

**EFFECTIVENESS OF ONLINE COUNSELLING IN ADDRESSING ANXIETY  
DISORDERS AMONG UNDERGRADUATES IN A NIGERIAN PUBLIC  
UNIVERSITY**

**Osamudiamen Pujar VBAZENABORMEN**

**UNIVERSITY OF BENIN  
BENIN CITY**

**SEPTEMBER 2025**

**EFFECTIVENESS OF ONLINE COUNSELLING IN ADDRESSING ANXIETY  
DISORDERS AMONG UNDERGRADUATES IN A NIGERIAN PUBLIC  
UNIVERSITY**

**Osamudiamen Pujar VBAZENABORMEN**

**PG/EDU2215641**

**ND (Warri), B. Eng. (Owerri), PGD. Th. (Lagos), PGDTE (Benin)**

**A RESEARCH WRITTEN IN THE DEPARTMENT OF EDUCATIONAL  
EVALUATION AND COUNSELLING PSYCHOLOGY, FACULTY OF EDUCATION  
AND SUBMITTED TO THE COLLEGE OF POSTGRADUATE STUDIES IN  
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF  
MASTERS OF EDUCATION DEGREE IN COUNSELLING PSYCHOLOGY OF  
THE UNIVERSITY OF BENIN, BENIN CITY**

**SEPTEMBER 2025**

## **CERTIFICATION**

We, the undersigned, certify that this research proposal was written by Osamudiamen Pujar VBAZENABORMEN, in the Department of Education Evaluation and Counselling Psychology, Faculty of Education, University of Benin, Benin City, Edo State, Nigeria

---

**Prof. (Mrs.) E. O. Egbochuku**  
**(Supervisor)**

---

**DATE**

---

**Rev. Fr. A. A. Adubale Ph.D**  
**(Head of Department)**

---

**DATE**

## **DEDICATION**

This research work is dedicated to God Almighty, who has brought me this far.

## ACKNOWLEDGEMENTS

The researcher is immensely grateful and deeply appreciative of the laudable efforts of the indefatigable Supervisor, Prof. (Mrs.) E. O. Egbochuku, for her unquantifiable contributions to the outcome of this work.

The researcher is also very thankful to the Dean of the Faculty of Education, Prof O. Omorogiuwa. The researcher is also grateful to the Head of Department, Rev. Fr. A. A. Adubale, Ph.D, for his dedicated support and excellent qualities. His unreserved gratitude for useful suggestions made toward helping to refine the work by all the lecturers in the Department of Educational Evaluation and Counselling Psychology, amongst whom are Professors: A. U. Osunde, Mrs A. N. G Alutu (Rtd), Mrs. G. I. Osa-Edoh, Mrs. V. E. I. Audu (Rtd), Mrs. H. I. Alika, Mrs. O. N. Aihie, as well as Doctors: Archbishop U. C. Ataha, Mrs. H. J. Osarumwense, Mrs M. U. Orhuerhuata, F. Egberha (of blessed memory), Mrs. P. K. Adeosun, Mrs. F. T. Adeyemi, A. V. Uyigue, M. N. Igbineweka, Mrs. Y. O. Osunde, Rev. W. O. Jesurobo, P. C. Ojiyi, Mrs P. E. Ima-Osagie, Mrs. E. O. Omogbai, G. I. Nwokule, K. O. Oaikhena, E. N. Ohiozua, E. G. Aliu, M. Denedo, M. C. Ayiam, A. N. Idugboe. Others are Mrs. Atuma and Rev. Sis. M. A. Otuonye, E. A. Alegieuno, and the dedicated non-academic staff in the department, amongst whom are Mrs G. O. Edo-Obanor, Mr A. G. Adefajo, Mrs O. I. Iweta, for their goodwill throughout the period of this programme.

The researcher renders his unreserved thanks to his amiable wife, Dr. (Mrs) Osedebamen Pujar, my lovely quadruplets, research assistants, and all for the moral assistance, and also to his ever-supportive Scripture Union (Nigeria) family, Church, family, friends, and colleagues in the department. Above all, may all honour and praise be to God the giver of all, to the King of kings, immortal and invincible, be all glory and adoration forever and ever. May God richly bless you all.

	<b>PAGE</b>
<b>TITLE PAGE</b>	<b>i</b>
<b>CERTIFICATION</b>	<b>ii</b>
<b>DEDICATION</b>	<b>iii</b>
<b>ACKNOWLEDGEMENTS</b>	<b>iv</b>
<b>LIST OF TABLES</b>	<b>vii</b>
<b>LIST OF FIGURES</b>	<b>viii</b>
<b>LIST OF APPENDICES</b>	<b>ix</b>
<b>ABSTRACT</b>	<b>x</b>
<b>CHAPTER ONE INTRODUCTION</b>	<b>1</b>
Background of the Study	1
Statement of the Problem	4
Research Questions	5
Hypotheses	6
Purpose of the Study	6
Significance of the Study	7
Scope and Delimitation of the Study	8
Definition of Terms:	10
<b>CHAPTER TWO: REVIEW OF RELATED LITERATURE</b>	<b>11</b>
Theoretical Framework	11
Conceptual Framework	20
Overview of Online Counselling: Definition, Evolution, and Current Landscape	23
Prevalence of Anxiety Disorders Among University Students	31
Traditional Counselling Approaches for Anxiety Disorders	38
Evolution of Online Counselling	40
Effectiveness of Online Counselling for Anxiety Disorders	48

Factors Influencing Online Counselling Outcomes	55
Cultural Considerations in Online Counselling	60
Challenges and Barriers in Implementation	63
Best Practices in Online Counselling Implementation	65
Summary of Reviewed Literature	68
<b>CHAPTER THREE: METHODOLOGY</b>	<b>71</b>
Design of the Study	71
Population of the Study	72
Sample and Sampling Technique	73
Research Instrument	75
Validity of the Instrument	76
Reliability of the Instrument	76
Method of Data Collection	77
Method of Data Analysis	77
<b>CHAPTER FOUR: PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS</b>	<b>78</b>
Presentation of Results	78
Discussion of Findings	80
<b>CHAPTER FIVE: SUMMARY, CONCLUSION, AND RECOMMENDATION</b>	<b>83</b>
Summary	84
Conclusion	85
Recommendations	85
<b>REFERENCES</b>	<b>88</b>
<b>APPENDIX</b>	<b>97</b>

## LIST OF TABLES

	<b>PAGE</b>
<b>Table 1:</b> Population Distribution of the Undergraduate Students in the University of Benin, Benin City.	72
<b>Table 2:</b> Proportionate Sampling Distribution of Undergraduate Students across Seven Faculties that make up the Sample.	73
<b>Table 3:</b> Pearson Product-Moment Correlation of Online Counselling and Anxiety Disorders.	77
<b>Table 4:</b> Fisher's Z Statistics of Online Counselling and Anxiety Disorders based on Sex.	78
<b>Table 5:</b> Fisher's Z Statistics of Online Counselling and Anxiety Disorders based on Age.	79

## LIST OF FIGURES

	<b>PAGE</b>
<b>Figure 1:</b> S.O.R Schematic Illustration,.	20

## **LIST OF APPENDICES**

	<b>PAGE</b>
<b>Appendix A:</b> Online Counselling Feedback Questionnaire (OCFQ)	97
<b>Appendix B:</b> 2020/2021 University of Benin Students Enrolment Records	99
<b>Appendix C:</b> Validity of Test Instrument	105

## ABSTRACT

This study investigated the effectiveness of online counselling in addressing anxiety disorders among undergraduate students at the University of Benin, Nigeria. It was anchored on Cognitive Behavioural Theory, Self-Determination Theory, and the Technology Acceptance Model, which together explain the therapeutic, motivational, and technological dimensions of online counselling. The study adopted an ex post facto research design, and a sample of 394 undergraduates was drawn through proportionate stratified sampling. Data were collected using the Online Counselling Feedback Questionnaire (OCFQ) and analysed using Pearson's product-moment correlation and Fisher's Z tests at the 0.05 level of significance.

The results revealed a significant positive relationship between engagement in online counselling and reduction in anxiety symptoms ( $r = .252$ ,  $p < .001$ ), indicating that students who participated in online counselling reported lower levels of worry and tension. Further analysis showed a significant difference based on sex, with male students showing a stronger relationship ( $r = .376$ ) than female students ( $r = .168$ ). However, age did not significantly moderate the counselling-anxiety relationship.

These findings suggest that online counselling is an effective and accessible tool for mitigating anxiety among university students. The study concludes that while online counselling holds strong potential to enhance student mental health, sex-responsive engagement strategies are essential to ensure equitable benefits. It is recommended that universities integrate structured online counselling systems, train counsellors in digital modalities, and promote awareness of technology-based mental health services within higher education institutions in Nigeria.

# CHAPTER ONE

## INTRODUCTION

### **Background of the Study**

Anxiety disorders, characterised by excessive fear and behavioural disturbances, are the most common mental health disorders worldwide. They encompass various conditions such as generalised anxiety disorder, panic disorder, social anxiety disorder, and specific phobias. According to the American Psychiatric Association (2013), anxiety disorders are often marked by persistent and excessive worry that interferes with daily activities. The World Health Organisation (2021) reported that anxiety disorders affected an estimated 301 million people globally in 2019, highlighting their pervasive nature.

Recent research confirms that anxiety disorders often begin in adolescence and, if not effectively treated, can persist into adulthood, negatively affecting academic, social, and emotional well-being. A study by the University of Oxford (2023) reported that adolescents with anxiety disorders are more likely to experience long-term mental health issues, underachievement in academics, and reduced economic prospects later in life. These findings highlight the importance of timely support systems, such as online counselling, to mitigate the enduring impact of anxiety disorders among young people.

University students are particularly vulnerable to anxiety disorders due to the transitional nature of university life, academic pressures, financial burdens, and social challenges. Several studies have indicated a rising prevalence of anxiety among university students globally and in Nigeria. Similarly, Olanrewaju et al. (2021) reported that 41.7% of students in southwestern Nigeria had symptoms of anxiety, emphasizing the need for effective mental health interventions. The consequences of anxiety disorders in university students are far-reaching. Moreover, anxiety can impair concentration, memory, and

decision-making, all of which are critical for academic success. Despite the high prevalence and adverse outcomes associated with anxiety, many students do not seek help due to stigma, lack of awareness, or limited access to mental health services (Gulliver et al., 2010).

In response to these barriers to help-seeking, alternative modes of psychological intervention have gained traction in recent years, particularly those that leverage digital platforms (digital alternatives to traditional face-to-face counselling) to reach students more effectively. Online counselling, also referred to as e-counselling or telepsychology, has emerged as a promising solution to address mental health challenges among university students. It involves the use of digital technologies such as video conferencing, emails, chat platforms, and mobile applications to provide psychological support and therapy (Guest et al., 2023; O'Brien, 2024). Online counselling offers several advantages, including increased accessibility, convenience, anonymity, and flexibility. The effectiveness of online counselling in addressing anxiety disorders has been supported by various studies. For example, Andersson et al. (2014) conducted a meta-analysis and found that internet-based cognitive-behavioural therapy (iCBT) was as effective as face-to-face CBT in reducing symptoms of anxiety. Similarly, a study by Olthuis et al. (2016) showed that therapist-supported online interventions significantly reduced anxiety symptoms compared to control conditions. These findings suggest that online counselling can be a viable alternative or complement to traditional therapy, especially in resource-constrained settings.

In the Nigerian context, online counselling is still an emerging practice, with limited but growing evidence of its effectiveness. Eseadi (2022) conducted a study at the University of Nigeria and found that internet-delivered CBT significantly reduced academic burnout and improved mental health among undergraduate students. Despite these challenges, the increasing penetration of smartphones and internet access among Nigerian youths presents an opportunity to expand online mental health services. The outbreak of the COVID-19 pandemic further highlighted the importance of online counselling. With lockdowns and

social distancing measures in place, many universities shifted to virtual platforms for academic and support services. Online counselling played a critical role in providing continued psychological support during this unprecedented time.

In Nigeria, the University of Benin (UNIBEN) has a counselling centre that offers various services, including academic advising, career guidance, and personal counselling, aimed at supporting students throughout their academic journey. However, during my practicum experience at the University Counselling Centre, I noticed that some digital tools are already in use; however, there is a critical need to formalize and scale these efforts into a structured and sustainable online counselling system. Such a system would leverage the benefits of digital platforms, namely, anonymity, flexibility, and convenience, to address barriers commonly associated with face-to-face therapy, including stigma and scheduling conflicts. By fully embracing technology-based counselling, UNIBEN can broaden its reach and offer more responsive and accessible psychological support to students experiencing anxiety disorders and related mental health challenges.

The concept of online counselling is rooted in the broader field of telepsychology, which has evolved over the past few decades. With the advent of the internet, the scope of telepsychology expanded to include email therapy, online support groups, and web-based interventions. Today, online counselling encompasses a wide range of tools and platforms designed to deliver evidence-based psychological interventions in digital formats. Several tools and technologies are commonly used in online counselling. Video conferencing platforms such as Zoom, Skype, and Microsoft Teams enable real-time, face-to-face interactions between counsellors and clients. Text-based platforms, including chatbots and mobile apps like Talkspace and BetterHelp, offer asynchronous communication and self-guided interventions. To evaluate the effectiveness of online counselling, researchers use various outcome measures, including changes in anxiety symptom severity, client satisfaction, engagement rates, and academic performance. In university settings, these evaluations help

determine the feasibility, acceptability, and efficacy of integrating online counselling into student support services.

Despite the growing evidence supporting online counselling, there are ongoing debates and concerns regarding its effectiveness compared to traditional therapy. Additionally, technical issues, such as poor internet connectivity and a lack of privacy, can compromise the quality of online sessions. Nevertheless, the potential of online counselling to bridge the mental health treatment gap, particularly in resource-constrained settings such as Nigeria, cannot be overlooked. As universities continue to explore innovative ways to support student well-being, online counselling offers a promising avenue for addressing the mental health needs of students with anxiety disorders. This study, therefore, seeks to assess the effectiveness of online counselling in addressing anxiety disorders among university students in Nigeria, with a specific focus on the University of Benin.

### **Statement of the Problem**

Anxiety disorders are among the most prevalent mental health conditions affecting university students globally, with significant implications for academic success, emotional stability, and overall well-being. The University of Benin, like many other public universities in Nigeria, operates with limited counselling infrastructure, low student engagement with mental health services, and cultural barriers that hinder help-seeking behaviour. These constraints exacerbate the psychological burden on students and raise urgent questions about how best to support their mental health needs in a sustainable, accessible, and contextually relevant manner. Traditional in-person counselling approaches, although effective in reducing anxiety symptoms, are currently insufficient to address the scale and complexity of the problem in Nigerian tertiary institutions. As a result, large numbers of students with anxiety remain untreated, silently enduring emotional distress that impairs academic performance, disrupts social relationships, and may lead to more severe psychological outcomes such as depression or suicidal ideation. The COVID-19 pandemic has further exposed these

weaknesses in mental health service delivery, as lockdowns and social distancing measures made in-person therapy inaccessible, increasing the urgency of alternative solutions.

In recent years, online counselling has emerged as a promising approach to providing mental health support to students who face barriers to traditional care. With the widespread availability of mobile phones, internet access, and digital literacy among young adults in Nigeria, online counselling offers a potentially scalable, private, and flexible platform for engaging students in therapeutic support. However, despite this promise, there is a critical lack of empirical evidence on the effectiveness of online counselling for Nigerian university students. Few studies have systematically examined whether digital interventions can reduce anxiety, increase student engagement with mental health services, or improve academic and psychosocial outcomes in this population. This gap in knowledge represents a pressing problem for mental health policy and practice in Nigerian higher education. Without research-based evidence on the feasibility and effectiveness of online counselling interventions, universities remain constrained to outdated or insufficient models of care that fail to meet students' growing psychological needs. If this problem remains unsolved, many students may continue to struggle with untreated anxiety, resulting in compromised educational attainment, increased dropout rates, and long-term emotional and social consequences. Against this background, this study seeks to investigate the effectiveness of online counselling in addressing the mental health of university students with anxiety disorders at the University of Benin. The findings will inform mental health service delivery models, support policy formulation, and contribute to the evolving discourse on technology-enhanced mental health care in the African context.

