during the pandemic. It is imperative to know the dynamics in performing academic calendar activities, the complex nature of the internet-based instructional process, and how the struggle to achieve excellence in academic staff performance may have caused an increase in stress among the academic staff in Western Kenya. Further, was the psychological welfare of these academic staff members taken into account for their sustainability and well-being? It is for this reason that this study was based on the topic: Covid-19-related stress, adaptive behaviors, and academic staff performance in public universities in Western, Kenya.

1.4 Objectives of the Study

The objectives of this study were:

i. Establish factors associated with Covid-19 related stress among academic staff in public universities in Western, Kenya

ii. Find out the effect of Covid--19-related stress on academic staff performance in public universities in Western, Kenya.

iii. Assess the effect of adaptive behaviours related to Covid-19 on academic staff performance in public universities in Western, Kenya

iv. Determine the Relationship between Covid -19 related stress, adaptive behaviors and academic staff performance in public universities in Western, Kenya

1.5 Research Hypotheses

The study sought to test the following research hypotheses:

i. H01: Covid-19-related stress has no effect on the academic staff performance in public universities in Western Kenya.

ii. H02: Adaptive behaviors related to Covid-19 have no effect on academic staff performance in public universities in Western Kenya.

iii. H03 There is no significant relationship between Covid-19 related stress, adaptive behaviors and academic staff performance in public universities in Western Kenya.

1.6 Questions of the Study

1. What are the factors associated with Covid-19 related stress among the academic staff in public universities in Western Kenya?

1.7 Assumptions of the Study

The assumptions of the study were;

1. Universities in Western Region of Kenya have instituted some institutionally Covid-19 related stress adaptive behaviours for their academic staff.

2. Academic performance is a function of the individualized and institutionalized adaptive measures to Covid-19 related stress in public universities in Western Region of Kenya.
3. The relationship between Covid-19 related stresses, adaptive behaviors and academic performance of university academic staff can be measured using a questionnaire.
4. The respondents were to be honest when responding to items on the research tools.

1.8 Significance of the Study

The study findings from this study may be great importance to the Ministry of Education (MoE) and other stakeholders in formulating policies and frameworks that can continuously influence and spur performance of academic staff in intuitions of higher learning in Kenya.

Mental health professionals in universities may further use the findings of this study develop a Mental Health Multidisciplinary Treatment Policy for academic staff members to be used in prevention and mitigation of health emergency-related stress in Kenyan Universities. Finally, the research is likely to contribute greatly to the existing literature and knowledge on predictors of stress, academic staff performance, and adaptive behaviors among academic staff in Kenyan universities.

1.9 Scope of the study

The study was carried out among university academic staff in selected public universities (MMUST and Kibabii). The two public universities are situated in the western Kenyan counties of Bungoma and Kakamega, respectively. According to information obtained

from the registrars' academic offices of the two universities, MMUST has 350 academic staff members, compared to 300 at Kibabii University. Together, the two sums made up the 650 academic staff that made up my study frame. The staff entry and exit report for the fiscal year 2021–2022 is consistent with this data. The two Universities were specifically chosen since they are the major hubs for higher education (HE) in the Western region. The Covid-19 epidemic halted research, community outreach, and information dissemination, which culminated in their immediate closure and caused psychological suffering among the numerous employed academic personnel and non-academic workers in the western area of Kenya.

Nearly 80% of the academic tasks carried out by academic staff are interpersonal in nature. Teaching and learning, administration, workshops, and research have all experienced difficulties as a result of the sudden move to working from home. However, the inception of Covid-19 pandemic caused employment uncertainty, postgraduate students to graduate later than expected, delayed salaries, salary cuts, a loss of communication with students, and sentiments of technological inexperience, thus culminating into Covid 19-related stress. The study did not include participants from privately owned universities, however generalizations to private (Non-Governmental) universities could be done.

1.10 Limitation of the Study

The study was limited to unwillingness of the subjects to take part since they were concerned about confidentiality in the information provided. However, informed consent, questionnaire approval, and the acquisition of ethical research clearance by Institutional Research Ethics Committee (IREC) and National Commission for Science, Technology

Innovation, reduced the fear of information security among the respondents.

Low questionnaire response rate among the academic staff advanced in age like professors and associate professors due to the working from home health guideline for the elderly. More questionnaires were given to tutorial fellows, lecturers, and senior lecturers to bridge the response rate gap. The study was also limited to public universities in Western, Kenya, which may have affected the scope of the study. However, in a bid to expand the scope of this study, a pilot study was conducted at Maseno University a university located in the Nyanza region.

1.11 Theoretical Framework

The present study is based on the Transactional Stress Coping Theory (TSSC) posited by Lazarus and Folkman (1984). This tries to help the study in explaining individual's ability to effectively manage and adapt to difficulties and obstacles is a result of the transactions or interactions that take place between the individual and their surroundings (Biggs *et.al.,* 2017). The theory also holds significant importance as it emphasizes the potential of individuals to attain optimal stress management during stressful occurrences (Folkman, 2010). According to Lazarus and Folkman, the cognitive appraisal or response to a given event can significantly influence an individual's stress level, surpassing the impact of the event itself. Lazarus and Folkman (1984) introduced the Transactional Model of Stress and Coping, which is a framework designed to assist individuals in managing stressful situations through the implementation of appraisal and coping strategies.

This theory poses two ways on how individual assesses stressors: primary appraisal, which assesses the importance of a stress, and secondary appraisal, which assesses the

controllability of the perceived stressor and their accessible coping or adaptive mechanisms. Lack of compensatory responses after prolonged exposure to stressor during the secondary appraisal stage may result in despair, emotional weariness, and disengagement, depression, anxiety, fear and other related mental, emotional and physical. When a person uses an adjustment method to mediate the primary and secondary assessments, adaptation come last.

Stress can be caused by a variety of events and circumstances, including a person's personality, past experiences, current happening of events and future anticipations (Updegraff & Taylor, 2021). Previously, pandemics have been seen as sources of stress among the general population and in the university set up, stress and mental health is predictor of reduced performance especially among the academic staff (Watts & Robertson, 2011). This stress revolves around several factors ranging from bad management, pressure to carry out teaching, pressure to publish, unhelpful workplace mentors, juggling different roles, demotions and short-term contracts without security and disagreements among an organization's various employee groups (El Helou *et.al.,* 2016). According to VanWormer et.al., (2011) poor health among individuals is among the cause of gradual reduction in performance in the working environment. The TSSC model of stress was crucial in this study because it helped the researcher to understand the tenants of stress in relation to specific job circumstances at a particular moment like in the case of Covid-19 pandemic.

This theory further aided this study in linking how academic staff of Universities in Western Kenya evaluated and identified Covid-19 related stressors, how they appraised

them appraisal as either acceptable or unacceptable and how they were able to utilize the available resources to enhance adaptability behaviors were at their disposal (Miyata *et.al*., 2015; Lazarus & Folkman,1984). Further, the theory aided the study in comprehending how academic staff were able to assess and address the imbalance caused by Covid-19 pandemic by effectively utilizing the available both internal and external resources such as skills and capability, social support, institutional policy frameworks, government and donor funding and capacity building to adapt to Covid-19 related stressors and further enhance their performance (Miyata *et.al*., 2015; Shuja *et.al*., 2020).

Given the foregoing, it is imperative to say that academic staff's capacity to manage stressors during Covid-19 depended on the practice of accurately assessing new concerns pertaining to their work environment and then utilize the accessible resources for efficient adaptive measures to lessen the effects of stressful encounters.

1.12 Conceptual framework

The Covid-19 pandemic has led to number of uncomfortable situations for the university faculty members inside and outside of Kenyan borders. Inadequate management of such circumstances at an early time may have negatively resulted to psychological stress, which transfers to the academic staff's reduced performance. For instance, the sudden shift from face-to-face instruction to digital/online teaching and learning may have left tertiary institutions' lecturers, instructors, and students unable to accomplish their academic assignments due to a lack of information technology expertise. A situation where the new mode of learning is not well received can be perceived as a threat, especially by the personnel who are unfamiliar with the new learning approach or have limited expertise.

Psychological disruptions can have psychological side effects including sleeplessness, phobias, headaches, anxiety, depression, and, to some extent, suicidal thoughts, blood pressure, and other fatal illnesses. In order to safeguard the academic employee against such damaging psychological destructions, early adaptation methods must be implemented on both a personal and institutional level.

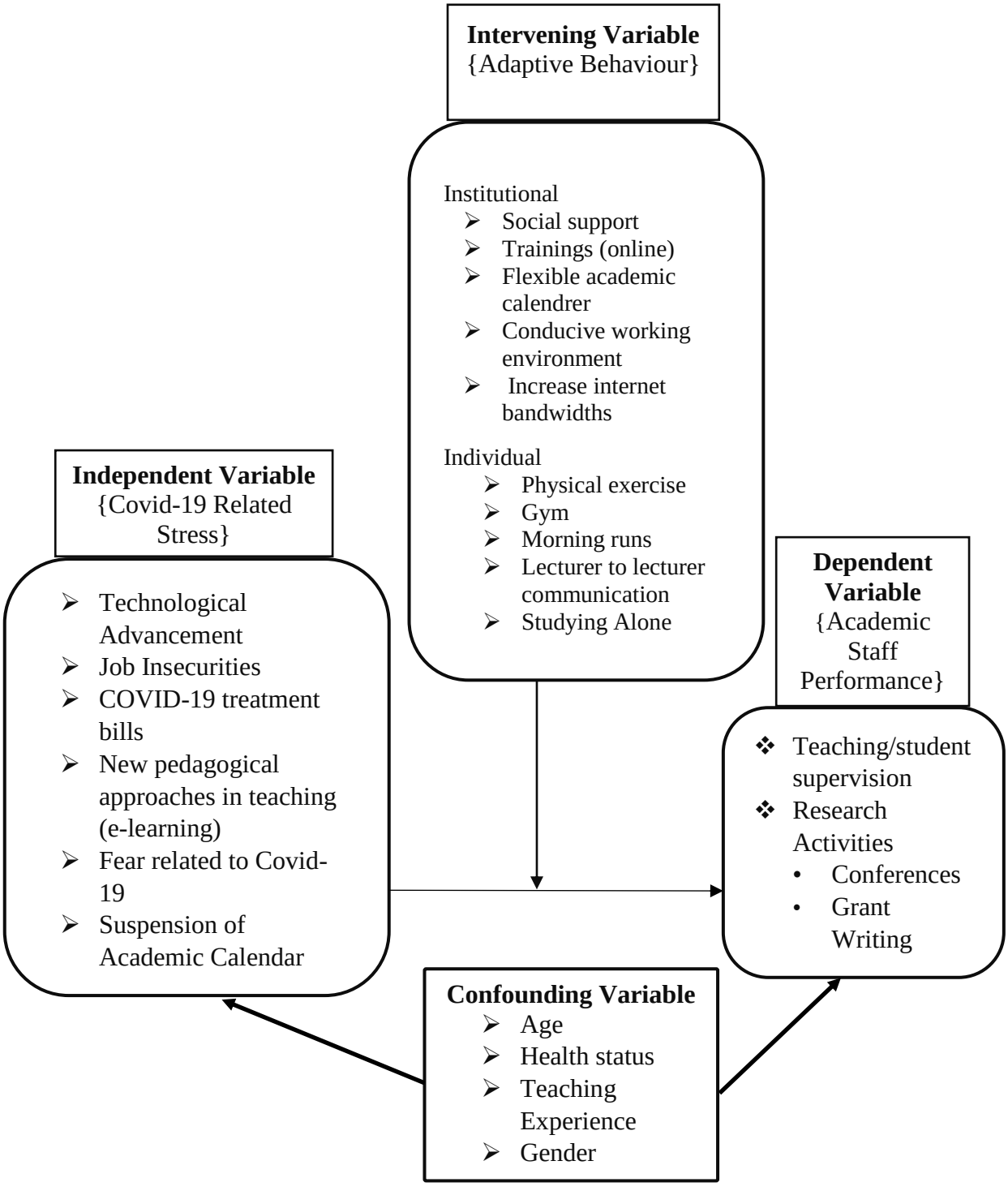

Figure 1.0 Conceptual framework

It has previously been suggested to reduce such psychological stress effects in the field of education caused by academic stressors that lead to poor academic output in universities by engaging in adaptive behaviors like physical exercise, such as going to the gym, cycling, and early morning jogging, getting a good night's sleep, setting aside enough time to relax, and listening to music .When a staff member behaves in an unbalanced way, such as abusing drugs, withdrawing from social situations, becoming more irritable, etc., the result is subpar academic performance. Figure 1 provides a summary of the interdependence of these factors.

1.13 Operational Definition of Terms

COVID-19 Related Stress - the term "Covid-19 related stress" refers to an environmental imbalance between demands and internal and external resources that resulted due to the emergence and spread of Covid-19 disease.

Adaptive Behaviors - Refers to the extent to which a person is successfully able to meet the demands placed on them by their environment, whether they be cultural, social, or personal needs. Adaptive behavior helps people deal with any situation by partially restoring the physiological and cognitive responses to homeostasis.

Academic Staff performance - Refers to any indication of scholarly work completed by an academic staff member at MMUST and Kibabii University, such as publication in a reputable journal, participation in scholarly conferences and symposiums, application for research funds etc.

Academic staff - Refers to a qualified faculty member employed by either MMUST and Kibabii University who has been given the mandate and authority to carry out teaching, research and any other fundamental mandate within his or her area of responsibility

Public University - Refers to any institution of higher education like Masinde Muliro University of Science and Technology and Kibabii University that offer university education owned and supported financially by either the federal or the state governments.

Western region - Refers to a region in Kenya primarily inhabited by the Luhya tribe and is located to the west of the Eastern Rift Valley, nearly bordering Uganda.

The highest point in the region is in Mt. Elgon County, and the lowest is in Busia County, which is near to Lake Victoria. The remaining three counties are Kakamega, Vihiga, and Bungoma.

Stress - Refers to a state in which the academic staff cognitive and physiological responses are out of equilibrium because of the potential hostile environment created by the emergence of Covid-19 disease. This condition affects how well and how quickly carry out their day-to-day academic duties assigned to them by their faculties.

Effects - Refers to a negative result due to emergence of Covid-19 on the academic staff members' lives and performance

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter includes a review of relevant studies under the following headings and subheadings: History of Covid-19 disease and Covid-19 related stress, Covid-19 and psychological, emotional and physical well-being, effects of Covid-19 related stress on academic staff performance, and the summary literature.

2.2 Brief History of Covid-19

Covid-19 virus was caused by Severe Acute Respiratory Syndrome (SARS) (WHO, 2020). However, according to Global and Alert (2020) the ecological source of corona virus disease is from a bat, and it spreads from the bat to humans via an intermediate host that is likely to be a domestic animal. Droplets produced when an infected person coughs, sneezes, or exhales primarily spread the virus that causes Covid-19. These drops swiftly land on floors or other objects because they are too heavy to hang in the air (WHO, 2020).

First human case of Covid-19 virus was documented in Wuhan one of the Chinese city in December 2019 and because the virus exhibited a rapid rate of transmission across the globe that resulted trails of suffering and mortalities, World Health Organization (WHO) on January 31, 2020, designated Covid-19 as a Public Health Emergency of International Concern (PHEIC) (Kumar *et al.,* 2021; Han, 2021). In the subsequent announcement, WHO through its director-general announced and declared the virus a global pandemic that needed global attention and response (Jebril, 2020).

The first case of Coronavirus disease (Covid-19) in Kenya was officially reported and verified by the Ministry of Health in Nairobi on March 12, 2020 (Wambua *et al.,* 2020). Subsequently, the virus has rapidly and indiscriminately disseminated beyond the borders of Kenya, prompting authorities to caution the populace to remain vigilant against the disease (Aluga, 2020). Since then, cases of the corona virus rose steadily and by march 2022, the virus had infected close to 600 million individuals worldwide, 10 million in Africa and 300,000 thousand in Kenya and it had killed about 6 million people (Gathogo, 2022). According to the WHO Coronavirus (Covid-19) Dashboard, by April 29, 2021, Kenya has reported around 2,707 fatalities, and 1,078,124 recoveries.

