Digital Mental Health Interventions and Student Wellbeing: Evaluating the Role of E-Counselling Services in Edo State Tertiary Institutions

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ABSTRACT

This study evaluated digital mental health interventions and student wellbeing (e-counselling) services among undergraduate students in selected tertiary institutions in Edo State, Nigeria. The study was motivated by the increasing prevalence of mental health challenges among university students and the growing need for technology-driven counselling interventions. Specifically, the study assessed students' awareness and usage of e-counselling services, examined the perceived effectiveness of digital counselling in addressing mental health concerns, identified barriers to the adoption of e-counselling, and explored strategies for integrating digital counselling into institutional mental health systems.The study adopted a mixed-method research design, although the findings reported in this study are based on the quantitative component. The target population comprised undergraduate students from five selected tertiary institutions in Edo State. A sample of 500 students was selected using a multi-stage sampling technique, while 491 valid questionnaires were retrieved and analysed, representing a response rate of 98.2%. Data were collected using a structured questionnaire consisting of demographic variables and four questionnaire items measuring the major constructs of the study. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to analyse the data, while independent-samples t-tests and one-way analysis of variance (ANOVA) were employed to test the hypotheses at the 0.05 level of significance.The findings revealed that students demonstrated a high level of awareness and usage of e-counselling services (Mean = 3.81, SD = 1.43). Respondents also perceived e-counselling services as highly effective in addressing stress, anxiety, and academic pressure (Mean = 4.23, SD = 1.16). The study further established that significant technological, institutional, and socio-cultural barriers continue to hinder the effective adoption of digital counselling services (Mean = 4.20, SD = 1.13). In addition, respondents strongly supported the integration and improvement of e-counselling services within tertiary institutions (Mean = 4.01, SD = 1.30). Hypothesis testing indicated significant gender differences in awareness and usage, as well as integration and improvement of e-counselling services, while no significant gender differences were found regarding perceived effectiveness and barriers. Significant differences were also observed among Federal, State, and Private universities with respect to awareness and usage and perceived effectiveness, whereas no significant differences were found regarding barriers and integration.The study concluded that e-counselling is an effective and acceptable approach to promoting students' mental wellbeing in Nigerian tertiary institutions. However, its successful implementation depends on improved institutional support, digital infrastructure, policy development, counsellor capacity building, and increased awareness among students. The study recommends sustained awareness campaigns, strengthening institutional digital counselling services, addressing technological and policy barriers, and integrating e-counselling into university mental health systems. The findings contribute to the growing literature on digital guidance and counselling and provide evidence to support the implementation of technology-enabled mental health services in higher education institutions in Nigeria.

Keywords: Digital mental health, e-counselling, student wellbeing, tertiary institutions, mental health interventions, digital counselling, Nigeria.

BACKGROUND AND JUSTIFICATION

In recent years, mental health challenges have surged among students in tertiary institutions, exacerbated by academic stress, financial hardship, peer pressure, substance use, and the residual effects of the COVID-19 pandemic. While conventional face-to-face counselling remains critical, the digital age necessitates complementary interventions such as e-counseling via mobile apps, websites, and social media platforms.

Introduction:

The rising prevalence of mental health challenges among students in tertiary institutions has become a major concern for educators, psychologists, and policymakers globally. In Nigeria, factors such as academic pressure, financial instability, substance use, and socio-cultural expectations significantly affect students' psychological wellbeing (Ademola & Akintayo, 2022). Compounding these stressors is the lingering impact of the COVID-19 pandemic, which intensified psychological distress and disrupted traditional counselling services (Ogunyemi & Ajayi 2021).

As digital technology continues to transform various sectors, it has emerged as a vital tool in bridging the mental health care gap, especially in educational settings. E-counselling which involves the delivery of counselling services through digital platforms such as mobile apps, websites, social media, and teletherapy has gained global traction for its accessibility, anonymity, and cost-effectiveness (WHO, 2023). In Nigeria, the expansion of digital platforms and mobile technology offers a unique opportunity to extend mental health support to students who may otherwise avoid or lack access to conventional counselling.

However, the adoption and integration of e-counselling in Nigerian tertiary institutions remain relatively under explored. Despite the increasing mental health needs, many institutions lack the infrastructure, trained personnel, and policies necessary to implement digital mental health interventions effectively (Adebayo, Bello & Yusuf 2023). Moreover, cultural stigma surrounding mental illness and concerns about privacy and digital literacy further limit the uptake of e-counselling services (Onwumere & Chukwu 2022).

Given these gaps, this study seeks to evaluate the role of digital mental health interventions in enhancing student wellbeing within Nigerian tertiary institutions. By assessing the accessibility, usage patterns, and perceived effectiveness of e-counselling platforms, the study aims to inform the development of inclusive and technology driven mental health support systems. This research is timely and aligns with the goals of the National Mental Health Policy (2021) and the Nigeria Digital Economy Policy and Strategy (2020–2030), which advocate for innovative approaches to health and education service delivery.

Problem statement/Justification

In recent years, mental health challenges have surged among students in tertiary institutions, exacerbated by academic stress, financial hardship, peer pressure, substance use, and the residual effects of the COVID-19 pandemic. While conventional face-to-face counselling remains critical, the digital age necessitates complementary interventions such as e-counseling via mobile apps, websites, and social media platforms. Mental health challenges among students in Edo State tertiary institutions have become increasingly prevalent, escalated in recent years, with issues such as anxiety, depression, academic burnout, and suicidal ideation now more commonly reported (Ademola & Akintayo 2022). Despite the growing demand for mental health support, traditional face-to-face counselling services remain insufficient due to a shortage of trained personnel, infrastructural gaps, and cultural stigma associated with seeking psychological help (Onwumere & Chukwu 2022).

Digital mental health interventions, particularly e-counselling, offer a promising alternative by providing students with access to psychological support through online platforms, mobile applications, and virtual communication tools. These services have proven effective globally in increasing access to mental health care, especially among youths who are digitally inclined and often reluctant to seek in-person counselling (World Health Organization (WHO), 2023). In Nigeria, the high rate of mobile phone and internet penetration among the youth demographic further supports the potential of e-counselling as a scalable, cost-effective, and timely intervention (Adebayo, et al 2023).

However, despite its promise, the adoption, accessibility, and effectiveness of digital counselling services within Nigerian tertiary institutions remain poorly understood. While some universities have piloted digital tools such as WhatsApp consultations, Zoom therapy sessions, and online assessment forms these efforts are often fragmented, unregulated, and lack systematic evaluation. There is little empirical data to assess student engagement, satisfaction, and psychological outcomes resulting from these services (Ogunyemi & Ajayi 2021). Additionally, issues such as data privacy concerns, varying levels of digital literacy, infrastructural inconsistencies, and socio-cultural skepticism continue to hinder broader adoption.

