ADOPTION OF ONLINE PSYCHO-EDUCATIONAL INTERVENTIONS IN TACKLING DEPRESSION AMONG STUDENTS IN PRIVATE UNIVERSITIES IN MERU COUNTY, KENYA

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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

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And have certified that all revisions that the dissertation panel and examiners recommended have been adequately addressed.

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ABSTRACT

The purpose of this study was to assess the adoption of online psycho-educational interventions in tackling depression among students in private universities in Meru County, Kenya. The objectives were to assess the prevalence of depression in the adoption of online psycho-educational interventions, to investigate the availability and usage of online psycho-educational services in the management of depression disorders. Moreover, the study aimed at determining the students' and counsellors' perceptions on the adoption of online psycho-educational interventions, and lastly to assess the challenges facing current psycho-educational practices in tackling depression among students in private universities within Meru County. The study was guided by the person-centered theory developed by Karl Rogers, which constituted its theoretical framework. The target population comprised of undergraduate students, who had taken part in a mental wellbeing workshop, and mental health professionals drawn from private universities in Meru County, including KeMU and MKU. The study featured a sample size of 120 students that were randomly selected whilst 20 mental health providers were purposively selected. The validity of the questionnaires was determined through a pilot study prior to the actual study and items adjusted to address this study's objectives. The researcher used a descriptive survey design with a mixed methodology in the study, where the quasi-structured questionnaires were filled by 82 students and 8 mental health providers; a return rate of 64.3%. The researcher used various descriptive statistics to analyze quantitative data whereas content analysis was used to analyze qualitative data. Thematic analysis was used to identify major themes from the qualitative data and compared to the quantitative results to establish the study findings. The study results showed that private universities had a high prevalence of depression, which was indicated with 87.8% of the sampled student group positing a high likelihood of suffering from depression. Despite the high prevalence of depression, the usage of psych educational practices was low with only 29.2% of the students had ever sought mental health services and only 9% had ever used online approaches to address depression incidence. Nevertheless, the study established that both respondent groups had positive perceptions towards online psycho educational practices (83%). In addition, the study found that challenges related to stigma, perceived criticism, and limited mental health literacy largely impeded conventional psycho educational interventions, which warranted the need for online psycho educational practices to manage and prevent depression and related comorbidities among students. The study recommends adoption of online psycho-educational practices to address the rising prevalence of depression among private university students in Meru County, Kenya. Potential ethical issues were addressed by requiring participants to consent on taking part in the study and all study data was stored in an encrypted drive and kept in a safety box by the researcher. The research recommended future studies to assess the effectiveness of psychoeducational services in prevention and management of depression disorders among students. The findings benefits students due to convenient and easy access of mental health services from providers. Besides, providers will benefit due to streamlined and efficient system to offer therapeutic services.

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

ACRONYMS AND ABBREVIATIONS

COVID-19 – Corona Virus

KCAU – KCA University

KeMU – Kenya Methodist University

KUPCA – Kenya Universities Professional Counsellors Association

IBM – International Business Machines

ICT – Information Communication and Technology

MKU – Mount Kenya University

MOH – Ministry of Health

NACOSTI – National Commission for Science, Technology & Innovation

PCT – Person Centered Therapy

PIU – Pathological Internet Use

SPSS – Statistical Package for social Sciences

WHO – World Health Organization

OPERATIONALIZATION OF TERMS

Depression A common and serious, but treatable, mental health issue that adversely affects an individual's mental state and well-being, including low moods, lasting negative thoughts about self and others, and felling hopeless.

Online psycho-educational interventions The education provided to individuals suffering from any mental health issues, including depression, through the internet in order to enable them manage or reduce the impacts of depressive symptoms. The effectiveness of online psycho-education interventions was determined based on its ability to attain positive user acceptance and successfully reflect the conditions of an effective person-centered mental health intervention

User attitude The university students' perception regarding the usefulness and ease of use of the online psycho-educational intervention in mitigating depression

Higher learning institutions Educational facilities offering approved undergraduate and post-graduate studies

Person-centered Therapy A mental health intervention approach that applies a non-directive and empathic approach that empowers and motivates individuals towards taking part in the treatment and prevention process of the mental issue through self-actualization

Genuineness Ability of the student and counselor to honestly and clearly communicate and express their emotions and thoughts during the psycho-education during therapy

Unconditional positive regard Accepting responses and without judging the behavior, thoughts, or event of an individual

Empathy Ability to identify and understand an individual's feelings and communicating in the individual's point of view

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Introduction

This section offers a generalized overview of the study, which comprises of the background information, statement of the problem, study objectives, significance of the study, scope and limitations of the study. This section will enable the reader to gain a generalized understanding of this dissertation by providing insight into the background and significance of the study. Consequently, this will guide the study in reaching an empiric conclusion on the effectiveness of online delivery of mental health services in managing depression among private university students in Meru County, Kenya.

1.2 Background of the Study

Generally, depression is characterized by lasting sadness as well as disinterest in activities that were once deemed as enjoyable or rewarding. Depression may also interrupt an individual's eating habits and cause sleep apnea or insomnia, which leads to symptomized tiredness and poor concentration. Additionally, depression is linked to comorbidity and a high mortality rates among patients in hospital settings as well as suicide incidences in the community. The effects of depression may be repeated or long-lasting, severely affecting an individual's optimal functioning capacity and reduced quality of life (Ahmed et al. 2020). The impacts of depression affect various facets of a person's life, including economic, social, and cultural aspects. Also, depression acts as a risk factor for suicide and suicide attempts in the young adult population in various communities worldwide (Teh et al., 2015; Kiros et al., 2019).

The study findings on the prevalence of depression among university students in Bangladesh illustrated female students were likely to experience depression issues during their higher learning education (Chowdhury et al., 2022). Financial issues and inadequate job-related facilities were also associated with the increasing prevalence of depression among university students. A systematic review conducted to assess the prevalence of stress, anxiety, and depression among the general population during the Covid-19 pandemic in developed countries, such as the UK and the US by Salari et al. (2020) showed that depression and other mental issues among university students was a major issue, particularly when the physical and social effects of Covid-19 are also considered. The researchers point out that higher learning institutions should, hence, provide mental health programs as well as increase their accessibility towards managing depression among university students. Similarly, a study by Santamauro (2021) on the prevalence of depressive and anxiety disorders in 204 countries and territories around the world highlights that national governments, as well as educational institutions, should work together on establishing mental health policies and practices that address the growing prevalence of depression among university students.

This is largely based on the fact that the causes of depression are shown to largely entail a combination of social, environmental, genetic (biological), and psychological factors (Vahia, 2013; Pataki et al., 2015; WHO, 2020). Life events like loss of employment, unemployment, and childhood adversity are some of the conditions shown to catalyze or contribute to mental health issues, particularly depression. As a result, depression and related mental disorders can greatly impact all aspects of life within a specific community, such as an individual's academic performance, relationships with friends and family, and one's ability to participate in the community programs. Furthermore, Marques et al. (2020) illustrated that depression also has a

significant effect on an individual's physical health, where reduced levels of physical activity due to depression increase their chances of having weakened immunity and thus developing life-threatening diseases such as cardiovascular diseases. Depression affects people from all walks of life, regardless of social status, gender, occupation, or academic level – in all countries around the world. Therefore, students in university, or other higher learning institutions, are no exception to developing depression. In particular, university students are a special part of society whose developmental stage involves a critical transitory phase from adolescence to adulthood (Bernal-Morales & Rodriguez-Landa, 2015). This transitional stage involves crucial physiological and psychological development, including emotional turmoil, endocrine surge, and identity development. These processes may lead to social withdrawal, self-doubt, lowered self-esteem, and feelings of loneliness (Bakar & Awan, 2019). Furthermore, university students face challenges such as separation from their family, geographical changes, academic stress, and financial problems influencing them to develop novel coping mechanisms (Reddy & Karishmarajanmenon, 2018; Negi et al., 2019). Hence, university students globally are at high risk of developing mental health disorders, specifically depression (Hakami, 2018), and suffer from their impacts (Unalan et al., 2018).

Similarly, various studies illustrate that the coronavirus pandemic and its corresponding impacts on global society has largely affected people's mental health and behavior (da Silva et al. 2020; Vindegaard & Benros, 2020; Machado et al. 2020; Luo et al. 2020). Despite that the impacts of the coronavirus pandemic are being experienced across populations, university students are among the most intensely affected by Covid-19 due to uncertainty on academic success, future career prospects, and social life in universities, among others (Aristovnik et al. 2020). Even prior to the coronavirus pandemic, the prevalence of mental issues among university students was shown

3

to be increasing, which was portrayed through psychosomatic health issues, depressive moods, low self-esteem, substance abuse, and suicide incidences.

Correspondingly, depression was shown to be a common mental health issue experienced by university students in Nigeria and Africa in general (Dabana and Gobir, 2018). The researchers emphasized on the need for higher learning institutions to increase screening and counseling services as well as be made easily accessible to students in order to tackle the increasing prevalence of mental issues among university students. Furthermore, Rousseau and Thompson (2019) pointed out that depression issues among university students in South Africa was also associated with on nonacademic factors that could predispose to depression, such as relationship issues and socioeconomic status. Hence, the scholars also show that mental health services should also focus on helping students deal with nonacademic issues that fuel depression among students. Administrators in universities and other higher learning institutions are likely to adopt interventions that effectively manage depression incidences among the students by gaining extensive insight into the psychological and physical impacts of COVID-19. Understanding the psychological impacts of Covid-19 on the students is of critical importance in warranting immediate mental health interventions focused on controlling and treating mental health problems among university students (Steiger et al. 2020).

Generally, studies conducted on the prevalence of depression among medical students in Ethiopia showed that mental issues were largely related to factors such as education level and socioeconomic status, whereby second-year students as well as students from low-income families had a higher likelihood of experiencing depression and comorbid mental health issues (Kebede et al., 2019). The university students in Uganda were also shown to also experience increasing cases of depression and suicidal thoughts, whereby factors such as relationship issues and traumatic

experiences led to the development of such mental issues (Kaggwa et al., 2022). Nevertheless, both studies pointed out that the level of social support played a significant role on preventing and tackling mental health issues in universities.

Hence, universities have to enhance mental health interventions in order to offer effective mental health services. This enables university administrators to improve students' access and use of psychiatric and counseling interventions for managing depression, which is shown to be historically underutilized, particularly by university students (Pereira, 2016). Therefore, most researchers propose that the best approach for tackling mental health problems involves identifying the subpopulations that face risks of suffering from complex interactions of psychological, social, and economic factors to offer effective targeted interventions and coping strategies. Various selective, universal, and indicated interventions have been successfully adopted to manage and improve the mental health of the youth in Kenya. The Ministry of Health has adopted "The Kenya Mental Health Policy 2015-2030" to mitigate the impacts of depression as well as other mental health conditions (Ministry of Health, Kenya, 2017). The public health policy framework report encompasses prioritized actions and strategies aimed at promoting the implementation of effective actions for managing depression in the community. Nevertheless, the feasibility of the interventions has been affected by issues such as stigma, denial, and inadequate access to mental healthcare programs in the country.

Coping strategies and interventions refer to behavioral and psychological methods that individuals use to minimize or manage mental health issues. They are the specific efforts, both psychological and behavioral, that individuals employ to understand, tolerate, manage, or reduce the impact of stressful events (Chesire et al., 2018; Jahan et al., 2016). Coping strategies and interventions are widely categorized as both emotion-focused and problem-focused, where both

5

can be based on maladaptive or adaptive procedures. In problem-focused coping strategies, the person actively works to alleviate the distress by altering the situation. On the other hand, emotion-focused interventions involve a person regulating their thoughts or takes part in actions to lessen the emotional effect of the stressful event (Wango, 2020). Depending on the strategies used, coping mechanisms and interventions are vital for enhancing psychological well-being in the community, particularly among the high-risk population such as university students.

Many interventions are being used to manage or prevent mental disorders in Kenya and around the globe. In particular, psycho-education is a cost-effective mental healthcare interventional approach, which focuses on teaching stress-coping strategies such as skills teaching, goal setting, assertiveness, satisfactory goal achievement, and communication skills (Rigabert et al. 2020; Muriungi & Ndetei, 2013). Psycho-educational interventions help in preventing the development of depression or anxiety among individuals. According to Sarkhel, Singh & Arora (2020), psycho-education focuses on the early determination of prodromal indicators and likely predisposing and precipitating causes of common mental health issues, such as depression. An individual's understanding of their mental state enables compliance and enhance their willpower to seek appropriate mental healthcare interventions. Psycho-education interventions enable people to explore their health beliefs and awareness of their mental health condition (Xiao et al. 2017). Hence, it enables them to gain insight into the complexity of personality, symptoms, interpersonal factors, and environment.

Psycho-educational interventions have been adopted around the globe, such as France (Theurel, 2022), Iran (Shaygan et al., 2021), and Kenya (Muriungi and Ndetei, 2013) among others, as one of the approaches used to tackle depression incidences among university students. Psycho-educational interventions involve specialized education provided to individuals suffering

from any mental health issues, including depression, to enable them to manage or reduce the impacts of depressive symptoms. Psycho-educational interventions are largely deemed as an effective intervention for promoting mental health care services by providing individuals with knowledge and awareness of various mental health issues (Mutiso et al., 2019). Colizzi et al. (2020) assert that psycho-educational interventions act as an effective prevention strategy for common mental health disorders where it may be used to alleviate far-reaching challenges, such as stigma, which largely impede individuals to seek effective mental health care.

Early interventions of mental health issues refer to practices provided to individuals who already have symptoms for a particular mental issue (Davey & McGorry, 2019). Early interventions can be targeted to high-risk individuals, such as young adults in universities, for developing depression. Thus, psycho-education was mainly offered to recovering people with a mental health condition after their period in a mental health institution. In general, psychoeducation has evolved to involve a cost-effective intervention that focuses on teaching coping strategies for common mental health issues (Xiao et al. 2017). Individuals with depressive symptoms are enabled to manage the onset of depressive symptoms as well as major depression.

The focus of the study considers the findings demonstrated by Rigabert et al. (2020), who demonstrated that online psycho-educational interventions were non-inferior to traditional psycho-educational interventions offered through mental healthcare and clinical settings. The effectiveness of online delivery of psycho-educational interventions has not been fully explored in Kenya. Hence, the study focused on exploring whether online psycho-educational interventions would effectively help in managing common mental health issues in Kenya, specifically among university students.

1.3 Statement of the Problem

Essentially, depression is shown to affect people from all walks of life, regardless of social status, gender, occupation, or academic level – in all countries around the world. Therefore, students in university, or other higher learning institutions, are no exception to developing depression. In particular, university students are a special part of society whose developmental stage involves a critical transitory phase from adolescence to adulthood. This transitional stage involves crucial physiological and psychological development, including emotional turmoil, endocrine surge, and identity development. These processes may lead to social withdrawal, self-doubt, lowered self-esteem, and feelings of loneliness (Bakar & Awan, 2019). Contextually, university students' face challenges such as separation from their family, geographical changes, academic stress, and financial problems that are likely to affect their mental wellbeing. Since university students are considered as a vulnerable population with respect to suffering mental health challenges, specifically depression, it is important that they are able to efficiently access mental health services within university settings. Hence, this study aims to offer potential approaches for enhancing the delivery of mental health services in private schools in Kenya.

In Kenya, government reports and scholarly journals on the prevalence of mental health issues, such as the Ministry of Health (2020), Befrienders Kenya Org. (2022), and Othieno et al. (2014) among others, highlighted the constantly rising prevalence of depression cases among university students. Various socio-economic barriers, such as stigma and difficulty in accessing care, were argued to influence the trend as they impede the effectiveness of traditional mental health interventions. Primarily, the purpose of this study is to assess the effectiveness of online psycho-educational interventions in tackling the increasing cases of depression among private university students in Meru County, Kenya.

1.4 Purpose of the Study

The purpose of this study is to investigate the adoption of online psycho-educational practices to enhance mental health services in addressing the rising prevalence of depression among students enrolled in private universities within Meru County, Kenya.

1.5 Objective of the study

The main objectives of this research study include:

i. To assess the prevalence of depression in the adoption of psycho educational interventions among students in the selected private universities in Meru County, Kenya.

ii. To investigate the availability and usage of online psycho-educational services in the management of depression disorders among students in private universities within Meru County, Kenya.

iii. To determine students' and counsellors' perceptions on the adoption of online psycho-educational interventions in private universities in Meru County, Kenya.

iv. To assess challenges facing current psycho-educational practices in tackling depression among students in private universities in Meru County, Kenya

1.6 Research Questions

Hence, in order to determine the effect of online psycho-educational interventions in mitigating depression among private university students in Meru County, Kenya, the research study was guided based on the following research questions:

i. What is the prevalence of depression in the adoption of psycho-educational interventions among private university students in Meru County, Kenya?

ii. What is the availability and usage of online psycho-educational resources in the management of depression disorders among private university students in Meru County, Kenya?

iii. How do students and counsellors perceive the adoption of online psycho-educational interventions to manage depression in private universities within Meru County, Kenya?

iv. What are the challenges facing conventional psychoeducational practices in tackling depression among students in private universities in Meru County, Kenya?

Contextually, the following hypotheses were established in order to empirically address the objectives as well as ensure that the research assessed the study questions, including:

H_1 - There is a high prevalence of depression in the adoption of psycho-educational interventions among students in private universities in Meru County, Kenya

H_2 - There is low availability and usage of online psycho-educational resources within private universities in Meru County, Kenya.

H_3 – Students and counsellors hold positive perceptions regarding the adoption of online psycho-educational interventions as effective tools for managing depression in private universities in Meru County, Kenya.

H_4 – Conventional psycho-educational interventions face various challenges that affect its effectiveness in tackling depression among private universities in Meru County, Kenya.

1.7 Assumptions of the study

The study was grounded on several key assumptions that underpinned its objectives. Firstly, it assumed that the selected private universities was ideal for providing a representative sample that adequately reflected the prevalence of depression among the broader student population in Meru County, Kenya. Furthermore, the researcher assumed that the selected students had competent mental health literacy levels, and thus ideally capable to indicate whether they ever suffered, or diagnosed, with depression. This assumption was fundamental for accurately assessing the prevalence of depression in relation to care services offered to address mental health issues in this specific demographic. Secondly, the study assumed that online psycho-educational services to manage depression were available and being utilized by students within the private universities in Meru County. This assumption was critical for investigating the effectiveness and reach of digital interventions in addressing mental health concerns among students.

Thirdly, the study assumed that students and counsellors within private universities in Meru County could provide reliable and insightful perceptions regarding the implementation and effectiveness of online psycho-educational interventions. Understanding these perceptions was vital for tailoring interventions to better meet the needs and expectations of the target audience. Lastly, the study assumed that online delivery approaches in psycho-educational interventions had the potential to effectively address the identified challenges in current psycho-educational practices within private universities in Meru County. This assumption formed the basis for exploring innovative solutions and assessing the viability of incorporating online platforms to overcome existing challenges in mental health support and education. These assumptions collectively guided the study's methodology and design, ensuring a comprehensive exploration of

depression prevalence, online psycho-educational service utilization, perceptions, and potential strategies for improved mental health support within private universities in Meru County, Kenya.

1.8 Significance of the Study

Fundamentally, there is reason to presume that there are gaps in the delivery of mental health services in private university settings, which may explain the rising prevalence of depression and related comorbidities among students. Hence, this study aims to contribute to current literature on efficient approaches that may be considered to enhance mental health services as well as overall wellbeing of the specific population, which has been identified as significantly vulnerable to common mental health issues, such as depression and anxiety (Gichimu, 2021; Muhia and Nanji, 2021). The study offers insight on the current prevalence of depression among students as well as their perceptions, usage, and challenges facing current psychotherapy practices in private universities.

The study results may also offer a great opportunity to leverage technology to ensure easy access of mental health among university students given its widespread usage. Further, the study findings may be considered in promoting the adoption and implementation of effective and efficient approaches for managing and preventing mental health issues affecting the target population. Furthermore, the study offers recommendations for the improvement of current mental health services in private universities based on empirical findings, which establish a suitable approaches for defining, adopting, planning and executing a formal in-service program focused on promoting mental health service delivery. This involves illustrating adoption of emergent technologies, especially Information and Communication Technology, as efficient approaches for enhancing mental health services in private university settings. Generally, the resultant mental

health practices and guidelines are intended to help both informal mental health providers as well as practicing mental health professionals to competently manage the continually increasing prevalence of depression and other mental illnesses among private university students in Meru County, Kenya.

1.9 Scope and limitations of the Study

The scope of this study encompassed a comprehensive investigation into the prevalence and management of depression among students in private universities within Meru County, Kenya. The research explored the availability, utilization, and effectiveness of online psycho-educational services for managing depression. Additionally, the study aimed to delve into the perceptions of both students and counsellors concerning the implementation and impact of online psycho-educational interventions. By assessing the challenges faced in current psycho-educational practices, especially those that online delivery approaches could potentially address, the research sought to provide insights into improving mental health support within these academic settings. The study thus held a broad purview, spanning the assessment of depression prevalence, understanding the usage of online interventions, and exploring perspectives to enhance mental health support strategies.

However, the study encountered certain limitations. Firstly, the research was confined to private universities in Meru County, which may limit the generalizability of findings to a broader geographical context. Additionally, the study's sample size and selection might influence the representativeness of the results. Furthermore, the reliance on self-reported data could introduce response bias, affecting the accuracy and reliability of the information collected. Time and resource constraints might have impacted the depth of the analysis and the extent of data collection.

Acknowledging these limitations is essential for a nuanced interpretation of the study's outcomes and their potential applicability in diverse academic and regional settings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter explores existing literature related to the research study. In particular, the first section explores the rising prevalence of depression among university students, especially those in private universities. The second section examines literature on psycho-educational interventions offered in higher learning institutions, especially private universities in developing countries such as Kenya in particular. Consequently, the literature review led to the establishment of the study variables that were applied during the study to evaluate the adoption of online psycho-educational interventions toward tackle the prevalence of depression among students at private universities in Meru County, Kenya.

2.2 Literature Review

2.2.1 The Prevalence of Depression among Private University Students

Depression has been reported as one critical mental health issue that affect university students around the world. Furthermore, this age group normally encounters various barriers that obscure them to seek and commit to conventional mental health interventions to address identified mental health problems, such as the stigma that comes about enrolling in a mental health treatment program. The current average prevalence of depression cases were viewed to inevitably increase due to the measures taken in response to the coronavirus pandemic. Particularly, controlled social mobility and interaction among university students influenced by remote classes in line with health directives on social distancing are likely to increase the depression rates (Negi et al., 2019).