### **Research Questions**

The primary aim of this research is to investigate the effectiveness of online counselling in addressing anxiety disorders among undergraduates in a Nigerian public university, with a particular focus on the University of Benin. The following research questions guide the study:

1. What is the relationship between online counselling and anxiety disorders among undergraduate students in a Nigerian public university?
2. What is the difference in the relationship between online counselling and anxiety disorders based on sex?
3. What is the difference in the relationship between online counselling and anxiety disorders based on age?

### **Hypotheses**

Research questions 1-3 were hypothesized for the study and will be tested at the 0.05 level of significance.

1. There is no difference in the relationship between online counselling and anxiety disorders among undergraduate students in a Nigerian public university
2. There is no difference in the relationship between online counselling and anxiety disorders based on sex.
3. There is no difference in the relationship between online counselling and anxiety disorders based on age.

### **Purpose of the Study**

The purpose of this study is to:

- Evaluate the effectiveness of online counselling in reducing anxiety symptoms among students at the University of Benin, Nigeria.
- To identify key factors influencing students' willingness or reluctance to engage in online counselling for anxiety at the University of Benin.
- Contribute to the growing body of knowledge regarding the role of online counselling in addressing mental health challenges in university settings, specifically within the Nigerian context.

- Provide insights that can inform mental health practices and policies in higher education institutions, helping to improve access to and utilization of mental health services for students.

### **Significance of the Study**

This study is significant because it addresses a pressing concern in higher education, the growing prevalence of anxiety disorders among university students, and the limited access to effective mental health support. It also explores the effectiveness, accessibility, and student perceptions of online counselling, with a focus on its role in alleviating anxiety among students at the University of Benin, Benin City. The results of this research have the potential to contribute significantly to mental health practices in higher education, offering new insights into how online counselling can be optimized to meet students' needs.

For Counsellors and Mental Health Practitioners, the findings will provide evidence-based insights into how online counselling can be applied to reduce anxiety symptoms and promote student well-being. It will also highlight practical challenges, such as digital literacy, internet access, and student engagement, that must be addressed to maximize the effectiveness of online interventions. This knowledge will help counsellors refine their methods and adapt therapeutic practices for virtual delivery.

For University Administrators and Policymakers, this study will serve as an empirical guide for decision-making around student support systems. By demonstrating whether online counselling is effective in reducing anxiety among students, administrators, and policymakers will be equipped with data to justify investments in digital platforms, training, and infrastructure. The research will also help shape institutional policies that normalize and encourage the use of technology in mental health support.

For students, they will benefit directly from the findings through increased access to flexible, stigma-free counselling options that fit into their academic and social schedules. By

highlighting the benefits and limitations of online counselling, the study will raise awareness and encourage more students to seek psychological support without fear of judgment. This can improve academic performance, resilience, and overall well-being.

For the Academic community, this study contributes to the growing body of literature in counselling psychology by filling a research gap on digital mental health interventions in Nigerian universities. It adds local empirical evidence to global discussions about the role of technology in therapy, while also providing a framework that future researchers can replicate or build upon. This enriches academic discourse and supports innovation in mental health care delivery.

### **Scope and Delimitation of the Study**

This study focuses on investigating the effectiveness of online counselling in addressing the mental health of university students with anxiety disorders. The scope of the study is intentionally narrowed to provide a focused and manageable exploration of how digital counselling can serve as a viable intervention for anxiety management among young adults in higher education.

The research will be delimited to the University of Benin (UNIBEN), a representative institution in the Nigerian higher education system. The study will specifically target undergraduate students who are experiencing anxiety symptoms and who either have engaged with online counselling services or are potential users of such services. This population is chosen because undergraduates are at a critical stage of personal, academic, and social development, and often face heightened stressors that make them vulnerable to anxiety disorders. Additionally, this study will specifically examine how online counselling influences anxiety reduction, emotional well-being, and students' coping strategies in academic and social contexts. Demographic factors such as age, gender, and level of study will also be considered to explore variations in experiences and outcomes. While the study will provide valuable insights into online counselling, it will not cover other forms of digital

mental health interventions, such as self-help apps or peer support forums, and its findings will be interpreted within the Nigerian university context.

**Definition of Terms:**

**Online Counselling:** also known as e-counselling or telepsychology, involves the use of digital communication platforms, such as video conferencing, chat applications, email, and mobile apps, to deliver psychological services remotely.

**Effectiveness:** Effectiveness in this study refers to the extent to which online counselling achieves intended outcomes, specifically, the reduction of anxiety symptoms and improvement in mental health functioning among university students.

**Mental health:** This refers to a state of emotional, psychological, and social well-being in which an individual can cope with stress, work productively, and contribute to their community.

**Anxiety Disorders:** A group of mental health conditions characterized by excessive fear, worry, or nervousness that interferes with daily functioning. This includes generalized anxiety disorder, panic disorder, social anxiety disorder, and others, as classified by the DSM-5 (APA, 2013).

**University Students:** Individuals enrolled in undergraduate or postgraduate programs at institutions of higher learning, who may experience academic, social, and personal stressors; in this context, specifically referring to students at the University of Benin, Edo State, Nigeria.

## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

The literature reviewed under the following sub-headings;

- Theoretical Framework
- Conceptual Framework
- Overview of Online Counselling: Definition, Evolution, and Current Landscape
- Prevalence of Anxiety Disorders Among University Students
- Traditional Counselling Approaches for Anxiety Disorders
- Evolution of Online Counselling
- Effectiveness of Online Counselling for Anxiety Disorders
- Factors Influencing Online Counselling Outcomes
- Cultural Considerations in Online Counselling
- Challenges and Barriers in Implementation
- Best Practices in Online Counselling Implementation
- Summary of Literature Reviewed

#### **Theoretical Framework**

This theoretical framework examines the core theoretical frameworks that inform the study of online Counselling as an intervention for addressing anxiety disorders among university students. Online Counselling has gained significant traction as a practical and effective modality for providing psychological support to individuals, particularly in university settings. Anxiety disorders are among the most prevalent mental health challenges faced by university students, and this research focuses on the potential of online Counselling to alleviate these disorders. To understand the effectiveness of online Counselling in this context, three primary theories are considered: Cognitive Behavioural Theory (CBT), Self-

Determination Theory (SDT), and the Technology Acceptance Model (TAM). These theories provide a solid foundation for understanding the interplay between psychological interventions, student motivation, and the adoption of technology in mental health care.

This review will delve into each of these theories, exploring their core principles, relevance to the study, and how they contribute to understanding the dynamics of online Counselling. Furthermore, it will compare and contrast these frameworks, linking them directly to the research variables in the study of online Counselling's effectiveness for anxiety disorders. The goal is to establish a comprehensive theoretical foundation that guides the investigation of how online Counselling impacts anxiety symptoms among university students.

### Cognitive Behavioural Theory (CBT)

Cognitive Behavioural Theory (CBT) is a widely recognized and empirically supported therapy for various mental health conditions, including anxiety disorders (Beck, 1976). Rooted in the principle that thoughts, feelings, and behaviours are interconnected, CBT posits that maladaptive or negative thinking patterns contribute significantly to emotional distress and problematic behaviours (Burns, 1989). The core aim of CBT is to identify and modify these unhelpful cognitions, replacing them with more adaptive and realistic coping strategies (Beck, 2011). The major contributors to CBT include Aaron T. Beck, whose cognitive model of anxiety has shaped contemporary CBT approaches (Beck, 1976). Other influential scholars include David Clark, who developed cognitive models of panic and social anxiety (Clark & Wells, 1995), and Adrian Wells, known for his work on metacognitive therapy and the role of thinking processes in anxiety disorders (Wells, 2009). Their work has been instrumental in the development of online CBT interventions.

Cognitive Behavioural Therapy (CBT) serves as a primary theoretical foundation for many online Counselling interventions targeting anxiety disorders. According to Beck and

Clark (2010), CBT focuses on identifying and modifying maladaptive thought patterns and behaviours that maintain anxiety symptoms. The adaptation of CBT principles to online formats has been widely studied (Andrews et al., 2018; Oluwole & Adeoye, 2022). Cognitive Behavioural Therapy (CBT) is grounded in several fundamental principles that target the interplay between thoughts, behaviours, and emotions to alleviate anxiety and related disorders. A central component is cognitive restructuring, which involves identifying and challenging distorted or negative automatic thoughts; such as “I am a failure” or “No one likes me,” and replacing them with more balanced and realistic alternatives (Beck, 1976, 2011). This process helps clients develop healthier thinking patterns that reduce emotional distress.

Another key principle is behavioural activation, which addresses the tendency of individuals with anxiety to avoid feared situations or activities. By encouraging gradual engagement in positive and rewarding activities, behavioural activation helps counteract avoidance behaviours and promotes adaptive functioning (Jacobson et al., 1996). Complementing this, exposure therapy systematically and safely exposes individuals to feared stimuli or situations in a controlled manner. Through repeated, graded exposure, anxiety responses diminish, and individuals gain mastery over previously feared experiences (Marks, 1987).

Finally, CBT incorporates relaxation techniques such as deep breathing, progressive muscle relaxation, and mindfulness meditation. These methods provide practical tools for managing physiological symptoms of anxiety and fostering a sense of calm and well-being (Kabat-Zinn, 1990). Together, these core principles form a comprehensive framework that enables CBT to effectively reduce anxiety by restructuring thought patterns, modifying behaviours, and regulating emotional and physical responses. CBT is highly relevant to the research questions of this study because it directly addresses the therapeutic processes involved in online Counselling. One of the primary goals of online Counselling for anxiety is

to help students challenge negative thinking patterns and develop healthier coping mechanisms. Online therapy platforms frequently use CBT-based interventions, such as cognitive restructuring exercises, behavioural homework, and self-monitoring, which align with the key principles of CBT. In particular, this study will examine how the use of CBT techniques in an online format can effectively reduce anxiety symptoms among university students. Cognitive Behavioural Therapy (CBT) is widely recognized as an effective treatment for anxiety disorders due to its direct targeting of the core components of anxiety: cognitive, behavioural, and physiological factors. Cognitively, individuals with anxiety often experience excessive worry, catastrophic thinking, and pervasive fear of negative outcomes. CBT addresses these by helping clients challenge anxious thoughts, develop more realistic appraisals of situations, and reduce catastrophizing tendencies (Clark & Beck, 2010). Behaviourally, anxiety frequently leads to avoidance behaviours that reinforce fear and prevent corrective learning. CBT counters this by encouraging behavioural activation and systematic exposure to feared stimuli, breaking the cycle of avoidance (Barlow, 2002). Physiologically, anxiety manifests with distressing symptoms such as increased heart rate, sweating, and shortness of breath. CBT incorporates relaxation techniques and educates individuals about the connection between their thoughts, feelings, and physiological responses to manage these symptoms effectively (Öst, 1988).

Meta-analyses and randomized controlled trials consistently demonstrate CBT's efficacy and effectiveness across various anxiety disorders, including panic disorder, generalized anxiety disorder, social anxiety disorder, obsessive-compulsive disorder, and post-traumatic stress disorder. Effect sizes range from small to large depending on the disorder, with particularly strong effects observed in obsessive-compulsive disorder (Hofmann et al., 2012; Carpenter et al., 2018). CBT has been shown to outperform waitlist and placebo controls, and in some cases, rival pharmacological treatments in reducing anxiety symptoms (Butler, Chapman, Forman, & Beck, 2006). However, remission rates indicate that

approximately half of patients achieve full remission following CBT, highlighting the need for ongoing refinement and individualized approaches (Tolin, 2010). Long-term follow-up studies indicate that treatment gains from CBT are generally maintained over time, with significant reductions in anxiety symptoms, depression, and psychological distress observed at 6- and 12-month intervals (Morina et al., 2022). Theoretical models such as the inhibitory learning model emphasize the importance of correcting maladaptive assumptions about feared stimuli, facilitating new learning that reduces anxiety responses across disorders (Craske et al., 2008). Overall, CBT's structured approach, combining cognitive restructuring, behavioural interventions, and physiological regulation, provides a comprehensive framework for effectively treating anxiety disorders.

The adaptation of CBT principles to online formats has evolved into a distinct therapeutic approach known as Internet-delivered Cognitive Behavioural Therapy (iCBT) (Andrews et al., 2018). iCBT represents the systematic translation of evidence-based CBT protocols into digital formats that can be delivered via internet platforms. This approach maintains the core theoretical principles of traditional CBT while leveraging technology to enhance accessibility, standardization, and scalability (Andersson & Titov, 2014). iCBT typically includes structured modules covering psychoeducation, cognitive restructuring, exposure exercises, and relapse prevention, delivered through interactive online platforms (Oluwole & Adeoye, 2022). In the Nigerian context, Adebayo et al. (2021) explored the implementation of iCBT at the University of Ibadan, finding that structured online modules were effective in reducing test anxiety among final-year students. Their research demonstrated that iCBT maintained theoretical fidelity to CBT principles while accommodating cultural adaptations in examples, language, and metaphors.

The theoretical justification for iCBT lies in its structured approach, which translates well to digital platforms, and its emphasis on skills practice, which can be facilitated through interactive online exercises (Olanrewaju & Ibrahim, 2022). From a theoretical perspective,

iCBT retains the core mechanisms of change proposed in traditional CBT while offering advantages in consistency of delivery, potential for personalization through algorithms, and the ability to collect real-time data on practice and progress (Oladimeji et al., 2023). Research suggests that iCBT and traditional CBT share the same theoretical change mechanisms, including modification of dysfunctional beliefs, behavioural activation, exposure to feared stimuli, and development of adaptive coping skills (Andersson et al., 2019; Nwoke & Adejumo, 2022). The primary theoretical distinction lies not in fundamental principles but in the method of delivery and the additional considerations regarding user experience, digital engagement, and technological mediation of the therapeutic relationship. In the context of online Counselling, CBT is delivered through structured self-help programs, therapist-guided interventions, and interactive modules. Research suggests that ICBT is as effective as face-to-face CBT, particularly for individuals who actively engage with the online tools (Koelen et al., 2024). The flexibility and accessibility of online CBT make it a suitable alternative for university students who face barriers to traditional Counselling, such as stigma, financial constraints, and busy academic schedules.

Finally, recent research has explored the effectiveness of online CBT (iCBT) in treating anxiety disorders, with numerous studies supporting its efficacy. Andersson and Cuijpers (2009) found that internet-based CBT was as effective as face-to-face therapy for reducing anxiety symptoms. This research supports the use of CBT as a theoretical foundation for online Counselling, particularly in university settings, where accessibility and convenience are critical factors for students seeking mental health support.

### Self-Determination Theory (SDT)

Self-Determination Theory (SDT) was developed by Edward Deci and Richard Ryan in the mid-1980s as a framework for understanding human motivation and psychological well-being (Deci & Ryan, 1985). SDT posits that individuals have basic psychological needs for autonomy, competence, and relatedness. According to SDT, when these needs are met,

individuals are more likely to engage in behaviours that enhance their well-being. The theory has been widely applied in various domains, including education, health, and psychotherapy, to understand what motivates individuals to engage in and benefit from interventions (Deci & Ryan, 1985). The three core components of SDT are autonomy, that is, the feeling that one is in control of their actions and decisions; competence, that is, the feeling of being capable and effective in one's actions; and relatedness, that is, the feeling of connection and belonging with others. These psychological needs are considered essential for intrinsic motivation. When individuals perceive that their autonomy, competence, and relatedness are supported, they are more likely to engage in activities, including therapy, and experience better outcomes (Ryan & Deci, 2000). In the context of online Counselling, SDT suggests that students who perceive the Counselling process as autonomous, empowering, and supportive are more likely to engage with the intervention.

SDT is relevant to this study because it helps explain the factors that influence engagement with online Counselling services. The study aims to explore how students' perceptions of autonomy, competence, and relatedness influence their willingness to participate in online Counselling for anxiety. If students feel that the online Counselling platform supports these psychological needs, they are more likely to experience positive therapeutic outcomes (Ryan & Deci, 2000). This theory provides insights into why some students may be more engaged with online Counselling services than others, addressing the issue of motivation in digital mental health interventions. Edward Deci and Richard Ryan are the primary scholars associated with the development and application of SDT (Deci & Ryan, 1985). Their work has been foundational in understanding how intrinsic motivation affects behaviour change, particularly in therapeutic contexts. More recent applications of SDT in digital mental health include the work of Gagné and Deci (2005), who explored how autonomy-supportive environments in therapy improve patient adherence and outcomes.

Recent studies have shown that SDT can significantly enhance the effectiveness of online interventions. For example, Williams et al. (2006) found that when patients felt their autonomy and competence were supported in online therapy, they were more likely to remain engaged and experience improvements in their mental health. These findings are crucial for understanding how online Counselling platforms can be designed to increase student engagement by supporting their intrinsic needs.

### Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was introduced by Fred Davis (1989) to explain how users come to accept and use technology. The model posits that two primary factors, perceived ease of use and perceived usefulness, determine whether users will adopt a new technology. These factors are influenced by external variables, such as user experience and system characteristics. TAM has been widely applied in understanding the adoption of technologies across various domains, including healthcare, education, and mental health. TAM suggests that perceived ease of use (the degree to which a person believes that using a particular system would be free of effort) and perceived usefulness (the degree to which a person believes that using a particular system would enhance their job performance) are critical determinants of technology acceptance (Davis, 1989). In the context of online Counselling, students' perceptions of how easy and helpful the platform is will likely influence their decision to engage with the service. Furthermore, TAM suggests that external factors, such as social influence and facilitating conditions (Venkatesh et al., 2003), can also affect the adoption of technology.

TAM is highly relevant to this study because it explains the factors influencing students' acceptance and usage of online Counselling platforms. The study will explore how ease of use and perceived effectiveness of online Counselling platforms impact students' willingness to engage with the service. This theory will help to identify barriers to access and

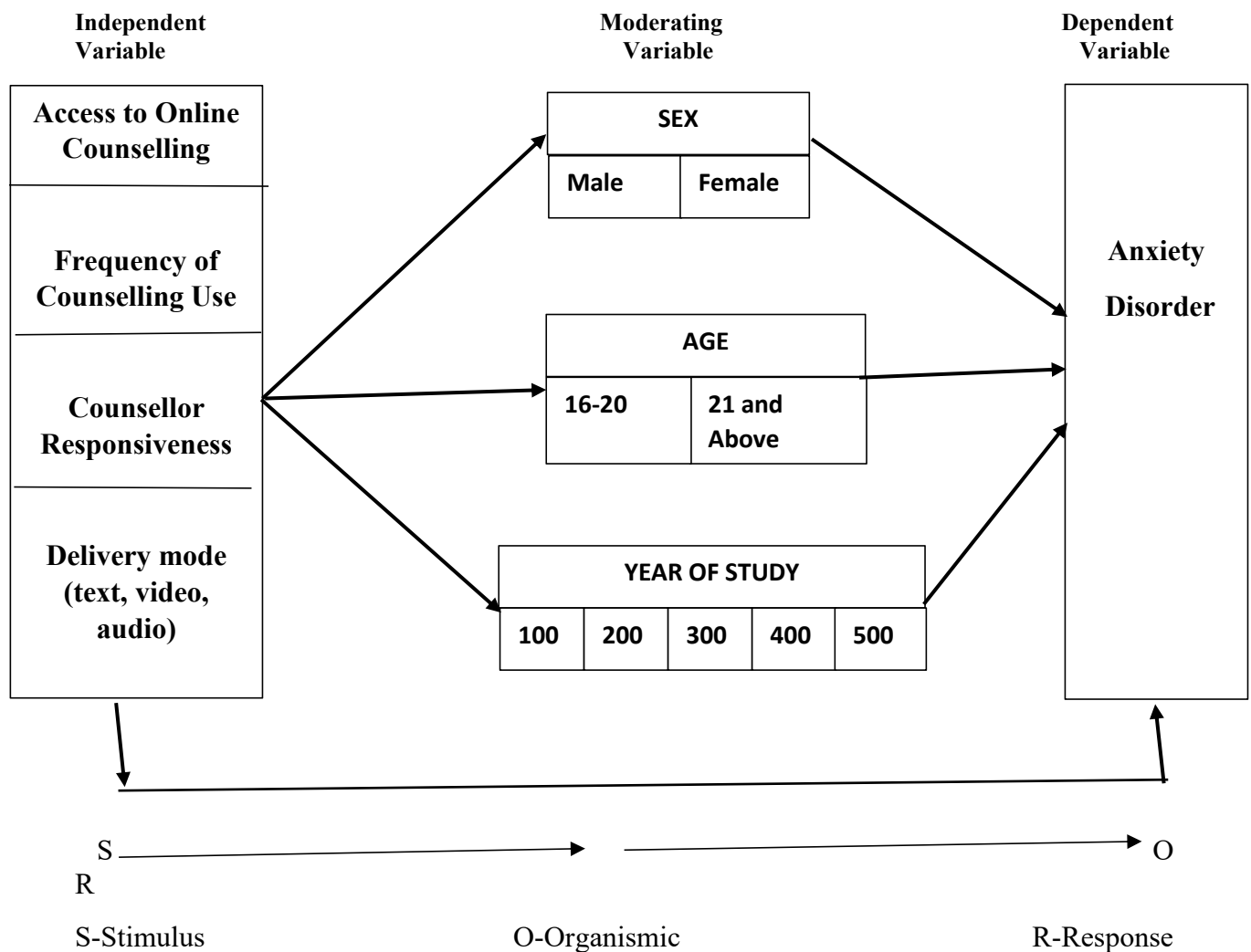
areas for improvement in the design of online Counselling services. Fred Davis is the primary scholar associated with the development of TAM (Davis, 1989). Later, Venkatesh et al. (2003) expanded TAM to include additional variables such as social influence and facilitating conditions, which further explain users' technology acceptance. These extensions have been crucial in understanding how various contextual factors, including peer influence and system design, can influence technology adoption. Recent research has applied TAM to online mental health interventions, with findings suggesting that perceived usefulness and ease of use are key predictors of engagement with online Counselling platforms (Murnane & Greenfield, 2020). These studies emphasize the importance of designing user-friendly and effective platforms to increase adoption and engagement.

In conclusion, this theoretical review provides a comprehensive examination of three critical theories, Cognitive Behavioural Theory (CBT), Self-Determination Theory (SDT), and the Technology Acceptance Model (TAM), to understand the factors that contribute to the effectiveness of online Counselling in addressing the mental health of university students with anxiety disorders. These theories address different dimensions of the research problem, with CBT focusing on therapeutic processes, SDT highlighting the motivational aspects of engagement, and TAM explaining the technological adoption factors. The integration of these frameworks provides a holistic understanding of how online Counselling can be optimized to reduce anxiety symptoms among students. This theoretical foundation will guide the empirical investigation into the effectiveness of online Counselling and offer insights into the design and implementation of online mental health interventions that are both effective and engaging for university students.

## Conceptual Framework

The conceptual framework guiding this research integrates elements from CBT, self-determination theory, and the technology acceptance model to understand the effectiveness of online Counselling in addressing the mental health of university students with anxiety disorders.

Figure 1 illustrates the relationships between key variables in this study.



**Figure 1:** S.O.R schematic illustration, adapted from Kanfer and Philips (1980), Egbochuku (1997), Abhulimen (2023)

The Conceptual framework for this study illustrates the relationships between key variables in examining the effectiveness of online Counselling in addressing anxiety disorders among undergraduates in the university. The independent variables include access

to online Counselling, frequency of Counselling use, counsellor responsiveness, and delivery mode. In turn, Counselling engagement impacts the dependent variable, which is the level of anxiety disorders experienced by students. Additionally, the framework includes moderating variables such as age, sex, and year of study, which may influence the strength or direction of the relationship between Counselling engagement and anxiety outcomes. This visual representation provides a clear structure for understanding how online Counselling elements interact to influence mental health outcomes, particularly anxiety, in the university setting. The framework guiding this study explores how online Counselling influences anxiety disorder levels among university students. It is structured around independent variables, a dependent variable, and moderating variables. Figure 1 presents a visual representation of the framework.

Independent Variables in this study refer to the key components of the online Counselling experience that are believed to influence students' mental health outcomes. These include access to online Counselling, frequency of Counselling use, counsellor responsiveness, and delivery mode. Access to Online Counselling is the extent to which university students can reach and use online Counselling services, which may be influenced by institutional policies and technological infrastructure, while frequency of Counselling Use is the number of times students make use of online Counselling. Regular usage is generally associated with better psychological outcomes (Richards & Viganó, 2013). Counsellor Responsiveness is the speed and quality of feedback and support provided by the counsellor. Research suggests that counsellor responsiveness significantly enhances the therapeutic alliance and client satisfaction (Andersson et al., 2014). Delivery Mode describes the channel or medium used to conduct online counselling sessions. It shapes how clients and counsellors communicate and can significantly influence the effectiveness of the therapeutic outcomes (Richards & Viganó, 2013). Engagement is a key predictor of Counselling effectiveness.

The dependent variable in this framework is the level of anxiety disorders among university students. This is the primary outcome variable and refers to the intensity or severity of anxiety symptoms experienced by students. This refers to the degree to which students experience symptoms of anxiety, ranging from mild stress to clinical anxiety disorders. The study assumes that effective online Counselling, when accessed regularly and facilitated through responsive counsellors and usable platforms, will lead to a significant reduction in students' anxiety levels. Hence, a reduction in anxiety disorder levels after counselling intervention serves as an indicator of the effectiveness of online Counselling.

Moderating variables in the framework include age, sex, and year of study. These variables may influence how the independent variables affect the dependent variable. Age, for instance, can influence the way students interact with technology and mental health services. Younger students may be more comfortable with digital platforms and also tend to be more digitally fluent, whereas older students might prefer face-to-face interaction (Pretorius et al., 2019). Sex differences have been observed in help-seeking behaviour and response to therapy. For instance, females are generally more likely to seek Counselling and express emotional concerns, while males may exhibit more stigma-related hesitancy (Nam et al., 2010). The year of study is another critical factor. The academic year may affect anxiety levels and coping mechanisms. Final-year students often report higher stress and anxiety due to academic and career pressures, potentially influencing how they benefit from Counselling (Beiter et al., 2015).

In summary, the conceptual framework posits that various dimensions of online Counselling (access, frequency, responsiveness, and mode) influence students' anxiety levels through their engagement in the Counselling process. These relationships are moderated by individual characteristics, including age, sex, and year of study. Understanding these dynamics is crucial for designing and implementing effective online mental health interventions. This conceptual framework provides a structured understanding of how online Counselling may

reduce anxiety symptoms among university students. By integrating direct effects and moderators, the model offers a comprehensive lens for both theoretical exploration and empirical testing. It moves beyond previous models by accounting for digital competence and therapeutic mechanisms, making it especially relevant for contemporary digital mental health research in the Nigerian context. As such, it serves as a solid foundation for the methodological components of this study and offers avenues for future expansion and refinement.

### **Overview of Online Counselling: Definition, Evolution, and Current Landscape**

Online Counselling (also known as e-therapy, teletherapy, or virtual Counselling) refers to the delivery of mental health services and psychological support via digital platforms (Barak et al., 2021). This therapeutic approach has evolved significantly over the past decade, particularly accelerating during the COVID-19 pandemic (Wind et al., 2020). Online Counselling encompasses various modalities that can be categorized as follows:

#### **Synchronous Counselling**

Synchronous Counselling occurs in real-time, allowing immediate interaction between the counsellor and client. Examples of synchronous communication in Counselling:

**Video-based Counselling:** Resembles traditional face-to-face therapy but conducted through video conferencing platforms (Zoom, Microsoft Teams) specialized HIPAA stands for the Health Insurance Portability and Accountability Act. It is a US law that protects sensitive patient health information from being disclosed without consent. HIPAA ensures confidentiality, security, and privacy of medical records. -compliant platforms). This modality preserves nonverbal cues and facial expressions, creating an experience closest to in-person therapy (Simpson et al., 2023).

**Voice/Phone Counselling:** Sessions conducted via telephone or internet voice calls. While lacking visual cues, this format provides real-time interaction and accessibility for

those with limited internet bandwidth or technology (Brenes et al., 2021). Studies have demonstrated efficacy particularly for anxiety disorders (Carpenter et al., 2020).

**Live Chat/Text Therapy:** Real-time text-based conversation between counsellor and client through secure messaging platforms. This format provides immediate response while allowing clients to express themselves through writing, which some find less intimidating than verbal communication (Hull & Mahan, 2022). Recent studies suggest particular benefits for social anxiety sufferers (Goldin et al., 2023).

### Asynchronous Counselling

Asynchronous Counselling involves time-delayed communication. It is a form of therapy where communication between the client and therapist occurs at different times, rather than in real-time, like in a face-to-face session. It offers flexibility and convenience, allowing clients to communicate with their therapist on their own schedule, potentially addressing issues that arise outside of traditional session times. Examples of asynchronous communication in Counselling:

**Email-based Therapy:** Clients and therapists exchange messages without immediate response expectations. This format allows for thoughtful reflection and suits clients who prefer processing their thoughts before responding (Andersson & Titov, 2022). Controlled trials have shown efficacy for treating generalized anxiety disorder through structured email protocols (González-Robles et al., 2021).

**Message-based Therapy:** Similar to email but typically conducted through secure platforms with dedicated messaging systems. Therapists usually respond within 24-48 hours, providing structured support between scheduled sessions (Hoermann et al., 2022). A meta-analysis by Liu et al. (2023) found moderate to strong effect sizes for text-based interventions in reducing anxiety symptoms among college students.

Audio recordings: Clients can record their thoughts and feelings and share them with their therapist, allowing for more in-depth exploration of emotions and experiences.

### AI-Enhanced Counselling Tools

AI-enhanced Counselling involves using artificial intelligence to augment traditional Counselling practices, offering personalized support, improving accessibility, and potentially enhancing the therapeutic process. This can include using AI-powered chatbots, virtual reality platforms, or predictive analytics to provide tailored interventions and support (David et al., 2024). Emerging technologies incorporating artificial intelligence:

AI Chatbots: Programs designed to simulate conversation using natural language processing. Examples include Woebot developed by Darcy et al. (2017), Woebot employs cognitive behavioural therapy (CBT), interpersonal psychotherapy (IPT), and dialectical behaviour therapy (DBT) principles. It provides 24/7 chat-based support, mood tracking, and personalized psychoeducation. Studies indicate its efficacy in reducing symptoms of depression and anxiety through daily check-ins and structured modules (Fitzpatrick et al., 2017). A key strength is its ability to normalize help-seeking behaviour while maintaining user anonymity.

Another example is Wysa, it combines CBT-based AI interactions with mindfulness exercises and optional human coaching. Inkster et al. (2018) demonstrated its effectiveness in reducing anxiety and improving emotional self-awareness through randomized controlled trials. The app emphasizes accessibility, requiring no personal data for use, and offers employer/healthcare integrations. Its "Packs" system organizes content into thematic modules (e.g., stress management, sleep hygiene), enhancing user engagement.

Finally, Youper utilizes brief CBT and mindfulness interventions via an AI chatbot, with features like emotion tracking and symptom monitoring. Santos et al. (2021) highlighted its adaptive dialogue system, which personalizes interactions using natural language

processing. The app also provides telehealth therapy referrals in select regions, bridging self-guided and professional care.

All three apps prioritize anonymity and immediacy, aligning with the "digital first" approach to mental healthcare (Torous et al., 2021). Woebot excels in structured CBT delivery, Wysa offers broader wellness tools (e.g., yoga), while Youper emphasizes emotional granularity through real-time mood tracking. Critically, none replace clinical diagnosis but serve as adjunctive tools for early intervention. All these tools deliver cognitive behavioural therapy techniques, mindfulness exercises, and mood tracking (Fitzpatrick et al., 2022). These tools typically serve as supplements to human Counselling rather than replacements. Randomized controlled trials have shown small to moderate effects on anxiety reduction (Fulmer et al., 2023).

Hybrid Models: Combinations of AI-based initial assessment and monitoring with human therapist oversight and intervention for more complex issues (Torous & Hsin, 2022). Early studies indicate promising outcomes for stepped-care approaches incorporating AI elements (Mohr et al., 2023).

### Growth of Teletherapy Post-COVID-19

The COVID-19 pandemic served as a profound catalyst for the widespread adoption of online Counselling, dramatically shifting the landscape of mental health service delivery. Prior to the pandemic, online Counselling constituted only about 5–10% of mental health services in most developed countries (Torous et al., 2020), primarily due to several systemic barriers. These included stringent regulatory frameworks, limited insurance reimbursement policies, and general technological hesitancy among both providers and clients (Pierce et al., 2021). Consequently, digital mental health services were largely dominated by a few specialized online-only platforms rather than being integrated into traditional Counselling practices (Lattie et al., 2020). The onset of COVID-19, however, forced a rapid

transformation, pushing mental health professionals and institutions to adopt teletherapy as a necessary and viable mode of care, overcoming previous obstacles out of necessity.