Given the urgency of student mental health needs and the national emphasis on leveraging digital innovation for health and education, this research is both timely and essential. It seeks to evaluate the role of digital mental health interventions in improving student wellbeing, identify barriers to the growing adoption of EdTech solutions across Edo State universities, give the Federal Government's push for digital innovation in education and public health and propose a sustainable model for institutional integration. The study aligns with Nigeria's National Mental Health Policy (2021) and the Digital Economy Policy and Strategy (2020–2030), both of which advocate for the application of technology to promote inclusive health and education services. Yet, there is a gap in empirical data on the effectiveness, challenges, and policy implications of e-counselling services. This study aims to fill that gap and provide data-driven recommendations to improve student wellbeing

Research Objectives:

The main Objective is to evaluate the effectiveness and accessibility of digital mental health (e-counselling) services among students in selected Nigerian tertiary institutions.

Specifically;

1. To assess students' awareness and usage patterns of e-counselling platforms.
2. To determine the perceived effectiveness of digital counselling in addressing stress, anxiety, and academic pressure.
3. To identify barriers (technological, cultural, or institutional) to e-counselling adoption.
4. To develop a framework for the integration of digital mental health services in school counselling units.

Research Questions:

i. What is the level of awareness and usage of e-counselling services among students?
ii. How effective do students perceive e-counselling services in managing mental health concerns?
iii. What challenges hinder the full adoption of digital counselling in tertiary institutions?
iv. What strategies can enhance the implementation of e-counselling in school guidance systems?

Hypotheses

H_{01}: There is no significant difference between male and female students regarding their awareness and usage of e-counselling services.

H_{02}: There is no significant difference between male and female students regarding the perceived effectiveness of e-counselling services.

H_{03}: There is no significant difference between male and female students regarding perceived barriers to e-counselling.

H_{04}: There is no significant difference between male and female students regarding strategies for integrating and improving e-counselling services.

H_{05}: There is no significant difference among students from Federal, State, and Private universities regarding awareness and usage of e-counselling services.

H_{06}: There is no significant difference among students from Federal, State, and Private universities regarding the perceived effectiveness of e-counselling services.

H_{07}: There is no significant difference among students from Federal, State, and Private universities regarding barriers to e-counselling.

H_{08}: There is no significant difference among students from Federal, State, and Private universities regarding integration and improvement of e-counselling services.

Scope of the Study:

The study focus on undergraduate students in tertiary institutions Edo State, Nigeria.

LITERATURE REVIEW

Mental Health Among University Students

The mental health of students in tertiary institutions has attracted growing global attention, with studies highlighting increased rates of stress, depression, and anxiety among young adults (Ibrahim et al. 2022). This trend has been attributed to academic pressure, financial hardship, insecurity, substance use, and a lack of psychosocial support (Ademola & et al. 2022). Despite the growing prevalence of psychological distress, many students are reluctant to seek help due to stigma and limited access to professional counselling services (Onwumere & et al. 2022).

Guidance and counselling services are a vital component of institutional support systems in higher education. Their primary function is to promote student wellbeing, facilitate academic success, and assist students in coping with personal and career-related challenges (Ogunyemi & Ajayi 2021). However, in many tertiary institutions, these services are underfunded, understaffed, and underutilized (Adebayo et al. 2023). Consequently, the traditional model of in-person counselling fails to reach a large portion of the student population, especially those who experience barriers such as stigma, distance, or scheduling conflicts.

Digital mental health refers to the use of technology including mobile apps, tele-counselling, chatbots, and online therapy to provide psychological support (WHO, 2023). Internationally, studies have shown that digital platforms can effectively manage depression, anxiety, and stress in student populations by offering anonymity, flexibility, and convenience (Barak et al. 2008). E-counselling has emerged as a key innovation, particularly in post-pandemic contexts where remote services have become essential.

In Nigeria, e-counselling remains an emerging practice. A study by Onwumere and Chukwu (2022) found that while students are digitally literate and open to online communication, awareness and usage of formal e-counselling services remain low. Many institutions lack structured digital counselling systems, relying instead on informal methods such as WhatsApp communication between counsellors and students. Research by Adebayo et al. (2023) emphasized the need for standardized protocols, adequate training, and secure digital platforms to scale e-counselling services in tertiary institutions.

Key challenges hindering the adoption of digital mental health tools in Nigerian tertiary institutions include poor internet connectivity, lack of funding, privacy concerns, and limited digital skills among counselors (Olowookere & Fawole 2022). Cultural resistance to technology-mediated emotional support also persists, with many students and staff viewing face-to-face interaction as more credible or trustworthy. Additionally, the absence of national frameworks or institutional policies guiding the implementation of e-counseling presents a structural obstacle.

The theoretical framework Technology Acceptance Model (TAM) provides a useful lens for understanding students' willingness to engage with e-counselling platforms. The perceived usefulness and perceived ease of use are primary factors influencing technology adoption. This model has been applied in recent studies on digital mental health adoption among students (Yakubu & Dasuki 2021), affirming the importance of platform design, trust, and user training.

While global studies validate the effectiveness of digital mental health tools, empirical research specific to Nigerian institutions is scarce. Few studies have evaluated the real-world usage, accessibility, and outcomes of e-counselling platforms in Nigeria. Moreover, there is limited guidance on best practices for integrating these

services into university structures. This research seeks to fill that gap by providing evidence-based insights and proposing a scalable framework for e-counselling implementation in Nigeria's higher education system.

Empirical studies

Akhtar et al. (2020) conducted a systematic review and meta-analysis to examine the prevalence of depression among university students in low- and middle-income countries. The review synthesized evidence from 89 empirical studies involving university students across several developing countries. Using PRISMA guidelines and meta-analytic techniques, the authors found a high prevalence of depression among university students, highlighting the urgent need for accessible and scalable mental health interventions, including digital mental health services. The study concluded that internet-based mental health interventions could help bridge the treatment gap in resource-constrained settings.

Yakubu and Dasuki (2021) investigated factors influencing the adoption of eHealth technologies in developing countries using the Technology Acceptance Model (TAM). The study adopted a quantitative cross-sectional survey design involving 412 respondents in Nigeria. Data were collected through structured questionnaires and analysed using Structural Equation Modelling (SEM). The findings showed that perceived usefulness and perceived ease of use significantly influenced users' behavioural intention to adopt digital health technologies. The study concluded that improving system usability and usefulness would increase the acceptance of digital mental health platforms among users.

Okunaiya and Omovre (2021) examined counselling services and the mental health status of Nigerian university students through a cross-sectional survey involving 346 students selected using random sampling. Data were collected using a structured questionnaire and analysed with descriptive statistics. The findings revealed high awareness of counselling services but very low utilisation. The study also found high levels of depression, hopelessness, and academic stress among students, while most respondents believed that counselling services could reduce mental health problems and improve academic performance. The authors recommended strengthening counselling services in Nigerian universities to improve students' wellbeing.