Since the onset of Corona Virus pandemic, social distancing directives are still in place where individuals contracting the disease are required to self-isolate despite the fact that most of the measures have been lifted when vaccines were developed. Existing research shows that organizations and institutions are impelled to develop and adopt innovative approaches that support their daily operations. For instance, most higher learning institutions, including universities, have adopted remote learning technologies to support educational processes (Ngwacho, 2020). Nevertheless, limited research has been carried out to assess the impact of public health measures on traditional critical systems, such as mental health services, labor, and education.

Browning et al. (2021) conducted a mixed-method study based on a cross-sectional research design to assess the prevalence of depression incidences among university students in the US. The researchers used representative and convenience sampling techniques to recruit 2,534 students to take part in an online survey questionnaire. Upon an exploratory factor analysis on the close-ended responses, the researchers reported the disruptive effects of the coronavirus pandemic had a significant impact on the mental well-being of most university students. The prevalence of mental health issues is set to increase after the pandemic due to its potential effects on the global economy. Factors such as changes on students' lifestyle behaviors and mental health and financial difficulties were shown to influence various psychological issues, such as depression, stress, anxiety, due to high cases personal issues as well as academic changes.

Huckins et al. (2020) conducted a systematic review to study the mental health effects of the pandemic on university students in the US. The researchers used data of a sample encompassing 219 participants from the longitudinal multimodal study, StudentLife. The study essentially followed experiences of undergraduate students' throughout their study period while

focusing on mental. Data collected through surveys illustrated that there was an increase in the rates of depression cases among university students, where depressive symptoms increased due to changes in conventional systems as well as social distancing and isolation.

Furthermore, the main concern of the rising prevalence of depression among private university students was mainly associated with ineffectiveness of most conventional mental health interventions, including social training and group-based therapies within private higher leaning institutions (Wangari, 2019). The Corona virus impact on the provision of mental health services is largely felt in developing countries, including Kenya. As a result, the prevalence of mental health issues nationwide would increase, particularly among high-risk groups such as university students in Kenya.

A single-case experimental design conducted by Green et al. (2019) on assessing access and usage trend of depression treatments in Kenya. The researchers adopted a purposive sampling technique to create a sample of 10 participants who offered self-reported data at over 15 sessions. Upon findings, the researchers concluded that the high prevalence of depression among vulnerable populations was influenced by limited access to mental health programs in Kenya. They argued that inadequate resources and skilled labor for effectively providing mental healthcare services affected access to care, and thus led to an increase in depression incidences. Furthermore, most university students have limited mental health knowledge and awareness and therefore do not understand the need for seeking mental health treatments.

Ogachi et al. (2019) conducted a correlation study design to determine the relationship between depression and pathological internet use among university students in Kenya. The researchers used convenience sampling to recruit 400 participants, who completed surveys based

on Beck Depression Inventory and Young's Internet Addiction Test. The study findings illustrated a 17 percent prevalence of PIU and a 24 percent prevalence of depression among the participants. Furthermore, the researchers revealed that female students were more likely to be pathological internet users in comparison to male students, and thus had a high prevalence of mental health issues, such as depression, than male students. In general, Ogachi et al. (2019) concluded that there was a growing prevalence of depression among university students in Kenya, therefore prompting the need to identify and help university students with depressive symptoms. This would involve interventions that enable them exercise moderation and self-control on the internet use to achieve their goals. This was associated with the premise that most university students consider depressive symptoms as normal stress due to the university's curriculum and therefore do not require mental health interventions. Nonetheless, students who understand the need for mental health care normally face various barriers to accessing care, such as personal stigma and perceived inadequacy of time, whereas others are skeptical of the efficacy of provided mental healthcare services.

Hence, university-based counseling centers stand out as ideally positioned in offering mental health care to private university students. Nevertheless, most counseling centers in most universities around Kenya, including those in private universities, are under-resourced and difficult to be accessed by university students requiring mental health services due to their ability to be fully occupied throughout their academic years. Therefore, given the extensive changes adopted to support educational processes currently, it is important that innovative ways of improving access to mental health care interventions to manage the surging rates of depression among university students.

2.2.2 The Role of Online Psycho-Educational Interventions in the Delivery of Mental Health

Care

Psycho-education has become an important intervention in managing depressive disorders applied in formal and informal mental healthcare settings (Bernal-Morales & Rodriguez-Landa, 2015). After an individual is diagnosed with a depressive disorder and necessary assessments have been performed, mental health professional offers comprehensive information on the condition to the individual on the causes, symptoms, treatment strategies, medications and their side effects, the importance of adherence, and the general course and consequences of the disorder (Chilton, Crone & Tyson, 2018). Aside from clinical medications, the mental health professional encourages the individual to engage in non-pharmacological practices, for example, regular physical exercise and task scheduling.

Contextually, Rigabert et al. (2020) conducted a meta-analysis of 21 random controlled trials to examine the effectiveness of online psychological and psycho-educational interventions to prevent depression in heterogeneous populations on a global context. Based on the selected RCTs, the total sample size featured 10,134 participants from 11 countries and 4 continents. Based on the study, the researchers illustrated that various psycho-educational approaches were used to manage mental health issues, including passive psycho-educational approach that involved mental health interventions that focus on educating material, information, or feedback based on a patient's depressive symptoms. Furthermore, the mental health professional does not actively interact with the individual when providing them with information. Examples of passive psychoeducation are programs offered to particular individuals through materials such as pamphlets, leaflets, posters, audio-visual media, brochures, lectures, software, or internet platforms. The intervention can be

provided in secondary and primary care settings, such as universities, schools, and other public locations.

Passive psycho-educational does not require individuals to perform explicit non-pharmacological tasks or mindfulness exercises, such as in an active psycho-educational intervention. On the other hand, active psycho-educational interventions refer to an approach of psychoeducational, which involves active participation of the mental health professional and is normally combined with other psychotherapies, including family therapy, cognitive-behavioral therapies, interpersonal therapy, and/or group therapy. In general, the researchers concluded that online psycho-educational interventions were effective in management of depressive symptoms in non-depressed people. Besides, Rigabert et al. (2020) asserted that these types of interventions were highly accessible and could be adopted on a wide scale. Hence, the researcher suggested the development and implementation of psycho-educational approaches in university settings around the world.

Similarly, the literature on digital mental health interventions for young adult populations, specifically university students, is extensive and continually increasing. A systematic analysis was conducted by Harrer et al. (2021) to assess the results of a random controlled trial study on the adoption of technological interventions for provision of mental health practices among higher learning students. The RCT was performed on 200 university students, which involved collection of self-reported at baseline, seventh week (post-treatment), and a three-month follow-up period. The research findings showed that online psycho-educational interventions presented a promising outcome in enhancing the management of mental health services, particularly among students on a long-distant learning environment.

Jones et al. (2018) performed a mixed-method study to develop and assess the factors affecting the adoption of a Web-based psycho-educational multimedia-based intervention for young adults with, or at high risk of, depression. The researchers conducted a systematic review, semi structured interviews, and focus groups on 23 university students, 7 parents, 12 mental health providers, and 10 academicians. Jones et al. (2018) asserted that Web-based mental health interventions for university students showed that such interventions were effective in managing depression, stress, and anxiety among students.

Therapeutic Factors influencing the use of Psycho-educational Interventions in Universities

In psycho-educative interventions, a number of therapeutic factors could be identified, which influence its use as an effective tool to cater necessary knowledge to individuals suffering from depressive symptoms. Furthermore, Higgins et al. (2020) assert that psychoeducation may dispel negative perception towards patients such as personal stigma and unawareness of the development of a mental health issue, including depression. Besides, Srivastava & Panday (2016) noted that the main therapeutic factors of psychoeducation after it has been initiated involve developing an effective therapeutic relationship between the client and the counselor, showing empathy and offering unconditional positive regard to client. Besides, Srivastava & Panday (2016) elucidates that the counselor should show high form of honesty, respect, stimulate hope, and reassure clients.

Models of Psycho-educational Interventions

Various models of psychoeducation exist, which encompass strategic elements that apply interventions such as developing multi- and single-family groups, which are made up of individuals with similar levels/stages of depression (Zipple & Spanial, 1997). The model of psycho-educational intervention used influenced how its role on tackling depression. Essentially, there are three main model of psycho-educational intervention used to shape the program to

21

address depression at various levels. Sarkhel, Singh & Arora (2020) assert that medical health professionals may adopt the information psycho-educational model. Also, a supportive psycho-educational model may be used to develop a program that entails support groups consisting of closest people of the affected individual in order to help sharing of experiences and feelings. The support groups developed improve the emotional abilities of the patient as well as closest people to cope with the liability of caring for the affected individual. In addition, the skill-training psycho-educational model may also be used to methodically foster and develop certain behaviors and mental capabilities for enabling the individual as well as close friends and family members to manage the impacts of the mental disorder, including depression. Lastly, a comprehensive psycho-educational model may be used to develop and implement a program that combines the other three models to enable individuals to manage mental health issues, such as depression.

The literature on digital mental health interventions for adult populations, specifically university students, is extensive and continually increasing. A review by Harrer et al. (2021) on the adoption of technological interventions in the provision of mental health practices to higher learning students found that such interventions presented a promising outcome in enhancing a number of mental health practices. Jones et al. (2018) conducted a systematic review on Web-based mental health interventions for university students which showed that such interventions were effective in managing depression, stress, and anxiety among students. Furthermore, Rigabert et al.'s (2020) systematic review and meta-analysis determined that online interventions had a low-to-moderate effect on preventing common mental health conditions, particularly depression.

2.2.3 University Students' Perceptions on Adoption of Online Psycho-educational Interventions in the Delivery of Mental Health Care Services

Generally, perceptions refers to the aggregate subjective judgment about a certain object, varying from helpful to harmful. A positive user attitude is a crucial indicator of approval and adoption of online psychoeducation interventions (Apolinario-Hagen et al., 2018). Based on the technology acceptance model, attitudes are among the main factors that shape a person's choice of adopting a certain technology. A person's subjective expectations are viewed to influence their attitudes and thus their behavioral tendencies. The aspects such as performance prospects, which involve an individual's perception of how useful intervention is in accomplishing a certain goal, are important factors in promoting the acceptance and adoption of a technological application (Sukacke, 2019). Again, attitude establishes the baseline for overcoming the limitations of accepting a technological intervention.

In particular, Kuso et al. (2021) conducted a qualitative research to survey the perception of the adoption of online mental health care in healthcare, school, and university settings across six European countries. The researchers recruited 183 mental healthcare professionals, 16 policy makers, 49 potential users of digital mental healthcare services within these settings, where they completed an online questionnaire, semi-structured interviews, and focus groups during the study. The research findings showed that it was imperative to ensure that the various stakeholders had a positive attitude towards the adoption of online interventions. This was associated with the idea that a positive attitude was superlative in ensuring that the provision of quality mental healthcare is accomplished through online mental health intervention platforms. A positive attitude of mental health professionals towards online psycho-educational interventions would ensure the development of an effective digital platform from the early stages all through to its completion.

Jones et al. (2018) also conducted a mixed-method study to develop and evaluate the factors affecting the adoption of a Web-based psycho-educational multimedia-based intervention for young adults with, or at high risk of, depression. The researchers conducted a systematic review, semi structured interviews, and focus groups on 23 university students, 7 parents, 12 mental health providers, and 10 academicians. The research findings showed that online psychotherapy was deemed beneficial in improving the patient's sense of confidentiality, which enabled them to communicate comprehensively with their mental health professional. Moreover, they determined that individuals' perception towards the adoption of online psycho-educational and therapy intervention were positive due to benefits such as anonymity from friends, family, and co-workers. Most of the participants asserted that they did not have to undergo cumbersome processes in order to get help from a mental health provider.

Clough et al. (2019) conducted a mixed-method research to assess the perception on the adoption of digital psycho-educational interventions among adults in the US. Consequently, Clough et al. (2019) proposed and developed the e-Therapy Attitudes and Process (e-TAP) tool to measure participants' perceptions towards the use of online mental health interventions to tackle depression incidences. The researchers recruited 224 participants who responded to online surveys. The participants showed that they perceived online tools as more effective in offering mental health interventions compared to face-to-face counseling. The positive attitudes were associated with anonymity, privacy, and an emotionally safe environment, an equal relationship between the patient and health provider, and convenience. Furthermore, they also asserted that counselor emotions were obscured, which enabled them to be open and free to express their emotional state and depressive symptoms. Nevertheless, Clough et al. (2019) illustrated that the potential detriment of online psycho-educational involved individuals feeling hurried to comprehensively

express themselves and long wait-times before getting feedback from a provider. Lack of emotional bond compared to face-to-face counseling was also highlighted as a major issue of online mental health interventions.

Contextually, Tung (2011) performed a mixed-method study to determine mental health issues and help-seeking tendencies among the Asian university students in Australia. The researchers recruited 432 university students and collected data through standard questionnaires, interview and documentary analysis. The research findings showed that the participants underused online mental health interventions due to cultural and cognitive barriers, language barriers, neglect, and ignorance in managing their mental health issues. The attitude of the university students towards the adoption of online mental health interventions was also seen to be mainly affected by the inability of universities to promote awareness on the use of the platform to address mental issues.

In Kenya, Ocholla (2018) did a mixed-method cross-sectional study to evaluate the potential perceptions of use of ICT in the delivery of mental health services. Ocholla (2018) recruited 327 teaching college trainers and 287 students teachers, where he collected data on the research topic by conducting interviews and filling questionnaires respectively. From the data results, the researcher asserted that the participants reported a high sense of freedom, which enabled them to genuinely express and communicate their emotions to the health provider. Besides, individuals viewed online intervention platforms as ideal channels to express themselves without fear of being judged by the mental health care provider, and thus enhanced their openness and honesty. Ocholla (2018) concluded that students who received favorable services in the past had a positive attitude towards adopting online mental health interventions to address clinical as well as mental health interventions. Furthermore, it was identified that most university students

preferred interacting with an individual who was not part of the school faculty, particularly a university administrator or lecturer. Nevertheless, the students preferred expressing their emotions with their friends, family member, and then a mental health professional.

2.2.4 Challenges facing Current Psycho-educational Interventions in the Delivery of Mental Health Care in Private Universities

Low Mental Health Literacy Levels

Vasquez (2016) conducted a qualitative study to assess mental health literacy among university students in the United States. The research recruited 32 full-time students from a specific university and used a survey to collect data for analysis on the mental health literacy level among the students. Consequently, the research findings showed that the students reported a lack of understanding of mental health since the participants indicated that mental health was difficult to determine by themselves. The students also showed an overreliance of subjective and factual sources of knowledge for information on mental health issues. Furthermore, the students showed that mental health was of low priority compared to other ventures, including academic excellence, physical activity, work, and social engagement.

A qualitative study by Armstrong and Young (2015) in Canada was conducted to illustrate that mental health literacy affected the use of mental health interventions among university students, especially first-year students. The researchers recruited 271 first-year students from a university in Canada, where depression was the most correctly identified mental health issue among students with 82% female and 88% male participants correctly identified the mental health issue. Nevertheless, the students showed a low literacy level on coping with stress as well as interventions for helping individuals with extreme depression with suicidal ideation.

In Kenya, studies performed on the general young adult population show lower rates of literacy on mental health disorders, whereby most mental issues are largely attributed to spiritual phenomena (Mbuthia et al., 2018). Contextually, Mbuthia et al. (2018) used the attribution and private theories to conduct a study assessing the frequently held ascriptions concerning mental illnesses in order to effectively offer psychological care among the young adult population in Kenya. Based on the research findings, the researchers asserted that mental health issues were attributed to biological conditions and psychopathologies limiting intervention, psychosocial distress triggers, including childhood experiences, death of a loved one, negative thoughts, and parent divorce among others. It was determined that the challenges affecting use of mental health services involved stigma around mental health issues and inability to access effective care due to inadequate channels and resources for mental healthcare.

Stigma

Stigma refers to a personal characteristic that taints an individual's image on other people. According to Bikwetti (2021), stigma is shown to be a major challenges affecting the use of current psycho-educational interventions among university students in Kenya. Generally, Vogel et al. (2017) conducted a qualitative research to determine the association between stigma and mental-health seeking behavior among young adults on a global context. The researchers recruited 3,276 university students from various universities in 10 countries, notably Brazil, the US, Taiwan, Hong Kong, United Arab Emirates, Australia, Turkey, and Romania. The study collected responses using an online survey, where the study findings showed that self-stigma was related with higher degrees of public stigma, which led to negative perceptions towards seeking mental health care.

These findings supported assertions made by Kearns et al. (2015), who performed a cross-sectional survey on 493 university students in Ireland. Inhibited help-seeking on mental

illnesses showed that those who scored high in self-stigma due to mental health issues also scored high on low help-seeking perception. The researchers concluded that the stigma due to suicide ideation was linked with low help-seeking behavior among students.

In the African context, a study by Pheko et al. (2013) to establish factors influencing the use of mental health services among university students in Botswana reached the same conclusion as cited in other studies. Pheko et al. (2013) adopted a cross-sectional study design, where they recruited and collected data from 519 university students in Botswana. The researchers concluded that social stigma significantly affected seeking of mental health services among university students in Botswana. In addition, Pheko et al. (2013) stated that positive perceptions to mental health interventions are a significant indicator of intentions as well as the use of mental health services. However, the researchers found that public stigma was linked to self-stigma and the two factors were inversely related with the use and intention to seek for mental health interventions.

Technological Inadequacies affecting the Use of Online Psycho-educational Interventions

A large number of researchers studying the impact of internet-based health care provision practices agree that the use of email, virtual and augmented reality, artificial intelligence, chat technology, and video conferencing technology would enable clinical systems and processes to be cost-effectively and efficaciously provided to patients (Evans, 2016; Vimalachandran et al. 2018; Lattie et al. 2019). Lattie et al. (2019) performed a systematic review to assess the effectiveness, usability, acceptability, usage, and adoption of online mental health interventions among college students. Lattie et al. (2019) adopted the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (registration number CRD42018092800) to search and review published literature on the research topic since inception of the journal databases to April 2019. The online journal databases included PsycINFO (EbscoHost), MEDLINE (Ovid), the Cochrane Library

(Wiley), EMBASE (Elsevier), and Web of Science (Thomson Reuters), a total of 89 studies were reviewed after meeting the established search criteria. Latie et al. (2019) concluded that there was need for studies aimed at improving user experience, and thus user engagement, with online mental health interventions these affected the implementation as well as use of online interventions.

Sucala et al. (2012) assert that one of the primary concerns about mental health interventions offered over the internet entails the nature of the relationship between the client and mental health provider. This is based on the fact that face-to-face interventions highly relied on the client-provider relationship to yield successful outcomes to an individual undergoing mental health treatment (Thompson, 2015). In particular, the relationship between the mental health provider and the client is shown to play a significant role in positive outcomes than the particular processes associated to a particular mental health intervention (Kofmehl, 2017). Therefore, it is crucial to consider the form of relationship that was established through the proposed online psychoeducation tool, which should effectively enable university students to manage depressive symptoms.

A systematic study by Pihlaja et al. (2018) involved obtaining and reviewing existing literature on the factors affecting the use of online mental health services. The researchers assessed 1,658 relevant studies, whereby only 8 met the criteria of the study. The study findings showed that users of an online mental health intervention on addressing mental health issues asserted that the relationship created during the treatment with the counselor was rather pleasant and person-centered. The study showed that the effect of the client-counselor relationship was non-inferior to the relationship formed through face-to-face therapeutic regime. The outcomes of the relationship formed through online therapy and face-to-face therapy showed a slight difference between the

two, where online treatment rapidly creating a genuine relationship between the client and counselor.

Cataldo et al. (2021) conducted a literature review to determine the effect of psychologist-client relationships through digital mental health services and the impact of videoconferencing on the relationship process. The researchers considered 22 studies as meeting the established search criteria, whereby they asserted that the various studies demonstrated that one of the factors that affected the relationship between the client and counselor involved the stage of depressive disorder. This involved individuals showing severe depression at the start of the online intervention showed a weak bond with the counselor during the treatment. This was mainly attributed to the multifaceted effects of mental disorders, which affect the clients' ability to feel understood by a friend, family member and project the perception to a counselor.

In the past decade, Kenya has made extensive technological advancements, which has enabled vast telecommunication penetration around the country. One of the most prominent technological advancements involves improvements in internet connectivity and mobile communication. These technologies can be utilized to enhance the accessibility of essential medical services, including consultation, treatment, supervision, and training of patients and healthcare providers. However, the application of technological resources in the delivery of mental healthcare services is still wanting. The assertion is based on existing studies on the use of existing technological resources for mental healthcare in Kenya, which showed that the adoption of technology for mental health care is low, particularly in developing countries (Goodwin et al., 2016; Auerbach, 2016; McLafferty et al., 2017; Bikwetti, 2021). The researchers asserted that clinical services can largely exploit such resources to enable cost-effective health care delivery as well as improve accessibility to and the quality of health care provided to the people.

Summary

In general, it is apparent that there is a paucity of published literature on mental health services in universities, and that university students require varying knowledge needs on mental health issues. Essentially, the challenges affecting the use of mental healthcare services such as psycho-educational interventions, include low mental health literacy levels, which is attributed to negative perceptions on mental health as well as its services. Furthermore, it is important to make a distinction between students' understanding of a particular mental illness, and their understanding of the interventions, particularly in Sub-Saharan Africa and in Kenya. The literature review shows that positive user perceptions play an important role in determining the user's preference to adopting technology to accomplish a certain task. The literature shows that institutions are also responsible for influencing student's attitudes on an intervention. Hence, this study illustrates the impacts of university student perception on promoting the adoption of an online psycho-educational intervention platform in addressing depression among students. This is an initial study on such a topic in Meru County, Kenya County, and thus we propose future research to assess this topic nationwide as well as to entirety.

2.3 Theoretical Literature Review

This section presents an overview of the theories, principles, generalizations, and existing research literature that closely pertains to the research study. The theoretical framework outlines the specific theories that served as guiding principles throughout the research. In particular, the study adopted the person-centered (Rogerian) theory as the model and guide during the study. The theory's structure involves establishing the indicators and determinants in the study, which illustrate the connection between the dependent and independent variables. Furthermore, the relevance of this

theory to the current research is explored, which highlights its significance in shaping the study's approach and overall course.

2.3.1 Person-Centered (Rogerian) Theory

The person-centered theory (PCT) is rooted in the belief that each person has an innate drive to achieve a positive psychological state and function effectively. Developed by Carl Rogers in the 1940s, this theory represents a departure from traditional therapeutic approaches, as it involves a non-directive, empathetic, and conversational method that empowers individuals and motivates them to actively engage in the treatment and prevention process. According to Rodgers & Tudor (2020), this approach fosters trust and confidence in the intervention by ensuring individuals feel unjudged by the therapist. The theory is well-aligned with psycho-educational therapy and practices, as it acknowledges and trusts in the inherent potential of individuals, providing them with empathy and unconditional positive regard, which aids in facilitating change.