### Pandemic-Driven Transformation

The onset of the COVID-19 pandemic triggered a rapid and unprecedented shift to online mental health services. When lockdowns were enforced in early 2020, an estimated 80–90% of mental health providers transitioned to delivering services online within just a few weeks (American Psychological Association [APA], 2021). This swift adoption was made possible by emergency regulatory changes that temporarily lifted geographic licensing restrictions and expanded insurance coverage for telehealth services in many regions (Sammons et al., 2022). In response, healthcare systems and educational institutions quickly invested in secure and scalable telehealth infrastructure to support the growing demand (Mishkind et al., 2021). Meanwhile, clients who were initially skeptical about the efficacy of remote therapy began to embrace the convenience and effectiveness of the online format, leading to broader acceptance and normalization of teletherapy as a legitimate mode of mental health care (Békés & Aafjes-van Doorn, 2023).

### Current Landscape (2025)

Online Counselling has experienced a lasting transformation, now accounting for approximately 40–50% of all mental health service delivery, signalling a sustained shift rather than a temporary response to the pandemic (National Council for Mental Wellbeing, 2024). Many providers have adopted hybrid models that blend online and in-person sessions, making this flexible approach a new standard in mental healthcare (Markowitz et al., 2024). A growing body of research supports the effectiveness of online therapy, showing outcomes comparable to traditional face-to-face sessions for common mental health issues, including anxiety disorders (Cuijpers et al., 2023; Holmes et al., 2024). This trend has been especially pronounced in universities, where online Counselling has become a vital resource to meet

increasing student mental health demands in the face of limited on-campus support services (Association for University and College Counselling Centre Directors [AUCCCD], 2024).

### Basic Platforms and Programs

The online Counselling ecosystem has undergone significant growth, with several major platforms now dominating the landscape. BetterHelp stands as the largest online Counselling platform globally, offering subscription-based access to licensed therapists through video, phone, and messaging (Wasil et al., 2022). BetterHelp has established partnerships with numerous universities to supplement campus Counselling services. A longitudinal study by Chen and colleagues (2023) found significant symptom reduction among university students utilizing the platform for anxiety management. Talkspace is a major competitor to BetterHelp, providing similar services but with a stronger emphasis on psychiatry services and medication management integration (Hull et al., 2023). Talkspace has pioneered employer-sponsored mental health benefits programs. Recent data indicate positive outcomes for anxiety treatment comparable to in-person services (Malowney & Katz, 2024).

Cerebral offers a hybrid model combining therapy and medication management with a focus on specific conditions, including anxiety, depression, and ADHD (Rodriguez & Chen, 2023). Their model integrates regular provider check-ins with ongoing support. A comparative effectiveness study found significant anxiety reduction among university student users (Williams et al., 2024). Finally, Alma supports independent therapists in establishing online practices by managing administrative tasks, allowing for more specialized care options (Kenter et al., 2023). Their university partnerships have demonstrated enhanced access to specialized anxiety treatments (Zimmerman & Park, 2024).

### University-Run Programs

Universities have adopted diverse strategies to enhance online mental health support, addressing the increasing demand among students. Many institutions have developed internal

telehealth systems that are HIPAA-compliant and integrated with existing student health services. Examples include Michigan State University's Virtual Counselling Centre and UCLA's Virtual Counselling and Psychiatry Services, both of which have reported high student satisfaction and clinical outcomes comparable to in-person care (Eisenberg et al., 2023; Martinez & Wong, 2024). To further expand access, some universities have implemented extended hours programs, offering 24/7 counselling through partnerships with external providers such as ProtoCall and TimelyMD. ProtoCall is known for its 24/7 crisis intervention hotline services, while TimelyCare (TimelyMD) provides a much broader virtual health and well-being platform encompassing medical, mental health (including crisis support), and other student support services. Universities choose between them or potentially integrate them based on their specific needs and the scope of support they wish to provide to their students. These programs have been effective in reducing crisis service utilization and hospitalization rates, thereby alleviating pressure on campus resources (Xiao et al., 2023; Brownson et al., 2024). Such around-the-clock availability addresses the challenge of meeting student needs outside traditional office hours.

Stepped care models have also gained traction at institutions like Stanford and Arizona State University. These models employ a tiered approach where students initially engage with self-help resources and AI-based support, progressing to human counsellors as needed. This approach has demonstrated cost-effectiveness and increased service capacity by efficiently allocating clinical resources to students with higher severity needs (Lattie et al., 2023; Harrer et al., 2024). Additionally, peer support networks have become a valuable component of university mental health ecosystems. Platforms such as Togetherall, used by over 250 educational institutions, provide moderated peer communities supervised by mental health professionals. Research indicates these networks reduce stigma and encourage help-seeking behaviour, particularly among students with anxiety disorders (Byrom, 2023; Sontag-Padilla et al., 2023). Collectively, these approaches reflect a multifaceted response to the

complex mental health needs of university students in digital and hybrid learning environments.

### Integration with Academic Support

Successful university mental health programs increasingly integrate mental health support with academic services to enhance early identification and intervention for students experiencing anxiety and related disorders. Early alert systems utilize academic performance indicators to detect signs of distress, automatically connecting students to Counselling resources. Studies show these systems increase early intervention rates, improving outcomes for anxiety disorders (Walton et al., 2023; Francis et al., 2024). Complementing this, faculty training programs equip instructors to recognize anxiety symptoms and facilitate referrals to online Counselling services, which have been shown to boost utilization of mental health resources (Lipson et al., 2023; Richardson et al., 2024). Targeted support for students in high-risk academic programs-such as medicine, law, and engineering-also forms a critical component of integrated approaches. Specialized online anxiety interventions tailored to these disciplines have been linked to improved student retention and academic performance (Dyrbye et al., 2023; Thompson et al., 2024). This integration reflects a broader trend toward embedding mental health within the academic environment, addressing barriers such as stigma, scheduling conflicts, and limited campus resources that often hinder access to traditional in-person care (Eisenberg et al., 2024; Lipson et al., 2024).

Overall, the evolving landscape of university mental health care emphasizes coordinated, proactive strategies that connect academic and Counselling services. By leveraging technology, training faculty, and tailoring interventions to student needs, institutions can adopt supportive environments that promote both mental well-being and academic success.

## **Prevalence of Anxiety Disorders Among University Students**

Anxiety disorders are a cluster of mental health conditions characterized by persistent and excessive fear or worry that interferes with daily functioning. These disorders encompass subtypes such as generalized anxiety disorder (GAD), social anxiety, panic disorder, and specific phobias. Individuals with GAD experience chronic and uncontrollable worry across a variety of life domains, including finances, health, and social relationships, lasting six months or more and accompanied by symptoms like restlessness, fatigue, irritability, difficulty concentrating, tension, and sleep disturbance. Anxiety disorders can also manifest physically as palpitations, shortness of breath, dizziness, and gastrointestinal discomfort. Lifetime prevalence rates, such as approximately 34% in the U.S., and yearly prevalence rates of 4–7% globally, highlight the widespread impact of these conditions (Szuhany et al., 2022).

In Nigeria, a cross-sectional study by Adeleke et al. (2023) surveyed 877 undergraduate students at Bowen University Hospital, Osun State, between October 2022 and May 2023. Using the Hospital Anxiety and Depression Scale (HADS), they found that 14.9% had mild anxiety, 10.4% moderate anxiety, and 1.9% severe anxiety. Concurrently, 11.2% had mild depression, 5.1% moderate depression, and 0.5% severe depression. Importantly, a strong positive correlation emerged between anxiety and depression scores, underscoring the high comorbidity between these mental health conditions within the undergraduate population (Annals of Health Research). The authors recommended the establishment of structured mental health support and adequate training of personnel in university health centers.

**Global Perspective:** Anxiety disorders represent one of the most common mental health challenges facing university students worldwide. The World Health Organization (2022) estimated that 22-33% of university students globally experience significant anxiety symptoms during their academic careers. A meta-analysis by Storrie et al. (2020) examining

63 studies across 19 countries found that generalized anxiety disorder, social anxiety disorder, and test anxiety were the most prevalent forms among university populations. Regional variations exist, with Latalova et al. (2021) reporting higher prevalence rates in East Asian countries (28-35%) compared to European nations (18-25%). These differences likely reflect both actual variation in anxiety levels and cultural differences in reporting and help-seeking behaviours. Auerbach et al. (2016) present one of the most comprehensive global studies on the prevalence of mental disorders among university students, drawing from data collected through the World Health Organization (WHO) World Mental Health (WMH) Surveys. The study analysed responses from over 14,000 first-year college students across eight countries, making it a landmark investigation into the mental health status of young adults in higher education. The study provides compelling cross-national evidence on the burden of anxiety and other disorders, emphasizing the global necessity for scalable interventions such as online Counselling. The study found that nearly 35% of first-year university students met criteria for at least one common mental disorder, with anxiety and depression being the most prevalent. Anxiety disorders specifically were present in approximately 20% of the sample, highlighting their significance as a public health concern in academic settings (Auerbach et al., 2016). These conditions were strongly associated with impaired academic functioning and lower retention rates. The authors also reported that most affected students had not received any treatment, often due to perceived stigma, lack of resources, or logistical challenges, all of which online Counselling can potentially mitigate. This reinforces the importance of exploring digital modalities for increasing access to mental health care.

The study utilized standardized diagnostic instruments, such as the WHO Composite International Diagnostic Interview (CIDI), ensuring strong methodological rigor and cross-national comparability. Additionally, its multicentre design allowed the authors to explore cultural and institutional factors that might influence mental health trends across different countries. Although the research did not evaluate online interventions directly, it underscores

the scale of unmet needs and the potential benefits of low-barrier, internet-based Counselling programs in diverse educational settings. Despite its breadth, the study does have limitations. It focuses solely on first-year students, which may not fully capture the experiences of upper-level students who face different stressors. Moreover, while the data is robust, it is largely descriptive and does not evaluate treatment outcomes or intervention effectiveness. Nonetheless, the study's implications for policy and program design are far-reaching. The authors suggest integrating mental health services into campus infrastructure in ways that prioritize accessibility, privacy, and early detection, principles at the core of many online Counselling platforms.

The authors provide foundational evidence for the widespread occurrence of anxiety disorders among university students, supporting the argument that online Counselling can serve as a critical tool in closing the treatment gap. Their findings confirm that anxiety is a major contributor to academic and functional impairment, validating its central role in the conceptual model of this study. Furthermore, the study's global scope supports the adaptability of online interventions across various cultural and institutional contexts, lending weight to the potential generalizability of these research findings within and beyond Nigeria. Pedrelli et al. (2015) provide a comprehensive overview of the prevalence, types, and treatment considerations of mental health problems among college students, with a particular focus on depressive and anxiety disorders. Published in *Academic Psychiatry*, the study emphasizes the increasing burden of mental illness in post-secondary institutions and the unique developmental, academic, and psychosocial challenges faced by university students. The authors advocate for innovative and accessible treatment models, such as online interventions, to reduce treatment gaps and promote early access to care, which aligns directly with the focus of this study on online Counselling as a tool to address anxiety disorders. The study identifies anxiety disorders as one of the most common mental health problems in college populations, noting that these disorders are associated with significant

academic impairment, poor quality of life, and elevated risk of substance use and suicidality. The authors argue that the university environment, with its demands for autonomy, academic excellence, and social integration, can both trigger and exacerbate symptoms of anxiety and depression. The study further emphasizes that many students with mental health issues do not seek help, citing stigma, lack of awareness, and limited access to services as major barriers. These findings strongly support the relevance of online Counselling, which can reduce stigma and improve accessibility.

The authors employ a narrative review methodology, integrating data from epidemiological studies, clinical trials, and institutional reports. While the article is not an empirical study with original data, it draws on a wide array of peer-reviewed research and national surveys, such as the National College Health Assessment. The authors underscore the importance of early intervention and propose stepped-care models that include self-guided online programs, teletherapy, and in-person psychiatric services. This model aligns with the multi-level nature of support envisioned in this study's conceptual framework, which positions online counselling as a first-line intervention for anxiety. In terms of limitations, the study does not present primary data or quantitative outcomes from specific interventions. It also focuses predominantly on U.S. college populations, which may not directly generalize to the Nigerian university context examined in this study. However, the authors' treatment recommendations, such as integrating digital tools into university Counselling services and customizing interventions to meet student needs, are applicable across diverse settings. The study provides actionable insights for improving mental health care infrastructure and outreach on campuses globally. This review validates the conceptual assumption that anxiety is both highly prevalent and functionally impairing among university students, and that flexible, technology-enabled solutions are needed to close the treatment gap. The emphasis on student-specific treatment barriers and delivery models reinforces the significance of online Counselling as a viable and necessary intervention. Moreover, the article contributes to

the theoretical basis for examining the effectiveness of digital therapeutic platforms, offering practical guidance for designing interventions that fit the academic and psychosocial context of today's students.

Eisenberg et al. (2007) conducted a large-scale study to determine the prevalence and correlates of depression, anxiety, and suicidal ideation among university students. Published in the *American Journal of Orthopsychiatry*, this empirical study is pivotal in demonstrating the scale and severity of mental health concerns in academic environments. Using a cross-sectional survey design, the authors sampled 2,843 undergraduate and graduate students from a large U.S. university, thereby offering robust quantitative data to support concerns over anxiety and depression prevalence. The findings underscore the pressing need for accessible interventions, including online Counselling platforms, which can serve as scalable responses to mental health crises in higher education settings. The study revealed that 15.6% of respondents met the criteria for depression, while 12.9% screened positive for an anxiety disorder. Notably, only 36% of those meeting clinical thresholds for a mental health disorder had received any form of treatment in the past year. The authors identified several correlates of mental illness among students, including lower GPA, financial stress, and lack of social support. These risk factors are particularly significant in the context of this thesis, as they help define the population segments most in need of targeted, flexible interventions like online Counselling. The study also emphasized the underutilization of campus-based mental health services, citing stigma and time constraints as major barriers to access.

Methodologically, the research employed validated screening tools such as the PHQ-9 and GAD-7 to assess depression and anxiety, ensuring a high level of reliability and clinical relevance. The use of logistic regression models enabled the researchers to isolate significant predictors of mental health outcomes, thereby contributing to a nuanced understanding of student well-being. The study's large sample size and quantitative rigor make it a foundational work in the field of campus mental health research. It strengthens the argument

for deploying technology-based mental health solutions that can bypass traditional access barriers. Despite its strengths, the study has a few limitations. It focused on a single university, potentially limiting generalizability across diverse educational and cultural settings. Additionally, the cross-sectional design prevents causal inferences regarding the relationship between mental health and academic or social factors. However, these limitations do not detract from the study's critical implications. The authors advocate for more proactive, inclusive, and diversified strategies to support student mental health, a stance that aligns with the goals of online Counselling interventions. This review provides essential empirical grounding for the inclusion of anxiety as a central variable in evaluating the effectiveness of online Counselling. Their findings offer a compelling rationale for integrating digital tools into student mental health strategies, especially considering the large treatment gap and the practical barriers students face, and also contribute to the policy discussion surrounding mental health infrastructure in higher education, reinforcing the importance of scalable, stigma-free approaches such as online therapy.

Van Ameringen, Mancini, and Farvolden (2003) explore the negative effects of anxiety disorders on academic performance and educational attainment. Published in the *Journal of Anxiety Disorders*, this empirical study investigates how various forms of anxiety, including social phobia, panic disorder, and generalized anxiety disorder, impact individuals' ability to succeed academically. The authors surveyed 100 outpatients with diagnosed anxiety disorders and compared their educational experiences with those of a non-clinical sample. This study is particularly relevant to university student populations, where academic stress and mental health challenges often intersect, reinforcing the need for timely psychological support such as online Counselling interventions. The study found that individuals with anxiety disorders were significantly less likely to complete post-secondary education compared to non-anxious individuals. Social anxiety, in particular, was associated with early withdrawal from academic programs and reduced classroom participation. Many participants

reported that their anxiety symptoms directly interfered with performance, concentration, and social functioning in academic settings (Van Ameringen et al., 2003). This finding highlights the real-world consequences of untreated anxiety and supports the urgency of accessible intervention methods, such as online Counselling, for university students struggling with similar challenges. Methodologically, the study employed structured diagnostic interviews and self-reported academic histories to assess educational outcomes. The sample included both men and women, with anxiety disorders ranging from mild to severe. A notable strength of the research is its clinical focus, which allows for precise identification of how specific anxiety symptoms manifest in educational disruption. However, the cross-sectional design limits the ability to infer causal relationships between anxiety onset and academic failure. Nonetheless, the findings present strong correlational evidence that anxiety is a major risk factor for diminished academic achievement.