Harith et al. (2022) carried out an umbrella review to evaluate the effectiveness of digital mental health interventions among university students worldwide. The study synthesized evidence from 19 systematic reviews and meta-analyses using PRISMA guidelines. The review found that web-based cognitive behavioural therapy, mobile mental health applications, and online counselling consistently reduced depression, anxiety, and stress while improving psychological wellbeing. The authors concluded that digital interventions are effective alternatives to conventional mental health services for university students.

Ibrahim et al. (2022) conducted a global systematic review of mental health among university students by synthesizing findings from 126 published studies. Using narrative synthesis, the review established that anxiety, depression, and stress remain highly prevalent among university students worldwide. The study further reported that digital mental health interventions improve access to psychological support, particularly in settings with limited mental health professionals, and recommended integrating digital counselling into university mental health programmes.

Ferrari et al. (2022) conducted a systematic review and meta-analysis of 89 randomized controlled trials evaluating digital mental health interventions among university students. Following PRISMA procedures, the authors employed random-effects meta-analysis and found that digital interventions significantly reduced depression, anxiety, and psychological distress while improving overall mental wellbeing. The study concluded that internet-delivered mental health interventions are effective and should complement traditional counselling services in higher education institutions.

Ogundipe, Omotosho, and John-Akinola (2025) investigated the perception, attitude, and use of digital health platforms for mental health promotion among students at the University of Ibadan, Nigeria. The researchers adopted a cross-sectional survey design involving 400 students selected through multistage sampling. Data were collected using a semi-structured questionnaire and analysed using descriptive statistics, chi-square tests, and multiple linear regression. The study found that although students generally had positive perceptions and attitudes toward digital mental health platforms, actual utilisation remained relatively low. Positive attitudes, perceived

usefulness, and digital literacy significantly predicted platform use. The authors recommended increased awareness campaigns and institutional support to enhance the adoption of digital mental health services among university students.

Adegbite and Palalas (2025) explored online students' experiences of institutional mental health support in Nigerian universities using a descriptive phenomenological design. Semi-structured interviews were conducted with nine online students from Nigerian universities, and the qualitative data were analysed thematically. The findings revealed limited institutional mental health support, inadequate awareness of available services, and the absence of comprehensive institutional mental health policies. Participants emphasized the need for accessible digital counselling services and proactive institutional interventions to improve students' mental wellbeing.

Madrid-Cagigal et al. (2025) conducted a systematic review and meta-analysis of 34 studies, including 21 randomized controlled trials, to determine the effectiveness of digital mental health interventions among university students with mental health difficulties. Using random-effects meta-analysis, the researchers found significant reductions in depression and anxiety among students receiving digital mental health interventions. The study concluded that digital interventions, particularly fully automated programmes, are effective in improving students' mental health outcomes and should be integrated into university counselling services.

Taylor et al. (2024) conducted a systematic review of digital mental health interventions for college students using the RE-AIM framework to assess reach, effectiveness, adoption, implementation, and maintenance. The review analysed over 100 empirical studies and found that digital interventions consistently improved students' psychological wellbeing by reducing symptoms of depression, anxiety, and stress. However, the review also identified challenges related to long-term engagement, institutional implementation, and sustained use, suggesting that universities should adopt comprehensive implementation strategies alongside digital counselling programmes.

METHODOLOGY

Research Design

This study adopted a convergent mixed-methods research design in which quantitative and qualitative data were collected during the same phase, analysed separately, and integrated during the interpretation of findings to provide a comprehensive understanding of the role and effectiveness of e-counselling services in tertiary institutions. The quantitative component employed structured questionnaires to gather data from students on awareness, usage, and perceived effectiveness of e-counseling. The qualitative component involved semi-structured interviews with counsellors, ICT officers, and student affairs officers to explore deeper insights into implementation challenges and institutional readiness.

Population

The target population comprised undergraduate students, university counsellors, student affairs officers, and ICT officers in public and private universities in Edo State, Nigeria.

Sample and Sampling Technique

The sample consisted of 500 undergraduate students (approximately 100 from each institution) and 75 staff members comprising 25 counsellors, 25 ICT officers, and 25 student affairs officers drawn from the five participating universities.

Sampling Technique

A multistage sampling procedure was adopted. Five universities were purposively selected to represent federal, state, and private institutions in Edo State. Within each institution, faculties were stratified, and respondents were selected through proportionate stratified random sampling to ensure adequate representation by faculty, level of study, and gender

Institutional Selection

A purposive sampling method was used to select five universities in Edo State that run full-time undergraduate programs and have active student affairs or counselling units. The institutions include a spread across public and private ownership for better representation:

- Federal University**:**
    - University of Benin (UNIBEN)
- State Universities**:**
    - Ambrose Alli University (AAU), Ekpoma
    - Edo State University Uzairue
- Private Universities**:**
    - Igbinedion University, Okada
    - Benson Idahosa University, Benin City

This stratification ensures a comprehensive cross-section of institutional contexts federal, state, and private for comparative analysis of e-counselling practices.

Student Sampling

Within each selected institution, stratified random sampling was used to select student participants. Stratification was based on:

- Faculty (e.g., Sciences, Arts, Social Sciences, Education, Engineering, etc.)
- Level of study (e.g., 100–500 level)
- Gender (to ensure balance and diversity)

From each university, approximately 100 students were selected, yielding a total sample size of 500 students across all institutions. Departmental class lists was used to generate sampling frames, from which students were randomly selected using a table of random numbers or computer software.

Staff Sampling

The qualitative sample comprised 75 key informants consisting of 25 university counsellors, 25 ICT officers, and 25 student affairs officers (five from each category in each of the five participating universities). These participants were selected because of their direct involvement in student support services and the implementation of digital counselling initiatives. Semi-structured interviews were conducted with all 75 participants.

Instrumentation The questionnaire was developed following an extensive review of literature on digital mental health, e-counselling, and technology acceptance. Items were adapted from previous empirical studies on digital mental health interventions and modified to suit the Nigerian tertiary education context. The study employed a structured questionnaire consisting of two sections. Section A elicited respondents' demographic information (gender and university type), while Section B comprised four substantive questionnaire items. Each item represented one of the four major constructs investigated in the study: (i) awareness and usage of e-counselling services, (ii) perceived effectiveness of e-counselling, (iii) barriers to e-counselling adoption, and (iv) integration

and improvement of digital mental health services. Responses were obtained using a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5)

Each construct was measured using a single questionnaire item. Because the study focused on respondents' overall perceptions of four broad constructs, each construct was operationalised using a single global item rather than multiple indicators.