In this approach, the healthcare provider avoids imposing a predetermined course of treatment based on the client's actions whenever possible. Instead, they offer guidance, support, and structure to help individuals develop and implement personalized solutions on their own. Overall, the person-centered approach guides mental health professionals to perceive individuals as possessing the capacity and motivation for personal growth and change, rather than viewing them as intrinsically flawed with mental states and behaviors that require medical interventions.

The person-centered theory places emphasis on the connection established between the client and the mental health provider during the delivery of psychotherapeutic or educational interventions. It posits that constructive changes in the individual's mental state, within the person-centered approach, rely on three essential conditions: genuineness, empathy, and unconditional

positive regard. According to the theoretical framework, empathy plays a crucial role in making an individual feel understood, valued, and accepted by the mental health provider. Correspondingly, mental health professionals employ person-centered approaches in therapy to demonstrate their understanding of the client. By fostering emotional congruence between the therapist and the client, a warm and trusting relationship is built. Genuineness is manifested through authenticity and openness in both the counselor and client. This means honestly expressing their motives, agenda, or feelings without the client facing criticism from the counselor.

Jones et al. (2018) contended that both online and face-to-face psycho-educational interventions share common objectives, such as establishing empathy, ensuring confidentiality, providing emotional support, reducing stigma, ensuring accessibility, anonymity, and making counselors readily available. According to Harrer et al. (2021), online psycho-educational interventions effectively implement a person-centered approach, enhancing the quality of the client-therapist relationship by expressing emotions through textual information. In the context of this dissertation, the theory was applied to create a clear framework for considering the client-counselor relationship and interaction during data collection and analysis. The theoretical principle emphasized crucial elements in the delivery of online psycho-educational and therapeutic practices, including innovative forms of communication that enable both therapists and clients to express emotions, such as using specialized emotions to convey feelings. Moreover, the person-centered approach offers a comprehensive and effective mental healthcare approach that addresses the increasing prevalence of depression in the country by fostering high-quality relationships between counselors and clients. Additionally, it provides a cost-effective and scalable way to address mental health issues in the current technologically advanced era.

In the given context of existing psycho-education literature, it becomes crucial to explore novel approaches to enhance mental health care in the country, especially for high-risk populations. Utilizing passive psycho-education methods can address various challenges related to accessing and providing mental health interventions. An effective solution involves creating an online psycho-education program, aimed at empowering the public, particularly high-risk populations, to comprehend mental health issues better and, consequently, encourage individuals to seek mental health services.

2.4 Conceptual Framework

The conceptual analysis of the study aligns the person-centered theory, described in the theoretical framework section, where the link between the study variables is discussed. Primarily, Crawford (2019) states that the conceptual framework in research involves an argument for a research study that develops the importance of a study as well as illustrates the alignment of the research questions, research methodology, and data analysis procedures. The section graphically presents the study's dependent variables and independent variables as well as the indicators that show whether the use of online psycho-educational approaches are effective in reducing the increased rates of depression among private university students.

FIGURE 1

Conceptual Framework

Independent variable	Dependent Variable

Online Psycho-Educational Interventions

Drivers
- ☐ Prevalence of depression:
  - o High
  - o Low
- ☐ Availability of online psycho-educational practices
  - o Availability of ICT resources and services in the university
- ☐ Perceptions on ease of use of online mental health services
  - o Positive
  - o Negative
- ☐ Challenges prompting the need for online counselling services

Tackling Depression

Indicators
- ➢ Seeking/usage pattern of counseling services
  - o low
  - o high
- ➢ High dependence on online counselling services
  - o Access to online counselling services
  - o Adequate ICT resources
- ➢ High need of counselling services (+ve)
  - o Agree on convenience, access, cost-effectiveness, increase mental health literacy
  - o Low need of counselling services (-ve)
    - ▪ Disagreeableness to conv., access cost-effectiveness, enhanced MH litercy
- ➢ Low use of conventional counselling, perceived judgment, stigma

Intervening Variables
- • Skill level of mental health professionals on the use of online psycho-education interventions
- • Perceived ease of access to mental health services in private universities

Hypotheses

H_1 - There is a high prevalence of depression in the adoption of psycho-educational interventions among students in private universities in Meru County, Kenya

H_2 - There is low availability and usage of online psycho-educational resources within private universities in Meru County, Kenya.

H_3 – Students and counsellors hold positive perceptions regarding the adoption of online psycho-educational interventions as effective tools for managing depression in private universities in Meru County, Kenya.

H_4 – Conventional psycho-educational interventions face various challenges that affect its effectiveness in tackling depression among private universities in Meru County, Kenya

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this chapter is to describe the research design and the methodology that the researcher applied to identify and collect the required data for analysis in order to reach objective inferences and conclusions related to the current study's research questions and overall topic. Hence, the chapter presents an in-depth description of the design of the research as well as the quantitative and qualitative techniques that the researcher employed for data collection during the study. The study population, sampling procedures and size, as well as outcome measurement methods during the study are also discussed to highlight how data was collected and analyzed to address the research questions. Lastly, the chapter presents the overall research framework, which involves administration of tools, data analysis, and ethical issues of the performed research. In summary, the chapter highlights how the study was conducted across different research phases.

3.2 Research Design

This study adopted a descriptive survey design to collect data to address the set objectives and research questions. Manjunatha (2019) explained that the descriptive survey design normally uses interviews or questionnaires to collect subjective and objective data on the present state of affairs. Furthermore, the design is commonly used in studies that aim to assess a specific population's opinions, habits, and attitudes towards describing a certain phenomenon (Kwobah, 2023). Contextually, the design suitably fits this study's scope in which the researcher aims to collect and thus determine private university students' and mental health practitioners' opinions and attitudes on current psychoeducational practices, availability, usage, and overall adoption of online delivery of mental health services in Meru county, Kenya.

Moreover, a convergent mixed research methodology was used to allow the collection of both qualitative and quantitative data for analysis and thus present the study findings in light of the study objectives. According to Creswell and Creswell (2018), the convergent mixed research methodology features a one-phase approach where the researcher collects and analyzes both qualitative and quantitative data, with the study results being discussed to describe the study findings. Similarly, Dawadi et al. (2021) further highlights that the methodology allows researchers to explore and evaluate data on a specific research topic from various contexts, including a subjective narrative perspective as well as objectively through statistical data. The design increases accuracy on research conclusions, since they consider subjective data collected through qualitative methods and statistical computations obtained through quantitative methods; and thus enhancing the soundness and relevance of the study findings in general.

Fundamentally, qualitative data was required to assess study variables, including the attitudes of mental health providers and private university students on online psycho-educational interventions, availability of technological resources, and common uses of internet applications among private university students, the benefits and drawbacks of an online psychoeducation intervention, and factors that shape the client-counselor relationship in digital psychoeducation practices. The study evaluated how these variables impacted the effectiveness of the online psycho-educational intervention in enabling private university students to mitigate depression in Meru County, Kenya.

3.3 Study Location

The research was conducted within Meru County, which is situated on the eastern flank of Mt Kenya and spans an area of 6,936 square kilometers. Moreover, Meru County shares borders with Isiolo County to the North, Nyeri County to the South West, Tharaka –Nithi to the East, and

Laikipia County to the West. Within Meru County, there are eleven Sub-Counties: Imenti South, Meru Central, Imenti North, Igembe South, Igembe North, Igembe Central, Tigania East, Tigania West, Tigania Central, Buuri West, and Buuri East. Specifically, the selection of Meru County as the study location was deliberate and strategic, which was mainly prompted by limited literature on mental health issues as well as challenges and effectiveness of currently adopted mental health interventions in the area.

3.4 Study Population

This study's target population students selected from two private universities within Meru County, Kenya. The most preferable participants entailed undergraduate students in private universities, who took part in a mental wellbeing workshop held in Meru Town in Meru County. In particular, the study considered students who were currently enrolled at Kenya Methodist University and Mt. Kenya University. This featured a total of 210 students from the selected universities, who varied by gender, and academic year as shown in Table 1 below. Moreover, the target student population was limited to those who were currently in any undergraduate course in either of the selected private universities.

Contextually, mental health providers currently providing mental health services in the selected private universities were also considered as a target population for this study. The study also considered attaining a balanced distribution of the participants based on gender, which involved selecting an equal number of male or female participants to represent private university students and mental health professionals. The following table shows the study target population in the selected private university campuses around Meru County, Kenya.

TABLE 1

Target Study Population

University Name	Student Population								Mental Health Providers		Tota	%
	First Year		Second Year		Third Year		Fourth Year					
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		
Kenya Methodist	14	14	14	14	14	14	14	14	5	5	**122**	**50**
Mt. Kenya	14	14	14	14	14	14	14	14	5	5	**122**	**50**
Total	**28**	**28**	**28**	**28**	**28**	**28**	**28**	**28**	**10**	**10**	**244**	**100**

3.5 Sampling Procedure

The study was conducted on two private universities located within Meru County, Kenya, namely Kenya Methodist University (KeMU) and Mt. Kenya University (MKU). In particular, the sample size of the study featured 120 private university students and 20 mental health professionals. This is per Ocholla's (2014) sampling instrument, where it recommends a study population targeting 224 cases should have a sample size of 140, as illustrated in Appendix G below. Johnstone et al. (2019) highlight that sampling refers to selecting an ample sample from a research population, which was studied to determine attributes of the entire study population. This shows that the selected sample size should enable the researchers to gather significant data for supporting the analysis of the relationship among the study variables in order to reach objective inferences in relation to the topic under study.

3.5.1 Sample Size

The different academic years of the undergraduate students selected were considered as a cluster. The sample size of 120 private students were selected from the different strata that applies to the various campuses. This is based on Ocholla's (2018) tool for determining the ideal sample size

given a known population size. Moreover, the mental health providers were selected based on their professional background in offering psycho-educational interventions to students in school-based settings. Consequently, 20 mental health providers were purposively selected to partake in the study. The details are summarized in Table 2 below.

TABLE 2

Distribution of the Sample Size

University Name	Students								Mental Health Providers		Tota	%
	First Year		Second Year		Third Year		Fourth Year					
	Male	Female	Male	Female	Male	Female	Mal	Female	Male	Female		
Kenya Methodist	7	8	7	8	7	8	7	8	5	5	70	50
Mt. Kenya	7	8	7	8	7	8	7	8	5	5	70	50
Total	14	16	14	16	14	16	14	16	10	10	140	100

3.5.2 Sampling techniques

The sampling procedures deployed in the sample selection process encompassed a stratified and simple random sampling technique. Generally, the study population would be initially stratified into substrata based on a gender criterion, which eased the application of a simple random sampling technique for each gender to attain an average of at least two participants from each substratum as shown in Table 2. Ultimately, a sample size consisting of 120 private university students from various campuses was selected to take part in the study. Johnston et al. (2019) states that the suitability of a simple sampling method in a research is due to ability to offer every participant an equal opportunity to take part in the data collection activities. On the other hand, a purposive

41

sampling technique was employed to select 20 mental health providers from various health care centers within Meru County, Kenya. The mental health providers took part in the study to survey questions that reflect on the study objectives. This means that the mental health providers should have experience offering psycho-educational interventions to university students.

Similarly, a purposive sampling method was performed based on Ames et al. (2019) argument that purposive sampling methods are appropriate in determining and selecting groups of participants that mainly know about the topic being explored by the study. Hence, since the study aimed at collecting data from mental health providers with specialized knowledge on mental health service delivery in private universities, the purposive sampling allowed the researcher to ensure that the participants met this criteria. Further details on the selection criteria that the mental health providers had to meet featured an academic background in health care technology and its application to supporting mental health care practices. This led to the selection of selection of 8 mental health providers working in the two private universities in Meru County.

3.6 Data Collection Procedure

In this study, variety of data collection techniques and tools were employed to gather primary data from the participants. These techniques and tools used were selected based on their appropriateness for the research objectives. Essentially, the self-administered survey technique was employed in the study to gather primary data from the participants. This technique was chosen for its ability to efficiently collect standardized information from a large number of participants while allowing them to respond at their convenience (Creswell and Creswell, 2018).

3.6.1 *Data Collection Techniques*

A key data collection technique utilized in the study was the quasi-structured questionnaire. This method was instrumental in collecting both qualitative and quantitative data from mental health providers and private university students. The questionnaire was adapted from a previous study conducted by Ocholla in 2018. This decision was made based on the questionnaire's proven reliability and relevance to the current study. The quasi-structured format of the questionnaire offered participants the flexibility to provide detailed responses, enabling a comprehensive exploration of the research questions.

The questionnaires were thoughtfully designed to capture essential information. They were structured to assess various factors influencing the participants' perceptions of online psycho-educational interventions. This included evaluating the impact of user attitudes, the availability of technology, the cost of adoption and usage, and the nature of the relationship with online psycho-educational resources. The structure of the questionnaires was carefully crafted to align with the study's research objectives and theoretical framework. Moreover, the study employed different sets of questionnaires for these two participant groups on the basis of the differing perspectives of university students and mental health providers. This approach ensured that the questions were tailored to the specific roles and viewpoints of each group, allowing for a more nuanced understanding of their experiences and perceptions.

Each questionnaire was divided into five distinct sections. The initial section collected personal identification information to categorize responses and maintain participant anonymity. Subsequent sections were dedicated to addressing the research questions formulated in the introductory chapter. Additionally, questionnaire items were carefully adjusted to align with the theoretical and conceptual framework of the study. This modification aimed to enhance the validity

of the research by ensuring that the questions accurately reflected the study's objectives and theoretical underpinnings. For the collection of quantitative data, the questionnaires employed a Likert Scale. This scale enabled participants to express their agreement or disagreement with statements, allowing for the measurement of variables on an ordinal scale. The use of a standardized Likert Scale facilitated the quantification and analysis of responses, contributing to the study's quantitative aspects. The final section mainly collected qualitative responses from the participants, whereby the questionnaire items featured a text area where they would offer their opinions. In particular, student participants were required to highlight the challenges that deterred their likelihood of seeking mental health services whereas mental health providers were asked to offer opinions, challenges, and available ICT resources that may facilitate the adoption of online psychoeducational practices.

3.6.2 Data Collections Tools

A fundamental aspect of the data collection tools was the adoption of a portion of the questionnaire from Ocholla's (2018) study. This decision was driven by the established reliability and suitability of this questionnaire for the current study's objectives. While the core structure of the questionnaire was maintained, adjustments were made to align it with the theoretical and conceptual framework of the study. This process ensured that the questions were contextually relevant and tailored to the research's specific focus, ultimately enhancing the validity of the data collected. Essentially, the questionnaire used in this study was selected based on its demonstrated convenience and effectiveness. It was crucial that the tool chosen allowed participants to easily understand the questions and provide thoughtful responses. The convenience and user-friendliness of the questionnaire were deemed essential to encourage active participation among respondents.

The effectiveness of the tool was reflected in its ability to capture comprehensive and meaningful data, enabling researchers to address the study's research questions effectively.

3.6.3   Ethical Issues

First, the researcher sought approval from KCA University's Research Board to perform the research study, who provided Research Permit (Appendix A) to conduct the study. Subsequently, the researcher also obtained the research permit for the study project from National Council for Science and Technology (NACOSTI) to show that the research met requirements for performing a study in schools within Meru County, Kenya (Appendix B). Additionally, an introduction letter seeking permission to conduct the study was developed and sent to the administrators of the selected private universities (Appendix C), which conveyed the study's purpose, objectives, and data to be collected from the selected study participants.

Moreover, potential participants were extensively briefed on the research objectives and procedures, which ensured that they understood the study as well as voluntarily consent to take part in the study. The informed consent process reiterated the voluntary nature of participation and provided individuals with the option to opt out of the study by not signing the informed consent form. Participants willing to take part in the study expressed their informed consent, granting permission to utilize their data for the study's objectives (Appendix D and E). In general, the consent form established transparency and assured respondents of the confidentiality and anonymity maintained throughout the study. Moreover, the administration of data collection tools was tailored to the specific participant categories: mental health professionals and private university students. For mental health professionals, a questionnaire was utilized, offering a platform to gather both qualitative and quantitative data. Adopted from a previous study, this

questionnaire delved into various factors influencing perceptions on online psycho-educational interventions.

Similarly, a questionnaire designed for private university students aimed to assess their perceptions of online psycho-educational interventions. This questionnaire included sections tailored to gauge attitudes, technology availability, cost considerations, and relationship dynamics concerning the use of online psycho-educational resources. Both questionnaires were meticulously crafted to align with the research objectives and conceptual framework. Quantitative data, measured using an ordinal scale, was systematically collected through a Likert Scale. Following data collection, the responses obtained through the questionnaires were evaluated and analyzed using the Statistical Package for the Social Sciences (SPSS), ensuring a robust and systematic analysis process.

In summary, the ethical and methodical data collection process implemented in this study ensured the utmost adherence to ethical principles, participant rights, and the study's objectives. The tailored approach to data collection, in line with the diverse participant categories, contributed to the comprehensive exploration of the research topic while safeguarding the well-being and rights of all involved parties.

3.7 Validity and Reliability of the Research Instruments

Fundamentally, this section aims to present how the research instruments and data were assessed to ensure the study's robustness and quality in addressing the research objectives. Specifically, the section presents the processes the research performed to ensure the validity, reliability, and suitability of the study in addressing the research objectives. Basically, to ensure validity of the

data collected and remove ambiguity, a pilot study was conducted at KCA University targeting both students and mental health providers.

3.7.1 Piloting of Instruments

The pilot study was performed with the aim of determining the validity, suitability, and reliability of the research instruments in reaching empirical research findings on the research topic. Specifically, the piloting was carried out on 12 students from KCA University and 3 mental health providers. Those selected for the pilot study did not take part in the actual study, although their responses initially acted as a point of reference in determining the reliability and relevance of the responses in relation to the research objectives. Moreover, face and content validity of the survey questionnaire were assessed in relation to the actual research's findings. The face validity enabled the researcher to determine whether the research instrument offered appropriate constructs for the research objectives. Content validity was performed to determine the appropriateness of the survey questionnaire as well as interview schedule to the research objectives and questions.

The researcher also submitted the drafted questionnaire for use in the study with the research supervisors at KCA University for assessment, where the quality of judgment, clarity of questionnaire items, and their relevance to the study were assessed for suitability in this research. The supervisors provided valuable feedback, and adjustments were made to the questionnaires to incorporate their perspectives. These featured adjustments on the questionnaire items to address issues such as vague questions, grammatical errors, and ensuring adequate space for responses, which would have affected data collection.

Furthermore, the educational counselors were adequately prepared and interviewed to validate the questions intended for use in the study. Any questionnaire items that displayed

shortcomings during this validation process were refined to improve their quality before being utilized in the main study. Additionally, the researcher consulted with a statistician to ensure that the questionnaires did not present any inadequacies that could pose challenges during data analysis. Following this consultation, it was confirmed that no amendments were necessary for the questionnaires used in the study.

3.7.2   *Validity of the Research Instruments*

Mohajan (2017) describes validity as the applicability of the research process, instruments, and collected data used in the research. Hence, research instrument validity concerns the appropriateness of the research instrument(s) used to collect and measure data based on the research design. Hence, the quasi-structured questionnaire was evaluated for its content and face validity. Face validity involves determining whether the research instrument explores that topic under study. In this sense, the research supervisors, Priscilla Gachighi and Ignatius Nyaga, in KCA University reviewed the instruments to warrant that they attain the requisite face and content validity set out by the University's research standards prior to being used for this study. Moreover, the content validity of a research instrument involved determining the relevance of questionnaire items in meeting the research objectives, theoretical and conceptual framework, and literature review. The criteria that was applied to establish the content relevance of the study instruments involved clarifying items of the questionnaire, their technical soundness, and adequacy to the study.

3.7.3   *Reliability of the Research Instruments*

In research, reliability concerns consistency of a study's results after recurrent tests, including degree of the subjective responses being reflected by the quantitative results obtained. Mohajan (2017) clarifies that reliability tests involves assessing data for any form of bias, degree of

accuracy, and whether it was achieved. This involves the test-retest technique, which involved performing a pilot study on identical sets of participants to those who participated in the actual study. Similarly, about 12 students from KCA University and 3 mental health providers took part in the pilot study. Based on the Cronbach Alpha score of the piloting phase, the researcher adjusted the instrumentation to enhance the study's reliability on the study topic. This helped minimize the impacts of random errors that may affect the consistency in study measurements. Hence, reliability tests enabled researchers to manage random errors generated by research instruments, vagueness, and bias. Principally, the generally accepted reliability index ranges between 0.6 and 0.7. The reliability index scale would be assessed in terms of the following range (Creswell and Creswell, 2018):

$$\text{Cronbach's Alpha Score} = a = 0.6 - 0.7 \tag{1}$$

3.8 Data Analysis Techniques

Quantitative Data Analysis

The collected data was reviewed, organized, coded, and commuted by SPSS. Ocholla (2018) asserts that the review process should involve data cleaning, which encompasses looking for typographic and semantic errors and thus remove the associated information. Editing was performed to correct common errors in the data provided by participants of the study. This technique was necessitated by accurate interpretation of the provided responses, which enabled the researcher to omit unnecessary information. The collected quantitative data was coded and input into the SPSS system for statistical analysis. Descriptive statistics, including mean, standard deviation, frequencies, and percentage, were computed and used to group as well as make generalization on the data collected. The frequency operations for the collected data were

presented as tables as well as in form of bar and pie charts so as to aesthetically summarize the study results.

Qualitative Data Analysis

Content analysis was used to analyze qualitative data collected in the study. The technique involved arranging the participant responses into texts, which were used to edit data and make inferences from the responses. The analysis of the qualitative responses featured discerning keywords from subjective responses of the participants to the study questions.

The content analysis was assessed based on Braun & Clarke's (2006) six-phase model. The first step involved understanding the collected subjective responses in relation to the research questions, which were subsequently used to formulate preliminary codes for implicitly categorizing the data collected into keyword. Then, the researcher used the general themes to generate additional sub-categories from the responses in relation to the variables established in the conceptual framework. The sub-categories were later passed through a final coding phase that established the overarching themes that address the research objectives. This largely depended on the coherence of the responses to presenting a specific theme. Lastly, the researcher document interpreted the final keywords, using clear and compelling response instances that demonstrated the main points.