2.3 The Concept of Stress and Covid -19 Related Stressors

Sayles referred to stress as an individual's reaction against any change that affects and endangers his or her well-being (Skaalvik & Skaalvik, 2021). It is also the state of how an individual perceives and interprets the state of danger resulting from an individual's interaction with the environment (Özer & Suna, 2020; Skaalvik & Skaalvik, 2021). According to Brown *et al*., (2020) stress is an aspect of life that is part and parcel of human living and cannot be separated from humanity. Therefore, stress is inevitable in human life, and excessive exposure may lead to cognitive , emotional, and physical disturbances that places undue strain on the individual (Odor, 2018; Brown *et al*., 2020).

Today, stress is heavily manifested in our society and in the individual lives especially where the interactive environment is more compelling and due to that the concept of stress has continued to gain prominence decade after decade. Stress appears to be rampant in

institutions of higher learning fraternity (students, administrative and staff teaching/ academic staff) across the globe over the decades (Teferra, 2016; Sabherwal et.al., 2015; Parkman, 2016). In United Kingdom (UK) study has found that an average of 50% of the academic staff were experiencing stress in their workplace, and of those, 20% felt like quitting their jobs citing reasons associated with a toxic working environment in the university (Darabi et.al., 2017). In an almost similar study done in UK universities, 74% and 14% of the academic teachers perceived moderate to high levels of stress, respectively to teaching and related activities. (Pan et.al., 2015; Bowen et.al., 2017). According to Monteiro (2015), a survey conducted by YouGov on behalf of the National Union Lecturers (NUT) in Europe found that 53% of the instructors preferred quitting the teaching profession, citing that teaching is endless work that is strenuous and stressful.

Stress is activated by various stressors classified by scholars internal and external (Miyata et *al.*, 2015). Other scholars have used terms like demands to refer to stressors (Skaalvik & Skaalvik, 2021). According to research conducted on transgender people, Testa *et al.*, (2017) has identified internal factors of stress as being perceived as burdensome and disillusioned belongingness, negative prospects or expectations, non-disclosure, and internal phobia. In contrast, external factors include rejection, on-affirmation, victimization, and discrimination. Park and Baumeister (2017) on the other side have identified one of the principal factors that activates stress responses is; the uncontrollability of damaging events and situations, such as the reception of aversive provocations. Isa and Palpanadan (2020) have also highlighted university factors, social and individual factors such as workload, work environment, networking, health, and financial factors that were

classified as potential causers of lecturer's stress. Also, uncontrollability of events raises a sense of deficiency in control and amplifies susceptibility for anxiety in advanced development (Gallagher *et al.,* 2014; Park & Baumeister, 2017). Summarily, these findings suggest that an individual who encounters such demands that hinder them from making sense of events in a comprehensible and foreseeable way are susceptible to psychological stress.

In explaining the non-supportiveness of fellow staff, respondents concluded by stating that the non-supportiveness of the staff degrades the employee's loyalty, especially in cases where the partner is financially unstable (gets low earnings) (Urbina-Garcia, 2020). In an Australian university, a poll of the workforce revealed that academic staff who were involved in both teaching and research had the lowest job satisfaction and the most psychological distress, suggesting that heavy workloads may be the root cause (Pan *et.al.,* 2015). From the Kenyan perspective, while looking at the emotional intelligence influence on employee engagement suitability in Kenyan public universities, Mwangi (2014) has noted that increased competition accompanied by recruitment challenges and retaining qualified staff was the source of stress.

In the middle of Covid-19 pandemic, various factors ranging from global health guidelines to local, fears, anxiety, depressive thoughts, contributed in surge of stress and psychological disturbances among general population (Brooks *et.al.,* 2020). However, among the academic fraternity in institutions of higher learning, stressing factors might have taken another dimension leaning towards the execution of teaching, research and

related calendar activities (Chen *et.al.,* 2020). According to Ruoslahti (2020), the abrupt shift from face-to-face classroom to online teaching is among the major cause of stress among the teachers in colleges during Covid-19 pandemic. Variations and models of these online platforms such as zoom, google and cloud meet posed user technical challenge to those new users as cited by Gunawan *et.al.,* (2020) and further culminating dissatisfaction and loss of interest in using them as further cited by Chen *et.al.,* (2020). These studies however do not explain the intense of the challenge and how the challenged could have been tackled escalation. The studies also do not tell if similar challenges were encountered among the academic staff in Universities. In view of the above, this challenge could have rendered the academic staff helpless, hopeless and distressed. They therefore prompt and immediate technical assistant in handling those platforms was key in order for the conduct their business with ease.

Coupled with fear of contracting the Covid-19 disease, breakdown of physical academic social working networks and adoption internet based networks in carrying out their professional duties and in adherence to social distancing and isolation might have caused stress among professionals, especially the academics. Even though Bao *et.al.,* (2015) believes that use of internet based social networks can bridge the gap between the physical and digital worlds by enhancing efficiency and understanding of one's preferences and behavior, further research by Dunbar *et.al.,* (2015) contradicts and indicates that online-based relationships do not last long compared to physical relationships due to constraints of time spend together. Dunbar *et.al.,* (2015) further states "Time becomes important because it seems that the strength of a relationship is determined by how much time two

individuals spend together" (p. 40). Time physically spent together therefore comes out as considerate factor in academic staff performance; however, this study does not state how frequent such meet is adequate.

Because of the variety of online learning models used at home to undertake supervision during the Covid-19 outbreak, undergraduate learners did not find the online learning to be boring (Fendi *et.al.,* 2021). However, for post-graduate students continuity of learning and online supervisory faced challenges, such as lack of physically corrective written feedbacks thus subverting lecturer- student communication (Rasool *et.al.,* 2022) thus making it stressful also for both the lecturer and the student. The advantage of corrective physical written feedback over the online feedback as cited by (Rasool *et.al.,* 2022) is that physical corrective feedbacks are believed to enhance learner creation of knowledge, skills and improve performance.

In Kenya, while looking at the emotional intelligence influence on employee engagement suitability in Kenyan public universities, Mwangi has noted that increased competition accompanied by recruitment challenges and retaining qualified staff has a source of stress. She also stated that funding demands are also increased (Mwangi, 2014).

2.4 Effect of Covid-19 Related Stress Adaptive Behaviors on Academic Performance

Covid-19 effect on the general population tantamount and as observed by Woods *et.al.,* (2020) the effect is pronounced globally. However, concerns have been expressed globally about the relationship between various adaptive behaviours to stress and academic staff performance (Mrklas *et al*., 2020). According to Ye *et al*., (2020) individuals need to take both personal/ combined responsibility in dealing with mental issues such as anxiety,

loneliness, fear, panic, and depression emerged as the lead causes of stress during Covid-19 pandemic (Ye *et.al*., 2020). Various studies have documented the impacts of the Covid-19 pandemic and its containment measure as having negative mental and social consequences among multiple persons. It has created room for social isolation and loneliness among the world's different populationsand target groups in varying capacities

Stress induces numerous adaptive or coping mechanisms to live events. According to Góngora-Coronado & Vásquez-Velázquez (2018) in a stressful circumstance an individual attempts to see meaning in live situations as a way of adapting to the stress. Calderon has mentioned two forms of adaption, namely; approach adaptation where an individual focuses on the problem at hand by collaboratively engaging the cognitive and behavioral efforts to do away with the stressor, on the other hand, in avoidance adaptation, the individual involves emotions (Cai *et.al*., 2020). Research highlights that stressors themselves do not cause emotional, behavioral or psychological problems highlight it; rather it is the manner in which one interprets perceives and acts to the stressful situation that determines the effect the stress will pause (Beehr, 2014). A study conducted among university students in Botswana, on the role of emotional regulation as way to adapt to stressful events suggest that emotions are adaptive in nature. It posits that emotions and promotes an individual's capability to rapidly process complex information. The process emotional regulation further helps the individual to react appropriately to situations in order to meet personal needs and goals. In a more beneficial manner, emotions allow an individual to use the past experience make immediate conclusive decision about future (Afaghi *et.al*., 2020).

Brooks *et.al*., (2020) has provided a comprehensive list of stress adaptive behaviors commonly utilized by university lecturers. These behaviors include engaging in prayer, effective time management, relaxation techniques, reading and writing, consuming nourishing foods, engaging in physical exercise, spending time with family, socializing, seeking entertainment, consulting with a therapist, practicing yoga and meditation, attending stress control workshops, and utilizing medications. Fabriz *et.al.* (2021) has also identified stress adaptive behaviors for senior faculty office holders, including isolation, self-control, seeking social support, accepting responsibility, not avoiding, problem-solving, and positive reflection, in a separate study.

In a study conducted in Pakistan on stress and coping strategies of university lecturers, findings show that faculty members used mental disengagement, positive reinterpretation and less more turning to religion. In another study in Botswana, higher levels of social support among academic staff in the form of on-campus support, strong relationships, and social companionships have been seen to mitigate the negative impacts of stress and improves academic staff adjustment in Botswana (Jaimes *et al*., 2020). Such studies have not yet been done in the Kenyan universities context and thus my study seeks to unearth and promote such studies.

2.5 Effect of Covid -19 Related Stress on Academic Staff Performance

Stress can cause serious problems on individual and organizational performance (Alkubaisi, 2015). According to Karthick (2020), the degree of stress affects performance in general. In a study conducted on stress across genders by Cahlíková *et.al.,* (2020), findings reveal that stress coupled with competitiveness, women who have heightened stress manifest poorer performance as opposed to those who have control measures to stress. Ekienabor (2016) also state that stress events in the workplace affect job performance. Covid-19 pandemic also created avenues of the emergence of stress that could have also affected academic staff performance. Numerous deficiencies and inequalities in various educational systems were made public by the unintentional disruptions of learning, closure of institutions of learning, lockdowns, and other disease containment measures at national and worldwide levels. (Bozkurt *et.al.,* 2020). They range from the inadequacy of resources to lack of access to strong internet bandwidths and computers that are necessary for online teaching (Schleicher, 2020).

2.5.1 Teaching and Learning Dynamics

With the challenge of inadequate internet and computer materials, an afterthought initiative and paradigm shift in teaching delivery mode at all levels of education was still witnessed. Although institutions of learning like universities adopted internet-based delivery of lectures, synchronous and asynchronous teaching, and computer-generated labs (Khalil *et.al.,* 2020), in contrast a study by Subedi *et al.,* (2020) on the impact of E- learning among Nursing Students and Teachers of Nepal showed that many respondents users suffered from disturbances during online classes because of limited internet and electricity problems. In a further study by Ngwacho (2020) the academic staff needed to be offered

support to enable them adapt to the new pedagogical approaches of instruction, which they were unfamiliar of. Ngwacho (2020) also highlights that due to closure of institutions of learning, and adherence to working-from-home guidelines, learners who come from remote and marginalized areas were vulnerable to fell behind in their learning and performance due to a lack of access to digital learning resources or insufficient motivation and commitment to self-directed learning (Bull *et.al*., 2020).

In further discussion by Khalil *et.al.,* (2020) although institutions of learning were quick to replace face-to-face lectures with online learning, this did not yet solve dilemmas in teaching and learning academic staff and students in science-based and medical programs (Coman *et. al*., 2020). For example, medical students faced the challenge of suspension of their internship programs in hospitals; the natural scientist students faced decreased physical practical exposure with their lecturers and other certified instructors (Alsoufi *et.al.,* 2020; De, 2020). Thus, this negatively affected both the student's levels of performance and competency indirectly associated with poor academic staff performance. Perhaps, the major crisis would not be, if learning had not taken place at all during Covid-19, but the question raised is the potentiality of compromised instruction for the experiential subjects in the absence of hands-on resources and live interaction. Therefore, a concern has been about academic staff and sustained quality teaching and learning services rendered, research activities, and other professional duties performed using e-learning platforms (Mrklas *et al*., 2020).

2.5.2 Knowledge Production and Innovation

Historically, nations have depended on the movement of international students to facilitate the immigration of foreign talent and make significant contributions to knowledge production and innovation within their respective countries. The practice of sending students to foreign institutions for higher education across various fields has become a widespread phenomenon in nations worldwide, as noted by Woldegiorgis and Doevenspeck (2015). The present approach is being employed to augment the dissemination of effective methodologies, data and erudition; fostering proficiency in research and innovation; and enticing skilled individuals from diverse regions of the globe. The phenomenon of international student mobility is particularly pronounced in doctoral programs, with an average of one in five students originating from foreign countries across OECD nations. Several nations, including Australia, New Zealand, and the United Kingdom, have implemented measures to decrease obstacles to the immigration of exceptionally skilled students, thereby enabling their smooth transition into the workforce upon completion of their studies (Fujisawa & Klazinga, 2017). In United States to promote production of knowledge and increase innovation, in mid- 2000s the government was seen institute measures to entice the top international students to study at Canada by offering financial support, branding, and fastened immigration plansby offering faster study permits and Post- Graduation Work Permit to enable them join Canadian labor market in the course and after their study (Woldegiorgis & Doevenspeck, 2015). Study conducted by (Ayoo, 2009) on East African universities ICT exchange programs implicate that in the contemporary world, contemporary education requires higher education intuitions, tutors and stake holders to be linked to each other in order to transform, promote and share

advanced network connected to the rest of the world throughsharing of ICT knowledge and skills among student from various intuitions across the region

With support of the above information, it is therefore good to note, that the decline in international student mobility due to the novel Covid-19 risks affecting academic staff productivity in terms of innovation and research of academic for advanced sectors in the coming years in various countries in the world and particularly Kenya that lie in low and middle economic shades.

2.5.3 Research Activities

The Covid-19 pandemic has both negatively and positively impacted the performance of research activities by various research experts globally across various sectors and institutions, especially in Higher Education Institutes (HEIs) and Public Research Institutes (Harper *et.al.,* 2020). By March 2021, 61% of researchers said that the lockdown had limited their study time, and 58% reported that Covid-19 had prevented them from conducting the intended research. These figures demonstrate the continued high impact of Covid-19 on research activities. On the other hand, according to 56% of respondents, doing less business-related travel and commuting improved the amount of time they could devote to research (Miki *et.al.,* 2020). In support , research conducted in the United Kingdom on the impact of Covid-19 pandemic on researchers also revealed that amount of time dedicated to do doing research in research facilities decreased by 96% due to lockdown and restricted movements (Onyema *et al*., 2020). Covid-19 pandemic also led to decreased time spent academic networking, dissemination and sharing of research findings among academics from 6%-3%per week, equivalent to the backdrop with one hour per day (Onyema *et al*., 2020).

On the contrary, extra hours were scheduled for teaching, more hours to write grant proposal and more hours to do desk-based activities (Onyema *et al*., 2020).

Lockdowns, work from home and fear of contracting Covid-19 disease also were reported have hardly hit the early career academics and researchers in developing countries, with a higher proportion of them forced to terminate or suspend critical research projects and delays in research publication were experienced by senior researchers (Tadesse & Muluye, 2020). Declination in funding for non-Covid -19 related research projects and increase in multinational support for Covid-19 related research in billions of euros and dollars was reported by Omary *et.al.,* (2020). Some researchers who were not interested in Covid-19 research began to lose interest in project and grant application writing. Jameel (2020) has also highlighted lack of funds, decreased collaborations, inadequate ICT infrastructure and personnel and job dissatisfaction as factors that affected research productivity among the academic staff in the Iranian education system. Rising social inequality combined with racial and daily income gaps exacerbates differences between feminine and masculine academic performance, with women publishing less and initiating or participating in fewer research projects than their male counterparts (Van Dorn *et.al.,* 2020). This might be as a result of the fact that during the Novel Covid-19 epidemic, female academics juggled taking care of their families and kids more than males did (Vincent-Lamarre *et al.,* 2020).

In addition to the study findings, most respondents had, their research projects delayed and disruptions experienced across all levels of seniority. Writing academic papers related to Covid-19 received a positivity increase in percentages from 11% to 15%. Studies

records publications journals were flooded with an influx of submissions, however the study did not guarantee the quality of peer review and there the quality of scientific writing could have been compromised during the period (Harper *et.al.,* 2020).