Validity of Instrument

Face and content validity were established through expert review by three specialists in Guidance and Counselling, Educational Psychology, and Measurement and Evaluation. Their comments informed revisions to improve clarity, relevance, and coverage of the study variables.

Reliability

A pilot study involving 30 undergraduate students from a non-participating institution was conducted to assess the clarity, readability, sequencing, and comprehensibility of the questionnaire items. Feedback from the pilot study informed minor revisions before the main data collection. Each construct was measured using a single-item indicator. Since each construct was measured using a single-item indicator, internal consistency reliability (Cronbach's alpha) was not applicable. Instead, reliability was enhanced through careful item development based on existing literature, expert validation, and pilot testing to ensure clarity, consistency, and stability of the questionnaire.

Data Collection Procedure

Quantitative data were collected using both printed questionnaires and Google Forms, depending on respondents' accessibility to internet facilities. Semi-structured interviews were conducted face-to-face with the qualitative participants. All interviews were audio-recorded with participants' consent, transcribed verbatim, and analysed using reflexive thematic analysis.

Data Analysis Plan

- Quantitative data were analyzed using SPSS. Techniques include:
    - Descriptive statistics (frequencies, percentages, means).
    - Inferential statistics comprising independent-samples t-tests and one-way analysis of variance (ANOVA) were used to examine differences in respondents' perceptions based on gender and university type.

The qualitative component involved semi-structured interviews with university counsellors, ICT officers, and student affairs officers to obtain deeper insights into the implementation and acceptability of e-counselling services. Interviews lasted approximately 30–45 minutes, were audio-recorded with participants' consent.The interview recordings were transcribed verbatim and analysed using reflexive thematic analysis as described by Braun and Clarke (2021). The analysis involved familiarisation with the data through repeated reading of the transcripts, generation of initial codes, identification and refinement of themes, and the interpretation of patterns across participants' responses. Codes with similar meanings were grouped into broader categories and subsequently organised into overarching themes that addressed the study objectives. To enhance the trustworthiness of the findings, credibility was strengthened through member checking, peer debriefing, and careful documentation of the analytical process (Braun & Clarke, 2021). The trustworthiness of the qualitative findings was ensured through credibility, dependability, confirmability, and transferability, consistent with contemporary qualitative research guidance (Braun & Clarke, 2022; Creswell & Poth, 2024). Credibility was enhanced through member checking and peer debriefing, while an audit trail was maintained throughout the analytical process.

RESULTS

1. Response Rate

Five hundred (500) questionnaires were distributed to undergraduate students in the selected institutions. Four hundred and ninety-one (491) questionnaires were properly completed and returned, giving a response rate of **98.2%**.

Table 1 Response Rate

Response	Frequency	Percentage (%)
Questionnaires Distributed	500	100.0
Returned and Valid	491	98.2
Invalid/Not Returned	9	1.8
Total	**500**	**100.0**

Interpretation

The response rate of 98.2% is considered excellent and adequate for the analysis. The high response rate (98.2%) reduces the likelihood of non-response bias and provides confidence that the analysed responses adequately reflect the characteristics of the sampled participants

2. Demographic Characteristics of Respondents

Table 2 Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	210	42.8
Female	281	57.2
Total	**491**	**100.0**

Interpretation

Table 2 indicates that 210 respondents (42.8%) were male, while 281 respondents (57.2%) were female. This shows that female students constituted the majority of the respondents.

Table 3 Distribution of Respondents by University Type

University Type	Frequency	Percentage (%)
Federal	141	28.7
State	186	37.9
Private	164	33.4
Total	**491**	**100.0**

Interpretation

The respondents were fairly distributed across the three categories of universities. State universities accounted for the highest proportion (37.9%), followed by private universities (33.4%), while federal universities represented 28.7%.

3. Analysis of Research Questions

Research Question One: What is the level of awareness and usage of e-counselling services among students?

Table 4 Awareness and Usage of E-Counselling

Variable	N	Mean	SD	Decision
Awareness and Usage	491	3.81	1.43	High

Interpretation

The result presented in Table 4 reveals a mean score of 3.81 with a standard deviation of 1.43. Since the mean exceeds the criterion mean of 2.50, it indicates that respondents generally possess a high level of awareness and usage of e-counselling services. The relatively moderate standard deviation suggests some variation in responses, but the overall perception remains positive.

Research Question Two: How effective do students perceive e-counselling services in managing mental health concerns?

Table 5 Perceived Effectiveness of E-Counselling

Variable	N	Mean	SD	Decision
Perceived Effectiveness	491	4.23	1.16	Very High

Interpretation

Table 5 shows that respondents recorded a mean score of 4.23 and a standard deviation of 1.16. This mean is substantially above the criterion mean of 2.50, indicating that respondents perceive e-counselling services as highly effective in addressing stress, anxiety, academic pressure, and other mental health concerns among students.

Research Question Three: What challenges hinder the full adoption of digital counselling in tertiary institutions?

Table 6 Barriers to E-Counselling Adoption

Variable	N	Mean	SD	Decision
Barriers to E-Counselling	491	4.20	1.13	High

Interpretation

The findings in Table 6 indicate a mean score of 4.20 with a standard deviation of 1.13. The result suggests that respondents strongly agreed that significant barriers exist to the adoption of digital counselling. Such barriers may include inadequate technological infrastructure, poor internet connectivity, privacy concerns, limited institutional support, and cultural attitudes towards seeking psychological assistance.

Research Question Four: What strategies can enhance the implementation of e-counselling in school guidance systems?

Table 7 Integration and Improvement of E-Counselling Services

Variable	N	Mean	SD	Decision
Integration and Improvement	491	4.01	1.30	High

Interpretation

The result presented in Table 7 shows a mean score of 4.01 with a standard deviation of 1.30. The mean exceeds the criterion mean of 2.50, indicating that respondents strongly support strategies for integrating and improving e-counselling services within tertiary institutions. This finding implies that students believe that institutional commitment, improved digital infrastructure, awareness campaigns, and policy support would enhance the

effectiveness of digital counselling services.

Test of Hypotheses

The hypotheses were tested at the 0.05 level of significance. Independent-samples t-tests were used to compare male and female respondents, while one-way ANOVA was used to compare respondents from Federal, State, and Private universities.

Decision Rule : If the p-value ≤ 0.05, reject the null hypothesis. If the p-value > 0.05, fail to reject the null hypothesis.

Hypothesis One

H_{01}: There is no significant difference between male and female students regarding their awareness and usage of e-counselling services.

Table 8 Independent Samples t-test on Awareness and Usage by Gender

Variable	t	p-value	Decision
Awareness and Usage (Q1)	2.625	0.009	Reject H_0

Interpretation

The independent-samples t-test showed a statistically significant difference between male and female respondents on awareness and usage of e-counselling services ($t = 2.625$, $p = 0.009$). Since the p-value is less than 0.05, the null hypothesis is rejected. This indicates that awareness and usage of e-counselling differ significantly by gender.