The last stage involved delineating and labeling the overarching themes and potential subthemes present in the qualitative data on the challenges involving conventional psychoeducational practices in the private universities and whether adoption of online approaches may address them. Correspondingly, some of the major themes highlighted a favorable disposition toward online psychotherapy, emphasizing its time-saving aspect and the comfort respondents

experienced with online interactions. Another prominent theme was convenience, as participants expressed the ease of accessing psychotherapists regardless of their geographical location. Contextually, the key themes obtained concerning the challenges affecting conventional psychoeducational practices featured absence of nonverbal cues, with respondents feeling a lack of emotional connection between therapists and clients during online psychotherapeutic processes. Lastly, the researcher compiled a comprehensive report on these findings, methodically documenting them in chapter four of the thesis report. In general, thematic analysis served the purpose of recognizing and utilizing these themes to address the research questions, aiming to interpret and derive meaning from the available dataset.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

The purpose of this study was to assess the adoption of online psycho-educational interventions towards tackling depression among students in private universities in Meru County, Kenya. Correspondingly, this chapter presents the study's data results, analysis findings, and discusses the study findings on the premise of addressing the research questions as well as accomplishing the objectives of the study. Essentially, the chapter features a highlight on the response rate of the quasi-structure survey questionnaire, which was used to collect both qualitative and quantitative data from the study participants, including university students currently in session as well as mental health providers at Kenya Methodist University (KeMU) and Mount Kenya University (MKU) in Meru County, Kenya. Data analysis encompassed the use of the SPSS Statistics (version 26) tool to review, organize, and perform statistical computations of the quantitative data collected during the study.

Consequently, statistical measures, including frequency distribution and central tendency, were used to assess the responses and thus reach empirical study conclusions in the context of the study objectives. Furthermore, the chapter discusses survey responses from five mental health providers, who offered instrumental responses on the adoption of online psycho-educational interventions in the purposively sampled private universities in Meru County, Kenya. This will feature verbatim responses from the mental health providers in relation to the research topic. In particular, thematic analysis was utilized to assess the qualitative data from the mental health providers.

4.2 Demographics and response rates

4.2.1 *Response Rates*

Principally, the study intended to obtain responses from a sample size of 120 university students, which involved 60 students from 2 purposively selected private universities in Meru County, Kenya, namely Kenya Methodist University (KeMU), and Mount Kenya University (MKU). In this light, the total return rate for the questionnaires among the students was 60%, which met the effective return rate range that optimizes the validity of estimates, analysis, and inference of the study conducted established Krishnamurty (2018). The table below summarizes the data results on the return rates of the administered questionnaires in both universities.

TABLE 3

Summary of the Return Rate

Academic Year	Kenya Methodist University			Mount Kenya University		
	Administered	Returned	Return Rate	Administered	Returned	Return Rate
First Year	15	14	23.3%	15	13	21.67%
Second Year	15	15	25%	15	11	18.33%
Third Year	15	10	16.67%	15	6	10%
Fourth Year	15	7	11.67%	15	6	10%
Total	**60**	**46**	**76.67%**	**60**	**36**	**60.00%**

Table 3 above highlights the response rate of the questionnaire used to collect data concerning adoption of online psycho-educational interventions in KeMU and MKU campuses located in Meru County, Kenya. Essentially, the response rate is measure of the participants that took part in the study to the number of participants that were asked to participate. Krishnamurty (2018) asserts that response rates are used to assess the data quality, where low response rates are

likely to lead to nonresponse bias in a study. Contextually, questionnaires were accounted as returned after they were determined to meet the standards set out by the AAPOR (2016), which featured questionnaires that were completed by the participants.

Correspondingly, Mount Kenya University was also purposively selected to aid in addressing the study objectives, whereby 60 students were randomly selected. Moreover, the cluster sample of 60 participants affiliated with MKU was further grouped into sub-strata of 15 participants, who were randomly selected to represent the student population in terms of academic year, including first, second, third, and fourth year. Similarly, the return rate of the First Year group was 21.67%, whereby 13 out of the 15 participants in the group returned completed questionnaires. The return rate for the second year group of participants was 18.33%, which encompassed all 11 questionnaires being completed and returned to the researcher. In addition, the stratified samples of third and fourth year students both garnered 10% return rates, whereby 6 participants filled the questionnaires to completion. In general, the sub-total return rate for the cluster sample consisting of students enrolled at MKU was 60%, where only 36 out of the total 60 questionnaires administered to this sample only were completed. Fundamentally, this accounted for 30% of the total return of the questionnaires administered in the general study sample.

Contextually, the cluster sample consisting of 60 university student participants affiliated with KeMU, including the main campus as well as Meru town campus, was further stratified into four groups with each group consisting of 15 students from each of the four academic years. Thus, the questionnaires were administered to the study participants in each group, which were filled and returned to the researcher. Consequently, the total return rate of the questionnaires administered at KeMU was 76.67%, whereby 46 questionnaires, out of the 60, were returned and determined to be complete by the researcher (Krishnamurty, 2018). In particular, the return rate for the First Year

54

group was 23.3%, whereby 14 out of the 15 participants in the sub-sample returned completed questionnaires. Additionally, the sample stratum consisting of second-year students had the highest return rate, whereby all 15 participants returned completed questionnaires, therefore constituting 25% of the total response rate garnered at KeMU. Nevertheless, the group made up of third year students had a low return rate of 16.67% in which questionnaire filled by 10 participants were considered complete and fit for data analysis. The group encompassing fourth year student participants had the lowest return rate with only 7 questionnaires out of the total 15 participants in the group were completed and returned to the researcher.

Generally, despite that the researcher initially selected 120 student participants, including 60 students from each of the selected universities, only 82 questionnaires were considered fit for data analysis. For the other 38 questionnaires, some of the students declined to give an informed consent since the study was voluntary, and thus maintained the autonomy to decide not to participate. These questionnaires were considered as not returned, which annulled the use of the questionnaires in the study.

Mental Health Providers

Moreover, the researcher had purposively selected 20 mental health providers, whereby 10 were to be selected from each selected private university. Furthermore, the counsellors had to meet the set inclusion criteria, which featured a mental health provider who had offered mental health services to university students, particularly in private universities within Meru County. Furthermore, they were also required to have ever offered counseling services to the students in the university they were associated with, where they must have personally diagnosed or referred them to other counsellors due to a depressive spectrum disorder. Nevertheless, only 8 counselors, out of 20, accepted and gave their consent for their data to be used for the study's purpose. On that

note, the counsellors' return rate was established as 40%, which was considered as satisfactory for collecting data (Krishnamurty, 2018).

4.2.2   Demographic Information

Demographic information is essential in a research since it is used to describe the quantifiable characteristics of the study sample. The demographic data, or characteristics of the study participants, enables readers of research to determine whether the individuals in a certain study represent the target population so as to support generalizations that can be made about the study population (Marchant, 2018). Similarly, the demographic information in this study is based on attributes such as gender, and academic year in the case of student participants as well as years of experience among mental health providers. The researcher aimed at selecting 120 participants, which featured 60 students currently enrolled in undergraduate programs from each university.

Nonetheless, the study sampled 82 students after 38 students failed to show up at the planned venue to fill the questionnaire due to undisclosed reasons. Moreover, the researcher also aimed at purposively selecting 10 mental health providers (counselors) who have offered mental health services to university students, particularly from private universities located in Meru County, who they personally diagnosed or referred due to a depressive spectrum disorder. In general, demographic information was crucial in this study since it enabled researchers gain sight on the population represented and thus enable researchers make inferences concerning prevalence of depression among students as well as gain insight on behaviors associated with utilization of mental health services in a university setting.

Mental health professional participants

The demographic information on the distribution of the mental health professionals who participated in the study was computed and presented in the pie chart below.

FIGURE 2

Distribution of mental health professionals by gender
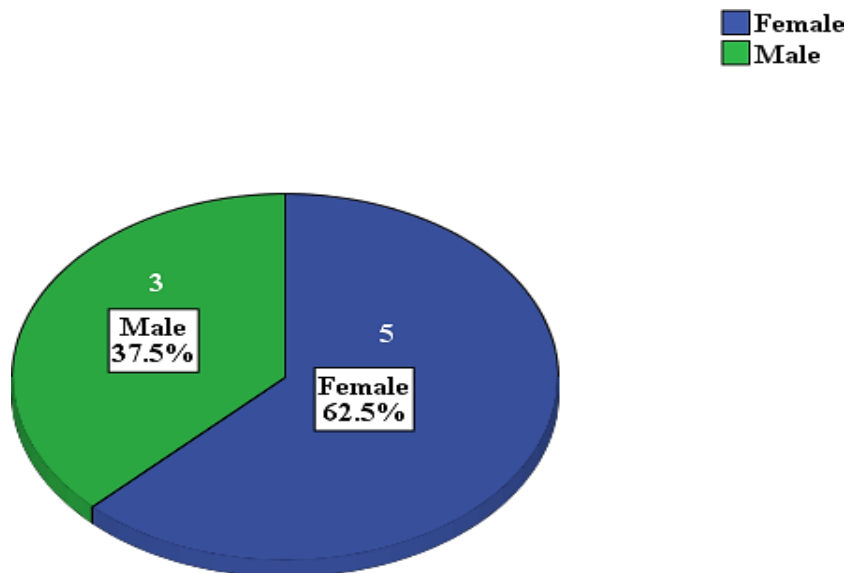
Figure 2 above shows that both female and male individual had a fair chance to take part in the study, whereby we observe that male and female mental health professionals participated in the study. Specifically, 8 mental health professionals participated in the study with more females than males contributed to the study by allowing researchers to obtain their responses about the research topic. Moreover, there were 5 females, who constituted 62.5% of the total respondents that participated as mental health professionals. Additionally, there were 3 male participants, who made up 37.5% of the respondents that participated as mental health professionals in the study. Evidently, more female counselors were willing to participate in the study, which explains why more females may have participated in the study compared to men counsellors in the university.

Years of Experience

TABLE 4

Demographic information of mental health professionals by work experience

Gender	Professional Experience							Total	Percentage
	Less than 1 year		1-2 years		3-4 years		4years and above			
Female	1	12.5%	2	25%	2	25%	0	0%	5	62.5%
Male	0	0.0%	1	12.5%	1	12.5%	1	12.5%	3	37.5%
Total	1	12.5%	3	37.5%	3	37.5%	1	12.5%	8	100.0%

As viewed in Table 4 above, out of the 5 female mental health professionals in the study, only one female had a professional experience of less than a year offering mental health services to university students whereas 66.7% (2) females had 1-2 years of professional experience. Moreover, two females also indicated to have been offering mental health services to university students for at least 3 – 4 years. On the other hand, each male mental health provider who participated in the study had a varying years of professional experience. One of them indicated to have offered mental health services professionally in a university setting for at least 4 years, whilst the others indicated their years of experience as 3-4years and 1-2 years. Evidently, most of the counselors who participated in the study had experiences spanning from 1 to 4 years, who were likely planning to enhance their skills through continued education, such ICT application in mental health services.

University Student Participants

Gender

Generally, the study sample selected both male and female university student participants selected from KeMU and M.K.U. Hence, out of the 82 university students that took part in the study, 50 of

them were female, which translated to 60.98% of the total respondents in the study. On the other hand, the male participants were less than female participants with 32 male students from both universities participating in the study. Contextually, the male participants made up 39.02% of the total study participants as shown in the figure 3 below. A notable aspect of the demographic data on the distribution of the study participants by gender is that there were more female participants than male participants in the study. Vuelvas-Olmos et al. (2022) assert that female university students were more likely to experience depressive spectrum disorders, which explains their high participation in this study since it focuses on enhancing mental health. Figure 3 below summarizes the demographic data on the participants by gender.

FIGURE 3

Distribution of student participants by gender

Distribution of student participants by gender
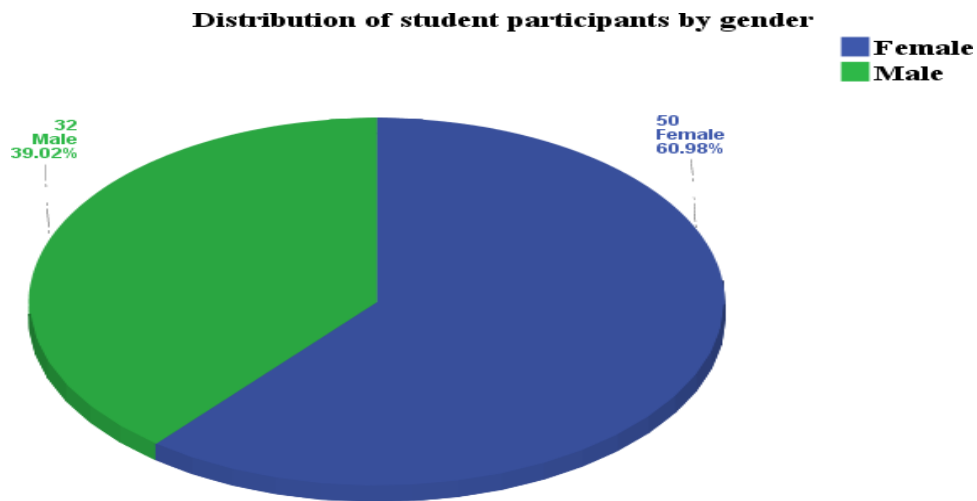
Institutional Affiliation

It is important to present the distribution of study participants by their institutional affiliation. El Refae et al. (2021) assert that this is crucial since it sheds light on the specific institutional affiliation that were considered during the research as well as gain insight on how they contributed to the research. Essentially, demographic information related to institutional affiliations in this study will shed light on the number of university students that participated in the study from each university, namely KeMU and MKU, as shown in the figure below.

FIGURE 4

Distribution of Student Participants by Institution Affiliation
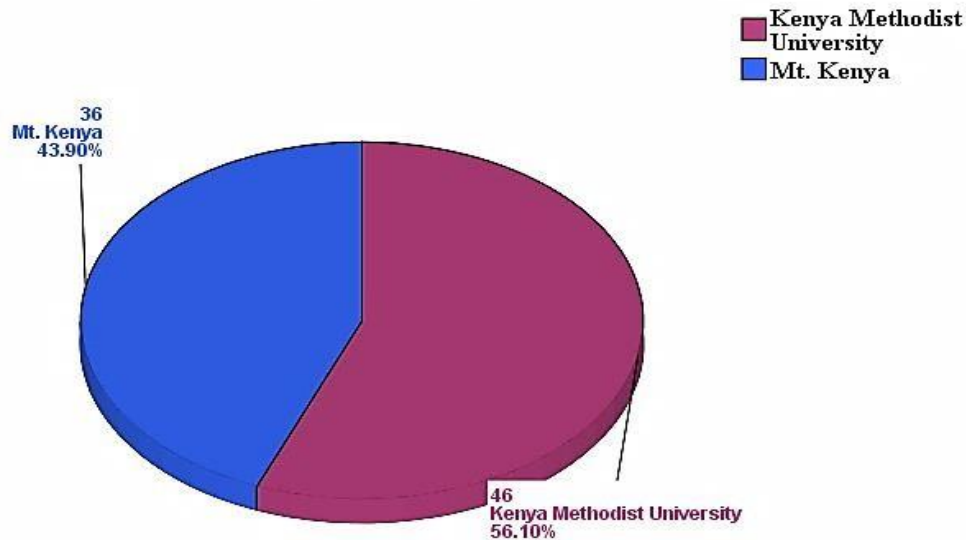
Figure 4 shows that out of the 82 students that participated in the study, 46 students were affiliated to Kenya Methodist University (KeMU), who represented 56.1% of the participants. With a slightly low participation, 36 students were affiliated to Mount Kenya University (MKU), who

60

made up 43.9% of the participants. Evidently, the participation from both institutions is high, which is indicative of the high need of enhanced delivery of mental health services in universities.

Academic Year

Furthermore, the academic year was also viewed as important demographic information in this study. Fundamentally, the researcher used the academic year variable to stratify the sample size upon selection of participants based on a random sampling technique. According to Muchira (2018), academic year is core demographic factor for studies focusing on university, or/and college, populations, especially students, since it may shed light on possible difference or similarities about student psychological perceptions or behavior between year of study. With regard to this study, the participants' academic year variable would offer us insight on the differences and similarities between as well as within student participants in the same or the other university. In this light, the pie chart below shows the distribution of student participants based on academic year.

FIGURE 5

Distribution of student participants by academic year

61
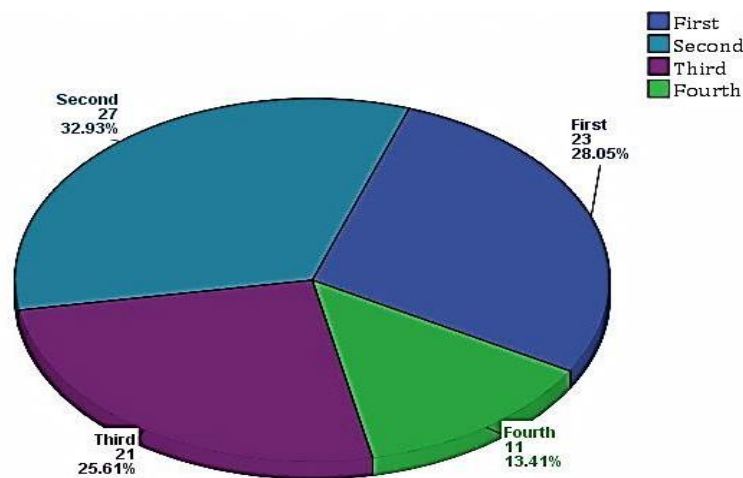
Figure 5 shows that 23 first-year students participated in the study from both universities, which represented 28.05% of the questionnaire responses. Moreover, students in their second academic made up the largest participant group with 27 students, who represented 32.93% of the participants. 21 student participants indicated to be in their third year of study whereas 11 students indicated to represent the fourth year student population in both universities, which represented 25.61% and 13.41% respectively. The low turnout of fourth year students was influenced by the fact that most had left the university grounds since most of them did not live in school.

4.3 Data presentation and interpretation

Essentially, this section summarizes and presents the study findings with the aim of addressing the research questions posed on the adoption of online psycho-educational interventions towards tackling depression among private university students in Meru County, Kenya. Rankin (2020) argues that the study results section allows researchers present the study findings in simple manner, which help justify inferences developed to address the study objectives. Hence, the presentation of the findings of the study encompasses textual and non-textual summary, including tables and graphs, as well as reports of the data collected on the basis of meeting the set research objectives.

4.3.1 **Prevalence of depression among students in private universities**

The first objective of the study sought to assess the prevalence of depression among university students and resultant help-seeking behavior, including seeking psycho-educational interventions, among students to address depression. Essentially, the questionnaire items asked students to indicate whether they had ever been diagnosed with depression by a mental health provider since enrolling in the university. This featured two questionnaire items where one item obtained student responses on whether they had suffered from depression based on personal diagnosis on the

disorder whilst the other item asked whether they had ever sought help from mental health providers in the university. Hence, the students were required to respond to questionnaire items on whether they had ever been depressed since enrolling in the university as well as if they had ever sought mental health services at the university. Furthermore, the questionnaire also asked the students on their usage frequency and confidence of conventional psycho-educational services.

On that note, figure 6 shows that the 72 (87.8%) students indicated that they had ever experienced depression while enrolled as students in their respective universities. In contrast, 10 students out of the 82 students, a mere 12.2%, denied of ever been depressed over the period since their enrollment in their respective universities. Essentially, the study results clearly reflect similar study findings on the prevalence of depression and anxiety disorders among university students in Kenya. Wafula et al. (2020) also showed similar study findings where they reported moderate to high prevalence of depression among university students. Moreover, Shah et al. (2021) asserted that depression among university students was mainly associated with factors such as financial difficulties, academic stress, and culture shock and adaptation.

FIGURE 6

Frequency of Students who ever suffered Depression
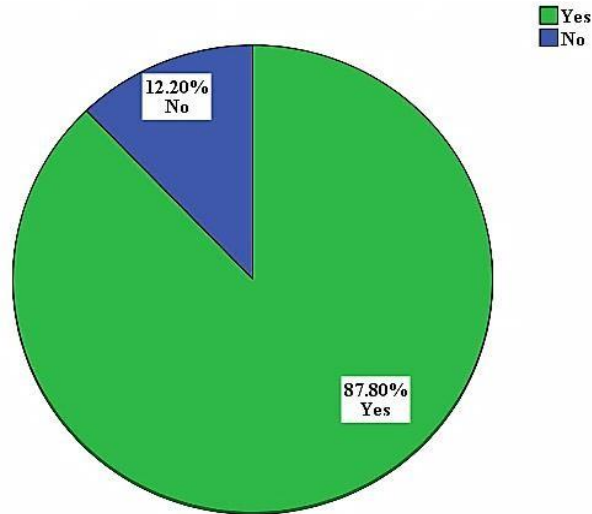
The study results showed that more students indicated to have never sought mental health services, which meant that even if an individual suffered from mental health issues they were less likely to identify this by themselves. Contextually, the research findings confirmed Vasquez's (2016) study findings that concluded that students downplayed the severity of mental health issues on their general well-being due to low literacy levels on mental health issues. This explains why most students also did not report to have ever suffered a depressive episode over the period since enrolment into the university as shown in figure 7 below.

FIGURE 7

Rate of seeking mental health
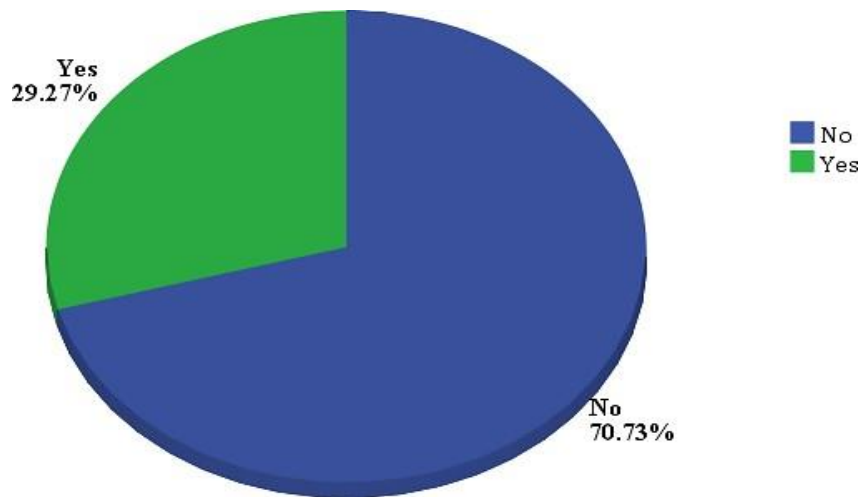
Evidently, fewer university students had ever sought mental health services offered by their universities compared to those who had never used these services offered in their universities. In particular, the diagram above shows that 24 students, who represented 29.27 percent, responded that they had ever sought and received mental health services offered at their respective universities. On the other hand, 58 students, who made up 70.73 percent of the total sample size, responded that they had never used the mental health services offered at their respective university. In comparison to the distribution of student responses on ever suffering from depression, it is evident that very few students sought mental health services that were offered by the university.