2.5.4 Job Insecurities

The Covid-19 pandemic has had significant implications on the recurrent expenditures in education industry. Schleicher posits that education is a domain that all governments engage in by providing financial support, guidance, or oversight of educational services (Hoffmann *et al.,* 2020). However, according to a study carried out by the Organization for Economic Co-operation and Development (OECD) in the specified year, it was demonstrated that government funding for education tends to vary in response to external shocks, as governments re-evaluate their investment priorities (OECD, 2013). In light of the prevailing Covid-19 pandemic, it could not be assured that the government will continue funding Universities and Higher institutions of learning in general.

Due closure of schools, decline in capital gained through administrative fees payable by students in Universities and other teaching institutions would have had ripple effect on the financial sustainability thus leading fears of retrenchment, layoff or termination of short term and long-term contracts for the academic staff. This causes anxiety, excessive thinking about the future of their jobs and further affects the academic mental health and the poor the mental health the poorer the performance exhibited. To prevent education from becoming unattainable for certain segments of society, it is imperative that governmental funding of educational services be implemented (Schleicher, 2020; Di Pietro

et.al., 2020). The present deceleration of economic growth is linked to the proliferation of the virus, which has impeded the accessibility of public funding for education in nations, due to the reduction in tax revenue and the allocation of emergency funds towards the amplifying healthcare and welfare expenditures (Schleicher, 2020).

An analysis to elucidate the economic repercussions of the pandemic on various countries conducted by Hanushek and Woessman (2020) postulates that the loss of skills due to the current student cohort missing out on one-third of a year of schooling is equivalent to the damage caused by the pandemic. As per their assertion, there exists a correlation between individuals' competencies and their level of output as well as the gross domestic product (GDP). It has been projected that the gross domestic product may experience an average reduction of 1.5% for the duration of the century. Despite the resumption of learning in schools across different regions of the globe, the long-term impact of the loss of skills among contemporary students remains to be observed, with a potentially sluggish growth trajectory. To clarify, it can be inferred that nations will persist in encountering diminished economic prosperity, notwithstanding the expeditious restoration of their educational institutions to the levels of achievement observed prior to the onset of the pandemic (García & Weiss, 2020; Hanushek & Woessmann, 2020).

In summary, the Covid-19 pandemic caused what this study refers to as Covid-19 related stress, which had an impact on the effectiveness of the academic staff's teaching and learning activities, collaborative innovation and knowledge production with other academics, research activities such as grant writing, community-based projects,

publications, conferences, and symposiums. Ultimately, the academic staff's concern for their jobs stemming from documented instances of layoffs and employment contract termination also impacted their concentration on their assigned duties, which included teaching, supervising, and evaluating students, among other things.

2.6 Relationship between Covid-19 Related Stress, Adaptation and Academic Performance

Covid-19 pandemic has caused an alteration in people's lifestyle with a change in physiological state, social and cognitive processes (Urcos *et.al.*, 2020). Physiological state was greatly altered by the fear of contracting Covid-19 disease and a sense of insecurity brought on by the pandemic. Such fears, an unpleasant emotion brought on by a dangerous stimuli and accompanied by a rise in heart rate, muscle rigidity, and hyperventilation. The negative psychological impact was severe in most studies that showed significant levels of stress among the general population, especially in men when compared to their female counterparts (Bwire, 2020). In a closely similar study by Mwenda *et.al.,* (2019) among the academic staff in private universities in Kenya, it was found that an increase in a unit of stress would lead 66.7% decrease in faculty performance. However, according to Atugonza *et.al.,* (2021), personal stress adaptive behaviors such as strong self- esteem and locus of control such as being optimistic were found to be able to moderate up to 74.38% of academic staff stress in Makere University.

Fear is portrayed as a component that considerably increases psychological stress in the educational system (Lang, 2019) and particularly during the pandemic, and may be related to worries of ambiguity and uncertainty. During Covid -19 pandemic, fears were sparked

by a variety of factors, including the Covid-19-related dilemma, inadequate infrastructure for online learning, people's declining conduct, and social contact (Demirtaş-Madran, 2021). The general learning process, academic performance, and students' well-being may all be negatively impacted by these worries. According to a study that measured academic staff members' levels of fear and uncertainty linked to Covid-19, more than 33% of the faculty members reported experiencing significant levels of fear during the pandemic lockdown. The majority of faculty members (81.5%) expressed greater concern for the wellbeing of their loved ones compared to their own health (Abdullah *et. al*, 2022). This outcome is consistent with other research, which discovered that people worry and fear about their loved ones' health more than their own health does (Son *et.al.*, 2020). In further agreement Shen & Slater (2021), findings also reveal that academics experienced poor emotional health during the Covid-19 outbreak, at a rate of around to 36% and a variance of roughly 25.8%.

Even though the majority of the academics in the area went through psychological stress during the Covid-19 outbreak, some of them tried to explore for different coping mechanisms. Some people used constructive coping mechanisms such acceptance, active coping, planning, and positive reframing. It is interesting to note that some people choose undesirable behaviors like excessive alcohol consumption, excessive sleep, and many others. In the majority of earlier investigations, academics employed adaptive coping mechanisms. According to a study conducted by Shen & Slater (2021), academics were more likely to utilize problem-focused coping to handle stress in the verge of Covid-19-pandemic. In a contrasting study, an in-depth interview with university professors from

Indian universities the interviewer noted that academic professors were happier with their academic work and gave it a good cognitive evaluation (Priyadarshini *et.al.,* 2015). Negative coping mechanisms among academics, such as heavy drinking, were underrepresented in this study. In contrast, 82% of professors at a private institution in Spain reported using alcohol intake as a coping mechanism for stressful situations (Beltrán-Velasco *et.al.,* 2020). with 13.1% reporting problematic alcohol usage.

2.7 Summary of the Literature Review

The chapter reviews the effect of Covid-19 related stress on the academics' performance, psychological well-being, and coping strategies adopted by the academic staff globally. The literature shows that academic staff in universities across the world experience higher levels of stress. The stress levels are primarily associated with their job. However, factors such as low salaries, unsupportive management and staff, job insecurities, staff recruitment processes, and inadequate funding of university activities are spelled out by Mwangi (2014) and Bowen *et al*., (2016).

Investigations into the various ways academic staff members dealt with psychological stress even prior to the Covid- 19 Pandemic have also been conducted. Others thought about cycling, exercising, and getting adequate sleep, while others ended up drinking alcohol, sleeping too much, overeating, and many other negative behaviors. However, other people adopted favorably by forming social networks and accepting stressful conditions. Although these strategies have been employed in the past, no research has been done to determine how helpful they were at reducing stress during COVID-19, particularly among the academic staff. Numerous studies have also examined how stress has in the past

impacted the academic performance of university academic personnel, and with the current Covid-19 infections, the impacts are allegedly getting worse. However, many of them haven't provided a clear plan of action to alleviate the current crisis or listed any coping mechanisms that Kenyan academic staff can use to deal with stress amid medical situations like the Covid-19 infection. Therefore, research is needed to determine how the Covid-19 pandemic has affected the academic performance and psychological health of Kenyan university faculty, as well as how best to respond.

Literature Review Matrix

Author	Research Topic	Findings	Gaps
Mwenda *et.al.*, (2019)	An assessment of the relationship between job stressors and faculty performance in selected private universities in Kenya.	The study found out that an increase in one unit of stress leads to a 66.7% decrease in faculty performance in private universities in Kenya.	The study was done in private in universities in Kenya whereas the current study is among academic staff in selected universities in Western, Kenya. Thus addressing the geographical gap and scope
Mwangi (2014)	Emotional intelligence influence on employee engagement sustainability in Kenyan public universities.	The results showed that improved working engagement among academic staff where the environment is conducive at 21%, embracing team work at 10% and frequent communication at 7%	This study investigated the how emotional intelligence can impact on academic staff engagement whereas the current study investigates the perception of Covid-19 related stress and academic staff performance

Subedi *et al.,* (2020)	Impact of E-learning during COVID-19 pandemic among nursing students and teachers of Nepal.	Respondents suffered from disturbances during online classes because of internet and electricity problem, also students were compelled to use data packs for their online classes.	No inferential data, this make the study weak. Study is majored on nursing students and teacher only, inclusivity of students and teachers from other faculties should be considered. Impact on Mental wellbeing, academic output and interventions are not shown out.
Brooks *et.al.,* (2020)	The psychological impact of quarantine and how to reduce it: rapid review of the evidence	Finding of this study revealed that there are various ways the general public can mitigate the psychological effects of Quarantine in the Covid -19 era such as, telling people what is going on, providing clear communication, giving food supplies offering encouragement messages.	The study is tilted more on general psychological impact of quarantine as opposed to the current study where quarantine is expressed as part of lead factors to academic pressures that further lead to decline in academic staff performance. There is also a variation from the current study in some of mitigation measures highlighted such as food supplies as free and data bundle allowances
Atugonza *et.al.,* (2021)	Moderating Influence of Personal Factors on Stress Among Academic Staff of Makerere University, Uganda	Individual factors (self-esteem, locus of control as a personality factor, and optimism) partook a moderating impact on academic staff stress High stress of 74.38% at Makerere University was reported	The study lays emphasis on personal factors that cause stress among employees and that need to minimized without taking into account other external factors and events like Covid-19 pandemic that also can

			trigger stress.
Jameel (2020)	Factors impacting research productivity of academic staff at the Iraqi higher education system.	Funds, Collaboration, ICT and Job Satisfaction have an impact on Research Productivity at T-Value 2.239 >1.96 and P-Value = 0.025 < 0.005; T-Value 2.140 >1.96 and the P-Value 0.032 < 0.05; T- Value and P-value, 2.018 and 0.044 and T- Value 2.181 >1.96 and P-Value 0.029 < 0.05 respectively.	It's not clear if the questionnaire was structured, semi-structured or unstructured Data collected is inferential no indication of descriptive data .
Isa & Palpanadan (2020)	Prevalence Causes of Stress and Coping Strategies Among Malaysian University Lecturers	Malaysian lecturers experienced stress at low levels -The university factor, social and individual factor had significant relationship to lecturers' stress. Workload, work environment, networking, health, and financial factors also were potential cause lecturers' stress.	Study is not clear on the exact level of stress e.g. Acute, episodic or chronic and does not educate the reader on the signs and symptoms to stress Does not show the impact of stress on writing, publication, research and community services (Academic Staff performance)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the research design and methodologies used in the study. The chapter covers the target population, sampling procedures and techniques, the samplesize, data collection instruments, the validity and reliability of the study instruments, and the data analysis procedure.

3.2 Research Design:

This study adopted a cross-sectional descriptive research design. A cross sectional descriptive research design studies a certain phenomenon at a particular time such as the academic performance of academic staff during the Covid-19 pandemic. This research design helped to get a holistic understanding of the research topic with varied, diverse and thorough information acquired (Wang & Cheng, 2020). The design allowed the researcher to systematically describe the characteristics of the academic staff, their areas of interests, discover any existing relationships and associations between or among the variables (Covid-19 relatedstress, adaptive behaviors and academic staff performance) under study (Vogt *et.al.*, 2012). Cross-sectional descriptive research design also allowed the incorporation of both qualitative and quantitative methods of data collection (Shanafelt *et al*., 2020). Quantitative method in this study helped to get quantifiable data information for the selected sample population. Both qualitative and quantitative data collection paradigms enabled getting quality results in terms of complexity, extensiveness andscope (Siedlecki, 2020). According to Robinson (2014) qualitative and quantitative methods are

more effective when studying social and psychological aspects of human behaviors in psychology and also help reduce biasness in objectives and promote objectivity. Further, the application of descriptive research design allowed the researcher to use specific methods of data collection and tools such as use of questionnaires (Vogt *et al*., 2012).

3.3 Study Location

The study was conducted in two public universities in Western Kenya. These universities were Masinde Muliro University of Science and Technology and Kibabii University, located in Kakamega and Bungoma counties respectively. The two universities were purposively selected because as at the time of data collection Western Kenya had only the two as full-fledged universities. These two universities were at the forefront of educational activities that generate knowledge to learners in the region and far beyond in the ongoing Covid -19, academic staffs carried out sensitization practices and championed the adoption of best practices to combat the spread of Covid-19 infections in the area.The universities under study are also located in counties with close borders to Uganda- Malaba, and Busia inter-border entry point; thus, there was suspected increased risk of infection in the region due to the importation of Covid-19 infection cases from Uganda.

Western Kenya is also ranked as one of the most populated regions in Kenya; thus, fewer health facilities that could not accommodate all Covid-19 patients. To some extent, the Government of Kenya (GoK), in consultation with both the Ministry of Education (MoE) and the Ministry of Health, converted some of the student's premises in MMUST as Isolation Centers Covid-19 cases. These acts could have instilled fear of infection among academic staff, causing them to distance themselves from the university premises and

paused both laboratory and library research and teaching activities, affecting their performance. The unpreparedness of the University health care center with fewer health care workers trained in handling Covid-19 cases might have affected academic staff psychologically in the Western Kenya. Some and those in health sciences departments had to take the initiative and be trained at their own cost on the best ways to handle and stop the spread of Covid-19 cases.

3.4 Study population

The study was conducted among five (5) professors, five (5associate or assistant professors, nineteen (19) senior lecturers, one hundred and twenty-six (126) lecturers, twenty-one (21) assistant lecturers and seventy-one (71) tutorial fellows, not forgetting two (2) registrars in charge academic affairs and four (4) deans for the selected Universities. According to the staff statistics obtained Human Resource department of the two universities, MMUST has a population of 350 academic staff, while Kibabii University has 300 academic staff. Therefore, the total population is hundred and fifty (650) academic staff.

3.5 Sampling of the study population

Sampling is an act, process, and technique of selecting a suitable representative sample of the study population that would help in determining the study parameters of the whole population (Palinkas *et al*., 2015). The study population constituted of academic staff from two selected public universities. Both cluster and non- proportionate stratified sampling methods were used in this study. According to (Acharya *et al*., 2013), cluster sampling puts portions of the study population into separate groups called clusters. The academic

staff was put under clusters called schools, from schools non- proportionate stratified sampling was used to select respondents. The strategically will be based on departments as well as educational levels of staff. i.e., professors, assistant professors, senior lecturers, lecturers, assistantlecturers, and tutorial fellows, as shown in the sampling framework in Figure 2.