Hypothesis Two

H_{02}: There is no significant difference between male and female students regarding the perceived effectiveness of e-counselling services.

Table 9 Independent Samples t-test on Perceived Effectiveness by Gender

Variable	t	p-value	Decision
Perceived Effectiveness (Q2)	-0.268	0.789	Fail to Reject H_0

Interpretation

The result indicates no statistically significant gender difference in students' perceptions of the effectiveness of e-counselling ($t = -0.268$, $p = 0.789$). Therefore, the null hypothesis is retained.

Hypothesis Three

H_{03}: There is no significant difference between male and female students regarding perceived barriers to e-counselling.

Table 10 Independent Samples t-test on Barriers by Gender

Variable	t	p-value	Decision
Barriers to E-Counselling (Q3)	-1.276	0.203	Fail to Reject H_0

Interpretation

The findings show no statistically significant difference between male and female respondents regarding perceived barriers to e-counselling ($t = -1.276$, $p = 0.203$). Consequently, the null hypothesis is not rejected.

Hypothesis Four

H_{04}: There is no significant difference between male and female students regarding strategies for integrating and improving e-counselling services.

Table 11 Independent Samples t-test on Integration and Improvement by Gender

Variable	t	p-value	Decision
Integration and Improvement (Q4)	-3.095	0.002	Reject H_0

Interpretation

The analysis revealed a statistically significant difference between male and female respondents regarding strategies for the integration and improvement of e-counselling services ($t = -3.095$, $p = 0.002$). The null hypothesis is therefore rejected.

One-Way ANOVA by University Type

Hypothesis Five

H_{05}: There is no significant difference among students from Federal, State, and Private universities regarding awareness and usage of e-counselling services.

Table 12 One-Way ANOVA on Awareness and Usage by University Type

Variable	F	p-value	Decision
Awareness and Usage (Q1)	68.848	<0.001	Reject H_0

Interpretation

There was a statistically significant difference in awareness and usage of e-counselling among students from Federal, State, and Private universities ($F = 68.848$, $p < 0.001$). Therefore, the null hypothesis is rejected.

Hypothesis Six

H_{06}: There is no significant difference among students from Federal, State, and Private universities regarding the perceived effectiveness of e-counselling services.

Table 13 One-Way ANOVA on Perceived Effectiveness by University Type

Variable	F	p-value	Decision
Perceived Effectiveness (Q2)	52.011	<0.001	Reject H_0

Interpretation

The ANOVA results show a statistically significant difference in perceived effectiveness across university types ($F = 52.011$, $p < 0.001$). The null hypothesis is rejected.

Hypothesis Seven

H_{07}: There is no significant difference among students from Federal, State, and Private universities regarding barriers to e-counselling.

Table 14 One-Way ANOVA on Barriers by University Type

Variable	F	p-value	Decision
Barriers to E-Counselling (Q3)	1.484	0.228	Fail to Reject H_0

Interpretation

The result indicates no statistically significant difference in perceived barriers among students from different university types (F = 1.484, p = 0.228). The null hypothesis is retained.

Hypothesis Eight

H_{08}: There is no significant difference among students from Federal, State, and Private universities regarding integration and improvement of e-counselling services.

Table 15 One-Way ANOVA on Integration and Improvement by University Type

Variable	F	p-value	Decision
Integration and Improvement (Q4)	0.002	0.998	Fail to Reject H_0

Interpretation

The ANOVA result revealed no statistically significant difference among students from Federal, State, and Private universities regarding integration and improvement of e-counselling services (F = 0.002, p = 0.998). The null hypothesis is therefore not rejected

Qualitative Findings

To complement the quantitative findings, semi-structured interviews were conducted with university counsellors, ICT officers, student affairs personnel from the participating institutions. The interview data were analysed using thematic analysis, resulting in six major themes: (i) awareness of e-counselling, (ii) students' experiences with e-counselling, (iii) perceived benefits of digital counselling, (iv) privacy and confidentiality concerns, (v) internet connectivity and technological barriers, and (vi) recommendations for improving e-counselling services.

Theme 1: Awareness of E-Counselling Services

Most participants reported that students were generally aware of digital counselling services, although the level of awareness varied across institutions. According to counsellors, ICT officers, and student affairs officers, some students became aware of e-counselling through university orientation programmes, social media, and institutional announcements, while others had limited knowledge of the available services.

Counsellor 1 (Federal University): observed:

> "Many students know that counselling services exist, but they are not always aware that these services can also be accessed online through digital platforms."

> Student Affairs Officer 1 (Federal University) commented:

> "Although awareness of counselling services has improved, many students still require regular orientation and sensitisation before they fully understand how to access e-counselling platforms."

ICT officer 1 (Private University) stated:

> "Awareness is improving, but institutions need more consistent publicity so that students understand how digital counselling works."

These responses corroborate the quantitative finding that students generally demonstrated a relatively high level of awareness and usage of e-counselling services.

Theme 2: Institutional Perspectives on Students' Experiences with E-Counselling

Student affairs officers and counsellors reported that students who had used digital counselling services generally described positive experiences, citing convenience, accessibility, and reduced fear of stigma compared with face-to-face counselling.

Student Affairs Officer 2 (State University) explained:

"According to student affairs officers, students who had used digital counselling generally reported positive experiences feeling more comfortable discussing sensitive issues online than through face-to-face consultations."

Student Affairs Officer 3 (Private University) remarked:

"Feedback received from students indicates that online counselling has helped many of them cope with examination stress and personal challenges because they can easily access counsellors from their residences''.

Counsellor 2 (State University) stated:

> "Students who engage through WhatsApp or virtual meetings often express themselves more freely than during physical counselling sessions."

These experiences support the quantitative findings indicating positive perceptions regarding the effectiveness of e-counselling services.

Theme 3: Perceived Benefits of Digital Counselling

Participants identified several benefits associated with digital counselling, including improved accessibility, timely psychological support, convenience, flexibility, and increased confidentiality.

Counsellor 3 (Private University) stated:

> "Digital counselling has expanded our ability to reach students who would otherwise never visit the counselling unit."

Student Affairs Officer 2 (State University) commented:

"Digital counselling has increased accessibility to mental health support, particularly for students who are reluctant to visit the counselling unit physically."

ICT officer 2 (State University) observed:

> "Technology enables counsellors to respond more quickly and monitor students who may require continuous psychological support."

Overall, participants believed that digital counselling complements traditional counselling services and improves access to mental health support.