In terms of limitations, the authors acknowledge the relatively small sample size and potential recall bias in participants' reporting of academic histories. Additionally, the study focused exclusively on individuals who were already seeking treatment, which may limit generalizability to university students who have not yet accessed mental health services. Despite these constraints, the research makes a compelling case for early identification and intervention in academic settings. This directly supports the relevance of integrating online counselling into university mental health services to address anxiety-related academic impairments. The study also offers critical evidence for the conceptual link between anxiety and academic performance among university students. It justifies the inclusion of academic achievement as a key outcome variable when evaluating the effectiveness of online Counselling. It also strengthens the rationale for targeting anxiety disorders within university mental health strategies, as untreated anxiety clearly hinders student success. Moreover, it suggests that accessible interventions, particularly those that are stigma-free and flexible, may prevent long-term academic disengagement. These implications align closely with the

objectives of this research, further validating the significance of studying online Counselling effectiveness.

In the Nigerian context, research on anxiety prevalence in Nigerian universities has expanded significantly in recent years. Adewuya et al. (2021) conducted a large-scale study across six Nigerian universities, finding an overall anxiety disorder prevalence of 25.6%, with rates higher among female students (29.3%) than male students (22.1%). Social anxiety disorder (8.4%), generalized anxiety disorder (7.9%), and test anxiety (14.2%) were the most commonly reported. Ogunsemi and Afe (2023) identified several cultural factors affecting reporting and diagnosis, including stigma surrounding mental health issues, the tendency to express anxiety through somatic complaints, and reluctance to seek professional help outside family and religious structures. Their comparative study between public and private institutions found higher reported anxiety rates in private universities (27.8%) compared to public institutions (23.1%), potentially reflecting differences in academic pressure, socioeconomic factors, and willingness to acknowledge psychological distress.

### **Traditional Counselling Approaches for Anxiety Disorders**

Face-to-Face Counselling Models: Traditional face-to-face Counselling remains the predominant approach for addressing anxiety disorders in university settings. Numerous evidence-based approaches have demonstrated effectiveness, including cognitive behavioural therapy, acceptance and commitment therapy, and mindfulness-based interventions (Hofmann & Otto, 2017). In his 2019 work, *Theoretical Perspective of Traditional Counselling*, Chiboola offers a culturally grounded analysis of traditional Counselling approaches rooted in African worldviews and indigenous knowledge systems. He explains that traditional Counselling in African societies is holistic, often involving elders, community rituals, spiritual beliefs, and social norms. His work is essentially useful for this study as it provides a contextual baseline for comparing modern therapeutic approaches, like online

Counselling, to more established, face-to-face, community-based interventions commonly practiced in regions like Nigeria.

The author argues that traditional Counselling focuses not only on the individual's symptoms but also on their relational, spiritual, and societal context. While this differs significantly from online Counselling, especially cognitive-behavioural approaches focused on individual cognition and behaviour, it also highlights the potential limitations of digital therapy in addressing broader socio-cultural dimensions of mental health. This insight is crucial to this study of anxiety disorders among university students in Nigeria, many of whom may still rely on or be influenced by traditional help-seeking behaviours or familial expectations. The work is primarily theoretical and descriptive rather than empirical, relying on historical and anthropological sources rather than systematic experimentation. He presented several case illustrations and cultural anecdotes that demonstrate how traditional Counselling addresses mental and emotional distress, including anxiety symptoms, through rituals, community inclusion, and oral guidance. Although it lacks quantitative data, the study offers conceptual clarity on the values and assumptions embedded in indigenous Counselling methods, helping to contrast them with modern digital interventions in university settings. One limitation of the author's work is that it does not engage deeply with the clinical outcomes or efficacy of traditional Counselling when compared to evidence-based psychological treatments. Additionally, it does not consider how traditional and modern modalities could be integrated or adapted for online platforms, especially for tech-savvy youth. Nonetheless, the text provides valuable background for understanding potential resistance to online therapy and the need for cultural adaptation in mental health services targeting African students. The author's perspective adds depth by illustrating the cultural context in which online Counselling interventions must operate. It also emphasizes the importance of developing culturally competent digital mental health programs for university

students. Understanding traditional approaches helps ensure that online interventions are not only technologically sound but also contextually and culturally relevant.

In the Nigerian university system, Ajiboye and Mohammed (2022) documented the adaptation of Western Counselling models to incorporate cultural elements, including religious perspectives and indigenous healing concepts. Their research at the University of Ilorin found that integrative approaches combining cognitive techniques with culturally-relevant metaphors and examples showed higher engagement and retention rates than purely Western models. Limitations of traditional Counselling in Nigerian universities include insufficient counsellor-to-student ratios (often exceeding 1:3000), limited session availability, and physical accessibility barriers for students at satellite campuses (Olanrewaju et al., 2021).

**Group Therapy Approaches:** Group therapy approaches have shown particular promise for university students with anxiety disorders. A meta-analysis by Johnson et al. (2020) found moderate to large effect sizes for group-based CBT interventions targeting social anxiety and generalized anxiety disorder in university populations. In Nigerian universities, Ibrahim and Alabi (2022) documented implementation challenges, including scheduling difficulties, concerns about confidentiality in close-knit campus communities, and varying levels of participation across different cultural groups. Nevertheless, their three-year study at Ahmadu Bello University found that culturally-adapted group therapy produced comparable outcomes to individual Counselling for moderate anxiety symptoms, with the additional benefit of improved social connection.

### **Evolution of Online Counselling**

Online Counselling emerged in the 1990s primarily as text-based services, evolving significantly with technological advancements (Childress, 2000). Initially positioned as a supplement to traditional therapy, online Counselling has increasingly been recognized as a legitimate primary intervention, particularly following the COVID-19 pandemic (WHO, 2022). Richards and Viganó (2013) present a comprehensive narrative and critical review of

the literature on online Counselling, focusing on the development, methods, effectiveness, and ethical concerns associated with digital therapeutic modalities. Published in the *Journal of Clinical Psychology*, the article systematically evaluates empirical studies on the effectiveness of online Counselling interventions, especially for disorders such as anxiety and depression. The authors explore a wide range of online therapeutic approaches, including email therapy, chat-based Counselling, and videoconferencing, offering an extensive overview of the evolving landscape of digital mental health services. One of the central findings of the review is that online Counselling is generally effective for treating common mental health issues, particularly anxiety and depression. The authors note that therapeutic outcomes in online environments can be comparable to those of traditional face-to-face therapy, especially when cognitive-behavioural approaches are used. The review highlights several studies where online interventions yielded significant symptom reductions, often with moderate to large effect sizes. Importantly, the article emphasizes the value of online Counselling in overcoming barriers such as stigma, geographical isolation, and scheduling constraints, which frequently deter university students from seeking help through conventional means.

Methodologically, Richards and Viganó critically assess the heterogeneity across studies, pointing out variations in therapeutic format, length, therapist involvement, and outcome measures. They underscore the lack of standardization and call for more rigorous randomized controlled trials (RCTs) with adequate sample sizes to strengthen the evidence base. Additionally, the article discusses the importance of ethical considerations, including confidentiality, data protection, and therapist competence in online settings. Despite its strengths, the review acknowledges key limitations in the current body of literature. Most notably, there is an overreliance on Western populations, limited long-term follow-up data, and insufficient attention to diverse subpopulations, such as students in low- and middle-income countries. These gaps are particularly pertinent to this research in the Nigerian

university context, where cultural, infrastructural, and socioeconomic factors may influence the effectiveness and acceptance of online Counselling. The article further encourages future research that incorporates cross-cultural perspectives and evaluates user engagement and satisfaction across different technological platforms. This review provides a strong theoretical and empirical foundation for positioning online Counselling as a viable intervention for anxiety disorders among university students. It affirms that online therapy can be both accessible and effective, while also outlining the specific challenges and areas for improvement in current research and practice. The article supports the inclusion of online Counselling in the conceptual framework as an independent variable and points toward ethical and logistical considerations that should be addressed in your methodology. Ultimately, it enriches the academic rationale for exploring digital mental health solutions in tertiary institutions.

Kraus, Stricker, and Speyer's (2010) *Online Counselling: A Handbook for Mental Health Professionals* offers an in-depth, practitioner-oriented exploration of online therapeutic practice. The book is widely regarded as a foundational text in digital mental health, providing both theoretical insights and applied guidance for mental health professionals who deliver Counselling through digital platforms. The authors systematically address the evolution of online Counselling, its ethical challenges, technological delivery modes, and applications across diverse populations, making it an essential resource for understanding how this modality can be effectively applied to university students experiencing anxiety disorders. A central theme in the handbook is that online Counselling can be a legitimate and effective alternative to traditional face-to-face therapy, particularly when adapted appropriately to the medium. The authors present case studies and synthesize existing research demonstrating that clients, especially the younger, digitally literate population, can form strong therapeutic alliances online and experience significant symptom improvement. In the context of anxiety disorders, the book highlights how structured

interventions such as cognitive-behavioural therapy (CBT) delivered via online platforms have shown consistent success. This aligns directly with this study's focus on the effectiveness of online Counselling in addressing the mental health of university students with anxiety disorders.

The authors adopt a comprehensive methodological perspective, incorporating findings from qualitative and quantitative research, as well as their own clinical experience. They emphasize the importance of therapist training, platform security, and client engagement strategies in ensuring positive outcomes. The book does not rely on a single empirical study but synthesizes broad streams of evidence, making it particularly useful for this study. Its emphasis on tailoring interventions to clients' needs and comfort with technology provides practical considerations that strengthen the argument for using online therapy in university settings. However, the authors acknowledge several limitations, including technological barriers, unequal access to the internet, and the need for ongoing evaluation of long-term outcomes. These concerns are especially pertinent in low- and middle-income countries like Nigeria, where infrastructure and digital literacy may vary. Despite these challenges, the authors maintain that online Counselling represents a flexible, scalable, and often more accessible option, particularly for populations that are reluctant to seek face-to-face support due to stigma or time constraints, factors commonly observed among university students with anxiety disorders.

Mallen et al. (2005) conducted a pioneering review of online Counselling literature, framing their analysis within the principles of Counselling psychology. Their article is foundational in the online Counselling field, emphasizing the importance of integrating psychological theory, therapeutic alliance, and evidence-based practice into the digital Counselling context. This perspective makes the article especially relevant to this study, as it addresses not just the technical aspects of online Counselling, but also the psychological dynamics that are essential for treating anxiety disorders effectively among university

students. The authors explore various modes of online Counselling, including asynchronous (e.g., email) and synchronous (e.g., chat, video) modalities, and assess their potential to replicate the key processes of traditional Counselling. One of the core arguments is that online Counselling can nurture meaningful therapeutic relationships, although challenges related to nonverbal cues and immediacy may limit emotional depth. Notably, the article cites several studies showing that online Counselling can lead to reductions in anxiety symptoms, particularly when cognitive-behavioural frameworks are applied.

In terms of methodology, the authors critique the then-nascent state of empirical research in the field. They note that most studies suffer from small sample sizes, lack of control groups, and inconsistent outcome measures. However, the authors also acknowledge emerging trends toward greater methodological rigor, such as randomized controlled trials and meta-analyses. Their review encourages researchers to pursue stronger designs and culturally sensitive studies. The article's limitations include its concentration on Western populations and limited attention to long-term outcomes. It also predates the widespread adoption of high-speed internet and smartphones, which now enhance the feasibility and richness of online Counselling. Despite these constraints, the review remains valuable for its theoretical framing and for emphasizing the critical role of the Counselling relationship in determining treatment success. It also highlights ethical issues such as confidentiality, client safety, and therapist competence, factors that one may wish to consider in the implementation and evaluation of online Counselling interventions. This review offers essential insights into how Counselling psychology principles can be translated into the online context to treat anxiety among students. This literature also supports the researcher's argument that online Counselling is not merely a logistical convenience, but a legitimate therapeutic platform capable of producing measurable psychological outcomes.

In Nigeria, Adeyemi and Ojo (2021) documented the rapid transition to online Counselling services during the pandemic, noting that what began as an emergency response

has evolved into an established component of university mental health services. Their longitudinal study across five Nigerian universities showed a 300% increase in online Counselling uptake between 2019 and 2022, reflecting both necessity and growing acceptance.

### Types of Online Counselling Modalities

Online Counselling encompasses multiple modalities, each with distinct characteristics and applications. Synchronous approaches include video conferencing, phone sessions, and live chat, while asynchronous methods involve email, message boards, and structured self-help programs (Barak et al., 2021). Omotunde and James (2023) at Covenant University examined Nigerian students' preferences among these modalities, finding that video Counselling was preferred by 45% of students, followed by text-based Counselling (32%) and voice-only options (23%). Their research revealed that students with social anxiety often preferred text-based approaches as an entry point to Counselling services. Mobile applications and self-guided interventions have gained traction globally, with mixed evidence for effectiveness. Danladi et al. (2022) evaluated three internationally developed anxiety management apps among Nigerian university students, finding moderate engagement but limited cultural relevance, suggesting the need for locally developed digital resources.

Richards and Viganò (2012) provide an extensive narrative overview of the nature, forms, and effectiveness of online Counselling in their contribution to the Encyclopedia of Cyber Behaviour. Although not an empirical study, their chapter synthesizes key findings from a broad range of existing literature, focusing on the growing relevance of digital mental health services. The authors examine various modalities of online Counselling, including asynchronous approaches such as email and messaging, synchronous live chat, and video-based therapy. This comprehensive exploration is particularly relevant for understanding how digital platforms can cater to the mental health needs of university students, a demographic increasingly reliant on flexible and accessible therapeutic options. A central theme in their

analysis is the demonstrated effectiveness of online Counselling interventions in treating anxiety and related mental health disorders. The authors note that many reviewed studies support the use of internet-delivered cognitive-behavioural therapy (CBT) for anxiety, often showing outcomes comparable to traditional face-to-face therapy. University students, in particular, benefit from asynchronous Counselling formats due to the anonymity, flexibility, and privacy they offer; factors which may reduce stigma and encourage help-seeking behaviour. These features are especially pertinent in university settings where students may hesitate to access conventional mental health services due to time constraints, embarrassment, or fear of social judgment.

The authors also highlight the importance of the therapeutic alliance in digital Counselling. While video-based sessions provide richer emotional cues and support rapport-building, the authors argue that effective therapeutic relationships can also be established in text-based formats, especially when practitioners are adequately trained. Furthermore, asynchronous communication allows clients to review and reflect on therapeutic messages at their own pace, which may enhance understanding and engagement. This flexibility aligns well with the needs and behaviours of student populations, who often seek autonomy and convenience in mental health support. Despite these strengths, the authors caution against several limitations inherent in online Counselling. Key concerns include the absence of long-term efficacy data, the potential for miscommunication in text-based interactions, and heightened challenges related to privacy and confidentiality. They also discuss the issue of digital exclusion; students with limited access to reliable internet or digital literacy may not fully benefit from online services. These limitations underscore the need for careful implementation, ethical safeguards, and further empirical investigation.

McCord et al. (2020) present a comprehensive and integrative model for telepsychology practice, developed in response to the growing demand for mental health services through digital means. Their article, published in the *Journal of Clinical Psychology*,

offers a consolidated framework that combines clinical, ethical, technological, and contextual considerations to guide effective telepsychology delivery. The authors draw upon empirical studies, regulatory guidelines, and practitioner experiences to propose a practice model that ensures quality care and broad accessibility. This work is highly relevant for mental health services in university settings, where students increasingly depend on virtual resources for psychological support, particularly for conditions such as anxiety. The consolidated model emphasizes six core components essential to effective telepsychology: technological competency, legal and ethical compliance, client-centred care, risk management, diversity and inclusion, and outcome evaluation. Concerning anxiety treatment, the authors note that structured telepsychology, especially interventions grounded in cognitive-behavioural therapy (CBT), can yield significant improvements in symptoms when delivered effectively through secure platforms. The model underscores the importance of adapting therapy techniques to the virtual environment while preserving therapeutic rigor. These insights are crucial for university Counselling centres aiming to optimize the delivery of online interventions to students with anxiety disorders. They also explore the psychological mechanisms and contextual dynamics that affect therapeutic outcomes in telepsychology. They highlight the role of therapeutic alliance, client engagement, and cultural sensitivity as mediating factors in treatment effectiveness. For example, clients' comfort with technology and their perception of the therapist's competence strongly influence session quality and treatment adherence. In university populations, where technological literacy varies, the ability to tailor interventions to individual preferences and capacities is essential.