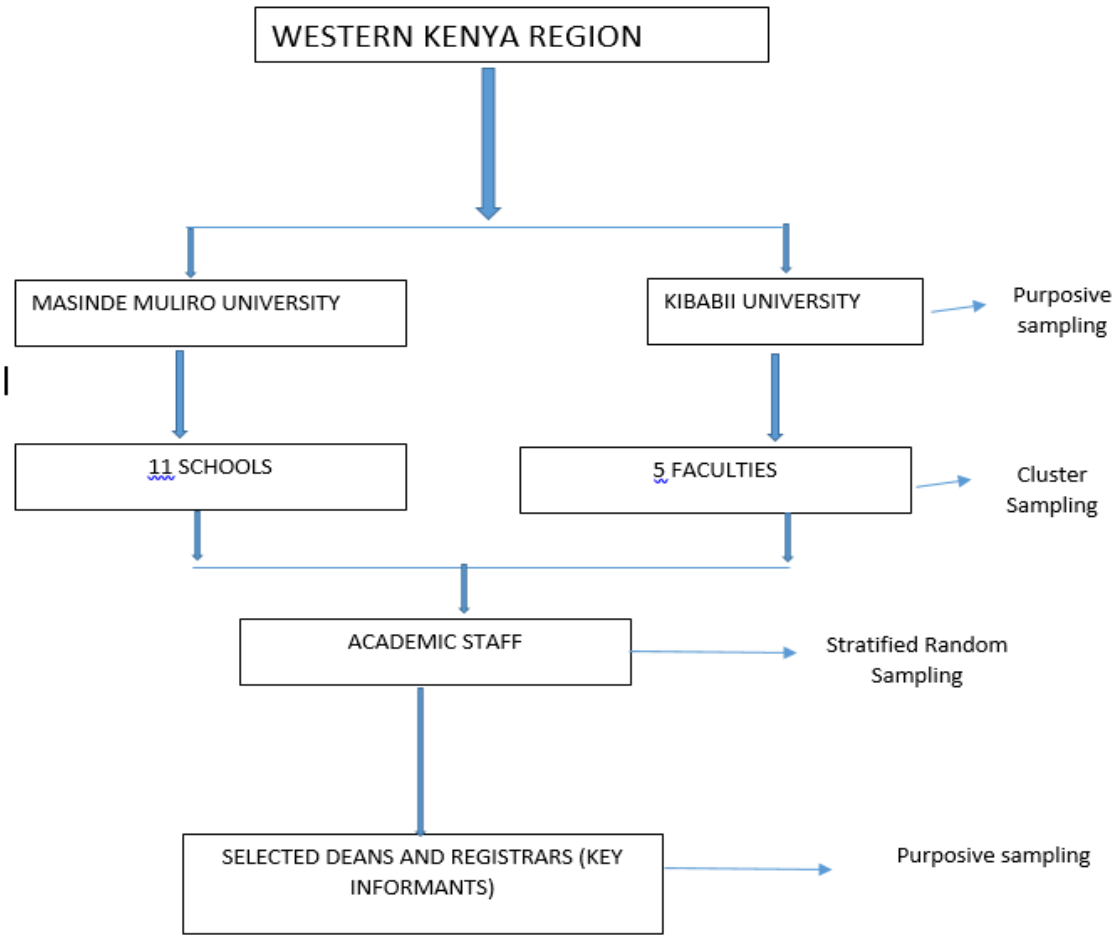

Figure 3.1 Sampling frame

3.6 The sample size

The sample size is the respondent's projected number for the study (Abt *et al*., 2020). It helps the researchers to conduct powered and precisestudies. In this study, the sample size from a total study population of 650 (approximate) of the two universities was determined using Taro Yamane's formula with a confidence level of 95 % and margin error of 5%, equivalent to 0.05 (Singh, & Masuku, 2014). The procedure and calculation are as illustrated below.

n= N/1+N (e) ^ 2 where Table 3.1 1 n= sample size, N- Study population and e = the standard margin error.

According to Etikan & Babtope (2019), the margin error is a statistical concept representing the discrepancies between populationand the characteristics of the sample. The sample size was calculated as follows:

n= 50/1+650(0.05) ^2n =247.61

Therefore, a sample of 247 from a total population of 650 academic staffs was selected.

3.7 Sampling Matrix

A sampling frame is crucial in any form of study. The frame is drawn from the initial study population. Keenness should be taken when drawing a sampling frame because if not outlined properly, the result obtained from the study may not address the study problem (Acharya *et al*., 2013). Table 3.1 represents the sampling matrix for this study.

Table 3. 1 Sampling Matrix

Target population	Category	Sampling Technique	Sample percentage	TOTALS
	Deans	Purposive	8.9%	4
	Registrar Academics	Purposive	0.81%	2
ACADEMICSTAFF	Professors	Stratified random Sampling	2.0%	5
	Associate Professors	Stratified random Sampling	2.0%	5
	Senior lectures	Stratified random Sampling	7.8 %	19
	Lectures	Stratified random Sampling	51.4%	126
	Assistant Lectures	Stratified random Sampling	8.6%	21
	Tutorial Fellows	Stratified random Sampling	28.7%	71
				245

3.8 Research Instrument

Research instruments refer to any tool that a researcher uses to collect data, measure, and analyze data that seems relevant to the study subject (Bowen *et.al*., 2017). In this study, both questionnaire and key informant interviews were used by the researcher.

3.8.1 Questionnaire for Academic Staff

A questionnaire with both open and close-ended questions was used as an instrument of data collection to collect opinions on the dimensions of Covid-19 related stress, and its effect on academic performance of academic personnel. The questionnaire was used to get the demographic information and characteristics and data on variable under investigation. The questionnaire was an appropriate tool for data collection because its data is easy to analyze compared to interviews, it is cost effective, minimizes traveling and it is time

saving in cases where the question items are extremely many (Taherdoost, 2016).

3.8.2 Key Informant Interview for Deans and Registrar Academics

Academic registrars were purposefully selected for key informant interview. Theinterview sought to gather in-depth and varied information on the concerned institutions capacity to conduct carry online teaching and learning, online exams and continuous assessment tests (CATs) and research related activities at the verge of Covid-19 pandemic without making the processes stressful to the academic staff of the respective universities. Academic registrars offer professionals and administrative roles in universities. The researcher also looked at promotion opportunities, educational support, and academic staff capabilities in the universities under study. Key informant interviews were preferred more in this study because they were cost-effective, requires less data, and more time was set to gather in-depth information and increases the overall responses from the respondents (Muellmann *et.al*., 2021).

3.9 Pilot Study

Pilot study was carried in Maseno University. Maseno is a public University located in Kisumu County and which, is in close proximity with Kakamega and Bungoma counties. Maseno University was not within the scope of the main study area however, it was essential in piloting because the respondents' comments helped the researcher rule out the unrealistic questions, restructure and improve complicate questions and in choosing the appropriate data analysis methods (Oanda, 2013). The researcher used a 10% of 248 (initial sample size) to get the pilot study sample size. Twenty-five questionnaires were administered among academic staff in Maseno University.

3.9.1 Reliability of the Study

According to Kivunja & Kuyini (2017) reliability is the degree to which the research instruments can yield consistent results after several trials of application. The study employed Cronbach's Alpha (α) to measure internal reliability. Internal reliability was used to enable the researcher in assessing the correlation between multiple items and the correlation between multiple items in a test that are intended to measure the same construct. For any researcher to conclude that the data collection instrument is dependable and data is accurately captured, Cronbach Alpha coefficient must be 0.7 or higher than that (Sharif-Nia & Hanifi, 2023). A less value therefore would indicate that the tool is inconsistent and needs to be reviewed. The results of reliability as per variable are shown in Table 3.2.

Table 3. 2 Questionnaire Reliability Test

Variable	Questionnaires	No of Items	Cronbach Alpha
Covid-19 related stress	Section B	14	0.748
Academic performance before Covid-19	Section C1	8	0.735
Academic Performance on the Onset	Section C2	8	0.855
Covid-19 Academic performance	Section C3	8	0.874
Institutional level	Section D1	4	0.813
Individual level	Section D2	8	0.770
Individually stress adaptive Technique	Section E1	9	0.752
Institutionally stress adaptive Technique	Section E2	9	0.792
Overall		**68**	**0.792**

Source: Field Data (2022)

The study variable sections Cronbach alpha ranged from 0.735 to 0.874. Since the internal consistency between the items in the tool was above 0.7, thus, the questionnaire consistency was deemed significant and acceptable.

3.9.2 Validity of Research Instruments

Validity pertains to the extent to which the outcomes obtained from the study subjects accurately reflect authentic discoveries among comparable individuals both within and beyond the research setting (Thomas, 2017). According to Khorsan and Crawford (2014) validity comprises two distinct domains, namely internal and external. Internal validity is the degree to which the observed outcomes accurately reflect the reality of the population being studied, while "external validity" pertains to the extent to which the findings of a study can be applied to other contexts. According to Mohajan (2017) internal validity can be endangered by measurement errors or participant selection errors and the researchers must be cognizant of such errors. It was necessary to use content and construct validity against all other because of their ability to offer proof of how well-suited and representative an instrument's components are of the intended construct (Hajjar, 2018).

The study ensured the content and construct validity of the data collection instruments by engaging impartial experts from the School of Education at MMUST, as well as individuals from the Department of Education Psychology who possessed advanced knowledge of stress and psychological constructs. These experts were tasked with scrutinizing the content of the questionnaire items. Moreover, the evaluative assessments and revisions conducted by the supervisors are utilized as indicators of the content validity.

3.10 Data Collection Procedures

Data was collected from MMUST and Kibabii University (ies) which have an approximate 650 academic staff cumulatively; however, the sample size was 247. The period for collecting data was one month. Three data enumerators and one data clerk were recruited prior data collection process to help in data collection and entry respectively. Before inception of the collection process, the data enumerators and clerks were trained on various data collection techniques and procedures what was expected of them in the field. Inclusion criteria was that data enumerators were graduate students from MMUST, Kibabii and Maseno universities. This selection was based on who has the geographical knowledge of the pilot and study sites.

3.11 Methods of Data Analysis

Qualitative data obtained from this study was coded, analyzed, and presented in themes using Statistical Package for Social Sciences (SPSS) software. Both Inferential and descriptive parametric test were carried out. In inferential statistics, t-test and Pearson Correlation Coefficient were used to analyze data for objectives two, three and four respectively, while objective one was analyzed using mean, percentages, standard deviation and frequencies. According to Mishra *et.al.,* (2019) Pearson Correlation Coefficient and t-test are considered some of the best statistical procedures to analyze data when searching for relationships between and among the independent and the dependent variables. The analyzed data were presented in tables and pie chart where applicable. Data collection and analysis procedures were summarized in a Table 3.3.

Table 3. 3 Summary of Data Analysis

Objective	Instrument	Data Type	Statistical Procedure	Data Presentation
1	Questionnaire Interview Schedules	Quantitative and Descriptive	Mean,frequencies/ percentages, paired t-test and Pearson Correlation Coefficient Content analysis Theme based	Pie Charts and Tables Narrations and verbatim
2	Questionnaire	Quantitative	Mean , frequencies/ percentages, Inferential analysis (Pearson correlation coefficient and t-test)	Tables
3	Questionnaire	Quantitative	Paired Sample t-test and Pearson Correlation Coefficient	Tables
4	Questionnaire	Quantitative	Descriptive statistics (Mean, percentages and frequencies)	Tables

3.12 Finding Dissemination

The findings were shared through workshops/teleconferences in the involved Universities and publication of the findings in peer-reviewed journals. The information was also shared with Directors of Research in the respective universities for sharing to research social media platforms such as WhatsApp and emails.

3.13 Ethical issues

According to Kay (2019) ethical issues are important matters to consider when carrying out either primary or secondary research. These issues relate to impartiality to the respondents and unbiasedness in selecting sources and analysis. Ethical approvals to conduct this research were obtained from Masinde Muliro University Institutional Ethics

and Review Committee, National Commission for Science, Technology, and Innovation (NACOSTI), and from authorities of the study institutions. This was after the proposal was ratified and approved at both the Department and School Boards for Post Graduate Studies. The research permit was obtained before engaging in data collection process. This was in respect of Hammersley & Traianou, (2015) five recognized values and ethics of conducting research namely: minimizing harm, valuing autonomy, avoiding disclosure of privacy, offering reciprocity, treating people equitably. Key ethical concerns that arose in executing this study are explained in Table 3.4.

Table 3. 4 Ethical Concerns

Ethical Issue	Explanation
Participant Consent and voluntariness	Participants were informed of the research purpose; participation was voluntary, and the respondents terminated participation at their wish. Upon reading and understandingthe terms of participation, the respondents who accepted to participate in the study signed a consent form to confirm understanding of the information contained in data collection instruments and their free will to participate.
Confidentiality	Participants' responses to this study were anonymous. Code names, keeping notes and preserving questionnaire with respondents' responses in lockable file cabinet helped maintain confidentiality of information. Participant's responses were kept confidential except when the researcher was legally obligated to report specific incidents in a courtof law or for referral purposes. These incidents include but may not be limited to incidents of abuse and suicide risk, depression and many more.
Interviewer/Respondentgender parity	Interviews were not conducted in a secluded setup but on neutral area where both genders were comfortable and secure. The interviewer remained respectful, firm, and culturally sensitive to curtail the superiority complex between male/female or female/ male respondents.
The benefit of the study	Respondents expectations of benefits from the study, either material benefits or other interventions, was addressed by explaining to them that the study is meant to generateevidence to inform policy-making and program implementation with possible future benefits for healthcare workers under study. Therefore, no direct benefit was assured. Besides, the research should entail no cost to the respondent.

Minimizing harm andviolation of human rights	An anonymous feedback mechanism was established, so that survey /study participantsreported any perceived violations of their rights in data collection and interviews.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

Using the study objectives as a guide, this chapter presents data presentation, interpretation, and discussion of the results. The following study objectives were used as a guide: establish factors associated with Covid-19 related stress among academic staff in public universities in Western, Kenya, find out the effect of Covid-19-related stress on academic staff performance in public universities in Western, Kenya, assess the effect of adaptive behaviours related to Covid-19 on academic staff performance in public universities in Western, Kenya, determine the relationship between Covid -19 related stress, adaptive behaviors and academic staff performance in public universities in Western, Kenya.

4.2 Response Rate

Out of 247 questionnaires given out, 245 (98.7%) respondents returned leaving out 3. (2.3%). This return rate was therefore near 70% as recommended by Wang *et al*.,(2021).

Table 4. 1 Questionnaire Return Rate

Academic Staff	**Sample Size**	**Participants**	**Response Rate**
	247	245	98.7%
Overall			98.7%

4.3 Demographic Characteristics

Data on demographic characteristics of the participants is presented in Table 4. 2

Table 4. 2 Respondents Socio-Demographic Characteristics

Variable	Category	Frequency	Percentage (%)
Gender	Male	151	61.60%
	Female	94	38.40%
University	MMUST	138	56%
	KIBABII	107	44%
Academic Qualification	Ph.D.	121	49.4%
	Masters	120	49%
	Degree	4	1.6%
Professional Position	Professor	5	2.0%
	Associate	5	2.0%
	Senior Lecturer	19	7.8%
	Lecturer	126	51.4%
	Assistant Lecturer	21	8.6%
	Tutorial Fellow (TF)	69	28.2%
Terms of Employment	Permanent	155	63.3%
	Contract	75	30.6%
	Part-Time	14	5.7%
	Volunteer	1	0.4%
Period Worked	Less than a Year	6	2.4%
	1-5 Years	121	49.4%
	6-10 Years	107	43.7%
	11-15 Years	10	4.1%
	16-20 Years	1	0.4%
	Over 20 Years	0	0.0%

Source: Field Data (2022)

In terms of gender, 151 (61.6%) of the participants were male while 94 (38.4 %) were female. From these findings, this study concludes that the majority of the academic staff who participated were of the male gender. This could be attributed by non-adherence by the universities managements to the two third gender rule in their appointment and promotions of staff and favoritism of the male gender in the employment process (Machogu, 2017; Gitaka, 2016). According to Appiah & Agbelevor (2015) performance bias or perception, make that

male gender seem having a more potential to cause an increase improvement in performance as compared to the female counterpart.

From the findings of Table 4.2, 139 academic staff members (56%) worked for MMUST, while 108 (44%) worked for Kibabii University. Among the participants, 4 (1.6%) had a degree, 120 (49.0%) had a master's degree, and 121 (49.0%) had PhD. Many of the academic staff who responded were Ph.D. holders, closely followed by holders of master degree. This finding complies with the unified academic staff promotion requirements established by the Commission for University Education (Waswa *et.al.*, 2018; Omolo, 2021).

The number of academic employees by professionalism category who participated were 5 (2.0%) professors, 5 (2%), associate professors, 19 (7.8%), senior lecturers, 126 (51.4%), lecturers, 21 (8.6%), assistant lecturers, and 69 (28.2%) tutorial fellows (TFs). The academic cadre that responded most was lecturers followed by TFs. It is noticeable therefore that a bigger percentage of academic staff members hold doctorate and master degrees. This is in line with the policy guidelines on regulation of employment and promotion of academic staff in Kenyan Universities (Njoroge, 2020).

Results on the employment status show that 155 academic staffs (63.3%) were engaged on permanent basis, 75 (30.6%) under contract, 14 (5.7%) engaged as part-timers and one (1) respondent (0.4%) worked as a volunteer. Further, the study findings indicate that Six (6) participants (2.4%) had worked for less than a year, 121 (49.4%) for one to five years, 107 (43.7%) for six to ten years, 10 (4.1%) for eleven to fifteen years, and 1 (0.4%) for sixteen to twenty years. Here, the majority of the academic staff had worked for between 1- 10

years meaning that they had some experience in educational teaching. In trying to find the meaning of employee experience, Anumaka and SSemugenyi (2013) cited it as perceptions of employee interactions with all the different touch points inside a specific organization. Similarly, Igbal (2011) in his attempt study about employee commitment and performance in Europe found that employee experience directly influences employee organizational commitment and work performance.