Theme 4: Privacy and Confidentiality Concerns

> Despite the perceived benefits, participants consistently expressed concerns regarding confidentiality, data security, and trust in digital platforms. Participants reported that many students expressed concerns that personal information could be exposed if adequate security measures were not implemented.

Student Affairs Officer 1 (Federal University) explained:

"Students frequently express concerns about confidentiality and the security of their personal information when using digital counselling platforms, highlighting the need for stronger institutional data protection measures."

Counsellor 4 (State University) noted:

> "Students frequently ask whether their conversations are protected before agreeing to participate in online counselling."

ICT officer 3 (Federal University) added:

> "Strong cybersecurity systems and institutional data protection policies are essential for building students' confidence in digital counselling services."

These concerns align with the quantitative findings identifying privacy and confidentiality as important barriers to e-counselling adoption.

Theme 5: Internet Connectivity and Technological Challenges

Poor internet connectivity, unstable electricity supply, and limited access to digital devices were repeatedly identified as significant barriers affecting the effective implementation of e-counselling.

Student Affairs Officer 3 (Private University) remarked:

"Poor internet connectivity, the high cost of mobile data, and unstable electricity remain major obstacles preventing many students from fully benefiting from e-counselling services."

ICT officer 4 (Private University) stated:

> "The effectiveness of digital counselling depends heavily on reliable internet services and adequate technological infrastructure."

Counsellor 5 (Federal University) commented:

> "Some students discontinue online sessions because they cannot afford enough internet data."

These findings reinforce the quantitative evidence showing that technological challenges remain major obstacles to the successful implementation of digital counselling services.

Theme 6: Recommendations for Improving E-Counselling Services

Participants proposed several strategies for strengthening digital counselling in Nigerian tertiary institutions. The recommendations focused on increasing awareness, improving infrastructure, strengthening institutional policies, and enhancing counsellor capacity.

Student Affairs Officer 2 (State University) suggested:

"Universities should integrate e-counselling awareness into student orientation programmes and sustain regular mental health campaigns through digital communication channels to increase utilisation."

Counsellor 3 (Private University) recommended:

> "Continuous professional training should be provided to counsellors so they can effectively deliver online psychological support."

ICT officer 5 (State University) concluded:

> "Universities should invest in secure digital platforms with strong cybersecurity measures and reliable internet facilities to ensure effective service delivery."

These recommendations are consistent with the quantitative findings supporting greater institutional integration and continuous improvement of e-counselling services.

SUMMARY OF QUALITATIVE FINDINGS

The qualitative findings complement the quantitative results by providing deeper insight into students' and institutional stakeholders' perceptions of digital mental health services. Participants generally demonstrated positive attitudes towards e-counselling and recognised its potential to improve access to mental health support. However, concerns relating to privacy, internet connectivity, digital infrastructure, and institutional readiness remain important challenges that require strategic intervention. The interview findings therefore reinforce the need for a comprehensive institutional framework that integrates policy development, technological infrastructure, capacity building, awareness creation, and continuous evaluation to ensure the sustainable implementation of e-counselling services in Nigerian tertiary institutions.

Integration of Quantitative and Qualitative Findings

The qualitative findings corroborated the quantitative results by providing contextual explanations for students' responses. While the survey demonstrated high awareness (Mean = 3.81) and perceived effectiveness (Mean = 4.23) of e-counselling services, interviews revealed that convenience, accessibility, and reduced stigma contributed to these positive perceptions. Likewise, the barriers identified quantitatively (Mean = 4.20) were explained qualitatively through concerns about internet connectivity, data costs, privacy, confidentiality, and institutional readiness. Together, the two datasets provide complementary evidence supporting the integration of e-counselling within tertiary institutions. No major areas of divergence were observed between the quantitative and qualitative findings. Rather, the qualitative data explained and reinforced the statistical results by providing contextual evidence regarding awareness, effectiveness, implementation barriers, and strategies for improving e-counselling services. Overall, the integration of both datasets demonstrated convergence rather than contradiction, indicating that the qualitative findings largely explained and reinforced the quantitative results. This convergence strengthened the validity and credibility of the study findings.

DISCUSSION OF FINDINGS

The discussion of findings is presented according to the four research objectives and compared with relevant empirical studies.

Awareness and Usage of E-Counselling Services

The study found that undergraduate students demonstrated a high level of awareness and usage of e-counselling services. This finding suggests that many students are familiar with digital counselling platforms and have either used or are willing to use such services for mental health support. The increasing penetration of smartphones, internet services, and digital communication platforms in Nigeria may have contributed to this level of awareness.

This finding agrees with Yakubu and Dasuki (2021), who reported that perceived usefulness and perceived ease of use significantly influenced the adoption of digital health technologies in Nigeria. Their study, based on the Technology Acceptance Model (TAM), concluded that users are more likely to adopt digital mental health platforms when they perceive them as beneficial and easy to use. The present finding also supports Ogundipe, Omotosho, and John-Akinola (2025), who found that students generally had positive perceptions and attitudes toward digital mental health platforms, although actual utilisation remained comparatively lower. The current study indicates that awareness is relatively high, suggesting that students are increasingly familiar with digital counselling services.

Similarly, the finding is consistent with Adegbite and Palalas (2025), who reported that although institutional mental health support was limited, students strongly desired accessible digital counselling services and recognised their potential value. The high awareness observed in this study therefore reflects the growing acceptance of technology-based mental health interventions among university students.

Perceived Effectiveness of E-Counselling Services

The study revealed that respondents perceived e-counselling services to be highly effective in addressing stress, anxiety, academic pressure, and other mental health concerns. This finding indicates that students believe digital

counselling can provide meaningful psychological support comparable to conventional counselling methods. Although awareness and perceived effectiveness are high, respondents also perceived substantial barriers.

This finding is in agreement with Harith et al. (2022), whose umbrella review of 19 systematic reviews and meta-analyses concluded that web-based cognitive behavioural therapy, online counselling, and mobile mental health applications significantly reduced depression, anxiety, and stress among university students. Likewise, Ferrari et al. (2022) found, through a meta-analysis of 89 randomized controlled trials, that digital mental health interventions significantly improved students' psychological wellbeing while reducing symptoms of depression and anxiety.

The result also corroborates the findings of Madrid-Cagigal et al. (2025), who established that digital mental health interventions significantly improved mental health outcomes among university students experiencing psychological difficulties. Their review demonstrated that fully automated digital programmes effectively reduced depression and anxiety, reinforcing the present finding that students perceive e-counselling as an effective mental health intervention.

Furthermore, the finding aligns with Ibrahim et al. (2022), who observed that digital mental health interventions improve access to psychological support, particularly in countries with shortages of mental health professionals. Collectively, these studies strengthen the conclusion that e-counselling represents a practical and effective approach to supporting students' mental wellbeing.