The study also addresses limitations in current telepsychology practice, such as inconsistent training among providers, privacy concerns, and challenges related to managing crises remotely. These issues are especially pronounced in student populations who may be dealing with high stress, limited private space, or uncertainty about seeking psychological help. They advocate for institution-wide training and infrastructure development to support

ethical and effective telehealth practices. Their model calls for continuous quality assurance processes, which include tracking outcomes and obtaining client feedback, strategies that are increasingly being adopted in university mental health services. Their model offers both theoretical and practical contributions. The study further reinforces the idea that technological and therapeutic factors interact to determine online Counselling effectiveness, particularly in treating anxiety. By offering a structured, adaptable framework, the article supports institutional efforts to scale mental health services effectively, especially within university systems. It also identifies critical gaps, such as the need for tailored student-oriented practices, that future research and service innovation must address.

### **Effectiveness of Online Counselling for Anxiety Disorders**

The effectiveness of online Counselling for anxiety disorders has been extensively studied internationally. A comprehensive meta-analysis by Carlbring et al. (2023) examining 87 randomized controlled trials found that therapist-supported online interventions produced outcomes comparable to face-to-face treatment for panic disorder, social anxiety disorder, and generalized anxiety disorder (effect sizes ranging from  $d = 0.76$  to  $0.98$ ). Also, Rodriguez-Lopez et al. (2022) conducted a systematic review specifically focused on university students, analysing 42 studies across North America, Europe, and Australia. Their findings indicated that online CBT interventions were particularly effective for test anxiety ( $g = 0.82$ ) and social anxiety ( $g = 0.79$ ), with more modest effects for generalized anxiety disorder ( $g = 0.67$ ).

Eilert et al. (2021) present an updated and comprehensive systematic review and meta-analysis on the effectiveness of Internet-delivered treatment for Generalized Anxiety Disorder (GAD). Drawing from a broad range of randomized controlled trials (RCTs), the authors critically evaluate the clinical outcomes of online interventions in comparison to both wait-list controls and face-to-face therapy. This review provides rigorous empirical evidence that supports the efficacy of online Counselling interventions in treating anxiety disorders,

particularly among populations with high digital engagement, such as university students. The author analysed 36 RCTs with a total sample of over 4,000 participants and found that Internet-based Cognitive Behavioural Therapy (iCBT) produced significant reductions in anxiety symptoms, with moderate to large effect sizes. Treatments were found to be most effective when guided by a therapist, though unguided interventions still yielded meaningful improvements. These findings reinforce the notion that structured, evidence-based digital treatments can be a valid alternative to traditional face-to-face therapy for managing anxiety. The authors also underscore the value of accessibility, scalability, and anonymity, which are particularly attractive to young adults in academic settings who may avoid conventional Counselling due to stigma or scheduling constraints.

In terms of methodology, the article scores high in terms of quality. The authors followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, used robust inclusion and exclusion criteria, and employed meta-analytic techniques to derive effect sizes. They also conducted subgroup analyses to investigate the role of intervention characteristics such as duration, delivery format (e.g., web vs. app), and therapist support. This rigorous approach allows for a nuanced understanding of what types of online interventions are most effective, helping to inform your research design and analytical strategy. Despite its strengths, the article acknowledges several limitations, including publication bias, variability in diagnostic criteria across studies, and a lack of long-term follow-up data. Additionally, most studies reviewed were conducted in Western countries, raising questions about cultural generalizability to contexts like Nigeria. Nevertheless, the findings strongly support the inclusion of Internet-delivered therapy in national and institutional mental health strategies, especially for young adult populations such as university students. This review is crucial in supporting the dependent variable (reduction in anxiety symptoms) and the independent variable (online Counselling interventions). The authors provide strong theoretical and empirical backing for the claim that Internet-based

therapy is not only effective but may be preferable for certain populations, including university students. The article hence strengthens the case for implementing and studying online Counselling in academic settings where access and stigma remain significant barriers.

Rollman et al. (2018) conducted a large-scale randomized clinical trial to evaluate the effectiveness of an online collaborative care model for treating mood and anxiety disorders in primary care settings. The intervention combined online cognitive behavioural therapy (CBT) modules with care management and psychiatric consultation, offering a hybrid model of support that integrated technology with clinical oversight. This study is highly relevant to this research, particularly for demonstrating how online interventions can be successfully delivered in structured environments, such as university Counselling centres or health clinics. The study involved 704 adult participants with diagnosed mood or anxiety disorders, who were randomly assigned to either the online collaborative care intervention or usual care. The researchers found that participants in the intervention group experienced significantly greater reductions in anxiety and depressive symptoms at six months compared to the control group. Notably, the intervention group also reported improved mental health-related quality of life. These outcomes lend strong support to the claim that structured, digitally delivered care can yield clinically meaningful results, an essential point for this study advocating for online Counselling in university settings.

Methodologically, the study stands out for its rigor. It was a multi-site randomized controlled trial with robust sample size and well-defined outcome measures. The researchers used validated instruments such as the Generalized Anxiety Disorder 7-item scale (GAD-7) and the Patient Health Questionnaire-9 (PHQ-9) to track symptom changes. Moreover, the intervention included a blend of self-guided content and professional monitoring, providing useful insights into the types of online models that may be most effective for student populations, especially those that balance autonomy with support. Despite its strengths, the authors acknowledged some limitations, including a predominantly middle-aged participant

sample and a lack of long-term follow-up data beyond the six months. Moreover, the findings may not generalize easily to populations outside the U.S. healthcare system or to younger, more mobile populations like university students. However, the study's core structure, accessible, guided online care, parallels many of the service delivery models now being implemented on university campuses globally and is adaptable to developing contexts such as Nigeria. This review enriches the evidence base supporting the use of online Counselling to reduce anxiety among university students. It confirms the effectiveness of blended online interventions that include both self-help tools and professional oversight, aligning closely with the conceptual framework's emphasis on the independent variable (online Counselling). The authors thus support the researcher's argument for expanding digital mental health services in academic environments where time, stigma, and accessibility are common barriers to traditional care.

Stubbings et al. (2013) conducted a randomized controlled trial (RCT) to compare the efficacy of videoconference-delivered cognitive behavioural therapy (VC-CBT) with traditional in-person CBT for individuals diagnosed with mood and anxiety disorders. The study's findings contribute important evidence that digital modalities can be just as effective as face-to-face interventions when delivered in structured, therapeutic frameworks. The study involved 30 adult participants randomly assigned to either VC-CBT or in-person CBT over 12 weekly sessions. Anxiety and depression symptoms were assessed using standardized instruments, including the Beck Anxiety Inventory (BAI) and the Beck Depression Inventory-II (BDI-II). The results revealed no significant differences between the two groups in symptom reduction at post-treatment or three-month follow-up. Both groups exhibited large reductions in symptoms, indicating that videoconferencing is a viable and clinically effective modality for delivering CBT to individuals with anxiety and mood disorders.

Methodologically, the study followed a robust randomized design with pre- and post-intervention measures, ensuring internal validity. While the sample size was relatively small,

the controlled conditions and use of standardized diagnostic and outcome measures provided strong support for its conclusions. Importantly, the study design closely mirrors what would be feasible in a university Counselling setting, structured therapy delivered via secure video platforms, an increasingly common feature of campus mental health services since the COVID-19 pandemic. The authors acknowledged several limitations, including the small sample size, lack of ethnic diversity, and limited generalizability due to the clinical setting of the trial. They also noted that while both formats were effective, some clients may prefer one modality over the other based on comfort or accessibility. However, the study strongly supports the scalability and comparability of video-based therapy, which is highly relevant for contexts such as university environments where physical access to therapists may be limited or stigmatized. This review adds empirical weight to the independent variable (online Counselling), especially the use of videoconferencing as a digital delivery format. The study also highlights mediating variables like patient engagement and moderating factors such as client preferences or technological comfort. The authors thus reinforce the validity of online therapy and its adaptability for university settings.

Research on online Counselling effectiveness in Nigeria has grown substantially in recent years. Oladimeji and Bakare (2022) conducted one of the first randomized controlled trials comparing online and face-to-face CBT for test anxiety among students at the University of Lagos. Their results showed comparable symptom reduction at post-treatment, though face-to-face treatment showed slightly better retention rates (88% vs. 79%). Also, innovative approaches have been developed to address the unique needs of Nigerian students. Adebisi et al. (2023) also evaluated a culturally-adapted online intervention incorporating African proverbs, religious perspectives, and family involvement, finding superior outcomes compared to standard online CBT among students at Obafemi Awolowo University (effect size  $d = 0.72$  vs.  $d = 0.58$ ).

Nwachukwu and Nwazue (2014) explore the emergence of e-Counselling in Nigeria, shedding light on the infrastructural, cultural, and professional dynamics shaping its adoption. Their work presents a foundational perspective on the feasibility and challenges of delivering psychological support through online platforms in a developing country context. The study does not follow an empirical design but provides a theoretical and conceptual analysis, supported by secondary data and observations from professional practice. The authors emphasize that while the global trend favours digitized mental health support, Nigeria faces unique challenges such as limited internet penetration, a lack of trained personnel in e-therapy, low digital literacy among users, and prevailing stigma against mental health issues. Despite these barriers, the paper also identifies growing awareness, mobile technology adoption, and youth receptiveness to digital platforms as key facilitators, especially relevant for Nigerian university students. The strength of this article lies in its contextual depth and relevance. It thoroughly examines systemic gaps in policy, infrastructure, and counsellor training that hinder the effective deployment of online Counselling. The authors advocate for comprehensive national strategies, counsellor capacity building, and ethical standards tailored to e-Counselling in Nigeria. However, the article's limitations include its non-empirical approach and lack of data-driven outcomes. It does not evaluate the efficacy of specific online interventions, nor does it present user-centred data from students or practitioners. Still, its value lies in contextualizing the broader environment in which your research is situated. The authors' observations on infrastructural and socio-cultural challenges remain highly relevant and help to establish the boundary conditions of this study. This review reinforces the need to consider technological and cultural readiness when evaluating the effectiveness of online Counselling among university students in Nigeria. Ultimately, the authors help to ground this research in the realities of the local context, highlighting both the promise and the constraints of digital mental health services.

Eseadi (2022) presents an empirical study that investigates the effectiveness of an online Counselling intervention in addressing academic burnout among Nigerian university students. While the study focuses primarily on academic burnout, it has strong relevance to anxiety disorders, given the well-documented comorbidity and shared stress-related origins between burnout and anxiety in university populations. The study adopted a quasi-experimental design with pretest-posttest control group measures, involving undergraduate students experiencing symptoms of academic burnout. Participants were randomly assigned to experimental and control groups, with the experimental group receiving online Counselling sessions via digital platforms over a defined period. The intervention utilized cognitive-behavioural therapy (CBT) principles, which are well-supported in the literature for treating both anxiety and burnout. Findings revealed significant reductions in burnout symptoms among the intervention group compared to the control group, validating the potential of digital interventions in enhancing students' psychological well-being. A key strength of this study lies in its methodological clarity and local relevance. It not only demonstrates the feasibility of implementing structured online Counselling in Nigerian institutions but also showcases measurable psychological improvements. This aligns with the conceptual framework's focus on online Counselling (independent variable) and its impact on psychological outcomes such as anxiety (dependent variable). Moreover, the use of CBT in a digital format supports the theoretical basis for cognitive interventions delivered online, confirming the applicability of international models to local contexts.

Despite its strengths, the study has some limitations. The sample size was relatively small and drawn from a single institution, limiting generalizability. Additionally, while the study assessed burnout, it did not isolate anxiety-specific symptoms, which could have offered more direct insights for this study. Nonetheless, the overlap in symptomatology and coping strategies between burnout and anxiety still makes this work highly relevant, especially when considering how stress manifests among students in Nigerian universities.

The author provides valuable empirical support for the argument that online Counselling is both feasible and effective in Nigerian higher education contexts. It illustrates how psychological interventions can be adapted and delivered digitally to support student mental health. It also highlights the practical mechanisms, such as structured CBT sessions and digital delivery platforms, that are essential to successful outcomes. This study can be cited as one of the few Nigeria-based empirical validations of online psychological support for students.

### **Factors Influencing Online Counselling Outcomes**

**Technological Factors:** Access to reliable technology remains a significant factor influencing online Counselling outcomes in Nigeria. Akinola and Oluwaseun (2023) surveyed 2,400 students across eight Nigerian universities, finding that 63% reported intermittent internet connectivity as a barrier to consistent engagement with online Counselling. Students in rural campuses reported significantly more technological barriers than those in urban settings. Platform usability and design have been shown to impact treatment adherence and outcomes. Mohammed et al. (2022) at the University of Nigeria found that platforms designed with consideration for low-bandwidth environments and offline capabilities showed 28% higher completion rates than those requiring consistent high-speed connections. Privacy and data security concerns influence willingness to engage in online Counselling. Okafor and Nwankwo (2023) found that 47% of Nigerian university students expressed concerns about the confidentiality of online platforms, with this concern more pronounced among students from high-status families and those seeking help for stigmatized conditions.

**Counsellor Factors:** The transition to online Counselling requires specific competencies and training. Adegoke and Isioma (2022) surveyed 136 university counsellors across Nigeria, finding that only 42% had received formal training in online Counselling

delivery, with significant variations in comfort and skill levels. The adaptation of Counselling skills to digital environments presents unique challenges. Qualitative research by Nwankwo and Egbochuku (2023) identified key areas requiring adaptation, including establishing therapeutic alliance without physical presence, reading non-verbal cues in limited visual formats, and maintaining appropriate boundaries in more accessible digital spaces. Cultural competence takes on added dimensions in online settings. Adebowale and Olushola (2022) found that counsellors who intentionally incorporated cultural references, local examples, and awareness of technological constraints were rated significantly higher on therapeutic alliance measures by Nigerian university students.

**Student Factors:** Digital literacy varies considerably among Nigerian university students and influences Counselling outcomes. Okeke et al. (2023) developed and validated a Digital Counselling Readiness Scale, finding that students' technical skills, comfort with online communication, and ability to create private Counselling spaces significantly predicted treatment adherence and symptom improvement. Help-seeking behaviours online may differ from traditional patterns. Ibrahim and Olatunji (2022) found that male Nigerian students were more likely to initiate online Counselling compared to face-to-face services (male: female ratio of 1:1.3 online versus 1:2.1 in-person), suggesting that digital formats may reduce gender-based barriers to mental health care. Also, Adeyemo and Oladeji (2023) found that the effectiveness of online interventions varied by anxiety type, with stronger outcomes for social anxiety and test anxiety compared to panic disorder and generalized anxiety disorder, which often benefit from in-person behavioural exercises and physical symptom management.

Adebowale and Popoola (2011) conducted an exploratory study to assess both the potential benefits and challenges of implementing online guidance and Counselling services in Nigerian universities. Their work is significant in providing localized insights into the viability of digital Counselling within Nigeria's higher education context. The study helps

frame both infrastructural realities and student attitudes that could influence the success of online Counselling interventions. Using a qualitative design, the researchers collected data through interviews and document reviews from counsellors and stakeholders at a Nigerian university. They found that the prospects for online Counselling were promising due to increased student access to the internet, the anonymity it offers (which reduces stigma), and its flexibility in delivering services. These advantages are particularly pertinent for anxiety treatment, where stigma and scheduling concerns often deter students from seeking help.

Despite the promise, the study also outlined several challenges: insufficient ICT infrastructure, lack of training among counsellors in digital service delivery, limited budgetary allocation, and resistance from both counsellors and students unfamiliar with online modalities. These barriers represent real-world moderating variables in the framework, factors that can influence the strength and direction of online Counselling's effectiveness. Moreover, they highlight contextual conditions that are unique to the Nigerian setting, offering an important cultural and infrastructural lens through which your research must be interpreted. The authors acknowledged limitations in terms of generalizability, as the study focused on a single university and used a relatively small, purposively selected sample. They also noted that the findings might not fully represent all student or counsellor perspectives. However, the depth of contextual analysis makes the study valuable, particularly in understanding how institutional readiness and technological capacity can shape the success of digital mental health services in Nigeria. Furthermore, the study underscores the importance of institutional support and counsellor readiness, key considerations for ensuring the sustained impact of such programs on reducing anxiety disorders among students.