Similarly, the mental health professionals (counselors) also responded to questionnaire items that sought to assess the use of collected data on the frequency of students seeking psycho-educational services from their perspective. This involved questionnaire items that required the counsellors to indicate the frequency in which they received students seeking mental health

services, particularly psycho-educational interventions, in tackling depression. The participants were instructed to mainly consider interactions that involved students who did not have an ongoing counselling program. Contextually, the table below summarizes the counsellors' responses on the frequency of starting counseling sessions with students.

TABLE 5

Counsellors' Frequency of Starting Counseling Program with Students

Duration before new session	Frequency	Percent
At least 1 after a weeks	2	25%
Monthly	5	62.5%
Once a week	1	12.5%
Total	**8**	**100.0**

Table 5 above shows 1 (12.5%) of the mental health professionals offered counselling services to at least one university who does not have an ongoing program, i.e. start a counselling program at the university. Moreover, 2 (25%) counselors stated that they averagely had at least one student seeking their counselling services within a two-week period. Nonetheless, most of the counselors, including 8 (62.5%) counsellors, asserted that they had at least one university student seeking and starting counseling program on a monthly basis, which meant that they normally had at least one student starting counselling programs within a month. Evidently, their responses show that the rate in which students seek mental health services offered within the university is low. Moreover, these results illustrate similar trends as presented by Kamunyu et al.'s (2016) study, which showed that most university students underutilized counselling services offered by their respective universities.

In general, the responses offered by the mental health professionals as well as students show that presently adopted psycho-educational interventions are largely under-utilized in the

university. This is observed by the high frequency of student responses stating that they have never sought mental health services in the university. As well, most counsellors working within university settings also stated a very low student turnout in seeking psycho-educational services from them.

4.3.2   Usage Patterns of Existing Psycho-educational Interventions

The study also sought to assess the adopted psycho-educational approaches for the delivery of mental health care among private universities students in Meru County, Kenya. This featured collecting data on the level of use, students' confidence levels, and need for online delivery of conventional forms of psycho-educational interventions. Specifically, this featured questionnaire items that addressed the research objective by asking students the usage frequency, confidence to attend, and potential need of individual, group, family-based, and mixed student counselling programs currently offered at the university. The study results were summarized in the following sections that encompass frequencies, percentages, mean, and standard deviation of the students' responses to the specific questionnaire items.

4.3.3   Frequency of students attending conventional psycho-educational interventions

Contextually, the table below shows the students' responses to questionnaire items that asked them on their frequency of participating in the four major forms of psycho-educational practices, including individual/target, family-based, group-based, and mixed-class psychoeducation. Moreover, student responses were limited to options offered through a 4-point Likert scale, which featured 1 to denote never receiving the specified psycho-educational intervention, 'Never', through 4 denoting frequent participation to the specified psycho-educational intervention, 'frequently'.

TABLE 6

Student's use of Existing Psychoeducation Practices in their University

How frequently do you take part in:	Never		Rarely		Occasionally		Frequently		Mean	SD
Individual Counseling	45	54.9%	26	31.7%	10	12.2%	1	1.2%	**2**	**.751**
Group interventions	35	42.7%	33	40.2%	8	9.8%	6	7.3%	**2**	**.891**
Family-based groups	55	67.1%	15	18.3%	10	12.2%	2	2.4%	**2**	**.805**
Mixed-student groups	40	48.8%	31	37.8%	8	9.8%	3	3.7%	**2**	**.799**

Table 6 displays the frequency, percentage, mean and standard deviation of the participants' responses during the study. Essentially, 45 (54.9%) students indicated that they 'Never' whilst 26 (31.7%) students responded to rarely attend individual counselling interventions that were offered at the university. On that note, 10 students (12.2%) and 1(1.2%) responded that they attended individual counselling sessions occasionally and frequently respectively. Consequently, the mean of the responses was determined as 2, which meant that the average response for the sample was that they had never attended individual counselling services offered at the university. Additionally, the standard deviation was determined as 0.751, which shows that the responses were ideally clustered around the mean and thus a reliable measure for the responses (Omda and Sergent, 2022).

Furthermore, a similar trend was observed on responses to the questionnaire item on the frequency of utilizing group-based psycho-educational programs offered at the school. The responses showed that 35 students, 42.7% of the sample size, indicated they 'Never' while 40.2%

of the sample size indicated they rarely attend group-based psycho-educational programs at their respective university. As well, a mere 9.8% and 7.3% of the sample size showed that they regarded their attendance to group-based interventions as occasionally and frequently respectively. Generally, the mean of the questionnaire item's responses was computed as 2, which showed that the average response of the study participants was that they rarely sought/attended group-based psycho-educational programs offered at the university. Moreover, Omda and Sergeant (2022) emphasize that a low standard deviation was ideal in a research since it showed that the responses were precise in addressing the research objective. In this light, the responses on the item had a standard deviation of 0.891, which was low and thus showed that the responses clustered around the mean and thus a perfect result concerning the responses offered to the questionnaire item.

Similarly, the third questionnaire item assessed the students' attendance to family-based psycho-educational programs, which involved the presence of parents/guardians during counselling sessions. As per Table 6, it was observed that most of the students indicated they 'Never' attended family-based counselling programs whereas 15 students responded to rarely participated in this form of intervention. Moreover, 10 students occasionally attended family-based interventions while 2 students frequently attended such interventions. Consequently, the mean response on attendance to family-based counseling programs was computed as 2, which represented rare usage of family-based psycho-educational intervention. In addition, a low standard deviation was also achieved on the responses to the item at 0.805, which showed that the responses were largely grouped around the average response.

Lastly, the final item asked students to indicate their attendance frequency to mixed-student counselling programs. The study findings showed that 48.8% of the sample size responded they had 'Never' attended mixed-student counselling programs. Contextually, 31 students showed that

they rarely attended whereas 8 students asserted to occasionally attend the program offered at their respective universities. Also, the mean response on the item was determined as 2, which also showed that the students indicated that they rarely attended mixed-student psycho-educational programs offered at their respective universities. Similarly, a low standard deviation was computed for the total responses at 0.799.

4.3.4 *Confidence level of students in seeking presently adopted psycho-educational interventions*

The second aspect concerning the level of use of currently deployed conventional practices featured questionnaire items that collected data on the students' level of confidence to seek and use existing psycho-educational practices. The study results on the responses to the items that addressed this research objective were as shown in table 7 below, including their frequency, percentage, mean, and standard deviation of the responses. The students responded to the questionnaire items based on a 4-point scale that featured: Very Confident (4), Confident (3), Somehow Confident (2), and Not Confident (1).

TABLE 7

Level of confidence to seek and attend currently adopted psycho-educational interventions

How confident are you in seeking and attending:	Not confident at all		Somehow confident		Confident		Very confident		Mean	SD
Individual Counseling	53	64.6%	23	28%	5	6.1%	1	1.2%	1	0.668
Group interventions	44	53.7%	23	28%	12	14.6%	3	3.7%	2	0.859
Family-based groups	52	63.4%	19	23.2%	9	11.0%	2	2.4%	2	0.789
Mixed-student groups	52	63.4%	15	18.3%	9	11.0%	6	7.3%	2	0.951

As observed, the table presents the frequency, percentage, mean and standard deviation computed on the participants' responses concerning their level of confidence to seeking and

attending currently adopted psycho-educational interventions. Essentially, 53 (64.6%) students indicated that they were not confident at all whilst 23 (28%) students responded they somehow confident to seek and attend individual counselling interventions offered at their respective universities. Nonetheless, 5 students (6.1%) out of the total 82 students responded that they were confident and only 1 indicated that they were very confident in seeking and attending individual counseling in seeking and attending individual counselling programs offered at their university. Consequently, the mean of the responses was determined as 1, which meant that the average response for the participants was not confident at all to seek and attend individual counselling services at the university. According to Vellani (2021), the ideal range for the standard deviation is normally -2 and +2, whereby any values above the range show highly dispersed data from the mean. Contextually, the standard deviation for the responses was determined as 0.668, which falls within the defined range above; thus disclosing that the participants' responses were ideally clustered around the mean underpinning the population's average response to the item.

Furthermore, a similar trend was observed on responses to the questionnaire item on the frequency of utilizing group-based psycho-educational programs offered at the school. The responses showed that 44 students, 53.7% of the sample size, indicated they were not confident at all while 28% of the sample size indicated they were somehow confident to seeking and attending group-based psycho-educational programs at their respective university. As well, 14.6% and 3.7% of the sample size showed they were confident and highly confident in seeking and attending group-based psycho-educational interventions. Generally, the mean of the questionnaire item's responses was computed as 2, which showed that the average confidence level of the students to seek and attend group-based counselling interventions was somehow confident. Similarly, a standard deviation value closer to zero (0) was an ideal result in a research since it showed that the

71

responses were precise in addressing the research objective (Omda and Sergeant, 2022). In this light, the responses on the item had a standard deviation of 0.859, which was low and thus showed that the responses clustered around the mean and thus a perfect result concerning the responses offered to the questionnaire item.

In the same way, the third questionnaire item assessed the students' confidence levels to utilizing family-based psycho-educational programs, which involved counselling programs that featured the presence of parents/guardians that were offered at the university. As per the results displayed in Table 6, it was observed that most of the students indicated they were not confident at all to utilizing family-based counselling programs, which was indicated by 52 students, who made up 63.4% of the study respondents. On the other hand, 19 (23.2%) students responded they were somehow confident to attend such forms of psycho-educational interventions. Furthermore, the remaining 2 responses showed that they highly confident in attending family-based psycho-educational programs at their university. Correspondingly, the mean response on the confidence levels of students in seeking family-based counseling programs was computed as 2, which indicated that the general response for the sample featured low confidence levels to engage in family-based psycho-educational practices offered at the university. Furthermore, a low standard deviation was also achieved on the responses to the item of 0.789, which revealed that the responses were largely grouped around the average response.

Lastly, the final item asked students concerning their level of confidence to participating in mixed-student counselling programs offered at the university. The study findings showed that 52 students, who constituted 63.4% of the students participating in the study, responded they were not confident at all to seek and/or attend mixed-student counselling programs. As well, 15 students, 18.3% of the study participants, showed that they were somehow confident to attend in mixed-

72

student psycho-educational interventions. In addition, 9 students indicated they were confident while 6 students responded as very confident in attending mixed-student counselling programs at their respective universities. Correspondingly, the mean response on seeking and attending mixed-student psycho-educational interventions was computed to 2, which revealed the general response for the participants as somehow confident. Similarly, a low standard deviation was computed for the total responses at 0.951, which showed most of the responses were around the mean.

4.3.5   *How students interacted with counselors during psycho-educational services*

The questionnaire given to students participating in the study asked students to indicate how they had previously contacted counselors at their university. For those who had not sought counselling services offered at the university, they were instructed to fill in the standard way normally used by their peers to seek and receive mental counselling services at their university. This was mainly supposed to minimize the effect of missing cases on the validity of the study findings, which Marino et al. (2021) wans that missing case data normally increases the risk for bias, some study groups in the population could be underrepresented, as well as reduce statistical power on influencing the study conclusion. Hence, the study results showed that all students accepted that face-to-face approach as the standard approach used for attending psycho-educational programs at their university. Furthermore, some of the students also pointed out that they also attended counselling services through phone calls and email. The figure below shows the frequency of responses on how counselling services were provided in their respective universities.

FIGURE 8

How Students reach out to Counsellors for Counseling Services
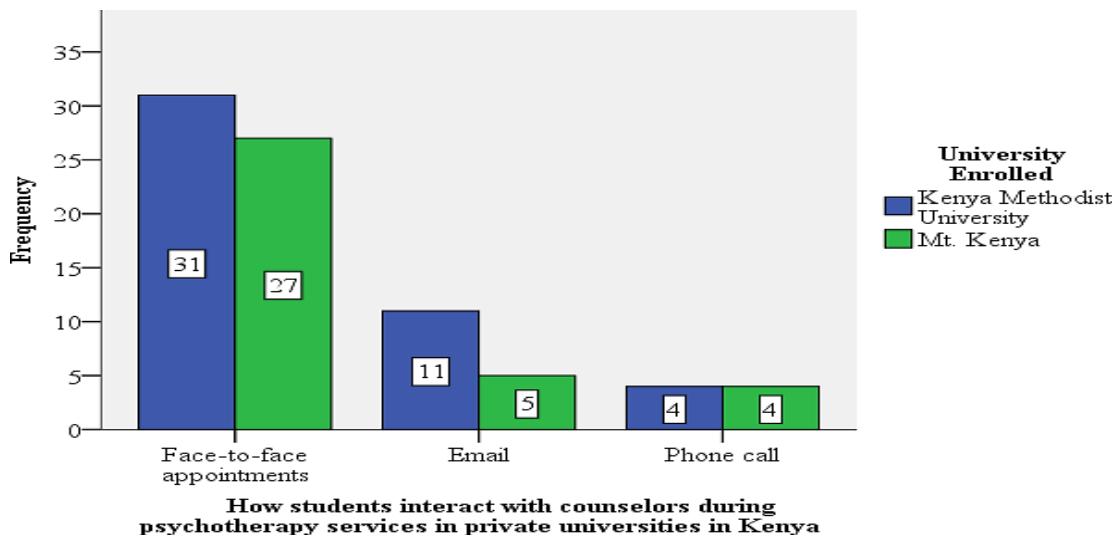
As shown in the figure 8 above, most students indicated face-to-face appointments as the approach used by counselors at the university to offer counseling students. Specifically, 31 students enrolled at Kenya Methodist University as well as 27 students enrolled at Mt. Kenya University showed that the face-to-face appointments was the most commonly used approach to receive counselling services. The study findings reflected on study findings presented by Nyutu (2020) that showed conventional psycho-educational practices were still the widely used approach in most universities in Kenya. Despite their wide use, the endemic challenges affecting students' access to these services affect their utilization among individuals.

Furthermore, the second most commonly used approach used to offer psycho-educational services to students involved interaction over email applications. Specifically, the bar chart shows that a total of 16 students had received counselling services over Email, including 11 students at Ke.M.U and 5 students at M.K.U. Specifically, the study findings reflected on Wangari's (2019) assertions that email applications were also commonly used for provision of psychotherapy

services, which were commonly used for sharing of important psychoeducation materials aimed at enhancing a student's literacy on mental health issues as well as self-care practices to managing mental health issues.

Moreover, phones calls were also indicated to be used by a total of 8 students, which featured 4 participants from each of the two selected universities. This meant that phone calls were the least used ICT platform used for provision of online counselling services at private universities in Meru County, Kenya. The observation mainly verified Ocholla's (2018) assertion that phone calls were the least used medium used for provision of mental health services, which was mainly associated with phone call costs that the initiator of the call had to incur. As well, Kaigwa et al. (2022) asserted that phone calls were commonly used by patients to enquire on counselling services, which was normally followed by face-to-face approaches afterwards in order to reduce such additional costs that may hinder counselling programs.

4.3.6 *Availability of online psycho-educational interventions in private universities*

Student responses on availability of online psycho-educational services

Hence, the participating students in the study were required to give responses to questionnaire items that assessed the current state on usage and availability of technical resources for provision of online psycho-educational services within their respective universities. Contextually, the responses were collected through closed-ended questionnaire items that required students to indicate their subjective perception based on a 5-point Likert scale. Furthermore, the questionnaire featured items that assessed the availability of online psycho-educational services in the private universities, including determining the level of use of ICT resources for provision of institutional services. Also, the questionnaire items also assessed the availability, access, level of adequacy of online resources for delivery of online psycho-educational services, and lastly whether the

participants deemed financial capital as the major factor affecting the adoption rate of online psycho-educational services in their respective universities. In this light, Table 8 below summarizes the study results on the responses for these questionnaire items:

TABLE 8

Students' responses on the provision of online educational services at the university

Item	Very Low	Low	Moderate	High	Very High	Mean	SD
The use of online services in the university is high?	0	3	7	13	59	5	0.803
	0 %	3.7%	8.5%	15.9%	72%		

The first questionnaire item sought to address the research objective concerning the availability of online psycho-educational services to tackle prevalence of depression among university students in Meru County, Kenya by determining the level of use of ICT resources in the provision of institutional services, particularly student-centered. Correspondingly, 59 (72%) students indicated a very high level of usage of ICT resources in the provision of institutional services in their respective universities. Moreover, 13 (15.9%) participants indicated that they considered the level of use of ICT resources as moderately high whereas 7 (8.5%) students considered the level of use of ICT resources as moderate. Lastly, 3 (3.7%) students asserted responded that they considered the current availability of ICT resources as low, which raised the need to understand why they took on a rather distinct position on the statement. Nevertheless, due to the possibility that their responses would be out of scope to the current research, the idea was not pursued. Based on the computed measure of central tendency, the participants' mean response to the questionnaire item indicated a high to very use of ICT resources for provision of institutional services.

TABLE 9

Students Responses on the Availability of Online Psychotherapy Services and Resources

Indicator	Strongly Disagree		Disagree		Neutral (not sure)		Agree		Strongly Agree		Mean	SD
	f	%	f	%	F	%	f	%	f	%		
Availability of online psych-Ed. services	13	15.9	30	36.6	28	34.1	6	7.3	5	6.1	3	1.05
Access to online psych-Ed. services	44	53.7	17	20.7	5	6.1	16	19.5	0	0	2	1.18
Adequacy of online psych-Ed. resources	13	15.9	20	24.4	14	17.1	22	26.8	13	15.9	3	1.34
Finance as a challenge	14	17.1	18	22	19	23.2	11	13.4	20	24.4	3	1.43

The students were further asked whether online psychoeducational practices were available at their respective universities, where it was observed that 13 (15.9%) students strongly disagreed as well as 30 (36.6%) disagreed on the availability of online psycho-educational services in their university as shown in Table 9 above. Furthermore, 28 (34.1%) students took a neutral position on the availability of online psycho-educational services at the university, whereas 6 (7.3%) and 5 (6.1%) indicated they strongly agreed as well as agreed that online psycho-educational services were available at their respective universities. In addition, the average response of the participants on the availability of online psycho-educational services at their respective universities was 3, which represented neutral as per the Likert scale ratings. Similarly, a low standard deviation of 1.05 was computed, which showed that the responses were significantly grouped around the mean (Vellani, 2021). In general, the study findings showed that the students were not sure on whether their university had adopted online psycho-educational interventions.

Correspondingly, the students were asked to show they had access to online psycho-educational services in their respective universities, where the study results showed that 44 (53.7%) students strongly disagreed and 17 (20.7%) students moderately disagreed with the statement that students had access to online psycho-educational services. On the other hand, 6.1% of the total students, i.e. 5 students, participating in the study took a neutral stand on posed statement while 16 (19.5%) students agreed that online psycho-educational services offered by the university were accessible to students. Moreover, measures of central tendency showed that the overall response of the sample was 1.91, which highlighted that the participants generally disagreed with the statement that students had access to psycho-educational services offered within the university. Similarly, the study results indicated that a high frequency of students strongly disagreed with the statement since the mode of the student responses was computed as 1, which indicated a strong disagreement with the statement.

The students were also asked whether they thought their respective universities were capable of adopting online psycho-educational interventions based on existing technical and human resources. The study results indicated that 13 (15.9%) students strongly disagreed and 20 (24.4%) students disagreed with the item's proposition of their universities having adequate resources for delivery of online psycho-educational services. As well, 14 (17.1%) students were not sure whether the existing technical and human resources were adequate for supporting online psycho-educational interventions. Nonetheless, a total of 33 (40.3%) students agreed on the adequacy of existing resources for delivery of online psycho-educational services, which encompassed 20 (24.4%) student participants agreeing whilst 13 (15.9%) strongly agreed to the item's proposal. This observation was further strengthened by the resultant descriptive measures of central tendency, which indicated that the mode for the responses was 4 and thus highlighting

78

that most participants agreed with the item. However, the computed mean indicated that the general response for the study responses on the item was 3.02, which meant that students were evenly distributed between agreeing and disagreeing the item's proposition.

The fifth questionnaire item aimed at finding out whether students considered financial resources as the major factor influencing the present adoption of online psycho-educational interventions in their respective universities. The study results in the graph show that 32 (39.1%) students disagreed with the item's proposition, which encompassed 14 (17.1%) students strongly disagreeing and 18(22%) students disagreeing that the universities faced financial challenges that affected their ability to implement online psycho-educational services to university students. On the other hand, a total of 31 (37.8%) students agreed that finance could be an issue that prevented their university's capacity to implement online mental health interventions. Specifically, 11 (13.4%) students agreed with the research claim whilst 20 (24.4%) students strongly agreed.

As a result, 19 (23.2%) students were observed to take a neutral stance on whether finance was a factor that influenced the university's ability to adopt to implement online psychotherapy services. A comparison of the frequencies of each response shows that most students strongly agreed with 20 (24.4%) students selecting the option in relation to the questionnaire item. However, the average response of the study participants was observed as neutral, which was indicated through a mean of 3. Correspondingly, the study results reflected on findings presented by Kamina (2018), which showed that most universities had low usage of psycho-educational services. This calls for counsellors to increasingly promote mental wellbeing among university students as well as come up with strategies aimed at diminishing challenges affecting adoption of mental health services.

Hence, the generalized notion reached on the basis of the student responses towards the research objective on the availability of online psycho-educational services in private universities in Meru County, Kenya is that the students were not sure on the matter. This was mainly associated with low use of existing psycho-educational interventions, as determined by responses for the previous objective. Otherwise, it was likely that the response would have led to a clear answer of whether the universities did, or not, have online psycho-educational interventions.

Counsellor Responses on availability of online psycho-educational services

Contextually, the counsellors were also asked on the availability of online psycho-educational services to tackle prevalence of depression among university students in Meru County, Kenya. Even though data collected from the counsellors was largely qualitative, the questionnaire items focused on identifying the types of online information and communication resources that were available in the universities that may be used for provision of online psycho-educational services. In particular, the first questionnaire item asked counsellors to indicate whether their universities had adequate online resources for adoption of online psycho-educational services in order to enhance delivery of mental health services to university students and personnel. In this light, the following figure summarizes the number of counsellors' that agreed and disagreed on the adequacy of ICT resources utilized for provision of online psycho-educational services within their respective universities in Meru county, Kenya.