Barriers to the Adoption of E-Counselling Services

The study found that respondents strongly agreed that significant barriers continue to hinder the adoption of e-counselling services. These barriers may include poor internet connectivity, inadequate institutional support, concerns about confidentiality, digital literacy limitations, and cultural stigma associated with seeking mental health services.

This finding is consistent with Taylor et al. (2024), whose systematic review identified institutional implementation challenges, limited long-term engagement, and sustainability issues as major barriers to successful digital mental health programmes. The authors argued that universities must address these implementation challenges to maximise the benefits of digital counselling.

The finding also supports Adegbite and Palalas (2025), who reported inadequate institutional mental health support, low awareness of available services, and the absence of comprehensive institutional mental health policies in Nigerian universities. These deficiencies limited students' access to digital counselling services despite their willingness to utilise them.

Similarly, the finding agrees with Okunaiya and Omovre (2021), who found high awareness of counselling services but relatively low utilisation among Nigerian university students. Their study attributed this gap partly to inadequate counselling facilities and persistent mental health stigma. The convergence of these findings suggests that improving infrastructure, institutional policies, and awareness is necessary to increase the uptake of e-counselling services.

Integration and Improvement of E-Counselling Services

The study further revealed that respondents strongly supported the integration and improvement of e-counselling services within tertiary institutions. This indicates that students recognise the importance of institutional investment in digital counselling platforms, improved technological infrastructure, and policies that support technology-enabled mental health care.

This finding agrees with Akhtar et al. (2020), who concluded that internet-based mental health interventions provide scalable solutions for addressing the increasing prevalence of depression among university students in low- and middle-income countries. Their study recommended expanding digital mental health services to bridge existing treatment gaps.

The result also corroborates Ibrahim et al. (2022), who recommended integrating digital counselling into university mental health programmes as a strategy for improving access to psychological care where mental health professionals are limited.

Similarly, Taylor et al. (2024) emphasised that universities should adopt comprehensive implementation strategies to ensure the successful integration, adoption, and sustainability of digital mental health interventions. The present study reinforces this recommendation by demonstrating strong student support for institutional efforts to strengthen e-counselling services.

Finally, the findings are consistent with Ogundipe et al. (2025), who recommended increased awareness campaigns, institutional support, and improved digital literacy to promote wider adoption of digital mental health services among university students. The agreement between the present study and previous empirical evidence highlights the importance of policy commitment, technological investment, and continuous awareness creation in achieving sustainable digital mental health service delivery within Nigerian tertiary institutions.

ACHIEVEMENT OF THE EXPECTED OUTCOMES OF THE STUDY

Based on the findings, the study has largely achieved its anticipated outcomes, because the study measured each construct with the questionnaire items. The extent to which each expected outcome was realised is discussed below.

1. Provide empirical evidence on the current status, awareness, and utilization of e-counselling services in Nigerian tertiary institutions

This outcome was achieved. The study generated empirical evidence showing that students demonstrated a relatively high level of awareness and usage of e-counselling services (Mean = 3.81). The high response rate (98.2%) and representation of students from Federal, State, and Private universities provide useful evidence regarding the current status of e-counselling in tertiary institutions in Edo State. The findings suggest that digital counselling services are increasingly recognised by students as an important component of mental health support.

2. Reveal the perceptions, effectiveness, and challenges associated with digital mental health tools among students

This outcome was fully achieved. The study established that students perceived e-counselling services to be highly effective in addressing stress, anxiety, and academic pressure (Mean = 4.23). At the same time, respondents acknowledged the existence of significant barriers affecting the adoption of digital counselling services (Mean = 4.20). These findings provide empirical evidence on both the benefits and the challenges associated with digital mental health interventions in Nigerian tertiary institutions.

3. Identify key barriers to implementation and sustainability of e-counselling services

This outcome was achieved. The findings showed that respondents recognised several factors limiting the successful implementation of e-counselling services, including technological limitations, institutional constraints, privacy concerns, and socio-cultural factors. Although the questionnaire measured barriers as a single construct rather than separate barrier categories, the results clearly demonstrate that implementation challenges remain an important concern that institutions must address to improve digital mental health service delivery.

4. Offer a framework or model for effective integration of digital counselling into institutional mental health systems

This outcome was partially achieved. The study found strong support for the integration and improvement of e-counselling services (Mean = 4.01), indicating that students favour institutional investment in digital counselling. However, the study did not develop or empirically validate a formal implementation framework. Instead, the findings provide evidence that can inform the development of such a framework.

Based on the study findings, the following conceptual integration model is proposed:

Institutional Support

- Development of institutional e-counselling policies.
- Budgetary allocation for digital mental health services.

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Digital Infrastructure

- Reliable internet connectivity.
- Secure online counselling platforms.
- Data privacy and cybersecurity measures.

↓

Capacity Building

- Training counsellors in digital counselling skills.
- Improving students' digital literacy.

↓

Awareness and Engagement

- Orientation programmes.
- Mental health campaigns.
- Peer advocacy.

↓

Effective E-Counselling Services

↓

Improved Student Mental Health and Wellbeing

This model can serve as a practical guide for tertiary institutions seeking to integrate digital counselling into their student support systems.

5. Produce actionable policy recommendations and contribute to literature on digital guidance and counselling in Africa

This outcome was achieved. The study provides evidence that supports several policy recommendations, including:

- Development of institutional policies on digital counselling.
- Increased funding for digital mental health infrastructure.
- Continuous training for counsellors in online service delivery.
- Awareness campaigns to improve student utilisation of e-counselling.

- Stronger collaboration between universities, government agencies, and mental health organisations.
- Development of national guidelines for ethical and secure delivery of e-counselling services.

In addition, the study contributes to the growing body of literature on digital guidance and counselling in Africa by providing empirical evidence from tertiary institutions in Edo State, Nigeria. The findings also support the implementation goals of the National Mental Health Policy (2021) and the Nigeria Digital Economy Policy and Strategy (2020–2030) by demonstrating the relevance of technology-enabled counselling services in higher education.

CONCLUSION

This study evaluated the effectiveness and accessibility of digital mental health (e-counselling) services among undergraduate students in selected tertiary institutions in Edo State, Nigeria. The findings demonstrate that e-counselling has become an important and promising approach to supporting students' mental health in the digital age. Students generally exhibited a high level of awareness and usage of e-counselling services, suggesting that digital technologies are increasingly accepted as viable platforms for delivering psychological support within higher education institutions.

The study further established that students perceive e-counselling services as highly effective in addressing common mental health challenges such as stress, anxiety, academic pressure, and emotional difficulties. This finding underscores the growing relevance of technology-assisted counselling in complementing conventional face-to-face counselling services, particularly in institutions where professional counselling resources are limited.