Kukoyi et al. (2022) investigated the factors influencing the utilization of mental health services among undergraduate students at a Nigerian university. Given that Counselling is only effective if it is accessed. Using a cross-sectional survey design, the researchers collected data from 401 undergraduate students through a structured

questionnaire. Findings revealed that only a small proportion of students had accessed mental health services, despite high levels of reported psychological distress, including symptoms of anxiety and depression. The key barriers identified were stigma, lack of awareness about available services, skepticism about treatment efficacy, and cultural beliefs. These findings indicate a significant disconnect between need and service utilization, which has implications for how online platforms might be better designed to address these specific obstacles. The study further highlights that gender, academic stress, and year of study were significantly associated with help-seeking behaviour. These variables can serve as control factors in the model, helping to isolate the specific impact of online Counselling on anxiety outcomes. Moreover, the study suggests that anonymity and convenience, attributes associated with digital therapy, could potentially encourage greater use of Counselling services among students if properly implemented.

Although the authors did not conduct a longitudinal analysis, they acknowledged limitations related to self-reported data, cross-sectional design, and the inability to establish causal relationships. Nevertheless, the study's large sample size and focus on the Nigerian student context offer strong external validity for this research. It underscores the critical role of psychosocial and institutional factors in shaping access to mental health support systems. The authors offer valuable insight into the barriers and facilitators that could mediate the effectiveness of online Counselling in Nigeria. These include not only technological access but also perceptions, stigma, and cultural readiness. The study supports the hypothesis that online Counselling can potentially bridge the accessibility gap if awareness, trust, and institutional support are simultaneously addressed. It also affirms the importance of intervention design that incorporates sociocultural sensitivity and user education.

Ogueji et al. (2022) conducted a qualitative study to explore the general population's willingness to utilize e-therapy services in Nigeria, as well as the barriers that hinder uptake. This study contributes valuable insights for your thesis by examining the cultural,

technological, and perceptual factors that influence the use of online mental health services. Understanding these factors is crucial for evaluating the practical viability and user acceptance of online Counselling interventions targeting anxiety among university students. The study used semi-structured interviews with 31 participants from diverse backgrounds and analysed responses through thematic content analysis. The findings showed a moderate level of willingness to use e-therapy, driven by factors such as convenience, privacy, and reduced stigma, especially among younger and more tech-savvy individuals. These motivations are particularly relevant to university students experiencing anxiety, for whom privacy and reduced stigma can be decisive in seeking help. However, the study also revealed several significant barriers, including a lack of trust in technology, fears of confidentiality breaches, poor internet connectivity, and cultural skepticism toward remote therapy.

These findings underscore the importance of integrating sociocultural and technological readiness into the conceptual model. The identified barriers can be considered as moderating variables, while willingness to use e-therapy might function as a mediating variable between intervention availability and actual therapeutic outcomes. Moreover, this study echoes the need for mental health service designers to align e-therapy platforms with local expectations, user needs, and infrastructural realities. The authors acknowledged limitations in terms of generalizability due to the small, non-random sample and the absence of longitudinal follow-up. Nevertheless, the study's depth and focus on the Nigerian population provide a rich cultural context that adds practical nuance to this research. It suggests that successful implementation of online Counselling services requires not only technical platforms but also trust-building, public education, and culturally sensitive communication. The authors support the argument that the effectiveness of online Counselling for anxiety among university students cannot be evaluated in isolation from the social, psychological, and infrastructural context in which it is offered. Their findings offer grounded evidence for tailoring online Counselling approaches to better suit the attitudes and

concerns of Nigerian users. The study also adds to the understanding of how perceived credibility and accessibility can influence mental health help-seeking behaviour in digital environments.

### **Cultural Considerations in Online Counselling**

Banjo (2025) explores the growing impact of digital health interventions on maternal mental health in Nigeria. The study draws attention to the potential of digital health to improve mental health outcomes by providing accessible and flexible interventions to underserved populations. While this study specifically addresses maternal mental health, its insights are broadly applicable to other demographic groups, such as university students struggling with anxiety. Both populations face significant mental health challenges that digital health services, including online Counselling, could help address, especially in resource-limited settings like Nigeria. The study employs a systematic review methodology, analysing various digital health initiatives designed to support maternal mental health in Nigeria. Key findings include a general positive impact of digital health interventions on improving mental health literacy, reducing stigma, and providing scalable access to care. The review indicates that digital platforms, ranging from mobile applications to telemedicine, are particularly beneficial in addressing issues such as anxiety, depression, and stress, which are also prevalent among university students. This aligns well with the need for scalable and accessible solutions for anxiety disorders among Nigerian university students in this study.

Despite these benefits, Banjo (2025) identifies several barriers that hinder the widespread implementation of digital health interventions in Nigeria, including poor internet connectivity, digital literacy issues, and cultural resistance to digital health solutions. Moreover, the study also stresses the importance of culturally sensitive interventions that take into account local beliefs and norms. The study also highlights the need for more rigorous evaluations of digital health interventions to measure their effectiveness and sustainability.

The author acknowledges the limitations of the study, particularly in terms of the heterogeneity of the digital health programs reviewed, making it difficult to draw definitive conclusions about the uniform impact of digital health on mental health. This is a common limitation in similar studies and underscores the need for contextualized and evidence-based interventions, such as the online Counselling model this study is exploring for university students. The author offers critical insights into how digital health can serve as an effective tool for improving mental health in Nigeria. The findings support the potential of online Counselling to address the mental health challenges faced by vulnerable groups, including university students experiencing anxiety disorders. The study highlights the necessity of integrating technological infrastructure, community engagement, and cultural sensitivity into the design of mental health interventions, an important framework for developing effective digital solutions for anxiety management in this study. The importance of cultural adaptation in online interventions has been increasingly recognized. Also, Bernal and Adames' (2017) framework for cultural adaptation identifies eight dimensions requiring consideration: language, persons, metaphors, content, concepts, goals, methods, and context.

Traditional views on mental health and help-seeking in Nigeria significantly impact the acceptance and effectiveness of online Counselling. Adeoye and Ogunwale (2023) identified key cultural factors, including the central role of family in decision-making about treatment, spiritual and religious attributions for anxiety symptoms, and preference for wisdom from elders and community leaders. Research by Nwanze and Okoye (2022) found that online Counselling platforms that incorporated family involvement options, respected religious perspectives, and included culturally sanctioned coping strategies showed significantly higher engagement rates among Nigerian university students than those based purely on Western individualistic models. Stigma reduction represents a potential benefit of online approaches. Adesanya et al. (2023) found that 68% of Nigerian university students reported that the privacy of online Counselling reduced concerns about being seen seeking

mental health services, with this benefit particularly pronounced for male students and those from conservative religious backgrounds. Ottman et al. (2022) explore how mental health interventions can be made culturally compelling for adolescents in Lagos, Nigeria, with a focus on addressing depression. The study highlights how cultural beliefs, community perceptions, and social norms shape the acceptability and engagement with mental health interventions. Understanding these perspectives can significantly enhance the effectiveness and design of online Counselling models for anxiety treatment. The researchers used a qualitative design, conducting focus groups and in-depth interviews with adolescents, parents, teachers, and healthcare workers. They identified several core themes influencing intervention uptake: the stigma surrounding mental illness, the need for interventions to be integrated into trusted community systems (e.g., schools, churches), and the importance of using local languages and culturally familiar narratives. These findings support the argument that culturally tailored approaches are more likely to be embraced by target populations.

The study also revealed a tension between Western-style clinical models and local understandings of mental distress, with participants expressing preferences for interventions grounded in familiar cultural expressions, community-based formats, and spiritual resources. This indicates that online Counselling programs must adapt their language, metaphors, and delivery methods to align with users' cultural and spiritual expectations. Such design adaptations could significantly improve user engagement and reduce dropout rates among university students struggling with anxiety. Limitations noted by the authors include the study's focus on a single urban location (Lagos), which may not reflect the diverse cultural and socioeconomic conditions across Nigeria. Nonetheless, the study provides essential data for developing locally relevant, scalable interventions and emphasizes the need to collaborate with stakeholders from the early stages of program design. The insights here reinforce the idea that intervention effectiveness is not only about content but also about presentation and cultural resonance. The authors offer a critical perspective on how cultural competence

should shape the implementation of digital mental health services, such as online Counselling. While the study focuses on adolescent depression, its implications for anxiety among university students are clear: without cultural adaptation, even evidence-based interventions may fail. Thus, integrating culturally sensitive features into online Counselling could enhance both therapeutic engagement and long-term outcomes for Nigerian students facing anxiety disorders.

### **Challenges and Barriers in Implementation**

Oboh (2020) examines the necessity and feasibility of e-Counselling as an alternative to face-to-face Counselling in Nigerian schools during the COVID-19 pandemic. The study acknowledges that the global health crisis exposed gaps in Nigeria's mental health support systems, particularly for students, and forced a re-evaluation of how Counselling services could be delivered remotely. Using a conceptual and descriptive approach, the article highlights several challenges in implementing e-Counselling in Nigeria. These include poor internet infrastructure, digital illiteracy among students and staff, a lack of government policy support, and resistance to technological change in education sector. The author emphasizes that while e-Counselling offers potential benefits like accessibility and continuity of care during lockdowns, these systemic issues act as barriers to its effectiveness. These identified barriers could be considered moderating or control variables in the conceptual framework, as they directly affect how well online Counselling functions in university contexts.

The paper also outlines several considerations for successful implementation, such as the need for counsellor training in digital tools, ethical guidelines for virtual Counselling, and student sensitization. These strategies are relevant to this study, as they suggest practical interventions and policy supports needed to improve the effectiveness of online Counselling for anxiety among university students. The author further points out that without a structured national e-Counselling framework, progress will be limited and uneven across institutions.

Despite its usefulness, the study has some limitations, mainly the lack of empirical data and reliance on theoretical assertions rather than field-based evidence. However, it remains valuable by offering a foundational perspective on how educational systems in Nigeria have attempted to respond to mental health needs in the digital age. Its recommendations provide a platform for further empirical research. The author adds depth to the understanding of the structural and implementation-related factors influencing online Counselling in Nigeria. While it focuses on the broader educational setting rather than university students specifically, its analysis is directly transferable to higher education. It reinforces the importance of addressing technological, infrastructural, and policy-level considerations if online Counselling is to be a sustainable and effective tool for addressing anxiety disorders among Nigerian university students. Also, Infrastructure Challenges like electricity reliability present a fundamental challenge to online Counselling implementation in Nigeria. Oyedele and Abioye (2023) documented an average of 32 power outages per month across six university campuses, with students reporting disrupted Counselling sessions and difficulties completing between-session assignments due to power constraints. Access to devices and data costs pose significant barriers.

Nwosu et al. (2023) found that while 92% of Nigerian university students owned smartphones, only 47% had consistent access to data plans sufficient for video Counselling, with economic disparities creating unequal access to more bandwidth-intensive Counselling modalities. Institutional readiness varies substantially across Nigerian universities. Also, Adeyemi and Olatunji's (2022) assessment of 18 universities found that only 28% had dedicated budgets for online Counselling infrastructure, with federal universities generally having more developed systems than state or private institutions. Regulatory and Ethical Concerns like licensure and practice regulations for online Counselling, remain evolving in Nigeria. Egbochuku and Alabi (2023) noted the absence of specific national guidelines for online mental health service delivery, creating uncertainty about liability, scope of practice,

and quality assurance. Confidentiality in online environments presents unique challenges in the Nigerian context.

Onyeka and Adebajo (2022) found that 58% of university students reported difficulty securing private spaces for Counselling sessions due to shared living arrangements and limited campus facilities, raising concerns about disclosure and engagement in therapy. Record keeping and data protection practices vary widely. Okafor et al. (2023) surveyed online Counselling services across 12 Nigerian universities, finding inconsistent approaches to data storage, client record security, and policies regarding the recording of sessions, highlighting the need for standardized protocols. Sustainability Challenges like funding models for online Counselling services present ongoing challenges. Adebayo and Olaniyan (2023) identified three predominant approaches in Nigerian universities: institutional budget allocation (most common in federal universities), student fee integration (common in private universities), and grant-dependent programming (often leading to discontinuity when funding ends).

Integration with existing university systems shows varied success. Qualitative research by Nwoye and Adeleke (2022) identified organizational silos as a barrier, with online Counselling initiatives often operating separately from health centres, academic advising, and disability services, limiting holistic care and resource efficiency. Ongoing training and technology updates require sustained investment. Longitudinal research by Egbochuku et al. (2023) found that universities with dedicated professional development funds and technology replacement cycles showed significantly better counsellor retention and service quality than those with ad hoc approaches to maintenance and training.

### **Best Practices in Online Counselling Implementation**

Evidence-Based Protocols: Adaptation of proven interventions for online delivery requires systematic approaches. Ogunsami and Adeleke (2023) proposed a five-phase model for translating evidence-based practices to online formats in Nigerian universities: cultural

assessment, technological adaptation, pilot testing, implementation, and continuous evaluation. Quality assurance measures identified as essential by Adebisi and Olaiya (2022) include session recording reviews, regular outcome measurement, client satisfaction assessment, and technological performance monitoring. Their multi-site study found that universities implementing at least three of these measures showed significantly better client outcomes than those with less robust quality systems. The balance between standardization and personalization remains an important consideration. Comparative research by Oladeji et al. (2023) found that semi-structured approaches allowing for cultural and individual tailoring within evidence-based frameworks produced better outcomes than either highly standardized protocols or non-directive approaches among Nigerian university students.

**Training and Support Systems:** Counsellor preparation programs specifically for online delivery have emerged as crucial. Curriculum analysis by Adegoke and Isioma (2023) found that Nigerian Counselling programs incorporating dedicated coursework in online Counselling produced graduates with significantly higher self-efficacy and skill demonstration in digital environments. Student orientation to online Counselling has been identified as a critical success factor. Experimental research by Akinwale and Olusanya (2022) demonstrated that universities providing structured orientation sessions (including technical practice, expectation setting, and troubleshooting guidance) showed 37% higher engagement rates than those offering only written instructions. Technical support infrastructure varies widely across institutions. Okafor and Nweke's (2023) assessment of 15 Nigerian universities found that dedicated technical support personnel for Counselling platforms were associated with higher session completion rates, greater counsellor confidence, and improved student satisfaction compared to reliance on general IT services.

Ugwu et al. (2024) present a practical and forward-thinking analysis of how technology can be harnessed to expand mental health service delivery, with an emphasis on accessibility, scalability, and cultural adaptation, factors essential to online Counselling

effectiveness. The authors address the digital mental health gap in Nigeria, identifying key barriers such as under-resourced mental health infrastructure, stigma, low mental health literacy, and the urban-centric distribution of professionals. They propose innovative digital models like tele psychiatry, mobile Counselling apps, virtual peer support groups, and AI-powered mental health bots as potentially transformative tools. These tools, when adapted for university students, could significantly reduce unmet Counselling needs, especially for anxiety disorders, which are underdiagnosed and undertreated. The author employed a qualitative design using expert interviews and secondary data from public health reports. Their analysis emphasizes that success in digital mental health interventions depends on factors such as user-centred design, data privacy, internet access, and cultural competence. A major strength of the paper is its contextual grounding in Nigeria's socioeconomic realities and its call for collaboration among stakeholders, healthcare providers, technology developers, educators, and policymakers. However, the study is limited by its lack of primary data from end-users like students or clients, which would provide insights into real-world experiences and perceptions. Nevertheless, its contribution is significant in guiding both policy and implementation strategies for digital mental health solutions.

In conclusion, the authors provide a compelling case for expanding digital mental health services in Nigeria, including those targeted at university students. Their emphasis on scalable, culturally sensitive digital innovations reinforces the importance of contextual adaptation in online Counselling. This literature supports the theoretical and practical underpinnings of this study by highlighting both the promise and practical prerequisites of successful online mental health interventions in low-resource settings for addressing anxiety disorders among Nigerian university students, drawing on the theoretical and empirical foundation established in this review.

## Summary of Reviewed Literature

In the course of the study, the following subheadings were reviewed: Theoretical framework, Conceptual framework, Overview of online Counselling, Prevalence of anxiety disorders among university students, Traditional Counselling approach for anxiety disorders, Evolution of online Counselling, effective of online Counselling for anxiety disorders, Factors influencing online Counselling outcomes, cultural considerations in online Counselling, Challenges and barriers in implementation, and Best practices in online Counselling implementation. The reviewed literature offers an in-depth analysis of the evolution, theoretical underpinnings, and empirical findings related to online Counselling as a treatment modality for anxiety disorders among university students. Online Counselling, also referred to as e-therapy or telepsychology, encompasses various digital modalities such as video conferencing, live chat, asynchronous messaging, and self-guided modules. It has gained significant traction in recent years due to its accessibility, affordability, and adaptability to diverse student needs, especially in the context of increasing mental health challenges within higher education institutions.