4.4 The Respondents' Affiliate School/Faculty

The respondents' replies to questions about the school or faculty where were members are listed in Table 4.3.

Table 4. 3 Respondents by School/Faculty

School Frequency	Percent	
Computing and Informatics	16	6.5
SAVET	11	4.5
School of Business	34	13.9
School of Education	38	15.5
School of Engineering	20	8.2
School of Natural Sciences	59	24.1
School of Nursing	2	.8
School of Public Health Biomedical Sciences & Technology	21	8.6
School of Arts and Social Sciences	23	9.4
School of Disaster Management and Humanitarian Assistant	21	8.6
Total	**245**	**100.0**

Source: Field Data (2022)

From Table 4.3, 6.5% (16) of the respondents sampled were members of the Faculty of Computing and Informatics, 11 (4.5%) were faculty members of SAVET, 34 (13.9%) were members of the School of Business, 20 (8.2%) were members of the School of Engineering, 59 (24.1%) members of the School of Natural Sciences, 2 (0.8%) School of Nursing and 21 (8.6%) School of Public Health Biomedical Sciences & Technology, 23 (9.4%) School of Arts and Social Science and lastly 21 (8.6%) respondents were academic members of the School of Disaster Management and Humanitarian Assistant. Majority of the respondents were faculty/ school members of the School of Natural sciences and the minority from the School of Nursing.

4.5 Factors Associated with Covid-19 Related Stress among Academic Staff

The first objective of the study sought to establish factors associated with Covid-19 related stress among academic staff. The question of investigation under this objective was: what are the factors associated with Covid-19 related stress among academic staff in public universities in Western, Kenya?

To get responses the respondents were asked to state their level of agreement on various situations that made them feel stressed at any moment during Covid- 19 pandemic. The fourteen item rated on a scale of 1-5 with the following scoring ranging from; 1 “Strongly Agree”, 2 “Agree”, 3 “Undecided”, 4 “Disagree”, and 5 “Strongly Disagree”.

Table 4. 4 Factors Associated with Covid-19 related Stress among Academic Staff

Items	1	2	3	4	5	Mean	SD
B1: Conducting online teaching usingonline platforms on you are unfamiliar with	43 (17.6)	129 (52.7)	22 (9)	46 (18.8)	5 (2)	2.35	1.04
B2: Conducting online examinationsfor students under unstable internet system	74 (30.2)	109 (44.5)	30 (12.2)	30 (12.2)	2 (0.8)	2.09	.992
B3: Poor rural and urban network connectivity for online teaching	90 (36.7)	117 (47.8)	19 (7.8)	14 (5.7)	5 (2)	1.89	.921
B4: Working on research papers for publishing in refereed journals	19 (7.8)	81 (33.1)	46 (18.8)	76 (31)	23 (9.4)	**3.01**	1.15
B5: Working on a Community-Basedresearch project on required your physical presence	46 (18.8)	89 (36.3)	65 (26.5)	34 (13.9)	11 (4.5)	2.49	1.08
B6: Conducting post-graduate student's online supervision of proposals and thesis writing	32 (13.1)	103 (42)	36 (14.7)	59 (24.1)	15 (6.1)	2.68	1.15
B7: Collaborative grants research/project writing	22 (9)	79 (32.2)	72 (29.4)	55 (22.4)	17 (6.9)	**2.86**	1.08
B8: Increased costs of conducting extensive research activities	46 (18.8)	80 (32.7)	45 (18.4)	50 (20.4)	23 (9.4)	2.77	1.75
B9: Low salaries or delayed salaries	21 (8.6)	37 (15.1)	53 (21.6)	103 (42)	31 (12.7)	**3.35**	1.14
B10: Retrenchment of staff in universities	15 (6.1)	22 (9)	34 (13.9)	128 (52.2)	46 (18.8)	**3.69**	1.06
B11: Unfriendly family environment	27 (11)	63 (25.7)	13 (5.3)	90 (36.7)	52 (21.2)	**3.31**	1.35
B12: Unsupportive administration	14 (5.7)	21 (8.6)	14 (5.7)	130 (53.1)	65 (26.5)	**3.86**	1.08
B13: Increased family demands	42 (17.1)	94 (38.4)	39 (15.9)	54 (22)	16 (6.5)	2.62	1.19
B14: Isolation from family members and academic colleague	54 (22)	110 (44.9)	27 (11)	36 (14.7)	18 (7.3)	2.40	1.19
Average Mean						**2.81**	**1.0**

Source: Field Data (2022)

From the Table 4.4, 43 (17.6%) of the respondents strongly agreed that conducting online teaching using online platform unfamiliar to them made them feel stressed, 129 (52.7%) agreed on the same assertion. However, 22 (9%) were undecided on whether conducting online teaching using unfamiliar online platforms made them stressed during Covid-19 pandemic. Moreover, 46 (18.8%) disagreed; while 5 (2%) strongly disagreed on conducting online teaching, using unfamiliar online platforms. With a mean of 2.35 and a standard deviation of 1.040, many of the respondents agreed on the assertion that conducting teaching with the use of unfamiliar on online platforms. These findings concur with Mishra *et.al.,* (2020), who noted that the use of online instruction platforms such zoom, google meet, WhatsApp and Google Classroom in teaching and learning during Covid-19 was challenging and stressful among many lecturers in universities. Further, Sahito *et.al,* (2022) predict that this challenge could be because of lacked adequate ICT literacy skills. It therefore in order to state that, although the adoption and practice teaching during Covid-19 pandemic was a best response for the education sector, it has contributed to increase of stress among the academic personnel in universities in Western Kenya.

With regard to conducting online examinations for students under unstable internet system, 74 (30.2%) of the sampled respondents strongly agreed while 109 (44.5%) agreed on the same. Moreover, 30 (12.2%) of the respondents were undecided, another 30 (12.2%) disagreed and 2 (0.8%) strongly disagreed on conducting online examinations for students under unstable internet system. With a mean of 2.09 and a standard deviation 0.992, the respondents agreed on the statement that unstable internet system was a contributor to their stress during Covid-19 pandemic.

On the issue of poor rural and urban network connectivity, 90 (36.7%) of the respondents strongly agreed, that poor rural and urban network connectivity for online teaching was stressful, 117 (47.8%) agreed on the same assertion, while 19 (7.8%) of the respondents were undecided. However, 14 (5.7%) disagreed and another 5 (2%) strongly disagreed that poor rural and urban network connectivity for online teaching was stress to them during Covid-19 pandemic. With a mean of 1.89 and a standard deviation of 0.921, majority of the respondents agreed that poor rural and urban network connectivity for online teaching was breeding to stress. These findings are in agreement with a study conducted by Klapproth *et. al.,* (2020) that concluded that indeed poor rural and urban internet network connectivity and unstable internet system made online teaching unstable and challenging. In addition, Oducado *et. al.,* (2021) also revealed that online teaching in unstable networks caused lecturers and students experience a moderate to higher stress as insufficient access to hardware or internet as this constrained home based learning.

Moreover, 19 (7.8%) of the respondents strongly agreed on working on research papers for publishing in refereed journals and a further 81 (33.1%) agreed on the same. However, 46 (18.8%) of the respondents were undecided on the same assumption, 76 (31%) of the respondents disagreed and another 23 (9.4%) strongly disagreed on working on research papers for publishing in refereed journals. With the mean of 3.10 and a standard deviation of 1.154 suggesting on the respondents strongly agreed on the same assertion. According to the study findings, 46 (18.8%) of the sampled respondents strongly agreed on working on a Community-Based research project that required your physical presence and a further 89 (36.3%) agreed on the same assertion. In addition, 65 (26.5%) of the respondents were

undecided, 34 (13.9%) disagreed while 11 (4.5%) strongly disagreed. With a mean of 2.49 and a standard deviation of 1.085, the respondents strongly agreed on the statement.

From the findings, in the Table 4.4, 32 (13.1%) of the respondents strongly agreed on conducting post-graduate student's online supervision of proposals and thesis writing, 103 (42%) agreed. 36 (14.7%) of the same assertion while 59 (24.1%) of respondents disagreed and 15 (6.1%) strongly disagreed on the same affirmation. With a mean of 2.68 and a standard deviation of 1.154, the respondents strongly agreed on conducting post-graduate student's online supervision of proposals and thesis writing.

In regards to collaborative research grants /project writing during Covid-19, 22 (9%) of the respondents strongly agreed, 79 (32.2%) agreed on the same affirmation. However, 72 (29.4%) of the participants were undecided, 55 (22.4%) disagreed and another 17 (6.9%) strongly disagreed on collaborative grants research/project writing. With a mean of 2.86 and a standard deviation of 1.081, the participants strongly agreed to involve themselves in on collaborative research grants /project writing. From the research findings, 46 (18.8%) of the respondents strongly agreed on increased costs of conducting extensive research activities and a further 80 (32.7%) disagreed on the same. However, 45 (18.4%) of the respondents were undecided, 50 (20.4%) disagreed and 23 (9.4%) strongly disagreed on increased costs of conducting extensive research activities. With a mean of 2.77 and a standard deviation of 1.758, the respondents agreed on increased costs of conducting extensive research activities had affected the way of life of the respondents.

According to the findings, 21 (8.6%) of the respondents strongly agreed on low salaries or delayed salaries, 37 (15.1%) agreed on the same assertion. In addition, 53 (21.6%) of the respondents were undecided, 103 (42%) disagreed and a further 31 (12.7%) strongly disagreed on low or delayed salaries. With a mean of 3.35 and a standard deviation of 1.141, the respondents strongly agreed on low salaries or delayed salaries. Moreover, 15 (6.1%) of the respondents strongly agreed and a further 22 (9%) agreed on retrenchment of academic staff in universities. On the other hand, 34 (13.9%) were undecided, 128 (52.2%) disagreed and another 46 (18.8%) strongly disagreed on retrenchment of academic staff in universities. With a mean of 3.69 and a standard deviation of 1.069, the respondents strongly agreed on retrenchment of academic staff in universities.

However, 27 (11%) of the respondents strongly agreed on unfriendly family environment and another 63 (25.7%) agreed on the same affirmation. In addition, 13 (5.3%) of the respondents were undecided and 90 (36.7%) disagreed while another 52 (21.2%) strongly disagree on unfriendly family environment. With a mean of 3.31 and a standard deviation of 1.350, the respondents strongly agreed on unfriendly family environment. From the finding in the table 4.4, 14 (5.7%) of the respondents strongly agreed on unsupportive administration while 21 (8.6%) agreed on the same assertion. Moreover, 14 (5.7%) of the respondents were undecided on unsupportive administration. On the other hand, 130 (53.1%) of the respondents disagreed and another 65 (26.5%) strongly disagreed on unsupportive administration. With a mean of 3.86 and a standard deviation of 1.082, the respondent strongly agreed on unsupportive administration.

However, 42 (17.2%) of the respondents strongly agreed on increased family demands and a further 94 (38.4%) agreed on the same statement. On the other hand, 39 (15.9%) were undecided and another 54% (225) of the respondents disagreed while 16 (6.5%) strongly disagreed on increased family demands. With a mean of 2.62 and a standard deviation of 1.190, the respondents were undecided on increased family demands. Lastly, 54 (22%) of the respondents strongly agreed on isolation from family members and academic colleagues while 110 (44.9%) disagreed on the same statement. In addition, 27 (11%) were undecided, 36 (14.7%) disagreed and a further 18 (7.3%) strongly disagreed on isolation from family members and academic colleagues. With a mean of 2.40 and a standard deviation of 1.193, the respondents strongly agreed on isolation from family members and academic colleagues.

During interview sessions with key informants, they unanimously confirmed that academic staffs in universities in Western Kenya have had the experience of Covid-19 related stress. Some of the contributory factors being the abrupt need to shift to online teaching. One of the interviewee stated, “Many of academic staffs have stopped teaching and are not willing to embark on online. It has been difficult to deliver content and assess students’ uptake of taught content; less motivation to teach and examine online due to technology issues” while another respondent indicated that they have to teach and asses students’ academic performance online”.

The study further sought to establish factors that made academic staff succumb to Covid-19 related stress. Some of the factors identified were increased depression, Isolation of academic staff, Poor attendance of online classes and less engagement in research

activities. Another respondent indicated that, “academic staffs are less motivation to teach and examine online due inadequacies in technology and low motivation by the academic staff and students towards research thus leading to reduced academic performance on their part”.

This sentiment by interviewees paves a path to concur with findings of Ye *et. al.,* (2020) that have shown that the disease containment measures put in place by Health Care Bodies in cases of health emergences also lead to destabilized psychological well- being which further affects performance. According to Z *et. al.,* (2020) continued perception of stress over time, does not only affect mental health but physical health, as the stress has proven to be one of the major causes of various physical and mental disorders such as hypertension, depression, diabetes, asthma, obesity, and cardiovascular diseases. Therefore, during the pandemic, the lecturers require proper attention, help, and support from their families and institutions. According to Blakey & Abramowitz (2017) academic, staff support is achievable if institutions revisit their online courses and program delivery mechanisms, methods, and practices to ensure that lecturers are not over stressed, particularly in terms of number of assessments, academic workload, and technical difficulties they face.

4.6 Effect of Covid-19-related Stress on Academic Staff Performance in Public Universities in Western, Kenya

The study's second objective was to find out effect of Covid-19 related stress on academic staff performance in public universities in Western, Kenya. The goal was to test the study's second null hypothesis that states: Covid-19-related Stress has no effect on Academic Staff Performance in Public Universities in Western, Kenya

Descriptive statistics and inferential statistics (Paired t- test, Pearson Product Correlation Coefficient) were employed in treatment of data to enable assess whether there was a significant difference in academic performance between the pre- and post-Covid-19 periods. These results are presented in Table 4.5, 4.6 and 4.7.

Table 4. 5 Academic Staff Performance pre- and post-Covid 19 pandemic periods

S/N	Item	Mean	Interpretation
	Creating an outline for a study paper to be presented at a conference	2.95	Sometimes
	Preparing one or two research articles for publication	2.96	Sometimes
	Writing a research paper required you to combine concepts and data from a number of sources	2.75	Sometimes
	Post-graduate student supervision online	3.06	Sometimes
	Teaching undergraduate students	2.46	Sometimes
	Applying for research grant	3.06	Sometimes
	Winning a research funding	3.38	Sometimes
	Setting and administering online tests for your students and doing online ongoing evaluations for them	3.05	Sometimes
	Overall Academic Performance Mean	**2.96**	**Sometimes**

Source: Field Data (2022)

The respondents were provided with eight (8) statements on how they focused in performing their academic duties before Covid-19 began and throughout the course of Covid-19. The rating scale for the eight statement was 1 to 5 with their scores being; 1 “always”, 2 “very often”, 3 “sometimes”, 4 “rarely”, and 5 “never.” The results were presented as follows: 4.50-5.0= Never, 3.50-4.49 = rarely, 2.50-3.49 = Sometimes, 1.50-2.49 = Very often and 1.00-1.49 = Always. The results are shown in Table 4.5. The sampled respondents indicated that they sometimes prepared a draft outline of study paper to be presented in a conferences (Mean=2.95), frequently worked on or prepared one or two research articles with the intention of publishing them (Mean=2.96), wrote a research paper that required them to combine concepts and data from several sources (Mean=2.75). The respondents further indicated that they sometimes supervised post-graduate students online (Mean=3.06), taught undergraduate students (Mean=2.46), applied for research grants (Mean=3.05), won research funding (Mean=3.38), set and administered online tests and did online assessments and evaluations (Mean=3.05). The overall average mean of academic staff performance was (M=2.96) demoting that respondents sometimes undertook activities geared toward sustaining or improving their academic performance.