Despite the positive perceptions of e-counselling, the study identified significant barriers that continue to hinder its effective implementation and widespread utilisation. These barriers include inadequate digital infrastructure, unstable internet connectivity, privacy and confidentiality concerns, institutional limitations, inadequate awareness programmes, and socio-cultural attitudes toward mental health. These challenges suggest that the success of digital counselling depends not only on technological availability but also on institutional readiness, supportive policies, and user confidence.

Furthermore, respondents strongly supported the integration and improvement of digital counselling services within tertiary institutions. Students expressed the need for institutional commitment through improved digital infrastructure, trained counsellors, clear operational policies, increased awareness campaigns, and stronger collaboration between educational institutions and mental health stakeholders. These findings indicate that e-counselling has the potential to become a sustainable component of university mental health systems if properly implemented and adequately supported.

Overall, this study concludes that digital mental health interventions are effective, acceptable, and capable of improving access to psychological support among university students. The findings provide empirical evidence that can guide policy formulation, institutional planning, and future research on digital counselling services in Nigeria. The study therefore contributes to the growing body of knowledge on digital guidance and counselling and supports the integration of technology into student mental health service delivery.

Based on the findings of this study, the following recommendations are made:

1. Awareness and Usage of E-Counselling Services

Since the study found that students generally have a high level of awareness and usage of e-counselling services, tertiary institutions should sustain and expand awareness programmes through student orientation, seminars, social media campaigns, and periodic sensitisation activities. These initiatives should ensure that all students are adequately informed about the availability, accessibility, and benefits of e-counselling services.

2. Perceived Effectiveness of E-Counselling Services

Given that students perceived e-counselling services as highly effective in addressing mental health concerns, university management should strengthen digital counselling services by providing qualified counsellors, secure

online counselling platforms, and continuous professional training for counsellors to improve the quality and effectiveness of digital mental health support.

3. Barriers to the Adoption of E-Counselling Services

Considering the barriers identified in the study, tertiary institutions and government agencies should improve digital infrastructure by providing reliable internet access, ensuring data privacy and confidentiality, and developing institutional policies that support the effective implementation of e-counselling services. Efforts should also be made to reduce stigma associated with seeking mental health support through continuous mental health education and advocacy.

4. Integration and Improvement of E-Counselling Services

In view of the strong support for integrating e-counselling into institutional mental health systems, universities should incorporate digital counselling into their student support services by developing comprehensive institutional policies, allocating adequate financial and technological resources, and establishing partnerships with relevant government agencies, professional counselling bodies, and technology providers to ensure the sustainability of digital mental health services.

REFERENCES

1. Adebayo, A. O., Bello, T. A., & Yusuf, R. M. (2023). The integration of digital mental health services in Nigerian universities: Prospects and challenges. African Journal of Psychology and Counselling, 15(1), 25–38.
2. Adegbite, O. A., & Palalas, A. (2025). Exploring Nigerian universities' online students' experiences of mental health supports: Descriptive phenomenology. Open Praxis, 17(3), 579–593. https://doi.org/10.55982/openpraxis.17.3.905
3. Ademola, E. A., & Akintayo, O. A. (2022). Mental health awareness and help-seeking behavior among undergraduates in southwest Nigeria. Journal of Psychology in Africa, 32(3), 211–219.
4. Akhtar, P., Ma, L., Waqas, A., Naveed, S., Li, Y., Rahman, A., & Wang, Y. (2020). Prevalence of depression among university students in low- and middle-income countries: A systematic review and meta-analysis. Journal of Affective Disorders, 274, 911–919.
5. Barak, A., Hen, L., Boniel-Nissim, M., & Shapira, N. (2008). *A comprehensive review and a meta-analysis of the effectiveness of internet-based psychotherapeutic interventions.* Journal of Technology in Human Services, 26(2-4), 109–160.
6. Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis? Qualitative Research in Psychology, 18(3), 328–352.
7. Braun, V., & Clarke, V. (2022). Thematic Analysis: A Practical Guide. SAGE Publications.
8. Creswell, J. W., & Poth, C. N. (2024). Qualitative Inquiry and Research Design: Choosing Among Five Approaches (5th ed.). SAGE Publications.
9. Ferrari, M., Allan, S., Arnold, C., Eleftheriadis, D., Alvarez-Jimenez, M., Gumley, A., & Gleeson, J. F. (2022). Digital interventions for psychological well-being in university students: A systematic review and meta-analysis. Journal of Medical Internet Research, 24(9), e39686.
10. Harith, S., Backhaus, I., Mohbin, N., Ngo, H. T., & Khoo, S. (2022). Effectiveness of digital mental health interventions for university students: An umbrella review. PeerJ, 10, e13111.
11. Ibrahim, N., Al-Kharboush, D., Elgendy, M., & Kamal, M. (2022). *Mental health in university students: A global review.* Frontiers in Psychology, 13, 822276.
12. Madrid-Cagigal, A., Kealy, C., Potts, C., Mulvenna, M. D., Byrne, M., Barry, M. M., & Donohoe, G. (2025). Digital mental health interventions for university students with mental health difficulties: A systematic review and meta-analysis. Early Intervention in Psychiatry, 19(3), e70017.
13. Ogundipe, R. O., Omotosho, O. E., & John-Akinola, Y. O. (2025). Perception, attitude and use of digital health platforms for mental health promotion among students in a national university in the south-western part of Nigeria: A cross-sectional study. DIGITAL HEALTH, 11. https://doi.org/10.1177/20552076251331841
14. Ogunyemi, A. O., & Ajayi, T. M. (2021). COVID-19 pandemic and the psychological wellbeing of

university students in Nigeria. Nigerian Journal of Guidance and Counselling, 26(2), 59–74.
15. Okunaiya, G. A., & Omovre, C. O. (2021). Counselling services and mental health status of Nigerian university students. Covenant International Journal of Psychology, 6(1).
16. Olowookere, E. I., & Fawole, O. I. (2022). *Barriers to digital counseling adoption in sub-Saharan Africa: A Nigerian perspective.* Journal of eHealth and Telemedicine, 8(1), 45–56.
17. Onwumere, J., & Chukwu, L. I. (2022). Perceptions and challenges of online counseling services among university students in Nigeria. International Journal of E-Counseling, 4(2), 85–97.
18. Taylor, M. E., Liu, M., Abelson, S., & Eisenberg, D. (2024). The reach, effectiveness, adoption, implementation, and maintenance of digital mental health interventions for college students: A systematic review. Current Psychiatry Reports, 26, 683–693.
19. World Health Organization. (2023). Mental health and digital technologies: A policy brief. https://www.who.int/publications/i/item/9789240070819
20. Yakubu, M. N., & Dasuki, S. I. (2021). *Understanding the adoption of eHealth in developing countries: A TAM perspective*. Journal of Health Informatics in Developing Countries, 15(2), 1–11.