FIGURE 9

Adequacy of technical resources for Delivery of Online Mental Health Services
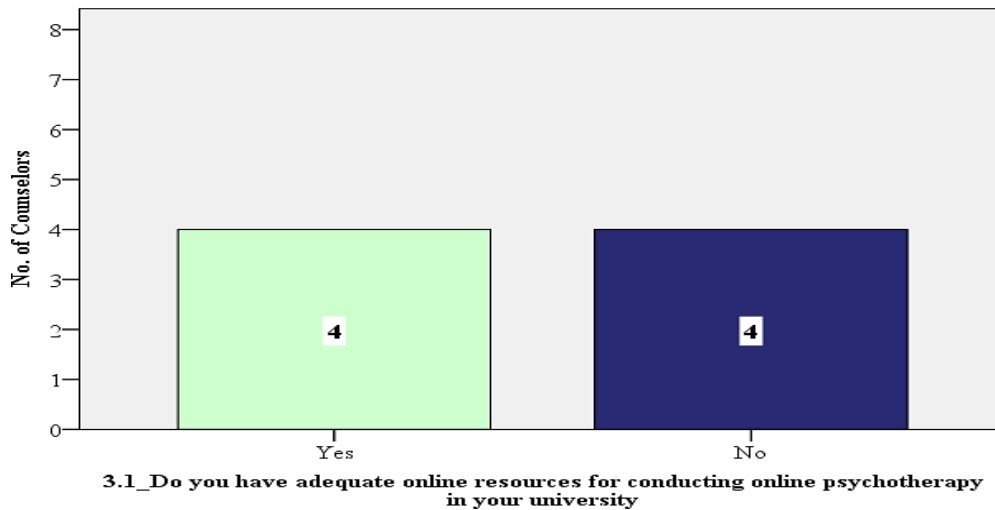
As shown in the figure 9 above, 4 (50%) counsellors indicated that their existing ICT resources were adequate for facilitating online psycho-educational interventions to university students. Nonetheless, the remaining 4 (50%) counselors responded that the existing ICT resources were not adequate for provision of online psycho-educational interventions to university students.

Online Resources that counsellors could use to offer online psycho-educational practices

According to Nzabonimpa and Prozesky (2021), the collection of qualitative data is key feature of a mixed-method research design, which enables researchers to collect subjective responses from the study participants to address study objectives. Hence, the questionnaire items given to the counselors on the study objective concerning the availability of online psycho-educational resources and practices in their respective universities required them to offer subjective textual comments to the questionnaire items. Fundamentally, the counselors were required to list the ICT resources that may be used for delivery of online psycho-educational interventions, which featured technical and/or structural resources that would optimize their provision of mental health services to university students (Otsiulah and Morara, 2022). Specifically, the questionnaire items that

81

collected qualitative data from the counselors were closely related to the counselors' response to the item on whether they had adequate online resources for delivery of online counseling services in their university.

Contextually, the counselors were required extend their response on the adequacy of technical and human resources for provision of online psycho-educational practices in their university. This featured proceeding to a questionnaire item that allowed them give subjective responses on why they considered the present technical resources adequate or inadequate in the delivery of online psycho-educational intentions. Furthermore, the counselors were also asked to list the ICT resources that were available in their universities that they considered beneficial to provision of online psycho-educational interventions to university students. Consequently, a content analysis method was used to uncover the common words used to list the ICT resources that are/may be used for online psycho-educational interventions in relation to addressing the research question (Braun & Clarke, 2006). In general, table 10 indicates the main themes obtained from the counselors' responses on the ICT resources that may be used for delivery of online psycho-educational services in the university:

TABLE 10

Study results on technical resources that support provision of online counseling services

Themes	Listed Resource	Frequency	Percentage (%)
Technological devices	Personal Computers	8	100%
	Smart phones	8	100%
	Desktop computers	5	62.5%
	Telephone	3	37.5%
Communication/ Application	Email applications	5	62.5%
	University's online learning portal	4	50.0%
	Teleconferencing applications, Skype, Zoom	4	50.0%
	Social media platforms	2	25.0%
Network infrastructure	Wired and Wireless networks	3	37.5%
	Internet	8	100%

Upon content analysis on the responses, resources listed were identified to fit within three main themes, namely technological devices, communication applications, and network infrastructure. Table 10 shows that all the counselors listed internet, personal computers, and smart phones as the existing ICT resources that may be used for performing online psycho-educational resources in their respective universities. In general, listed information and communication resources classified as technological devices, based on counselors' responses, featured desktop computers, telephones, smart phones, and personal computers, such as laptops and tablets. Correspondingly, some of the counselors listed email, social media platforms, especially WhatsApp, and university-based e-learning applications as ICT resources that may be used for provision of online counselling services, which were classified under the theme on communication application. Some of the researchers indicated wired and wireless networks alongside internet as

resources that would be utilized for deploying online psycho-educational interventions. Even though all counselors listed a number of available ICT resources that may be used to provide online psycho-educational interventions, some of the counselors had indicated that the available ICT resources were still inadequate for online psychoeducation practices.

4.3.7 *Perceptions on adoption of online psycho-educational interventions*

Various studies have illustrated that behavior and perception may cooperatively interact based on environmental conditions (Kamina, 2013). Fundamentally, perceptions form an individual's association with an activity through reinforcement (Egunjobi, 2021). This means that if an individual has a positive perception towards an action, they are more likely to perform the action voluntarily. Conversely, a negative perception is likely to lead to resistance and reluctance to adoption of an action, especially during change. Hence, this study aimed at assessing private university students' and counselors' perception on the use of online psycho-educational interventions in order to determine whether its adoption would enhance delivery of psycho-educational practices within university settings. This featured collecting data from students and counselors who participated in the study on how they perceived the use of online psycho-educational services in the university.

Student Participants' Responses on perceptions to using online psycho-educational services

Specifically, both groups of participants were required to respond to questionnaire items on whether they would feel comfortable seeking and utilizing counselling services if they were through an online channel; whether they would feel protected from perceived judgment and stigma associated with the use of mental health services during counselling sessions; whether they would prefer online approaches rather than face to face psycho-educational practices; as well as whether

they were in favor of the use of digital tools to access psychotherapy. Students' responses to the questionnaire items addressing the research objective are presented in Table 11.

TABLE 11

Students' Perceptions towards Adoption of Online Psychoeducational Interventions

Perception's Indicator	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	SD
Enhanced access to mental health services	5	6.1%	13	15.9%	11	13.4%	40	48.8%	13	15.9%	4	1.125
Protection from emotional (perceived) criticism	10	12.2%	15	18.3%	13	15.9%	33	40.2%	11	13.4%	3	1.253
Convenient interaction process (seeking and access)	6	7.3%	8	9.8%	13	15.9%	38	46.3%	17	20.7%	4	1.139
I would prefer online to face-to-face psychoeducational counseling (ease, efficiency)	5	6.1%	9	11.0%	7	8.5%	36	43.9%	25	30.5%	4	1.167

The first questionnaire item aimed at collecting student responses on their p4rcetions towards adoption of online counselling services in the university asked students whether online channels would enhance accessibility of psycho-educational services offered at the university. Essentially, Ocholla (2018) found out that the internet had enhanced educational activities as most higher learning institutions had implemented e-learning platforms that allowed students to efficiently access learning materials as well as interact with lecturers/tutors. Hence, online psycho-educational practices would significantly increase students' access to counselling services, since they already rely on the internet to perform various school-related activities. In this light, the study results showed that 13 (15.9%) students strongly agreed whilst 40 (48.8%) students agreed that

online psycho-educational interventions would increase students' access to counselling services offered at the university. The study result was also reflected by the mean of the total student responses that was determined to be 4, which meant that 'Agree' was the average response for the total sample concerning the item's proposition. The suitability of the responses on addressing the item was indicated by the resultant low standard deviation of 1.125, which was within the ideal range established by Vellani (2021) of $-2 <= \sigma <= 2$, with σ denoting the standard deviation.

Furthermore, 13 (15.9%s) students disagreed that online psycho-educational services would increase students access to university-based counselling services while 5 students (6.1%) strongly disagreed. Students who took a neutral stand on the research claim constituted 13.4% of the study's student participants, which featured 11 students. Evidently, the results reflected on previous assertions made by mental health scholars and researchers on assessing the influence of online delivery of psycho-educational services to students within higher learning institutions that the approach would increase students' access to online counselling services.

Moreover, the second item collected data on whether the students perceived that online psycho-educational practices would help manage individual perceived criticism, which was shown to largely inhibit students' capacity to seek and commit to counselling services. According to Beaton et al. (2020), perceived criticism affected an individual's ability to seek mental health services, whereby an individual perceived that another person, especially those closest to them such as peers and/or family members, would criticize them in light of cultural or stereotypical ideologies concerning mental health issues. Fundamentally, the study results revealed that most students agreed that online counselling services would manage the negative effects of perceived criticism that individuals experienced before and during such programs. The item's research claim was specifically supported by 33 (40.2%) students agreeing whereas 11 (13.4%) students strongly

agreed with the item's statement. Nonetheless, 15 (18.3%) students disagreed that online counselling services managed perceived criticism and 10 (12.2%) students strongly disagreed.

As well, 13 students took a neutral stance on the research claim. Generally, the mean of the total student responses was computed to 3, which showed that the study participants' average response to the item's research claim was neutral. The resultant standard deviation also strengthened the study findings, which was calculated as 1.253 showing that the responses to the item were closely grouped around the mean. Hence, the study findings affirm Shaygan et al.'s (2021) assertion that the use of online psycho-educational interventions were effective in managing a patient's perceived criticism and stress and thus enhance an individual's chances to seek and commit to an online counselling program.

The third questionnaire item sought to collect data on the students' perceptions to whether online counseling services were convenient in terms of ease of access and quality of interaction. The item was assessed in relation to study findings presented by Ocholla (2018), who argued that most college students viewed online psycho-educational approaches as convenient since they did not only support flexible ways of offering mental health services but also enhanced mental health literacy among university student through easy access to informational materials on self-care practices for managing depression. In this light, the study results showed that 38 (46.3%) students accepted that online counselling approaches were convenient while 17 (20.7%) students strongly agreed on the item's proposition. The sample's agreement on the research claim was further reflected by the computed mean of individual responses, which was calculated as 4 as well as a low standard deviation citing general agreement of the responses to the computed mean. This means that the 14 responses that disagreed with the statement as well as 13 (15.9%) students who took a neutral stance on the item had less effect on the mean response on the item's research claim.

Lastly, the fourth item sought students' responses on preference for online over face-to-face psycho-educational practices towards addressing the research question on students' perceptions on adoption of online psycho-educational interventions. The study findings showed that responses from 11% of the participants rejected that they would prefer online delivery of psycho-educational service while 6.1% strongly disagreed. Similarly, a low percentage of the responses showed a neutral stand on the item's opposition, which was observed on 8.5% of the total responses. Hence, most of the responses showed that most students preferred online approaches to face-to-face psycho-educational approaches, which was presented by 43.9% of the responses agreeing whilst 30.5% indicated a strongly agreement to the research claim. The pie chart below graphically presents the summary of the participants' responses on the item's proposition.

FIGURE 10
Student perception to online psychoeducational services
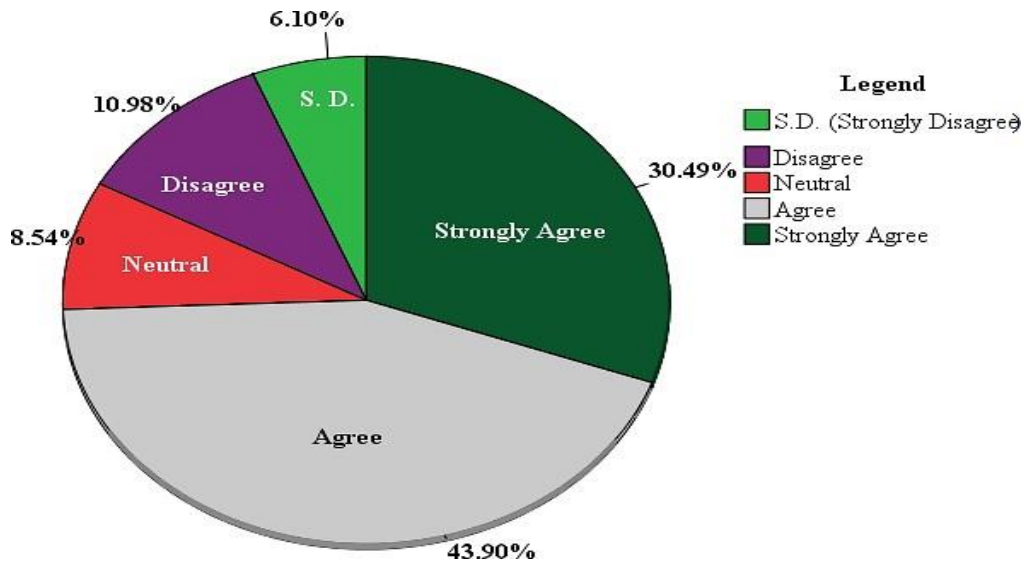
The weight of the high frequency of responses agree with the research claim was correspondingly reflected in the computed mean of the total responses, namely 4, which indicated a general agreement on the item. The study findings supported Kaigwa et al.'s (2022) assertion that most individuals would prefer online counselling approaches, since highly convenient, efficient, and

88

easy to access mental health services. This was mainly influenced by the fact that most individuals performed most of their errands through online platforms as well as used the internet to perform mundane activities, such as interacting with peers or fellow students regardless of distance.

Counselors' Perceptions towards digital delivery of psycho-educational interventions

Furthermore, the study also sought to establish university counsellors' perceptions on the use of digital channels for provision of psycho-educational services to university students. According to Egunjobi (2021), counselors' perceptions on digital delivery of online mental health services was a key aspect towards effective adoption of online psycho-educational services. The researcher further expounds that positive counselor perceptions on online mental health services was linked to increased use of the services by patients since the counselors were likely to promote their services through various online platforms. Contextually, Ocholla (2018) argued that some of the variables that may be considered to determine counselors' perceptions towards online psycho-educational services featured acceptance to innovative approaches of provision of mental health services. Hence, the questionnaire featured items that asked university counsellors on whether they: were comfortable with online delivery of counselling services, preferred online counselling services, perceived online services managed perceived criticism felt by students seeking counselling services, and whether they were receptive to adoption of online psycho-educational services. The study results were summarized in the table 12 below:

TABLE 12

Perceptions of Counselors towards Digital Delivery of Psychoeducational Interventions

Conusellors' perceptions indicator	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	SD
	f	%	F	%	F	%	f	%	f	%		
Feel comfortable	0	0.0	0	0.0	3	37.5	4	50	1	12.5	**4**	**.707**
Prefer online	1	12.5	1	12.5	1	12.5	3	37.5	2	25	**4**	**1.414**
Emotional protection	0	0.0	0	0.0	2	25	5	62.5	1	12.5	**4**	**.641**
Receptive to Online	0	0.0	0	0.0	3	37.5	4	50	1	12.5	**4**	**.707**

Specifically, the first questionnaire item asked counselors if they were comfortable with adoption of online psycho-educational services for delivery of mental health services to university students. The study results showed that none of the counselors disagreed with the item's proposition, but rather 3 (37.5%) counselors indicated to have a neutral stance on their level of acceptance for online psycho-educational services. Furthermore, 4 counselors (50%) of the counselors agreed whereas 1 (12.5%) counselor agreed strongly that they were comfortable using digitally-provided psycho-educational services. Consequently, the mean of the responses was determined to be 4 (standard deviation= 0.707), which represented a general agreement among counselors that they were comfortable with online psycho-educational services. In general, the study results reflected on Wangari's (2019) study findings, which showed that counselors within university settings were comfortable with digital technology in provision of online services. Furthermore, Tuna and Avci (2023) asserted that despite that counsellors were comfortable with application of digital technologies for delivery of psycho-educational services, some were

concerned of inadequate standards that guide the provision of mental health services through online channels. This assertion is likely to apply for the counsellors who took a neutral stance on their level of confidence.

Furthermore, the study results showed that the counsellors averagely agreed that they preferred online psycho-educational services over face to face (mean= 4, SD= 1.414). This was observed based on the study results that show that 62.5% of the counsellors agreed to preferring online psycho-educational services over face to face, which encompassed 3 counsellors agreeing with the proposition while 2 counselors strongly agreed. In contrary, 2 counsellors rejected preferring online to face-to-face psycho-educational interventions whereas 1 counsellor took a neutral stance. Specifically, the study results largely reflected on study findings presented by Ocholla (2018), who inferred that counsellors within higher learning institutions highly preferred online psycho-educational approaches since digital applications allowed flexibility in service provision where they would efficiently interact with clients regardless of distance and time. Furthermore, Nyutu (2020) demonstrated that most students had negative attitudes towards conventional counselling approaches, which largely affected their utilization of university-offered counselling services. Hence, adoption of online psycho-educational services would likely enhance provision of mental health services since both students and counsellors are viewed to prefer the use of digital applications in provision of psycho-educational practices.

Furthermore, the study also assessed whether counselors deemed online psycho-educational interventions as ideal in minimizing negative emotions associated with external influences, such as perceived criticism by patients due to the established social attitudes towards mental health. The study findings showed that counsellors averagely agreed that online psycho-educational approaches protected clients as well as themselves from negative emotions (mean= 4,

SD= 0.641). Specifically, the results showed that 88% of the counsellors agreed with the research claim, which featured 5 counselors agreeing while 1 counselor strongly agreed on the item. As well, 2 counsellors indicated a neutral position on the item. In general, the study findings reiterated Mutiso et al.'s (2019) findings that online psycho-educational services protected both provider and client from negative emotions caused by external factors that affected the utilization of mental health services, such as perceived criticism. Additionally, digital applications allowed clients to varyingly interact with counsellors, whereby clients may maintain their privacy by anonymously interacting with the provider and still be attended to.

Lastly, counsellors' perceptions on the use of online psycho-educational practices was evaluated through responses on whether the counselors were receptive to online mental psycho-educational approaches. The study results showed that the counsellors generally agreed to being receptive to online provision of psychoeducation services to university students (mean=4, SD= 0.707). The average response of the counsellors was due to 4 (50%) counsellors agreeing that they were ready and willing to adopt online services while 1 counselor strongly agreed. Furthermore, none of the counselors rejected the item's proposition as the remaining 3 counselors took a neutral position on readily willing to adopt online psycho-educational services. Contextually, the study findings confirmed study findings published by Kaigwa et al. (2021), who asserted that providers were largely receptive to online psycho-educational practices since they appreciated the convenience and flexibility gained through online mental health platforms.

Based on the study results addressing the research question on students and counselor perceptions on use of online psychoeducational, it was concluded that both students and counselors were comfortable with the use of digital applications in provision of psycho-educational services. Furthermore, the study participants agreed that online psycho-educational practices managed the

negative impacts of factor such as perceived criticism and thus enhanced seeking and provision of mental health services among students. Similarly, both students and counselors referred online psycho-educational approaches to conventional (face-to-face) approaches since it cost-effectively offered both students and providers a range of ways to interact. Lastly, the study participants agreed that they were receptive to using digital technology for mental health services, which shows that online approaches would likely enhance delivery and utilization of mental health services in university settings. Hence, the study outcomes inferred that the study participants have positive perceptions towards online psychotherapy practice in their respective universities.

4.3.8 *Challenges faced that call for the adoption of online psycho-educational services*

Despite the vast body of scholarly research literature citing the potential of digital technology to enhance the provision of mental health services, its adoption in higher learning institutions, especially in Kenya, is still at a very slow pace. Muhia and Nanji (2021) highlighted that low pace observed on the adoption of innovative approaches for delivery of mental health services was largely influenced by low investments being directed towards enhancing mental health services. However, the increasing prevalence of depression among vulnerable populations, such as adolescents and youth, prompts research on how provision of mental health services may be enhanced particularly in resource-limited regions, such as Kenya. Hence, the study aimed at determining the challenges that influence the adoption of online psycho-educational approaches in university settings, which have been shown to have adequate ICT resources that could be used to implement online mental health services. The questionnaire featured a number of items that collected data on the challenges that students and counselors perceived to affect the adoption of online psycho-educational services. Specifically, qualitative data was collected from the study

participants, which offered insight on the various challenges affecting the universities featured on implementing online counseling services.

Students' responses on challenges faced utilizing counselling services at the university

Consequently, students were asked to comment on the challenges they faced in relation to the medium used for interacting with counsellors, whereby qualitative responses were collected from the students. Hence, thematic analysis was performed on the responses, whereby keywords were identified, which denoted the students' perceptions on what discourages the utilization of mental health services at their university. Consequently, the keywords were grouped to form themes that were considered as the main challenges that students faced on seeking and utilizing psycho-educational services at the university. In general, the main themes on challenges affecting students' behavior on seeking and utilizing mental health services offered at the university featured students being afraid fear that the counsellor may not understand their mental health issue, perceived criticism (self-stigma), public stigma, as well as low mental health literacy.

Fear of not being understood by counselors due to personal differences (age, religion)

In this light, one of the themes observed from the participants' responses encompassed being afraid that the counsellor would not understand what they were experiencing, which would affect their ability to seek treatment. Specifically, some students indicated that depression was difficult to diagnose by themselves, whereby they only knew that they were depressed after the university put them under mandatory counselling sessions at the university. Furthermore, Bikwetti (2021) asserted that the fear that the counsellor may not understand what they were experiencing demotivated students to seek mental health services, since they feared not being able to articulate their condition and thus seem as if they wasted the counsellors' time. For example, a second-year female student at KeMU asserted that even though she is aware of being depressed during her first academic year, she did not seek mental health services as she was hesitant since "fear always froze

her where it would make me imagine all the ways that I may fail to clearly explain what I am undergoing." Furthermore, a male third-year student who was put under mandatory counselling services at MKU explained:

"It is difficult to realize that your deep anger and negative thinking patterns is due to depression or the even that made you blow up into a vandalizing frenzy or just develop chronic bitterness towards a person or institution. Also, since depression is difficult to diagnose, especially if you are not aware of its signs and symptoms, one is likely to downplay; thinking that the continuous negative cycle is due to their distinct background and current situation therefore no need to talk about it since no one will understand. Therefore, it is impossible to seek mental health services for something you know you are even experiencing."

Contextually, a second-year female student at KeMU pointed out hesitation to seek psychotherapy encompassed the fear of not being understood by the counselor because you cannot clearly be expressing yourself. The participant further points out that the inability to express yourself is further deeply rooted on an individual's inability to even know that he/she is depressed. The student stated:

"the major challenge that students, or to be specific I, face when I ponder on seeking counselling services is whether I will clearly voice my feelings to the point to the point of being understood by the counsellor. First, you are not aware of what is happening, where you are aware of your mental distress, but that's all you know... that it is a just thoughts and negative feelings. You ruminate over the thoughts, which keep you in a constant state of alarm and despair. Despite that you feel you know what you are experiencing, everything

you think you knew disappears when you are asked to verbally convey what you are going through, which adds more frustration."

While some participants attributed their fear of seeking counselling services to the likely failure of coherently expressing their thoughts and feelings to counselors, and thus ending up not being understood; others associated the fear to seek counselling services on age differences. For instance, a first-year female student at MKU reported:

"most counselors at our campus are older than us (students), who are new to the world on an independent basis and are trying new things as we venture into forming our identity. At this stage, we hold the perception that the age difference makes it difficult for the counselors to understand us; or even judge us. Such thoughts deepen our fear and delays our ability to even consider expressing ourselves to our parents, let alone the counselors, since we feel they will not understand us."