4.6.1 Mean Difference in Academic Staff Performance

Table 4. 6 Academic Performance Mean Difference in Pre- and Post-Covid 19 Era

Description	Mean	Mean Diff	t	Df	Sig
Mean one (MI) represents (before COVID-19)	2.7689	-.37653	-6.769	244	.000
Mean two (M2) represents (Onset of COVID-19)	3.1454				

Source: Field Data 2022

From the results in Table 4.6, academic staff recorded less satisfactory performance in their daily academic work at the onset of Covid-19 (M2=3.1454) when compared to the Pre-Covid-19 period (M1=2.7689). The mean difference between the two periods (M. D=-0.37653) was significant as shown by the Sig. =0.000. This suggest that that the pre- Covid-19 academic performance was superior compared to when Covid-19 emerged.

4.6.2 Correlation between Covid-19 Related Stress and Academic Staff

To establish the extent of effect Covid-19 related stress on academic staff performance, the study used the Pearson (r) correlation coefficients. The results are presented in Table 4.7.

Table 4. 7 Correlation between Covid-19 Related Stress and Academic Staff Performance

		Covid-19 Related Stress	Academic Staff Performance
Covid-19 Related Stress	Pearson Correlation	1	-.218**
	Sig. (2-tailed)		.001
	N	245	245
Academic Staff performance	Pearson Correlation	-.218**	1
	Sig. (2-tailed)	.001	
	N	245	245

Source: Field Data (2022)

Covid-19 related stress had effect on academic staff performance which was significant as indicated by Pearson r (245) = -.218, p = 0.00. This implied that Covid-19 related stress led to a decrease in academic performance among the academic staff by 0.218 units which was equivalent to 21.8%. Null hypothesis ($H_0$2) was rejected in favour of the alternate that states: Covid-19-related Stress has effect on Academic Staff Performance in Public Universities in Western, Kenya.

Stress during Covid-19 pandemic is very wanting job-related issue (Sahni, 2020) that had a negative effect on job performance of employees across board in including academic staff (Shoaib *et. al.,* 2022). Similar findings by Kożusznik *et. al.,* (2018) have shown that unfavorable work-related environment (in the case of this study: Covid-19 related environment) and work related aspects such as lack of group support, inadequate resources, leads to strain in job that further leads to an inverse performance. Further studies have indicated that that emergence of Covid -19 was a turning with many work related strains/ stressors coming into existence and that possibly affected performance. According to Gautam & Sharma (2020), everyone's way of life got disrupted with day-to-day life schedule being at stake for the academic staff. Academic staff got tough times in preparing and provide valuable lectures to their leaners (Choudhury, 2020) and worst stressful scenario was when online teaching was recommended Zhang (2020), however, many of the academic staff had specialized in chalk - to chalk teaching and they had not been trained on how to effectively use of internet resources for teaching (Yabin, 2020) thus affecting their performance.

4.7 Effect of Covid-19 Related Adaptive Behaviours on Academic Staff Performance

The third objective of the study was to find out the effect of Covid-19 related stress adaptive behaviours on academic staff performance in public universities in Western, Kenya. Both descriptive and inferential statistics are used to present the results, as seen in Figure 4.1 and Table 4.8, and 4.9, respectively.

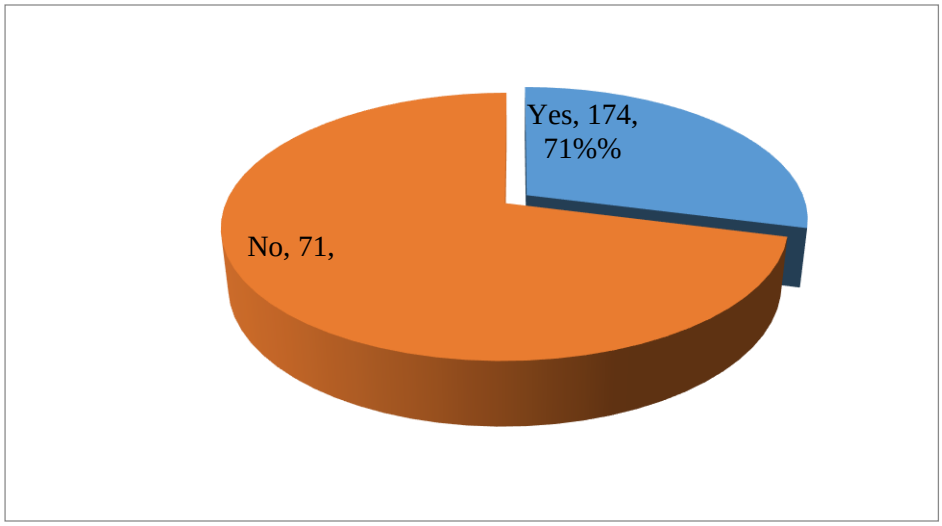

Figure 4.1: Responses on Covid-19 Related stress adaptive thoughts and behaviors by Academic Staff

Source: Field Data (2022)

The findings showed that the majority 71% (174) of the respondents agreed that they looked for ways to manage stress related to Covid-19 pandemic, whereas 29% (71) had a contrary opinion. These findings are in line with a study conducted by Shen & Slater (2021) among academic staff at one of Ireland's universities, where the majority of academics sought out and used various stress management and techniques to manage occupational stress over the Covid -19 era. A number of other earlier research have also emphasized how academic staff members responded to stressful situations by using stress-adaptive behaviors and thinking. In addition, a study by Priyadarshini *et. al.,* (2015) in an Indian university found that academics were most likely to utilize positive cognitive appraisal as an adaptive approach to manage their stress. In a more concrete sense, a study conducted in a Chinese university by Li & Kou (2018) revealed that 43% of academics were at risk for stress in the workplace; however, they were able to cope with the stressful situation by exercising, changing their habits, changing their attitudes, and maintaining

social connections. Other mentioned damaging stress coping mechanisms include overeating and excessive alcohol intake, which are harmful to their physiological and emotional well-being (Antoniou *et. al.*, 2013).

4.7.1 Individual Covid-19 Related Stress Adaptive Behaviors

The respondents were asked to suggest individual/personal Covid-19-related stress-adaptive practices that they had discovered or believed to be the most effective managing stress during the Covid-19 epidemic. The findings are shown in Table 4.4.

Table 4. 7 Mean Analysis of Individual Covid-19 Related Stress Adaptive Behaviors

	No		**Yes**		**Mean**	**SD**
	F	**%**	**F**	**%**		
Eating fast foods, sweets	223.0	91.0	22.0	9.0	1.09	.286
Having enough sleep	41.0	16.7	204.0	83.3	**1.83**	.374
Use of substances such as alcohol, smoking cigarettes, cannabis	223.0	91.0	22.0	9.0	1.09	.286
Doing home exercises	38.0	15.5	207.0	84.5	**1.84**	.363
Listening to cool music	66.0	26.9	179.0	73.1	**1.73**	.445
Having enough time to rest	30.0	12.2	215.0	87.8	**1.88**	.328
Online social connectedness with family and friends	66.0	26.9	179.0	73.1	**1.73**	.445
Sharing your problem with other academic staff	128.0	52.2	116.0	47.3	1.49	.525
Mean Average					1.59	.396

Source: Field Data (2022)

Results from the Table 4.7 revealed that having enough rest (M=1.88, SD=.328), doing home exercises (M=1.84, SD=.363), having enough sleep (M=1.83, SD=.374), making sure to stay socially connected with friends and family (M=1.73, SD=.445), sharing

problem with other academics (M=1.49, SD= 1.49) and listening to cool music (M=1.73, SD= .445) had the highest means when compared to the average mean (M= 1.59, SD = .396). These stress adaptive behaviours were the most and frequently utilized adaptive behaviors for reducing stress related to Covid-19 among the academic staff in this study. Contrarily, eating fast foods and sweets (M=1.09, SD= .286) and consumption of alcohol, smoking cigarette and cannabis (M=1.09, SD= .286) had the lowest means among the respondents and were the least used Covid-19-related adaptive behaviors during Covid-19 pandemic era.

During the interview sessions with key informants, in an attempt to establish some of the individual and institutional Covid-19- related stress adaptive behaviors employed by academic staff during Covid-19 pandemic. One of interviewee (KI1) from MMUST had this to say: "*that some of the stress adaptive behaviors include; physical activities such as morning runs, gym, and yoga ensure academic staffs are stress free".* The other informants (KI1, KI2, KI3, and KI4) also affirmed that: "*home work outs and yoga are effective ways to manage any form of stress including that related to Covid-19.* They further asserted that, *'they can reduce anxiety, fear and enhance psychological firmness'.*

In the subsequent interview sessions, the key informants were asked to explain at least two major adaptive measures or behaviors that has been put in place to curtail Covid-19 related stress at their personal level. Some of the personal measures as revealed by one of the interviewees from Kibabii University (KI2) include:

"*Physical exercise such as morning runs or cycling or going to gym, other effective stress adaptive behaviors cited include encouraging sleep and online meetings*".

Similar sentiment was obtained key informant (KI3) from MMUST whereby he agreed that having time for physical exercise such as cycling, morning runs and doing gymnastics as effective relievers of stress. He said, "*Morning runs, gym and even cycling could be a full packed dose for the academic staff during this period of Covid-19*". Another key respondent (KI4) from Kibabii had a diversified opinion on the new technology in teaching and learning, he stated that, "*the newly introduced technology in teaching and learning hacks for online teaching".* In their final submission, all the interviewees affirmed that personal Covid-19 related stress adaptive have been helpful as they helped them feel relaxed and reduce the loneliness.

It is clear from numerous studies on individual stress-reduction techniques for university academics that at-home workouts, yoga, creating social ties with friend family, having enough time to rest and enough sleep have a substantial impact on stress management (Safaria, 2013; Mohamed & Mohamed, 2016; Damayanti & Nawawinetu, 2019). Further, preliminary findings by Brems (2015), on the subject of yoga's and home exercise ability to reduce stress; have indicated that doing home exercise consistently was a highly successful stress-reduction strategy in academic setting.

4.7.2 Institutional Adaptive Behaviours to Covid- 19 Related Stress

Based on their own experience the respondents were asked to range how various institutionally instilled stress reduction measures among the faculty members in universities seemed reliable in helping them adapt to the shocks of Covid-19 related stress. The results are shown in Table 4.8

Table 4. 8 Institutional Covid -19 Related Stress Adaptive Behaviour

Institutional Adaptive Bahaviour	**1**	**2**	**3**	**3**	**4**	**Mean**	**SD**
Establishment of institutional Mental Health policies for example a Multi-disciplinary Treatment PlanPolicy	19 (7.8)	108 (44.1)	64 (26.1)	40 (16.3)	14 (5.7)	3.3	1.0
Educative support training sections in mental health and stress Management	26 (10.6)	110 (44.9)	60 (24.5)	44 (18)	5 (2)	3.4	1.0
Improvement of the working environment and conditions	72 (29.4)	131 (53.5)	26 (10.6)	14 (5.7)	2 (0.8)	**4.1**	**0.8**
University having flexible schedules and deadlines	45 (18.4)	132 (53.9)	28 (11.4)	26 (10.6)	14 (5.7)	**3.7**	**1.1**
University having flexible academic calendar of activities for example postponement of exams	42 (17.1)	95 (38.8)	41 (16.7)	58 (23.7)	9 (3.7)	3.4	1.1
Creation of social support platforms and welfare where academic staff can share their problems and seek assistance from fellow colleagues	29 (11.8)	69 (28.2)	74 (30.2)	51 (20.8)	22 (9)	3.1	1.1
Promotion of online presentations of students' proposals and thesis	49 (20)	125 (51)	58 (23.7)	10 (4.1)	3 (1.2)	**3.8**	**0.8**
Encouragement by the university management for staff aged 55years and above to work from home	45 (18.4)	79 (32.2)	71 (29)	43 (17.6)	7 (2.9)	3.5	1.1
Provision of monthly internet data plan to all academic staff and students for online teaching and learning	99 (40.4)	103 (42)	16 (6.5)	18 (7.3)	9 (3.7)	**4.1**	**1.0**
Average Mean						**3.6**	**1.2**

Source: Field Data (2022)

From the Table 4.8, in regard to establishment of institutional Mental Health policy for example academic staff Multi-Disciplinary Treatment Plan Policy, 19 (7.8%) of the sampled respondents indicated “very unreliable” and another 108 (44.1%) indicated “Unreliable” on the same statement. Further, 64 (26.1%) of the respondent indicated “Neutral” and 40 (16.3%) indicated “Reliable” while 14 (5.7%) indicated “Very reliable” on establishment of institutional Mental Health policy. With a mean of 3.3 and a standard deviation of 1.0, the participants were neutral on establishment of institutional Mental Health policies for example a Multi-Disciplinary Treatment Plan Policy.

According to the study findings, 10.6% (26) of the respondents indicated “Very unreliable” on implementation of educative support and training sections in mental health and stress management and a further 44.9% (110) indicated “Unreliable” on the same assertion. In addition, 24.5% (60) of the respondents indicated “Neutral” while 18% (44) indicated “Reliable” and another 2% (5) indicated “Very reliable” on implementation of educative support and training sections in mental health and stress management. With a mean of 3.4 and a standard deviation of 1.0, the respondents were neutral on implementation of educative support and training sections in mental health and stress management.

However, 29.4% (72) of the participants indicated “Very unreliable” while 53.5% (131) indicated “Unreliable” on improvement of the working environment and conditions. On the other hand, 10.6% (26) of the participants indicated “Neutral”, 5.7% (14) indicated “reliable and a further 0.8% (2) indicated “Very reliable” on improvement of the working environment and conditions. With a mean of 4.1 and a standard deviation of 0.8, improvement of the working environment and conditions was reliable to the respondents.

From the findings, 18.4% (45) of the respondents indicated “Very unreliable” on university having flexible schedules and deadlines and a further 53.9% (132) indicated “Unreliable” on the same assertion. Additionally, 11.4% (28) of the respondents indicated “Neutral” while 10.6% (26) indicated “Reliable” and another 5.7% (14) indicated “Very reliable” on university having flexible schedules and deadlines. With a mean of 3.7 and a standard deviation of 1.1, university having flexible schedules and deadlines was reliable to the respondents.

Further the regard of the university having flexible academic calendar of activities for example postponement of exams, 17.1% (42) of the sampled respondents indicated “Very unreliable” and another 38.8% (95) indicated “Unreliable” on the same statement. Furthermore, 16.7% (41) of the respondent indicated “Neutral” and 23.7% (58) indicated “Reliable” while 3.7% (9) indicated “Very reliable” on university having flexible academic calendar of activities for example postponement of exams. With a mean of 3.4 and a standard deviation of 1.1, the participants were neutral on university having flexible academic calendar of activities for example postponement of exams. Moreover, 11.8% (29) of the respondents indicated “Very unreliable” on creation of socialsupport platforms and welfare where academic staff can share their problems and seek assistance from fellow colleagues and a further 28.2% (69) indicated “Unreliable” on the same assertion. In addition, 30.2% (74) of the respondents indicated “Neutral” while 20.8% (51)indicated “Reliable” and another 9% (22) indicated “Very reliable” on creation of social support platforms and welfare where academic staff can share their problems and seek assistance from fellow colleagues. With a mean of 3.1 and a standard deviation of 1.1, creation of

social support platforms and welfare where academic staff can share their problems and seek assistance from fellow colleagues was neutral to the respondents.

From the study, 20% (49) of the participants indicated “Very unreliable” while 51% (125) indicated “Unreliable” on promotion of online presentations of students’ proposals and thesis. On the other hand, 23.7% (58) of the participants indicated “Neutral”, 4.1% (10) indicated “reliable and a further 1.2% (3) indicated “Very reliable” on promotion of online presentations of students’ proposals and thesis. With a mean of 3.8 and a standard deviation of 0.8, promotion of online presentations of students’ proposals and thesis was reliable to the respondents.

In regard to encouragement by the university management for staff aged 55years and above to work from home, 18.4% (45) of the respondents indicated “Very unreliable” and a further 32.2% (79) indicated “Unreliable” on the same assertion. Also, 29% (71) of the respondents indicated “Neutral” while 17.6% (43) indicated “Reliable” and another 2.9% (7) responded with “Very reliable” on encouragement by the university management for staff aged 55years and above to work from home. With a mean of 3.1 and a standard deviationof 1.1, encouragement by the university management for staff aged 55years and above to work from home was reliable to the respondents.