The main challenge shown by the responses shows the need for mental health interventions that featured connecting the patient with the mental health providers. The fear that students have on seeking metal health services are proliferated by lack of awareness that mental health issues, such as depression, affect everyone and that care is crucial to manage its impacts on an individual's well-being in the long term (CitiesRISE, 2020). As well, the fear of seeking mental health is based on the usual trend of students being placed under mandatory counselling services after being caught doing a misdemeanor, which makes it seem as if counselling is a form of punishment. Consequently, university students do not seek counselling services, but rather choose to self-manage, which through short-term solutions, such as drug abuse.

Perceived Criticism

Furthermore, a major theme also identified based on the responses by the students who participated in the study involved being overcome by perceived criticism. Adams et al. (2022) define perceived criticism as an intrinsic perception of being criticized by another individual, particularly from people closely bonded to the patient, such as relative, spouse, or even peers. Based on the responses offered by the students in the study, perceived criticism was mainly associated with the counselors, whereby students had the perception that the counsellors would generally judge them and later use that information to justify being discontinued from the campus, which may affect their academic progress. For instance, a fourth-year male student at KeMU reported:

> "... a challenge faced by students in seeking psychotherapy in the campus is that the perception that mental health issues is a personal issue and that seeking help from counsellors at the university places them at a position of being considered as unfit for university education, which may justify being discontinued from enrollment at the university. For instance, I always understood that mental health issues mainly involved insanity, where counselors were only for individuals who were diagnosed with recovering from insanity. Hence, I perceived counselors and peers would undesirably judge me, which affected the likelihood of seeking counselling services at the university."

Nonetheless, not all students pointed out that their perceived criticism was based on misinformed connotation of mental health issues. Correspondingly, some students indicated that perceived criticism affected their intention and action of seeking psycho-educational services at their university as they felt that they may be harshly condemned by counsellors. For instance, a first-year female student at MKU wrote:

"you may go to a counsellor with a case of depression that is rooted on a past/current relationship and the counselor ends up condemning you for even being in a relationship in the first place rather than help you address your depression."

In this light, Muhia and Nanji (2021) asserted that perceived criticism among students influenced them to consider self-management strategies in addressing depression. This entailed self-management activities such as joining clubs at school, seeking help from religious leaders, or even engaging in risky sexual activities and substance abuse.

Low mental health literacy among students

Inadequate mental health literacy was also determined as a major theme on the challenges students faced in seeking and utilizing mental health services at the university. Additionally, three subthemes were identified in relation to inadequate mental health literacy from the responses, which encompassed inadequate knowledge on symptoms of depression, unaware of where to seek mental health services at the university, and not knowing the process of receiving mental health support.

Particularly, limited, sometime lack, of knowledge on the symptoms of depression was emphasized as a main subtheme that affected students' use of mental health services offered at universities. Wangari (2019) argued that the organizational structures adopted in most universities largely affected initiatives proposed by some departments, especially those that were deemed as not directly related to educational use-cases or whose impacts could not be directly measured in relation to teaching and learning activities. Consequently, mental health service departments were normally able to implement promotional campaigns on mental health among students, which involved increasing its visibility among university students. The low visibility of mental health

services offered at universities was clearly observed through the student responses, such as a statement by a fourth-year female students at KeMU, who states:

"most students had little to no knowledge on mental health issues, which largely warrants the need for educational campaigns that educate students on mental health issues. No one would address what they do not know about, which influences them to bottle up such issues until it is too late and the blame will normally be directed back to the individual under arguments such as ignorance"

The subtheme was also observed through responses that reported on inaccurate information on mental health issues. For instance, a fourth-year male student at KeMU had cited that he had earlier on thought that mental health issues normally involved extreme mental health conditions, which rendered an individual incapable to be among students, or general public. Furthermore, another student pointed out that they normally thought that an individual had to get a referral from a renowned mental health hospital in order to be assigned a counsellor at the university.

On the same note, a number of students responded that inability to recognize that a mental health issue was a major challenge that affected the use of psycho-educational services offered at the university. It is important to note that the inability to recognize of having a mental health issue was not in terms of anosognosia, which refers to a neurological disorder where an individual is psycho-educational unaware of their neurological deficit, but due to low mental health literacy among students. To put it into perspective, a fourth-year female student at KeMU participant reported:

"the knowledge on mental health issues that most students are normally based on myths and misconceptions to some extent. This makes an individual not seek counselling services. Also, the myths and stereotypes that people hold on mental illnesses makes them unaware

of depression as a common issue, which may be affecting them. But, the lack of knowledge

on the symptoms of depression affects their ability to even seek mental health services"

Similarly, a significant number of responses also stated that they did not even know that students

may seek counselling services for depression at their university. A third-year male students at

MKU stated responded, "I do not think our university offered these services". Furthermore,

another female student echoed these sentiments by asserting, "the counselling services offered at

our university are normally offered to certain students under the direction of the school's

administration."

Likewise, some students responded that they were not sure on how to go about in seeking

mental health services. Specifically, a student at KeMU reported, "I do not think any students has

the right to seek such services, especially due to personal issues, which every other student is also

undergoing in one way or another." This clearly shows how the lack of information on counselling

services at universities affected their likelihood to enhance their literacy on mental health issues.

In addition, students were also unfamiliar with therapeutic practices and the process involved to

gain coping strategies that they may use to deal with mental health issues they experienced.

Stigma

The fourth theme discerned from the student responses showed that stigma was also a major

challenge that affected the utilization of mental health services offered at the private universities.

Fundamentally, stigma refers to the negative perception held by other individuals, which entail

viewing a mentally ill individual as socially undesirable (Mutiso, 2019). Contextually, a student at

MKU pointed out they would let their peers know that they are seeking mental health since their

esteem would really be affected, whereby their relationships would change. According to Bikwetti

(2021), stigma was mainly a challenge on the basis of an individual's environment, where if the

people around an individual had limited mental health literacy, they would most likely stigmatize the individual suffering from a mental health issue rather than treating them with compassion.

Counsellors' Responses on the challenges affecting existing Psychoeducational practices

Moreover, the study also assessed the university counsellors' thoughts on the challenges that affected conventional psycho-educational interventions. Specifically, the counsellors were required to rate their level of dis/agreement on whether online psycho-educational services had the potential to address the challenges students faced in seeking and utilizing existing psycho-educational services to students. Table 13 below summarizes the study results on the counselors' responses to the questionnaire items posed towards addressing the research objective.

TABLE 13

Are Online Psycho-educational Interventions effective in addressing Common Challenges affecting Students' use of existing psycho-educational services?

Online psycho-educational interventions will:	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	SD
	f	%	F	%	f	%	f	%	f	%		
Q4.1_ improve counselor-client relationship	-	-	-	-	3	37.5	3	37.5	2	25	4	.835
Q4.2_ enhance mental health literacy	-	-	-	-	2	25	5	62.5	1	12.5	4	.641
Q4.3_ manage stigma of mental health issues	-	-	-	-	-	-	7	87.5	1	12.5	4	.354
Q4.4_ reduce the effect of perceived criticism	1	12.5	1	12.5	3	37.5	3	37.5	-	-	3	1.069

The study results showed that 3 counselors agreed while 2 other counselors strongly agreed that online psycho-educational interventions would improve counselor-student relationship. Subsequently, the remaining 3 counselors indicated that they were neutral on the item's

101

proposition that online mental health services would improve counselor-student relationships. Nonetheless, the average response on the item was observed as a general agreement to the questionnaire item, where the suitability of the responses on supporting the mean was verified with the resultant low standard deviation of .835. More importantly, the study findings maintained Smith and Gillon's (2021) study conclusion that online psycho-educational interventions increased the therapeutic relationships after interviewing therapists on their opinions concerning the use of technology-delivered psychological interventions offered to students during the covid-19 pandemic.

Another essential study finding was that most of the counselors supported the notion that online psycho-educational approaches would efficiently facilitate mental health literacy levels among students. This is based on the responses to this item, which showed that 5 counselors agreed whereas 1 counsellor strongly agreed that online psycho-educational approaches enhanced mental health literacy among university students. Additionally, 2 counselors were not sure concerning the claim posed by the questionnaire item and thus indicated to be neutral. The average response for the counsellors' response to the item was calculated as 4 (SD= 0.641), which represented a general agreement of the study participants to the item's proposition. In this light, the study findings related with assertion by Ito-Jaeger et al. (2023), who found out that online approaches were effective for enhancing mental health literacy among the youth population as well as cost-effective than promotional campaigns aimed at educating individuals on mental health issues.

Contextually, the counsellors also averagely agreed that online mental health approaches had the potential to reduce stigma associated with mental health issues among university students. Specifically, this was reflected on by the results of the study with 7 counsellors agreeing and 1 counsellor strongly agreeing that technology-delivered psycho-educational practices would

102

address stigma associated with mental health issues. Moreover, the mean of the responses was computed as 4 (SD=0.354), which exemplified an average agreement of the participants towards the questionnaire item's research claim. The study finding emphasized on inferences Goh et al. (2021) established that digital delivery of mental health interventions offered novel ways of increasing mental health issues and thus significantly manage social stigma directed towards individuals with mental health issues.

The study also asked the counselors whether online mental health approaches would address challenges associated with perceived criticism, which was determined to affect an individual's intention and behaviors on seeking mental health services (Mutiso e al., 2019). The study results showed that 2 out of the 8 counselors disagreed with the claim where 1 of the counselors strongly disagreeing that online psycho-educational approaches would manage perceived criticism held by individuals concerning seeking and getting mental health services. On the other hand, 3 counselors agreed with the claim and 3 other counselors took a neutral stance on the capacity of online psycho-educational practices to helping students tackle perceived criticism. The mean of the response was determined as 3 (SD=1.07), which represented an impartial response to the research claim posed by the questionnaire item. With regard to findings presented by Bekes et al. (2021), online psycho-educational services generally depended on the framework guiding its implementation to meet the needs of the target audience. Hence, there is need for further studies to assess the effect online mental health practices had on perceived criticism, which students showed as a challenge that affected their intention and behavior on seeking mental health services.

Potential challenges that may affect adoption of online psycho-educational interventions

Upon asked to state challenges that may potentially impede the adoption of digitally-delivered psycho-educational services at private universities in Meru County, the counsellors listed factors

such as technology failure, which involved unplanned disruption of online informational or communication services. For instance, one of the counsellor pointed out that sometimes electricity issues may affect the ability of students to access online mental health resources offered by the university. In other words, the counselor highlighted the issue of inadequate technical resources, where she points out that the single point of system entry into the system means that when issues such as intermittent electricity disruptions may render online mental health services inaccessible.

Gachenia and Mwenje (2021) also had pointed out that universities may not apportion counselling department enough funds for an effective campaign that increased the use and awareness of mental health services. A counselor at MKU reported:

"There is need for deployment of a dedicated counselling portal within the e-learning platform as well as campus-based promotional campaigns that aim at increasing awareness on the provision of school-based counselling services. However, the university may not allocate funds for an aggressive campaign aimed at increasing awareness as well as use of counselling services at the university"

The excerpt above showed that the availability of ICT resources only did not directly point to use of online psycho-educational interventions. The respondents assert that there was need for a fully functional web-based knowledge base and platform that was dedicated to enhancing mental health literacy among students, which may not be offered or take a long time to be fully established. A counselor at KeMU stated,

"the online psycho-educational services would also need competent individuals and thus the university should support ongoing training among counsellors in order to improve the counsellors' competency and knowledge on application of ICT technologies for provision of psycho-educational practices. For example, even though the university has internet connection, a

working online platform, and smartphones as well as computers, less students individually seek mental health services, which shows that technical resources alone does not enhance provision of online counselling services; there is more to be done than just giving everyone a phone, communication platform, and the internet"

Furthermore, some counsellors pointed out that there was need for ongoing training on the application of ICT in psychoeducation services, which very few counselors have been able to undertake as well as apply in the university due to inadequate financial resources. A counselor from Mt. Kenya University stated that the existing ICT resources were inadequate for online services since, "there isn't a standardized framework that stipulates various aspects encompassing delivery of online psychoeducation services, including activities, duration of a session, and protocol of escalating mental health cases among others.

In conclusion, the study findings showed that the counsellors perceived that the adoption of online psycho-educational interventions in their universities would face challenges such as inadequate online resources to deal with service interruption issues, such hosting counselling services over a separate server in order to increase access as well as effectively tackle unplanned system disruptions. As well, inadequate support for aggressive awareness campaigns on provision of mental health services at the university and continued training on application of ICT in psycho-educational practices were also determined as challenges that may affect effective adoption of online mental health services at the universities.

4.3.9   Diagnostic Tests

Various statistical computations were performed on the quantitative data collected from the study participants, which encompassed values indicating each participants' level of agreeableness or disagreeableness based on closed-ended options on a Likert scale. Contextually, a reliability test

is performed on Likert-scale based responses to determine the internal consistency of the study results (Louangrath, 2018). Essentially, internal consistency encompasses the cohesiveness or inter-relatedness of study responses obtained through multiple questionnaire items based on Likert scale options. Therefore, the Cronbach Alpha was used to measure the internal consistency of the responses collected from the students and counselors towards gaining insight on the adoption of online psycho-educational practices in tackling the prevalence of depression incidences among students in private universities in Meru County, Kenya.

Correspondingly, the test results indicated that the students' responses were reliable since the resultant Cronbach's Alpha value: $\alpha = 0.705$, according to Heeringa et al. (2020), was within the ideal range of $0.7 <= \alpha <= 1.0$. Similarly, the counselors' responses were also measured for internal consistency, which also resulted to a Cronbach's Alpha value that meets the range defined by Heeringa et al. (2020), specifically $\alpha = 0.871$. Table 14 below presents the computed reliability test results for the students' and counselors' responses in relation to their respective questionnaire items:

TABLE 14

Cronbach's Alpha (α) test results on student responses

Responses by:	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Students	0.705	0.679	21
Counselors	0.871	0.866	8

4.4 Discussion of study findings

4.4.1 H_1 – Prevalence of depression among students in private universities

One of the aim objectives of the study was to assess the prevalence of depression among university students in selected private universities in Meru County, Kenya. Consequently, the study also considered help-seeking behaviors for addressing depression among the students, including the utilization of psycho-educational interventions. In general, this discussion presents the study findings based on the results on the prevalence of depression and the extent to which students sought mental health services within the university. Essentially, the findings revealed that a significant portion of students, 87.8%, indicated that they had experienced depression during their enrollment in their respective universities. This high prevalence aligned with similar studies conducted in Kenya, emphasizing the seriousness of depression among university students. Factors such as financial difficulties, academic stress, and cultural adaptation were highlighted as contributing to this mental health challenge (Shah et al., 2021). However, despite this prevalent issue, a minority of students, only 12.2%, reported seeking mental health services at their universities.

Moreover, the data indicated that fewer students sought mental health services, suggesting a lack of awareness or reluctance to seek help even when facing mental health challenges. This was consistent with previous research indicating that students often downplayed the severity of mental health issues due to low levels of mental health literacy (Vasquez, 2016). The low utilization of mental health services offered by universities, as shown in Figure 4.6, further emphasized the underutilization of available resources. The study also explored the perspective of mental health professionals (counselors) in the universities. Their responses regarding the frequency of starting counseling programs with students revealed a low turnout, indicating that

107

students were not actively seeking psycho-educational services. This aligned with prior studies that demonstrated the underutilization of counseling services by university students (Kamunyu et al., 2016).

In conclusion, the study's findings suggested a high prevalence of depression among university students in private universities in Meru County, Kenya, supporting the null hypothesis. However, despite this high prevalence, students demonstrated a low inclination to seek mental health services, indicating a significant gap between the reported prevalence and actual help-seeking behaviors. The study shed light on the urgent need to address mental health literacy, reduce stigma, and promote mental health services in universities to bridge this critical gap and better support the mental well-being of students.

4.4.2 H2 – Availability and usage of online psycho-educational services to manage depression disorders in private universities

The study also investigated availability and usage of online psycho-educational resources within private universities in Meru County, Kenya, with a focus on addressing the prevalence of depression among university students. The availability of information and communication technology (ICT) resources was considered crucial in facilitating online counseling services, which could employ various technical applications such as video conferencing and social platforms to offer convenient and effective online psycho-educational services (Ndegwa, 2021). Additionally, the presence of ICT resources was seen as a cost-effective solution to address challenges related to the accessibility and delivery of counseling services, particularly addressing perceived stigma associated with seeking mental health services.

Student responses on the availability of online psycho-educational services indicated mixed perceptions. Among the surveyed students, 72% reported a very high level of usage of ICT

resources for the provision of institutional services in their respective universities. However, 15.9% perceived the level of use as moderately high, while 8.5% considered it moderate, and 3.7% considered it low. This variance in perceptions suggests that students' views on the availability of these services were diverse, although a substantial majority indicated a high level of ICT resource usage. When asked specifically about the availability of online psycho-educational services, student responses were more mixed, with 15.9% strongly disagreeing, 36.6% disagreeing, 34.1% taking a neutral stance, and only 13.4% agreeing or strongly agreeing. The neutral average response score of 3 suggests that students were unsure about the presence of online psycho-educational services in their universities.

Similarly, students expressed skepticism regarding access to online psycho-educational services, with 53.7% strongly disagreeing and 20.7% moderately disagreeing. Only 19.5% agreed that these services were accessible, leading to an overall disagreement with the statement. The responses also suggested a clear mode of 1, indicating strong disagreement. Concerning finance as a factor influencing the adoption of online psycho-educational services, 37.8% of students agreed, with 24.4% strongly agreeing. On the other hand, 17.1% disagreed, and 22% strongly disagreed. The average response was neutral, with a mean score of 3, again indicating a lack of consensus among students.

Overall, the study findings indicate that students had mixed perceptions regarding the availability and accessibility of online psycho-educational services in their private universities in Meru County, Kenya. While a significant proportion of students reported high usage of ICT resources, their uncertainty and disagreement about the presence and accessibility of online psycho-educational services highlight the need for universities to communicate and promote such services effectively. Additionally, the perception of financial challenges suggests a potential

barrier to the adoption of these services. The study also collected qualitative data from counselors regarding the adequacy of technical resources for online psycho-educational services. Half of the counselors indicated that existing ICT resources were adequate, while the other half disagreed with this assessment. This suggests a divergence in perspectives among counselors on the readiness of their universities to support online psycho-educational interventions.

Furthermore, counselors provided insights into the types of ICT resources that could be used for online psycho-educational interventions. These resources included personal computers, smartphones, desktop computers, telephones, email applications, university online learning portals, teleconferencing applications (e.g., Skype, Zoom), social media platforms, wired and wireless networks, and internet access. These insights provide valuable information for universities looking to enhance their online psycho-educational offerings. Generally, the descriptive statistical results led to acceptance of the null hypothesis that there is low availability and usage of online psycho-educational resources within private universities in Meru County, Kenya. The varied perceptions and a significant portion indicating limited access and adequacy of resources suggest room for improvement in the availability and utilization of online psycho-educational resources. Hence, there is need for improving delivery of psychoeducation practice, improved communication about available resources, and potential enhancements to ensure students can effectively utilize these online services for their mental health and well-being.

4.4.3 H_3 - Private university students' and counsellors' perceptions on the adoption of online psycho-educational interventions

The study investigated the perceptions of students and counselors regarding the adoption of online psycho-educational interventions in the context of managing depression in private universities within Meru County, Kenya. The null hypothesis posited a positive perception among students and

counselors regarding the effectiveness of online psycho-educational interventions for addressing depression. The descriptive statistical results provided in Table 11 and Table 12 offered valuable insights into these perceptions.

One crucial aspect investigated was the perceived enhancement of access to mental health services through online platforms. The results indicated that a significant majority of students (64.7%) either agreed or strongly agreed that online psycho-educational interventions would indeed enhance access to mental health services. This resonated with the null hypothesis, suggesting a favorable view of online interventions in terms of accessibility. This finding was consistent with previous research indicating that digital platforms could improve access to mental health services, especially for individuals who might face barriers to seeking help through traditional face-to-face counseling.

Another important facet of perception explored was the sense of protection from emotional criticism that online psycho-educational interventions might offer. The results showed that a substantial portion of students (64.1%) agreed or strongly agreed that online platforms would provide this emotional protection. This signified that students perceived online counseling as a safe and non-judgmental environment, aligning with the hypothesis of positive perceptions towards online interventions. Feeling protected from emotional criticism was vital, especially in mental health settings, as it encouraged individuals to seek the help they needed without the fear of stigma or judgment.

The convenience of the interaction process, including seeking and accessing mental health services, was another key area of investigation. A significant majority of students (67%) expressed agreement with the idea that online counseling approaches offer convenience. This high agreement emphasized that students viewed online platforms as efficient and user-friendly, supporting the

null hypothesis regarding the positive perception of the ease and efficiency of online interactions. This aligned with the notion that the ease of access and communication provided by online platforms could make mental health services more appealing and accessible to individuals.

Moreover, the preference for online counseling over traditional face-to-face sessions was a critical element of perception explored in this study. A notable percentage of students (74.4%) either agreed or strongly agreed that they would prefer online psycho-educational counseling. This preference highlighted the convenience and efficiency offered by online platforms, aligning well with the null hypothesis proposing a favorable view of online interventions. It suggested that the digital approach was becoming increasingly appealing to students, possibly due to their familiarity with technology and the flexibility it afforded in accessing support. Shifting the focus to counselor perceptions, the results indicated a high level of comfort with the adoption of online psycho-educational services. A significant majority of counselors (87.5%) either agreed or strongly agreed that they were comfortable with utilizing online platforms. This aligned with the hypothesis suggesting positive counselor perceptions towards online mental health services. Comfort and willingness on the part of counselors to use online platforms were vital for the effective implementation and integration of such technologies into mental health practices.

Generally, the descriptive statistical results affirmed the null hypothesis that both students and counselors held positive perceptions regarding the implementation of online psycho-educational interventions for managing depression. These positive perceptions encompassed enhanced accessibility, emotional protection, convenience in interactions, and a strong preference for online counseling. This aligned with the growing trend towards utilizing technology to augment mental health services, emphasizing the potential for online platforms to play a significant role in addressing mental health challenges within the academic setting. Ultimately, the study findings

112

suggested a favorable environment for integrating online psycho-educational interventions to enhance mental health services in private universities within Meru County, Kenya.

4.4.4 H_4 - Conventional psycho-educational interventions face various challenges that affect its effectiveness in tackling depression disorders within private universities in Meru County, Kenya

The study results generally affirmed the null hypothesis (H_4) that implied that conventional psycho-educational interventions might not be fully effective in addressing the mental health challenges faced by students in private universities in Meru County. The data collected to assess the null hypothesis featured qualitative data, which featured the participants' subjective responses on the challenges faced with conventional psychoeducational practices wherein adoption of online psycho-educational interventions may address towards effectively managing the prevalence of depression. In particular, thematic analysis was applied to the qualitative responses in order to identify key challenges.

One central theme that emerged from the students' responses was the fear of not being understood by counselors due to personal differences such as age or religion. Many students expressed apprehension about articulating their mental health issues, fearing that counselors might not comprehend their experiences. This fear often discouraged them from seeking mental health services. Some students even mentioned that they only recognized their depression after being mandated to attend counseling sessions, illustrating the challenge of self-recognition and self-expression. Moreover, the age difference between students and counselors was seen as a barrier. Students felt that counselors, who were typically older, might not understand the unique challenges faced by younger individuals transitioning into adulthood. This age gap contributed to students' reluctance to seek help.

Furthermore, perceived criticism was also a key theme determined on the challenges that affected help-seeking behavior and usage of psychoeducational services in the university. In particular, students were concerned that counselors might judge them based on their mental health issues, and this fear of being stigmatized deterred them from seeking assistance. They worried that seeking help would label them as unfit for university education, potentially leading to discontinuation from their academic programs. This stigma-related challenge often led students to self-manage their mental health issues through less effective means like substance abuse.

Inadequate mental health literacy emerged as another substantial theme. Students' limited knowledge of depression symptoms, unawareness of where to seek mental health services on campus, and uncertainty about the process of receiving support were common challenges. This lack of awareness and knowledge hindered their ability to access and utilize available psycho-educational services. Stigma was identified as a fourth prominent theme. Students believed that seeking mental health services would negatively affect their social status and relationships, as they expected their peers to view them differently. Stigma was exacerbated in environments where mental health literacy was low, and individuals lacked understanding and empathy for those with mental health issues.

Based on responses offered by the counselors, the study found that they generally agreed that online psycho-educational interventions had the potential to address several challenges faced by students. They believed that these interventions could improve counselor-student relationships, enhance mental health literacy, reduce stigma, and mitigate the effects of perceived criticism. However, the counselors also highlighted potential challenges that could affect the adoption of online psycho-educational interventions. These included technology failures, inadequate technical resources, insufficient financial support for awareness campaigns, and the need for ongoing

training in the use of ICT (Information and Communication Technology) for psycho-educational services.

In general, the study's findings underscored the challenges faced by students and counselors in the adoption of online psycho-educational interventions within private universities in Meru County, Kenya. These challenges include fear of not being understood, perceived criticism, low mental health literacy, and stigma among students. Counselors, on the other hand, saw the potential of online interventions but recognized the need for adequate technical resources, funding, and training to overcome adoption challenges. Considering the null hypothesis, the study's findings suggest that there are indeed significant challenges affecting the effectiveness of conventional psycho-educational interventions in managing and preventing depression disorders within private universities in Meru County, Kenya. These challenges, as outlined above, point to the limitations and barriers inherent in traditional approaches to mental health support. Therefore, it can be concluded that the null hypothesis is supported by the study's findings, highlighting the need for innovative solutions such as online psycho-educational interventions to address these challenges effectively. Addressing these challenges is crucial for enhancing mental health services and support for students in higher education institutions in Kenya and similar resource-limited settings.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a synopsis of the study results on the premise of the established research objectives; conclusion made from the study findings, recommendations and the recommendations for future research on the research subject. The study conclusions on the research questions were largely based on the literature review as well as the resultant study findings upon data collection and analyses described in the previous chapter. Fundamentally, the study assessed the adoption of online psycho-educational interventions towards enhancing the prevention and management of depression among students in private universities in Meru County, Kenya. The study was conducted on the premise of the following research objectives:

i. To assess the prevalence of depression in the adoption of psycho educational interventions among students in the selected private universities in Meru County, Kenya.

ii. To investigate the availability and usage of online psycho-educational services in the management of depression disorders among students in private universities within Meru County, Kenya.

iii. To determine students' and counsellors' perceptions on the adoption of online psycho-educational interventions in private universities in Meru County, Kenya.

iv. To assess challenges facing current psycho-educational practices in tackling depression among students in private universities in Meru County, Kenya

The study was performed under guidance of the Person Centered (Rogerian) theory, specifically, the client-centered therapy model, which allowed the study to involve both the client (students)

and provider (counsellors) towards improving the delivery of mental health services within university settings. Contextually, the study population was 224 students and counsellors in private universities in Meru County with a resultant sample size of 140 to be selected and participate in the study. A simple random technique was utilized to select 120 students, who were further subjected to a stratified sampling procedure to group the participants by academic year. Furthermore, a purposive sampling approach was applied to recruit 20 counselors, including 10 from each university. Contextually, 120 questionnaires were administered to the study participants, although only 82 were returned from both universities. For the counselors, 20 were to be administered but only 8 were filled as the other 12 counselors withdrew their consent to participate in the study due to personal reasons. Qualitative and quantitative data was collected from the participants by responding to a questionnaire offered as the research instrument. The collected quantitative data was analyzed through descriptive statistical computations with the help IBM Statistical Package for Social Sciences, version 26. As well, thematic analysis was used to assess and determine major themes and subthemes presented in the participants' qualitative responses.

5.2 Summary of the study findings

This subsection highlights the key research findings concerning adoption of online psycho-educational practices in private universities in Meru County, Kenya. First of all, the research project showed that:

   i.   The response rate among the students recruited as participants in the study was 68.33%, which encompassed 46 respondents out of a sample sized of 60 students at KeMU and 36 responded out of 60 students selected at MKU, Meru campus.

   ii. Similarly, the response rate of the university counsellors working in the selected universities was 40% with only 8 questionnaires were filled and returned to the researcher.

iii.   Moreover, it was observed thatk out of the 8 counsellors who participated in the study, 62.5% were female while 37.5 were male counsellors.

iv.   Furthermore, all counselors were certified to offer mental health services in university settings, whereby 1 counsellor had an experience of less than year, 3 counselors indicated to have an experience of less than 2 years with 3 other counsellor responded to have an experience of at least 4 years. The remaining counselor had an experience of more than 4 years in a university setting.

v.   In regard to the students who participated in the study, 60.98% identified as female whereas 39.02% were male students.

vi.   Moreover, 56.1% of the participants were enrolled at KeMU, Main and Meru Campuses, and 43.9% had enrolled at MKU, Meru Campus.

vii.   In the context of the stratified sample sizes by academic year, 28.05% of the responses indicated as being in the first academic year, 32.93% were in the second academic year, 25.61% were in the third year, and 13.41% were in the fourth academic year.

5.2.1   Prevalence of depression among university students and usage trend of existing psycho-educational interventions

Descriptive statistics indicated that 87.8% of the students had experienced depression and 12.2% denied of ever being depressed since being enrollment at their respective universities. Nonetheless, despite the high prevalence of depression among the students, 29.27% responded that they had ever sought and received counselling services offered at the universities. Furthermore, it was determined that the students rarely sought individual-, group-, family-, and community-based (mixed-student) psycho-educational interventions offered at the university, which was described by mean disagreement for each psycho-educational practice. Additionally, the study findings showed that most students were 'not confident at all' in seeking individual counselling services,

118

although 'somehow confident' to seek group-, family-, and mixed-student based psycho-educational interventions offered at the university.

Generally, the study findings affirmed the null hypothesis that there was a high prevalence of depression among students, but a low usage rate of psychoeducational practices to address depression disorders in private universities in Meru County, Kenya. Moreover, the study revealed a prevailing underutilization of psycho-educational interventions, with students displaying a reluctance or lack of awareness regarding mental health services. Mental health professionals (counselors) in the universities also reported a low turnout of students seeking psycho-educational services, aligning with prior studies illustrating the underutilization of such services in university settings.

5.2.2 Availability and Usage of online psycho-educational interventions and resources towards enhancing provision of mental healthcare services to students in private universities in Meru County

The study findings also assessed the availability and utilization of online psycho-educational resources within private universities in Meru County, Kenya. The study results were assessed on the premise of addressing the prevalent issue of depression among university students. Similarly, the investigation revealed diverse student perceptions concerning the availability and accessibility of online psychoeducational interventions in the universities. This involved a significant proportion of students reporting a high level of ICT resource usage, although there responses on the availability of online psychoeducation demonstrated uncertainty and disagreement on the presence and accessibility of online psycho-educational services. Moreover, financial considerations were identified as a potential barrier to the widespread adoption of these services, indicating a need for strategic interventions to enhance accessibility. Similarly, the counselors in

the study also presented mixed perspectives on the capacity of existing ICT resources to support online psycho-educational interventions.

Overall, the findings support the initial null hypothesis, indicating a scope for improving the availability and utilization of online psycho-educational resources within private universities in Meru County, Kenya, and thereby enhancing mental health support for the student population. Efforts to improve the delivery of psychoeducation, communicate available resources effectively, and enhance resource adequacy are essential for enabling students to effectively utilize these online services for their mental health and overall well-being.

5.2.3   Students' and Counselors' perceptions on adoption of online psycho-educational interventions

Correspondingly, the study affirmed the null hypothesis, indicating positive perceptions among both students and counselors regarding the effectiveness of these online interventions. The findings emphasized key areas of approval, encompassing improved access to mental health services, a sense of emotional protection, convenience in interactions, and a clear preference for online counseling over traditional face-to-face sessions. These insights align with the growing trend of leveraging technology to enhance mental health services, suggesting a promising landscape for the integration of online psycho-educational interventions to bolster mental health support within academic institutions. In general, this study advocates for the thoughtful integration of online platforms to augment mental health services in private universities within Meru County, Kenya, effectively addressing the challenges of depression.

5.2.4   Challenges faced that call for the adoption of online psycho-educational services

The study's findings also strongly supported the null hypothesis suggesting conventional psycho-educational interventions may not be wholly effective in adequately addressing the prevalent

mental health challenges experienced by students in private universities within Meru County. Through qualitative analysis, key challenges were identified from participants' subjective responses, shedding light on the potential effectiveness of adopting online psycho-educational interventions to better manage depression. Notably, students expressed fears of being misunderstood due to personal differences with counselors and were concerned about potential criticism and the stigma associated with seeking help.

Additionally, inadequate mental health literacy further hindered their access to available psycho-educational services. On the other hand, counselors acknowledged the potential of online interventions to mitigate these challenges, emphasizing improved relationships, enhanced mental health literacy, reduced stigma, and addressing perceived criticism. However, they also pointed out possible adoption obstacles, such as technological issues and the need for adequate resources and training. Consequently, the study's outcome underscores the need for innovative solutions like online psycho-educational interventions to effectively overcome the identified challenges. It is imperative to address these obstacles to enhance mental health support within private universities in Meru County, Kenya, and similar resource-constrained environments.

5.3 Conclusions of the Study

The findings of the study offered in-depth insight concerning the adoption of online psycho-educational practices towards tackling depression among students in private universities in Meru County, Kenya, which led to the following conclusions:

i. There is a high prevalence of depression among students at private universities in Meru County, Kenya, which was mainly associated with low usage as well as confidence in seeking conventional psycho-educational practices offered at the university. Also, female students were more likely than their male counterparts to participate in activities involving mental health and wellbeing.

ii. There was low application of ICT resources aimed at enhancing psycho-educational services in private universities in Meru County, Kenya despite high availability of ICT resources for facilitating educational activities in the universities.

iii. Both counselors and students had positive perceptions toward the adoption of online psycho-educational services in which they view that the approach would improve counsellor-client relationships, increase accessibility, cost-effectively improve effectiveness of mental health services, and increase mental health literacy.

iv. The university's administration should support the adoption of online psycho-educational interventions by investing towards technical and human resources need to meet the demand for counselling services among the students in private universities.

5.4 Recommendations for Practice

i. The study recommends the adoption of online psycho-educational interventions as well as support continuing education among counselors to gain competency needed for effectively offering technology-based counselling services to students in private universities.

ii. The study recommends the need for accessible, convenient, and effective counselling services in all universities as well as increased promotional actives aimed at increasing students' mental health literacy as well as development of effective coping skills.

iii. There is need for various higher learning stakeholders, particularly Kenya Universities Professional Counsellors Association (KUPCA), to advocate for the implementation of online psycho-educational interventions, as stipulated by the tele-mental health guidelines published by the Ministry of Health (2021). This will lead to continual improvement in the provision of mental health services to students, staff, and administrators in all private universities in Meru County as well as nationally.

5.5 Recommendations for Further Studies

These research findings propose that future research to focus on promoting the adoption of online mental health services within higher learning institutions with particular focus on:

i. Online mental health interventions designed for students in public higher learning institutions in developing countries: A cross-sectional study

ii. The adoption of online psycho-educational interventions in universities: A global context

iii.   Online mental health interventions designed for students in higher learning institutions in developing countries: A cross-sectional study

iv.   Factors affecting adoption of innovative counselling services among practicing counsellors in higher learning institutions in Sub-Saharan countries in Africa

v.   A comparison on the effectiveness of online counselling services and conventional face-to-face counselling services among practicing counsellors in universities in Africa: A comparative study of Kenya, Nigeria, and South Africa

vi.   Comparison of the prevalence of depression between students in private and public universities in Kenya

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APPENDICES

Appendix A: KCA University Research Permit

SCHOOL OF GRADUATE STUDIES

KCA/SGS/March.23/1   8th March 2023

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: MUTEGI MURIITHI KENNETH REG. NO, 21/02993

It is my distinct pleasure to introduce to you Kenneth Mutegi who is a student in our institution pursuing a Master of Arts in Counselling Psychology at the School of Education, Arts and Social Sciences.

Kenneth is conducting a research on a topic titled: *"Adoption of Online Psycho-Educational Interventions in Tackling Depression Among Students in Private Universities in Meru County, Kenya"* which is part of the requirements of the program he is pursuing. The research as well as the data procured thereof shall be used for academic purposes only.

Any assistance accorded to him is highly appreciated.

In case of further inquiry, do not hesitate to contact the undersigned.

Yours faithfully,

Dr. Jackson Ndolo
Dean, School of Graduate Studies

138

Appendix B: Nacosti Research Authorization

Appendix C: Letter of Introduction to Target Universities

Mutegi Muriithi Kenneth

KCA University

P.O Box 56808–00200

Nairobi, Kenya

Dear Sir/Madam,

RE: <u>PERMISSION TO CONDUCT A RESEARCH IN THE UNIVERSITY</u>

I am a student in KCA University undertaking a Masters of Education degree in counseling psychology. I am conducting a study on the "a**doption of online psycho-educational interventions to tackle depression among students in private universities"** in Meru County, Kenya. I hereby seek consent to conduct a survey with about 50 students in the university in relation to questionnaire items aimed at addressing the set research objectives. The university was selected since it is a private university, which allows this study to focus on obtaining data concerning the adoption of online psycho-educational intervention in private universities to tackle prevalence of depression among university students. As part of the research, the university will allow the researcher to administer questionnaires to students in the university with relevance to the study topic. The information collected are for the purposes of the study and will remain confidential. The results obtained from the data instruments will be presented in a summarily form and will not disclose any individual's or institution's information.

Thank you in advance.

Regards,

Kenneth Muriithi

KCA University

Date …………………

Appendix D: Consent Form for University Counselors and Students to Participate in the

Study

I am a student in KCA University undertaking a Masters of Education degree in counseling psychology and would like to perform a study on the "a**doption of online psycho-educational interventions to tackle depression among students in private universities"** in Meru County, Kenya. I hereby seek consent to perform a survey among the students and counsellors in private universities on the topic. Any information provided will be beneficial in determining the success of the study. The participants' responses will be confidential, and shall be used for the purpose of this study only. The measures to be taken to ensure the study maintains confidentiality of the participants' responses features the use of codes and pseudonyms. The study results will be disseminated to the participants through their respective institutional heads. Participation in the study is voluntary, whereby any individual's withdrawal, at any time, from the study is allowed without penalty.

Do you agree to the terms, and thus participation, in the study?

    YES   NO   (underline your choice)

Signature …………………   Date……………………………………

Appendix E: Consent Certification

This is to certify that I consent to partake in the study based on the information provided by the researcher/assistant, and I have had the opportunity to ask questions about the contents as well as areas being assessed through the study's questionnaire. This also featured a satisfactory level of feedback addressing individual questions concerning the study. Thus, I consent to participate voluntarily in this study, which implies that I understand I have the right to revoke my participation in the survey at any time.

SIGNATURE/INITIALS of Study Participant: …………………………...............

PHONE NUMBER………………………………………………………………….

DATE ……………………………………………………………

Appendix F: Questionnaires

Mental Health Provider Questionnaire

This interview schedule is intended to solicit honest and candid information on Online Psychotherapy Practice among the mental health practitioners in private universities in Meru County. Your feedback will be strictly confidential.
Please answer the questions by ticking on one of the option where applicable or by giving information as might be required.

Section A: Personal Information

1) In which university are you offering mental health services? …………………………
2) What is your gender
   [ ] Male **[ ]** Female
3) What is your professional experience?
   [ ] Less than 1 year
   [ ] 1year-2years
   [ ] 3years-4years
   [ ] 4years and above
4) Are you a trained counselor
   [ ] Yes **[ ]** No
5) How often do you provide counseling services to your trainees?
   [ ] Daily
   [ ] Once a week
   [ ] Twice a week
   [ ] Monthly
   [ ] Never

Section B: Tutors' Perception towards Online Psychotherapy Practice

[5] Strongly Agree (SA); [4] Agree (A); [3] Neutral (N); [2] Disagree (D); [1] Strongly Disagree (SD)

ITEM	1	2	3	4	5
1. I feel comfortable with online interaction with trainees					
2. I prefer online psychotherapy to face to face contact					
3. I feel protected from the trainees' negative emotions					
4. I am receptive to internet as tool for online counseling					
5. Online psychotherapy interventions would be better than face-to-face psychoeducational approaches					

6) What is your opinion on online psychotherapy practice in your university?

………………………………………………………………………………………………

………………………………………………………………………………………………

Section C: Availability of Online Psychotherapy Resources

1. Do you have adequate online resources for conducting online psychotherapy in your

   university?

   Yes ( ) No ( )

   a) If Yes, list online resources which can be used for online communication in your

      campus

      ……………………………………………………………………………………

      ……………………………………………………………………………………

      ……………………………………………………………………………………

   2. If No, explain…………………………………...

      ……………………………………………………………………………………

Section D: Factors that Influence Online Psychotherapeutic Interventions in Private

University

Please use the following scale to tick appropriately for each entry
**[5] Strongly Agree (SA); [4] Agree (A); [3] Neutral (N); [2] Disagree (D); [1] Strongly
Disagree (SD)**

ITEM	1	2	3	4	5
1. Counselor-client relationship is a significant driver can 's feelings for the client leads to a strong online psychotherapeutic relationship					
2. Online psychoeducational interventions will enhance mental health literacy levels among students					
3. Stigma is a major factor affecting conventional psychoeducational education					
4. There are inadequate digital mental health applications among university students					

1) In your own opinion, do you think adoption of online psychoeducational interventions will enhance mental healthcare services in tackling mental health issues among private university students?

…………………………………………………………………………………………………

…………………………………………………………………………………………………

Student's Questionnaire

Personal Information

1) Name of university enrolled …………………………
2) Name of Course:
3) What is your gender
   [ ] Male **[ ]** Female
4) What is your academic year?
   [ ] First Year   [ ] Second Year   [ ] Third Year   [ ] Fourth Year
5) Have you ever sought mental health services since you joined the university
   [ ] Yes **[ ]** No

Online psychoeducational interventions in private universities in Kenya

1. What is the level of usage of online services in your university?

   [1] High **[2]** Low

2. Are online psychoeducational resources available in currently enrolled university?

   [1] Strongly Disagree **[2]** Disagree **[3]** Neutral **[4]** Agree **[5]** Strongly Agree

3. The trainees have access to the university ICT resources.

   [1] Strongly Disagree **[2]** Disagree **[3]** Neutral **[4]** Agree **[5]** Strongly Agree

4. The college has adequate online resources for trainees' use.

   [1] Strongly Disagree **[2]** Disagree **[3]** Neutral **[4]** Agree **[5]** Strongly Agree

5. Inadequate finances has led to insufficient ICT resources

   [1] Strongly Disagree [2] Disagree [3] Neutral [4] Agree [5] Strongly Agree

The participants expected to list the services and thereafter state how frequently they use the service, how confident they are in the use of the service and the need for the service as indicated below:

Prevalence of Depression in Private Universities in Meru County, Kenya

SERVICES	HOW FREQUENTLY DO YOU PERFORM THE SERVICES? 4- Very frequently 3- Frequently 2- Occasionally 1- Very rarely	HOW CONFIDENT ARE YOU IN PERFORMING THESE SERVICES? 4- Very confident 3- Confident 2- Somehow confident 1- Not confident at all	DO YOU NEED THESE SERVICES? 4- High need 3- Need 2- Low need 1- No need
1. Individual Counseling			
2. Group interventions			
3. Single-family groups			
4. Mixed-student groups			

Role of Online Psychotherapy Interventions in Private Universities

The following are advantages of online psychotherapy practice. Please give each aspect the importance by circling according to the following scale.

1. ICT enhances accessibility for interaction

   [1] Strongly Disagree [2] Disagree [3] Neutral [4] Agree [5] Strongly Agree

2. Trainees are protected from the counselors' emotional criticisms

   [1] Strongly Disagree [2] Disagree [3] Neutral [4] Agree [5] Strongly Agree

3. Online counseling enhances convenience during the interaction process

   [1] Strongly Disagree [2] Disagree [3] Neutral [4] Agree [5] Strongly Agree

4. Online psychotherapy is cost-effective (time, costs) compared to face to face counseling.

   [1] Strongly Disagree [2] Disagree [3] Neutral [4] Agree [5] Strongly Agree

Challenges affecting adoption of psychoeducational interventions in private universities in Meru County, Kenya

1. How do students communicate with mental health professionals when they require psychotherapy services?

[ ] Email [ ] Phone call [ ] Landline calls [ ] Face-to-face appointments

Do you experience any challenge in undertaking psychotherapy services?

Yes ( ) No ( ) Sometimes ( )

a) If yes, identify the challenges experienced in your university

……………………………………………………………………………………………………

……………………………………………………………………………………………………

………………………………………………………………………………………………

NB: The Questionnaire was adopted from Ocholla (2018)

APPENDIX G: Simple Random Sample Requirements

Table for determining needed size of a randomly chosen sample from a given finite population of N cases such that the sample proportion P will be within plus or minus .05 of the population proportion P with a 95% level of confidence.

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	241	9000	368

Source: Ocholla (2018)

Appendix H: Cartographic Map of Meru County, Kenya