Lastly, 40.4% (99) of the respondents indicated “Very unreliable” on provision of monthly internet data plan to all academic staff and students for online teaching and learning and a further 42% (103) indicated “Unreliable” on the same assertion. Also, 6.5% (16) of the respondents indicated “Neutral” while 7.3% (18) indicated “Reliable” and another 3.7%(9) indicated “Very reliable” on provision of monthly internet data plan to all

academic staff and students for online teaching and learning. With a mean of 4.1 and a standard deviation of 1.0, provision of monthly internet data plan to all academic staff and studentsfor online teaching and learning was reliable to the respondents. From the analysis, four intuitional adaptive behaviours had means above the average mean. They include: provision monthly data to academic staff and students (M=4.1, SD=1.0), Improvement of working environment and conditions (M=4.1, SD=0.8), promotion of online presentations/defenses of student's proposal and thesis (M=3.8, SD=0.8) and university having flexible schedules and deadlines (M=3.7, SD=1.1). The rest of the items had mean below the average mean however; they were also useful in compacting stress.

During interview sessions with key informants, the researcher sought the opinion of the interviewees on the relationship between Covid-19 related stress adaptive behaiours and academic performance of academic staff. Their sentiments revealed that the new pandemic affected the overall work performance of all employees including that of the academic staff in universities; however, they cited that various adaptive behavior could buffer some of these challenges. One of the interviewee from MMUST said that,

"I agree that there is a relationship between Covid-19 related stress adaptive behaiours among the academic staff in universities" the interviewee continued and said, "both the individual academic staff and institutions needs find ways to mitigate the immense effect of Covid-19 pandemic on their performance not only in the academic life but even in their day to day endeavors."

Another interviewee stated that:

"Covid-19 pandemic has led to deterioration of academic performance among the academic staff in universities because majority of the academic staff in universities are not technologically oriented and especially in matters of online teaching and defenses. This has led to poor supervision of students; practical are rarely done, poor assessment and reduced research engagements among academic staffs and even between them and their students at various level."

These findings and interviewee responses agree with the sentiment of Kyaw *et. al.,* 2022) who stated that social support as stress adaptive behavior often elicits healthier and more positive academic performance. In support, (Miyata *et al*., 2015) posits that social support positively influences the cognitive appraisal of stressful situations that further supports improvement in work performance. Other stress adaptive behaviors (physical exercise, frequent sleep, relaxation) were also found to consistently yield reduction in general daily stress (Debrot *et al*., 2018) and high-stress life periods that in turn improves daily performance.

Hypothesis Testing

The study tested the null hypothesis (H_{01}) which stated that; adaptive behaviors related to Covid-19 have no effect on academic staff performance in public universities in Western Kenya. Pearson (r) Correlation Coefficient was employed to test H_{01} and the results are shown in Table 4.9.

Table 4. 9 Correlation between Covid-19 Related Stress Adaptive Behaviors and Academic Staff Performance

		Institutional Adaptive Behaviors	Individual Adaptive Behaviors	Academic Staff Performance
Institutional Adaptive Behaviors,	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	245		
Adaptive Behaviors	Pearson Correlation	.187**	1	
	Sig. (2-tailed)	.003		
	N	245	245	
Academic Staff Performance	Pearson Correlation	.489**	.411**	1
	Sig. (2-tailed)	.000	.000	
	N	245	245	245

Source: Field Data (2022)

The findings from Table 4.6 revealed that there was a significant relationship between individual/ personal Covid-19 related stress adaptive behaviors and academic staff performance as indicated by $r(245) = 0.411$, $p<0.05$ and indicated by $r(245) = 0.489$, $p<0.05$. The results implied that personal Covid-19-related stress adaptive behaviors account for 41.1% increase in academic staff performance. Subsequently, an addition or inclusion of institutionally Covid-19 related stress adaptive behaviors in the equation causes a rise in performance from 41.1% to 48.9%. This implies that there is a relationship between the individual / personal Covid-19 related stress adaptive behaviors and academic performance among the academic staff in universities public universities in Western Region, Kenya was moderately significant. We reject the null hypothesis (H_{01}) in favor of the alternate hypothesis that states: adaptive behaviors related to Covid-19 have has effect on academic staff performance in public universities in Western Kenya.

These findings agree with of findings of Peretomode (2012) who highlighted body workout, relaxation, devotion, constructive talks, listening to cool, and social interactions as the dominating strategies that academic others are the strategies dominantly utilized by academics in adapting to stress. In a similar study, Maslach & Leiter (2016) found that stress among the academic staff in Indian universities significantly affecting performance, however the academics employed positive cognitive appraisal as a stress-adaptive behavior. The application of cognitive appraisal cultivated joy for their work and improved their performance in various academic activities. Similarly, in a recent study by Siddiqui & Soomro (2019) academic professors in a British university were seen employ problem-focused coping approach to manage stressful situations during Covid- pandemic era and was found to reduce stress and improves performance (Ciuhan *et. al.,* 2022).

4.8 Relationship between Covid-19 Related Stress, Adaptive Behaviors and Academic Staff Performance

The fourth objective of the study was to determine the relationship between Covid-19 related stress, adaptive behaviour and academic staff performance in public universities in Western, Kenya.

Hypothesis testing.

The study further tested H_{03}, which stated; $H_0$3 There is no relationship between Covid-19 related stress, adaptive behaviors and academic staff performance in public universities in Western, Kenya. Pearson (r) correlation coefficients was employed to test H_{03} and the results are shown in Table 4.10.

Table 4. 10 Relationship Covid-19 Related Stress, Adaptive Behaviors and Academic Staff Performance

		Covid-19 Related Stress	Adaptive Behaviors	Academic Staff Performance
Covid-19 Related Stress,	Pearson Correlation	1	.187**	-.218**
	Sig. (2-tailed)		.003	.001
	N	245	245	245
Adaptive Behaviors	Pearson Correlation	.187**	1	.411**
	Sig. (2-tailed)	.003		.000
	N	245	245	245
Academic Staff Performance	Pearson Correlation	-.218**	.411**	1
	Sig. (2-tailed)	.001	.000	
	N	245	245	245

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Field Data (2022)

As shown in Table 4.10, the correlation (r) between Covid-19 related stress seemed to cause a decline in academic staff performance with r (245) = -0.218, p=.001. This mean therefore in any case there is an increase in one unit of Covid-19 related stress among the academic staff would subsequently cause a decline in academic staff performance with 0.218 units where this change recorded is significant. However, the relationship between individual adaptive behaviors and academic performance was seen to positive and significant as indicated by r (245) = 0.411, P=0.00. This implies that inclusion and an increase with one unit of Covid-19 related stress adaptive behaviors triggers an increase in academic staff performance with 0.411 units. Thus, null hypothesis (H_{03}) was rejected in favour of the alternate hypothesis that stated; there is a relationship between Covid-19 related stress, adaptive behaviors and academic staff performance in Public universities in Western, Kenya.

These findings concur with findings of Ahmed (2020) that denoted that emergence of Covid-19 outbreak had a significant impact on nearly all educational levels in many contexts around the world, and educational settings have been modified to make provisions for lecturers and students. On contrary, research carried out by Narayanamurthy & Tortorella, (2021) and Oducado et.al., (2021) on effects of Covid-19 academic performance among students at universities claim that it had an adverse effect on achieving academic performance, however in more beneficial manner Covid-19 help academic staff progress their teaching strategies from face to face to online. This transition created anxiety and fear of advanced technology that subsequently bred to strenuous moment that affected their performance in content delivery and other related activities.

Similarly, Realyvásquez-Vargas *et al.,* (2020) investigated into the impact of stressful environmental factors that hamper academic performance during Covid-19 pandemic. Additionally, Jebril, (2020) assessed the effects of Covid-19 on the academic success of Turkish students studying social science and science. According to their research, a variety of factors played a role in the Covid-19 crisis-era students' academic performance. Despite this, their research also showed that the use of online teaching and learning has satisfied both lecturers and students. (Mishra *et.al.,* 2020; Zhong *et. al.,* 2020) examined how well online learners performed whilst Covid-19 epidemic was going on. Their research revealed that the Covid-19 epidemic had a major effect on students' academic performance as well as their happiness with online teaching and learning. In a comparable study carried out in Indonesia, the study investigated the advantages and disadvantages of online education in light of the Covid-19 pandemic. They talked about the participants' satisfaction with the learners' performance during the Covid-19 pandemic (Meo *et al*., 2020). In addition, Jiang

et.al, (2021) examined the amount of student satisfaction with online instruction during the Covid-19 outbreak and indicated the availability of online applications and resources had the biggest influence students' degree of happiness. This could further translate to both the academic staff and student poor performance in various academic avenues. In disagreement, Narayanamurthy & Tortorella, (2021) ; Onyema *et.al*., (2020) observed high levels of student satisfaction and improve performance with online instruction during the Covid-19 pandemic only if the required resources and support bases were put in place.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of findings on factors associated with Covid-19 related stress among the academic staff, effect of Covid-19 related stress on academic staff performance, effect of Covid-19 related stress adaptive behaviours on academic staff performance and the relationship between Covid-19 related stress, adaptive behaviours and academic staff performance and highlights recommendations for further research.

5.1 Summary of the Findings

The summary of the study findings is presented as per the objectives.

5.1.1 Factors Associated with Covid -19 Related Stress among Academic Staff

Six factors were majorly associated with Covid-19 related stress among the academic staff in universities during Covid-19 era. These factors had their mean being above the overall average mean (M= 2.81 SD=1.0). These factors include: unsupportive administration with a mean (M=3.86, SD= 1.08), retrenchment of staff (M= 3.69), low and salary delay (M=3.35, SD= 1.14), unfriendly family environment (M=3.31, SD= 1.35), working on research paper (M=3.01, SD 1.15) and collaborative research/project/grant (M=2.86, SD=1.08). The rest of the factors had minor association with Covid-19 stress and with mean below average mean.

5.1.2 Effect of Covid-19 Related Stress on Academic Staff Performance

Covid-19 related stress led to a decrease in academic staff performance by 0.218 units,

equivalent to 21.8% of performance. Null hypothesis ($H_0$2) was rejected in favour of the alternate that states: Covid-19-related Stress has effects on Academic Staff Performance in public universities in Western Kenya

5.1.3 Effect of Covid-19 Related Adaptive Beahviours on Performance of the Academic Staff

Covid-19 related stress adaptive behaviors both individual and personal have a significant effect on academic staff performance. This is shown by r (245) = 0.411, p= 0.00 and r (245) = 0.489, p= 0.00 respectively. The null hypothesis was thus rejected in favour of the alternate hypothesis that states: there: Covid-19 related stress adaptive behaviours have an effect on academic staff performance in public universities in Western Kenya

5.1.4 Relationship between Covid-19 Related Stress, Adaptive Behaviours and Academic Performance among University Academic Staff

From the fourth objective, the findings revealed that there was a positive significant relationship was established between personal and institutional adaptive measures academic performances as indicated by r (245) = 0.489, P=0.000. The null hypothesis was rejected in favour of alternate that states: There is a significant relationship between Covid-19 related stress, adaptive behaviors and academic staff performance in public universities in Western Kenya.

5.2 Study Conclusions

From the findings the following conclusions were made:

1. There six major factors can be associated with Covid-19 related stress. These factors

include a: unsupportive administration, retrenchment of staff, low and salary delay, unfriendly family environment, working on research paper and collaborative research/project/grant.

2. Covid -19 related Stress caused a decline/decrease in academic staff performance. The null hypothesis (H_{02}) is rejected in favour of the alternate that states: Covid-19-related Stress has effect on academic staff performance in public universities in Western, Kenya.
3. Adaptive behaviour both individual and institutional have a significant effect on the academic staff performance of university staff. However, institution adaptive behaviour have higher effect on academic staff performance comparedto individual adaptive behaviour.
4. There is a significant relationship between Covid-19 related stress, adaptive behaviors and academic staff performance. Whereas Covid-19 related stress is negatively related to academic staff performance, adaptive behaviors is positively related to academic staff performance.

5.3 Recommendations

The following recommendations have been proposed for application in light of the study's key findings and conclusions.

1. This study recommends that universities across Kenya to plan implement competency-based ICT training programs on online teaching for all members of academic staff. Through those trainings academic staff will be able to lessen the technological incompetence when preparing online teaching modules, conducting evaluations and supervision.
2. The study suggests that public institutions should implement new teaching techniques and methods needed for graduate students as well as give academic staff the appropriate

assistance.

3. The study also suggests that mental health teams be established among academic personnel who would provide mental health services and Telehealth counseling sessions for screening of stress and other associated psychological, bodily, and emotional stress illnesses.
4. Public universities should establish social support systems and welfare programs for academic staff to communicate their issues and ask their peers for help. This will enhance mental health that will translate to increase in performance

5.4 Suggestions for Further Research

The Covid-19-related stress' effect on academic and scholarly performance of university academic staff at universities in Western Region, Kenya, was the main subject of the study. The following areas are proposed for future study based on the study's findings.

1. Since the study concentrated on university academic staff among universities in Kenya's Western Region, additional research should be carried out in other public universities in Kenya.
2. In Kenya, a comparison study assessing the effects of stress connected to Covid- on academic performance at public and private universities is necessary.
3. Future research should concentrate on introducing more extraneous variables, such as education, as the study only included age and gender as extraneous variables in the model

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APPENDICES

Appendix I: University Permission Letter

The Director of Research,

Masinde Muliro University of Science and Technology,

P.O. Box 190-50100,

Kakamega.

Dear Sir/Madam,

RE: REQUEST TO CONDUCT A RESEARCH IN YOUR UNIVERSITY

I am **Ken Kathukumi** a master's student from Masinde Muliro University of Science and Technology hereby write to you requesting to conduct a research among your academic staff on study on entitled, "Covid-*19 related stress, Adaptive Behaviors and Academic Staff in Public Universities in Western Kenya*".

The study will involve all cadre of academic staff involved in performing academic activities for example research, teaching & learning and any other in the university during Covid - period. The research has been approved by the Ethical Review Committee of Masinde Muliro University, as well as the National Commission forScience, Technology and Innovation (NACOSTI. Upon your approval, I will explain the purpose of the study to the academic staffs and seek for their consent to participate.

Thank you in advance and looking forward to your support in this study.

Yours faithfully,

Ken Kathukumi

Phone: 0716263060 Email: kenkathukumi@gmail.com

Appendix II: Informed Consent

FOR THE STUDY ON COVID-19 RELATED STRESS ADAPTIVE BEHAVIOURS AND ACADEMIC STAFF PERFORMANCE IN UNIVERSITIES IN WESTERN KENYA

Dear respondent,

I am a Masters student in Educational Psychology from Masinde Muliro University of Science and Technology. I am conducting research on *"Covid-19 Related Stress, Adaptive Behaviors and Academic Staff Performance in Public Universities in Western Kenya".* The information obtained from this study be used for academic purposes to inform on policy makers Higher Education (HE) in formulation of active policies towards sustainable mental health of academic staff. The study has been approved by the Masinde Muliro University Ethics and Review Committee and National commission for Science and Technology. All other required requirements have been met.

Procedures to be followed

All the activities will be conducted in the university setting/ premises. The sessions will be short as possible and comfortable for your participation. The research team is trained appropriately to take an approach that protects the discussions, discreet and confidential as possible. With your consent to participate in this study, we will ask you questions on how Covid-19 related stress, Adaptive behaviours and its effect on your academic staff performance.

Privacy and Confidentiality

When participating in this research, privacy will be observed by asking questions asked privately. Any information given to the researcher will be treated with the highest

confidentiality ever and will only be used for the purpose of the research. No personal information will be collected and participants will be assigned unique codes with no personal identifiers. The questionnaires will securely be kept and any data entered in a computer will be encrypted with unique passwords.

Autonomy

Appropriate sampling techniques will be used to avoid bias. Please note that every academic staff in the university will have an equal chance of participating in this study. No discrimination of respondents' whosever will be tolerated.

Voluntarism

Participants will be informed on the purpose of the study and participation will be purely on voluntary basis, thus as the respondent have the right to terminate the study at anypoint. The researcher may also terminate the study for reasons that will be explained to the participants. No participant will be coerced by any means to participate in the study.

Risks and Benefits

The procedures and methods used in this study will be non-invasive. There will be no material reward/gain given for one to take part in the study. The respondents will not accrue any direct benefits from the research as it is meant to generate data and information that will help academic staff to understand how Covid-19 and its related stressor has impacted on academic staff performance. Feedback from the data collected will be analyzed shared with respective universities and if possible the State Department for University Education and Research.

Person to Contact

You are welcome to ask questions before consenting and at any time thereafter. The

Researcher and the research assistants will be available to answer your questions anytime during the data collection. In case of further queries regarding the study, you may contact the undersigned below.

Your participation will be highly appreciated.

Ken Kathukumi

Masinde Muliro University of Science and Technology

P.O Box 190-50100, Kakamega

Tel: +254- 716-263-060 Email:kenkathukumi@gmail.com

****

Respondent's consent

Having read and understood the above information as fully explained to me by the researcher, and I voluntarily consent to participate in this study (Please indicate by ticking and signing your willingness to participate)

Yes ☐ ☐ No

Signature_____Date _____

Researcher's Statement

I, the undersigned, have explained to the volunteer participant in the most understandable manner of language, the procedures to be followed, risks and benefits involved in this study.

Name of Researcher /Research Assistant _____

Signature _____ Date ____

****

A**ppendix III**: **Questionnaire**

QUESTIONNAIRE ON COVID-19 RELATED STRESS, ADAPTIVE BEHAVIOURS AND ACADEMIC PERFORMANCE OF ACADEMIC SAFF IN THESELECTED UNIVERSITIES IN WESTERN KENYA

Appendix iv: KEY INFORMANT INTERVIEW

KEY INFORMANT INTERVIEW FOR REGISTRARS ACADEMICS, DEANS

1. Do you think academic staff in Universities in Western Kenya have had the experience of Covid-19 related stress?

a. If yes, state how?

b. Mention some of the manifestations that make you feel Covid-19 existing strss is existing among academic staff in universities in Western Kenya?

2. Why do you think Covid-19 pandemic stressful situations threatens the academic performance of academic staff in universities in Western Kenya and Kenya in general?
3. What are some of the situations currently experienced by academic staff in universities in western Kenya that makes you think Covid-19 has either positivelyor negatively affect academic functions and output?
4. What some of the measures do think your university can put in place or has instituted to help academic staff adapt to stress emanating fromCovid-19pandemic?
5. Do you think those measures will or have been effective enough to manage Covid-19 related stress among the academic staff in Western Kenya?

a. Briefly, explain your response

6. As part of the academic staff, please explain some of the stress adaptive measures or behaviors that you have put in place/ you can put in place to curtailCovid-19induced stress at a personal level?

SECTION A: Socio-Demographic Characteristics

1. What is your age group?
   a) 20 - 39
   b) 40 - 59
   c) 60 and above
2. Which University you are working in?

a) MMUST
b) Kibabii

3. Which School/Faculty you are working in?

   ___

4. Which department are you work in?

   ___

4. Gender

a) Female
b) Male
c) Any other

5. Kindly indicate your academic qualifications.

a) Degree holder
b) Masters' holder
c) PhD holder

5. Under which category of academic staff do you fall in?

a) Tutorial fellow
b) Assistant lecturer
c) Lecturer
d) Senior lecturer
e) Associate professor
f) Professor

6. Please indicate your employment terms/type.

a) Permanent
b) Contract

c) Volunteer
d) Part-time

7. For how long have you been teaching in a University

a) Less than one year
b) 1 – 5 years
c) 6- 10 years
d) 11-15 years
e) 16-20 years
f) 20 years and above

SECTION B: THE PERCEPTION STAFF ON EFFECTS COVID-19 RELATED STRESS AMONG ACADEMIC STAFF

8. Since the reporting of first case of Covid-19in Kenya, has the situation made youfeel stressed that it has limited your day-to-day academic activities?
   Yes, No

a. In a scale of 1-5, how often hoe do you agree that the following situations made you feelstressed at any moment during Covid-19 pandemic? Tick where applicable

1. Very often ☐ 2. Often ☐ 3. Sometimes ☐ 4. Never ☐

	Very often	Often	Sometimes	Never
Conducting online teaching using online platforms that you are unfamiliar with?				
Working on one or two research papers for the purpose of publishing that required integrativeideas from a colleague lecturer who is diagnosed withCovid-19?				

Working on a Community- Based research project that required you to have physical interactive sessions with the villagers?				
Conducting post-graduate student's online supervision of proposals and thesis writing?				
Collaborative writing of for research proposal/projects for grants?				
Increased costs of conducting research and increased cost of research items?				
Economic drawbacks that limit extensive research activities, cause retrenchments of academic staff, salary cut-off and sustainable families?				
Introduction of online examinations with Unfamiliar/unstable examinations systems				

SECTION C: EFFECTS OF COVID RELATED STRESS ON ACADEMICSTAFF PERFORMANCE

9. Since on the onset of Covid-19 in Kenya how often have focused in doing the following to promote your academic performance? Tick where applicable

2. Very often 2. Often 3. Sometimes 4. Never

	Very often	Often	Sometimes	Never
Preparing a draft study paper for conference presentation				
Working on one or two research papers for the purpose of publishing				
Working on a study paper that required you to integrate ideas and information from various sources				
Continuing with post-graduate student's online supervision				
Continuing with undergraduates' students teaching and leaning				
Applying for research grant				
Lucky of getting a research grant				

Conducting online continuous assessments, setting and conducting online exams for your students				

9. On a scale of 0-4 response to the following statements. Since the onset ofCovid-19in Kenya, how do you perceive thatCovid-19induced stressors in academic field has affected your academic output?

	Not at all				Very Much
	0	1	2	3	4
The new teaching approaches and methodologies have affected frequent supervisions of master and PhD students					
Adoption of online teaching and learning (use of online teaching tools like Zoom, Google meets, YouTube, Facebook, WhatsApp) has limited your frequent interaction with students, sharing of new ideas, knowledge and skills					
Fear of contractingCovid-19has made you to reduce your time set for involvement in research activities and especially community-based research activities					
Frequent postponement of academic calendar activities has reduced your morale in preparing papers forconference presentations and symposiums					
Economic strive have led you feel like you don't need topublish a paper because its costly					

The lockdowns have affected your delivery of private and regular research consultative services and trainings to students and other lecturers					
The cut of social ties and face-to- face collaborative research activities have affected the produce of publications that attracts citations					
The emergence ofCovid-19has affected the graduation rate of undergraduate and post-graduate students who have under your supervision.					

SECTION C: COVID-19 RELATED STRESS ADAPTIVE BEHAVIORS AMONG THE ACADEMICS TAFF

10. During Covid-19 pandemic has the university beenproviding mental health services to academic staff.? Yes / No
11. If yes, state these services.

a)

b)

12. did the psychotherapeutic services you receive help you manage Covid-19 related stress?

Yes, No

13. In your own opinion could you suggest 2-3 Covid-19 related stress intervention measures that you think are effective for the academic staff mental healing

a)

b)

SECTION D: RELATIONSHIP BETWEEN COVID-19 RELATED STRESS, ADAPTIVE BEHAVIOURS AND ACADEMIC STAFF PERFORMANCE

14. At what level of relationship do you consider there is a relationship between the following individual adaptive management behaviors for Covid-19 related stress and promotion of academic staff performance?

	No Relationship	Weak Relationship	Strong Relationship	Very strong Relationship
Studying alone	0	1	2	3
Going to gym regularly				
Having enough sleep				
Doing regular physical exercisessuch as., Morning walk, cycling etc.				
Having enough time to rest				
Online social connectedness with family and friends				
Sharing your problem with other academic staff				

15. At intuitional level, at what level do you agree that the implementation of the following Covid-19 related stress adaptive behaviors will enhance your academic staff performance

Tick where applicable

	Disagree	Strongly Disagree	Neutral	Agree	Strongly Agree
	0	1	2	3	4
Establishment of institutional mental Health policies for example a Multi-disciplinary Treat Plan Policy					
Implementation of educative support and training sections in mental health/ stress management					
Improvement of the working environment and conditions					
University having flexible schedules and deadlines					
University having flexible academic calendar of activities for example postponement of exams					
Creation of social support platforms and welfare where academic staff can share their problems and seek assistance from fellow colleagues					

Appendix IV: Key Informant Interview

KEY INFORMANT INTERVIEW FOR REGISTRARS ACADEMICS AND DEANS

1. Do you think academic staff in Universities in Western Kenya have had the experience ofCovid-19induced stress?

a. If yes, state how?

b. Mention some of the manifestations that make you fellCovid-19induced stress is existing among academic staff in universities in Western Kenya?

2. Why do you thinkCovid-19pandemic stressful situations threatens the academicoutput of academic staff in universities in Western Kenya and Kenya in general?

3. What are some of the situations currently experienced by academic staff in universities in western Kenya that makes you thinkCovid-19has either positivelyor negatively affect academic functions and output?

4. What some of the measures do think your university can put in place or has instituted to help academic staff adapt to stress emanating fromCovid-19pandemic?

5. Do you think those measures will or have been effective enough to manageCovid-19induced stress among the academic staff in Western Kenya?

a. If yes, briefly explain how?

b. If no, briefly explain why do you think they have been of no-good help?

6. As part of the academic staff, please explain some of the stress adaptive measures or behaviors that you have put in place/ you can put in place to curtail Covid-19 related stress at a personal level?

7. Do believe that those personal instituted stress adaptive measures have been of good help whatsoever?

8. Is there any existing link betweenCovid-19induced stress, adaptive behavior and academic output of academic staff?

   If yes, briefly explain.

Appendix V: Map Of Western Kenya

Source: Ministry of State for Provincial Administration and National Security

Appendix VI: Maseno University Research Authorization

MASENO UNIVERSITY
OFFICE OF THE DEPUTY VICE CHANCELLOR
PARTNERSHIPS, RESEARCH & INNOVATIONS
(PRI)

Tel: 254-22203411, 03591231
Direct Line: 254-057-351464
E-mail: dvcpri@maseno.ac.ke

Private Bag
MASENO
Kenya

Ref: MSU/DVCPRI/RPC/R3

Date: 13th September, 2021

Kathukumi Ken
P.O Box 190 – 50100
KAKAMEGA

Dear Ken,

RE: RESEARCH AUTHORIZATION

Reference is made to the above subject matter.

I am pleased to inform you that your request to carry out research on ***"COVID -19 Induced Stress, Adaptive Behaviors and Academic Output of Staff in the Selected Universities in Western Kenya"*** has been approved.

Please note that upon completion of your research, you are expected to submit a copy of your research report to my office.

Yours faithfully,

Prof. Joseph S. Chacha
Deputy Vice-Chancellor, Partnerships, Research and Innovations

Copy to: Vice-Chancellor
University Security Officer

Keep safe: Wear your Mask properly, Wash your hands with Water and Soap or Sanitize and Keep Social Distance

Appendix VII: Mmust Research Authorization

The Director Research and Post Graduate Studies Support,
Masinde Muliro University of Science and Technology,
P.O Box 190-50100,
KAKAMEGA.

Approved.
Pleasure ensure U
Directorate receives
copy of the report.
Bukhula
10/8/2

10th August 2021

Dear Sir,

REF: REQUEST TO CONDUCT RESEARCH AMONG THE ACADEMIC STAFF OF MMUST

I am a Masters student pursuing a Master of Arts in Education Psychology at MMUST in the School of Education, Department of Educational Psychology and currently undertaking a study on the topic, "*COVID-19 Induced Stress, Adaptive Behaviors and Academic Output of Academic Staff in the Selected Universities in Western Kenya*" ". My study sites are MMUST and Kibabii University. I hereby write to you therefore requesting an approval to conduct my research within the University.

The study will involve academic staff of all levels who have continued to conduct online teaching and learning in response to academic tussles caused by COVID-19 pandemic across the globe and will run from July 2021- July 2022. See attached research approvals from the School of Post-Graduate Studies MMUST, MMUST Ethical approval and National Commission for Science Technology and Innovation (NACOSTI).

Looking forward to your support in this study.

THANK YOU.

Yours Sincerely,

Mr. Ken Kathukumi.
KenKathukumi@gmail.com

Appendix VIII: Nacosti Research License

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **995820**

Date of Issue: **24/July/2021**

RESEARCH LICENSE

This is to Certify that Mr.. ken Kathukumi kathukumi of Masinde Muliro University of Science and Technology, has been licensed to conduct research in Bungoma, Kakamega on the topic: COVID-19 INDUCED STRESS, ADAPTIVE BEHAVIORS AND ACADEMIC OUTPUT OF ACADEMIC STAFF IN SELECTED UNIVERSITIES IN WESTERN, KENYA, for the period ending : 24/July/2022.

License No: **NACOSTI/P/21/11915**

995820

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.

Appendix IX: IERC Approval

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY
Tel: 056-31375
Fax: 056-30153
E-mail: ierc@mmust.ac.ke
Website: www.mmust.ac.ke
P. O. Box 190-50100
Kakamega, Kenya

Institutional Ethics Review Committee (IERC)

Ref: MMU/COR: 403012 Vol 4 (01) **Date:** 14th July, 2021

Ken Kathukumi,
EDO/G/01-53731/2019,
Masinde Muliro University of Science and Technology,
P.O. Box 190-50100, Kakamega.

Dear Mr. Ken Kathukumi,

RE: COVID-19 Induced Stress, Adaptive Behaviors and Academic Output of Academic Staff in Selected Universities in Western, Kenya. - MMUST/IERC/206/2021

Thank you for submitting your proposal entitled as above for initial review. This is to inform you that the committee conducted the initial review and approved (with no further revisions) the above Referenced application for one year.
This approval is valid from **14th July, 2021** through to **14th July, 2022**. Please note that authorization to conduct this study will automatically expire on by **14th July, 2022.** If you plan to continue with data collection or analysis beyond this date please submit an application for continuing approval to the MMUST IERC by **14th June, 2022.**

Approval for continuation of the study will be subject to submission and review of an annual report that must reach the MMUST IERC Secretariat by **14th June, 2022.** You are required to submit any amendments to this protocol and any other information pertinent to human participation in this study to MMUST IERC prior to implementation.

Please note that any unanticipated problems or adverse effects/event resulting from the conduct of this study must be reported to MMUST IERC. Also note that you are required to seek for research permit from NACOSTI prior to the initiation of the study.

Yours faithfully,

Dr. Gordon Nguka (PhD)
Chairman, Institutional Ethics Review Committee

Copy to:
- The Secretary, National Bio-Ethics Committee
- Vice Chancellor
- DVC (PR&I)

Appendix X: Approval of Proposal

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

Tel: 056-30870
Fax: 056-30153
E-mail: directordps@mmust.ac.ke
Website: www.mmust.ac.ke

P.O Box 190
Kakamega – 50100
Kenya

Directorate of Postgraduate Studies

Ref: MMU/COR: 509099

4th June, 2021

Ken Kathukumi,
EDO/G/01- 53731/2019,
P.O. Box 190-50100,
KAKAMEGA.

Dear Mr. Kathukumi,

RE: APPROVAL OF PROPOSAL

I am pleased to inform you that the Directorate of Postgraduate Studies has considered and approved your Masters proposal entitled: ***"Covid-19 Induced Stress, Adaptive Behaviors and Academic Output of Academic Staff in Selected Universities in Western, Kenya"*** and appointed the following as supervisors:

1. Prof. Moses Poipoi – SEDU, MMUST
2. Dr. Rose Atieno Opiyo - SEDU, MMUST

You are required to submit through your supervisor(s) progress reports every three months to the Director Postgraduate Studies. Such reports should be copied to the following: Chairman, School of Education Graduate Studies Committee and Chairman, Educational Psychology Department. Kindly adhere to research ethics consideration in conducting research.

It is the policy and regulations of the University that you observe a deadline of two years from the date of registration to complete your Masters thesis. Do not hesitate to consult this office in case of any problem encountered in the course of your work.

We wish you the best in your research and hope the study will make original contribution to knowledge.

Yours Sincerely,

Dr. Consolata Ngala
DEPUTY DIRECTOR, DIRECTORATE OF POSTGRADUATE STUDIES