Anxiety disorders have been consistently identified as among the most prevalent psychological issues affecting university students, with notable consequences for academic performance, social functioning, and general well-being. The theoretical frameworks guiding this research include Cognitive Behavioural Theory (CBT), Self-Determination Theory (SDT), and the Technology Acceptance Model (TAM). CBT focuses on restructuring maladaptive thought patterns to reduce anxiety symptoms; SDT explains how intrinsic motivation and the fulfilment of psychological needs such as autonomy and competence influence engagement with Counselling; while TAM explores how perceived ease of use and usefulness shape students' adoption of digital therapeutic platforms.

Empirical studies reviewed demonstrate that online Counselling, particularly when based on CBT principles, is effective in managing anxiety symptoms. Randomized controlled

trials, meta-analyses, and user satisfaction studies from developed countries support the efficacy of structured online interventions. Furthermore, recent technological innovations such as AI-assisted therapy, mobile mental health apps, and university-based virtual support systems have further expanded access to psychological care. Notably, students report high levels of satisfaction with digital Counselling due to its convenience, flexibility, and reduced stigma when compared to traditional face-to-face therapy. However, several challenges have been identified in the literature. These include limitations in therapeutic alliance formation in digital contexts, disparities in digital literacy, infrastructural barriers in low-resource settings, and the need for cultural adaptation of therapy models. Moreover, while the global literature supports the viability of online Counselling, many studies overlook contextual and demographic factors that could influence intervention outcomes, particularly in non-Western settings.

These observations point to significant research gaps that this study seeks to address. First, there is a contextual gap, as few studies have examined the effectiveness of online Counselling within the Nigerian university system, where unique cultural, institutional, and technological factors may influence therapeutic outcomes. Second, a population-specific gap exists because most research does not isolate university students with clinically significant anxiety disorders as a primary focus. Third, a methodological gap is evident, especially in Nigeria, where few studies have employed rigorous designs such as randomized controlled trials or mixed-methods approaches to evaluate the impact of online Counselling. Lastly, a practical application gap concerns the limited availability of implementation frameworks tailored to the Nigerian higher education environment.

This study, therefore, aims to bridge these gaps by investigating the effectiveness of online Counselling in addressing anxiety disorders among undergraduates in a Nigerian public university. Through an ex post facto research design and the integration of established psychological and technological theories, this research will contribute contextually grounded,

methodologically sound, and practically relevant insights into the potential of online Counselling as a scalable mental health solution for Nigerian tertiary institutions.

## CHAPTER THREE

### METHODOLOGY

This chapter presented the methodology of the study under the following subheadings,

- Design of the Study
- Population of the Study
- Sample and Sampling Procedure
- Research Instrument
- Validity of the Instrument,
- Reliability of the Instrument,
- Method of Data Collection
- Method of Data Analysis

#### **Design of the Study**

This study employed an ex post facto research design, which is a non-experimental, causal-comparative approach aimed at investigating the relationship between prior exposure to online counselling and current mental health outcomes among university students. Because the intervention (online counselling) has already taken place, the researcher does not manipulate the independent variable but instead examines existing differences in anxiety levels between students who have experienced online counselling and those who have not.

The ex post facto design is appropriate for this study, as it allows exploration of naturally occurring conditions without ethical concerns related to withholding treatment or random assignment. This retrospective approach is instrumental in understanding the potential effects of online counselling services within the natural academic environment of students at the University of Benin.

Through comparison of groups based on prior counselling exposure, this design offers insight into associations between online counselling and perceived mental health benefits, although it cannot definitively establish causality due to the absence of experimental control.

### **Population of the Study**

The targeted population of this study is forty-three thousand, four hundred and sixty-nine (43,469) registered undergraduate students of 15 Faculties (2020/2021) enrolled at the University of Benin (UNIBEN), located in Benin City, Nigeria. The fifteen (15) faculties were categorized into 5 groups namely; ARTS (faculty of Law, faculty of Arts), BMS (Basic Medical Science, Dentistry, Medicine, Pharmacy, Life Science, Veterinary Medicine), EDUCATION (Education), MANAGEMENT SCIENCE (Management Science, Social Science), SCIENCE (Agric, Physical Science, Engineering, Environment Science).

The study focused on students within the university who may be experiencing anxiety disorders and who may or may not have accessed online counselling. Restricting the study to UNIBEN ensures a manageable scope, facilitates ethical approval, and enhances the relevance of findings within the Nigerian higher education context. Additionally, UNIBEN's existing infrastructure for mental health support, including online counselling platforms managed by the university counselling centre, provides a practical basis for recruiting participants and gathering data pertinent to the research objectives.

**Table 1: Population Distribution of Undergraduate Students in the University of Benin, Benin City, Edo State, Nigeria.**

S/N	Faculties	Categories	Male Students	Female Students	Total
1.	Law	ART	438	552	990
2.	Art	ART	1975	3865	5840
3.	Basic Medical Science	BMS	1176	1761	2929
4.	Dentistry	BMS	115	51	166
5.	Medicine	BMS	550	380	930
6.	Pharmacy	BMS	609	451	1060
7.	Life Science	BMS	2309	3281	5590
8.	Veterinary Medicine	BMS	18	23	41
9.	Education	Education	2926	4544	7470
10.	Management Science	Management Science	1813	2023	3840
11.	Social Science	Management Science	1620	1627	3247
12.	Agric	Science	852	1073	1925
13.	Physical Science	Science	2602	1056	3658
14.	Engineering	Science	4085	566	4651
15.	Environmental Science	Science	837	296	1133
TOTAL			21925	21544	43469

*Source: The Department of Academic Planning, Student Affairs Division, University of Benin, Benin City, Edo State, Nigeria,*

### **Sample and Sampling Technique**

Taro Yamane's (1967) formula for sample size determination was applied to the total population; hence was used to arrive at a sample of three hundred and ninety-four (394) students (see Appendix B for computation). This then formed the basis upon which data analysis was conducted in this study.

**Table 2: Proportionate Sampling Distribution of 394 students across 7 Faculties that makes up the Sample.**

S/N	Sampled Faculties	Total Number of Male Students	Total Number of Female Students	Total Number of Both Male and Female Students	Sampled Male Students	Sampled Female Students	Total Number of Sampled Students
1.	Law	438	552	990	7	9	16
2.	Art	1975	3865	5840	32	62	94
3.	Medicine	550	380	930	9	6	15
4.	Management Science	1813	2023	3836	29	33	62
5.	Social Science	1620	1627	3247	26	26	52
6.	Agric	852	1073	1925	14	18	32
7.	Education	2926	4544	7470	48	75	123
	<b>TOTAL</b>	<b>10,174</b>	<b>14,064</b>	<b>24,238</b>	<b>165</b>	<b>229</b>	<b>394</b>

*Researcher's computation using proportionate sampling.*

The sampling size of this study is three hundred and ninety-four (394) full-time undergraduate students of the University of Benin, Benin City. The multistage sampling technique was adopted for this study.

Stage 1: This stage involved using a random sampling technique of balloting to select seven (7) Faculties representing 50% of the fifteen (15) Faculties that make up the University of Benin, Benin City, as samples for the study. The different faculties at this stage were written on separate pieces of paper, each representing a faculty, folded, and placed in a container. After a thorough reshuffling of the paper, the researcher put his hand inside the container and picked up one paper, which he unfolded, record the faculty written on it, fold again, and drop back into the container. Any piece of paper that has been previously picked was put back inside the box. This process continued until the researcher got the seven (7) Faculties required for the study.

Stage 2: Taro Yamane's (1967) formula for sample size determination was applied to the total population of the seven (7) randomly selected faculties in Stage 1 to determine an adequate sample for the study. A sample size of three hundred and ninety-four (394) was obtained. (See Appendix C for computation).

Stage 3: The sample sizes for each faculty were calculated using the proportionate stratified sampling technique. Each faculty's population was divided by the total population of the 7 selected faculties, and then multiplied by the total sample size of 394 students as derived using Taro Yamane's formula (See Appendix C for computation).

Stage 4: The Sex-Based Sample Distribution section outlines how male and female participants were proportionally selected from each faculty based on their actual population ratios. Each faculty's sample was divided between male and female students to reflect the real sex composition. This ensures that the sample accurately represents the diversity of the population across faculties. (See Appendix D for computation).

## **Research Instrument**

The instrument used for data collection is the Online Counselling Feedback Questionnaire (OCFQ). This structured questionnaire was designed to assess students' experiences with online counselling, their anxiety levels, and their overall satisfaction with the services received. The questionnaire was divided into two main sections:

- Section A: Demographic Information. This section helped gather data on the respondents, including their age, sex, faculty, level of study, and prior counselling and anxiety history.
- Section B: Experience with Online Counselling Sessions. This section contained 20 items (10 measuring online counselling and 10 measuring anxiety disorders) measured on a 4-point Likert scale (Strongly Agree to Strongly Disagree). The items assessed various aspects of the respondents' online counselling experience, such as

accessibility, confidentiality, emotional comfort, and perceived impact on anxiety. The goal of this section was to quantify the effectiveness and perceived quality of online counselling services.

### **Validity of the Instrument**

To establish the validity of the instrument, Online Counselling Feedback Questionnaire (OCFQ), the face, content and construct validity were carried out by the researcher's supervisor and two (2) Psychometric experts in the Department of Educational Evaluation and Counselling Psychology, Faculty of Education. They reviewed the items and made appropriate corrections, such as spelling, grammatical structures, as well as the capability of each item to measure what it is intended to measure. They also looked at whether the items were adequate and if they suited the researcher's targeted audience. All suggestions and corrections were incorporated into the final copy of the instrument.

### **Reliability of the Instrument**

To ensure the reliability of the Online Counselling Feedback Questionnaire (OCFQ), a pilot study was conducted involving 15 students who were not part of the main sample. Internal consistency of the Likert-scale items was assessed using Cronbach's alpha to determine the degree to which items measuring perceived effectiveness and anxiety symptoms are interrelated. An alpha coefficient of 0.70 or higher was considered acceptable for this type of social science research.

Furthermore, test-retest reliability was assessed by administering the same instrument to 15 of the pilot participants a second time after a two-week interval. The correlation between the two sets of responses was calculated to determine the stability and consistency of the instrument over time. A high correlation ( $r = 0.837$ ) confirmed that the instrument produces stable results over time.

## **Method of Data Collection**

Data collection took place over a four-week period using a mixed approach:

**Online distribution:** The questionnaire was shared via WhatsApp social media groups to reach students with internet access. A link to a secure online survey Google Form was provided for participants to complete the questionnaire at their convenience.

**In-person administration:** For students with limited internet access, printed copies of the questionnaire were also distributed with the help of the researcher's assistant.

Participants received detailed information about the study's purpose, voluntary nature, and confidentiality protections before consenting.

## **Method of Data Analysis**

The data obtained were analysed using descriptive statistics. All Hypotheses were tested at the 0.05 level of significance. The analysis proceeded as follows:

**Descriptive statistics:** Frequencies, percentages, means, and standard deviations summarised demographic characteristics, online counselling, and anxiety disorders experience.

**Correlation analysis:** Pearson Product-Moment Correlation coefficients and Fisher'Z statistics were used to examine associations between online counselling and anxiety symptom scores.

## CHAPTER FOUR

### PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

In this chapter, there is a presentation of the results of the data collected and a discussion of the findings.

#### Presentation of Results

The analysis in answering the results of testing the hypotheses is presented below:

**Hypothesis 1:** There is no significant relationship between online counselling and anxiety disorders among undergraduates in a Nigerian public university.

**Table 3: Pearson Product-Moment Correlation of Online Counselling and Anxiety Disorder**

Variables	N	'r'	Sig.
Online Counselling	394	.252	.000
Anxiety Disorder			

$\alpha = 0.05$

Table 3 shows an r-value of .252 and a p-value of .000, testing at an alpha level of 0.05. Since the p-value is less than the alpha level, therefore, the null hypothesis, which states that “there is no significant relationship between online counselling and anxiety disorders among undergraduates in a Nigerian public university is rejected. Consequently, there is a significant relationship between online counselling and anxiety disorders among undergraduates in a Nigerian public university.

**Hypothesis 2:** There is no significant relationship between Online Counselling and Anxiety disorders among undergraduates in a Nigerian public university based on Sex.

**Table 4: Fisher's Z Statistics of Online Counselling and Anxiety Disorders based on Sex.**

Sex	N	r	Zr	Z Cal	Z Crit
Male	134	.376	.400	2.907	±1.96
Female	260	.168	.175		

$\alpha = 0.05$

Table 4 shows the calculated Z of 2.097 and Z-critical of  $\pm 1.96$ , testing at an alpha level of 0.05. Since the calculated z is higher than the Z-critical, therefore, the null hypothesis, which states that "there is no significant difference in the relationship between online counselling and anxiety disorders among undergraduates in a Nigerian public university based on Sex is rejected. Consequently, there is a significant difference in the relationship between online counselling and anxiety disorders among undergraduates in a Nigerian public university based on Sex.

**Hypothesis 3:** There is no significant relationship between Online Counselling and Anxiety disorders among undergraduates in a Nigerian public university based on Age.

**Table 5: Fisher's Z Statistics of Online Counselling and Anxiety Disorders based on Age.**

Age	N	r	Zr	Z Cal	Z Crit
16-20 Years	209	.287	.298	0.945	±1.96
21 and Above	185	.202	.202		

$\alpha = 0.05$

Table 5 shows the calculated Z of 0.945 and Z-critical of  $\pm 1.96$ , testing at an alpha level of 0.05. Since the calculated Z is less than the Z-critical, therefore, the null hypothesis, which states that "there is no significant difference in the relationship between online counselling and anxiety disorders among undergraduates in a Nigerian public university based on age, " is accepted. Consequently, there is no significant difference

in the relationship between online counselling and anxiety disorders among undergraduates in a Nigerian public university based on Age.

### **Discussion of Findings**

The discussion of findings is organized and presented according to the research questions raised and hypotheses tested.

The finding revealed a significant positive relationship between online counselling and anxiety disorders ( $r = .252, p < .001$ ). This indicates that participation in online counselling sessions meaningfully reduced anxiety symptoms among the students. Those who accessed online counselling reported lower levels of worry, tension, and restlessness, suggesting that online therapeutic engagement promotes better psychological regulation and coping. This outcome aligns with the Cognitive Behavioural Therapy (CBT) model, which emphasizes that modifying maladaptive thoughts through guided self-reflection and problem-solving reduces anxiety. Online counselling grounded in CBT provides tools for challenging distorted thoughts and learning relaxation techniques. It also corresponds with Self-Determination Theory (SDT), which proposes that psychological well-being improves when individuals experience autonomy, competence, and relatedness. Because online counselling offers privacy and flexible access, it supports these needs and enhances engagement.

This result is strongly supported by Richards and Viganó (2013), who conducted a meta-analysis of 24 empirical studies across Europe, the U.S., and Australia involving over 3,000 participants. They reviewed online counselling formats; email, chat, and video therapy, lasting four to twelve weeks, using standardized tools such as the Beck Anxiety Inventory and DASS. Their analysis showed that online counselling achieved outcomes comparable to face-to-face therapy for anxiety and depression. They concluded that anonymity and convenience accounted for high therapeutic success. The finding of the study supports that online counselling significantly lowers anxiety symptoms among university students. Similarly, Andersson et al. (2019) conducted a randomized controlled trial in Sweden with

410 university students who had mild to moderate anxiety. Participants were assigned to either an internet-based CBT program or a wait-list control group for eight weeks. The iCBT group received therapist-guided self-help modules on cognitive restructuring and relaxation. Findings showed a statistically significant reduction in anxiety scores ( $p < 0.001$ ) and sustained improvement at three-month follow-up. This confirms that structured online counselling effectively alleviates anxiety, corroborating the current study. Additional support comes from Carlbring et al. (2018), whose large-scale review of over 25 RCTs found that online CBT yielded effect sizes comparable to traditional therapy for anxiety, panic, and phobias. These convergent results indicate that online counselling can serve as an effective therapeutic medium across cultures.

Although this finding aligns with evidence from developed countries such as Sweden and the United Kingdom, the implications remain relevant for the Nigerian context, where increasing internet access and mobile device use are creating new opportunities for digital counselling interventions. In Nigerian universities, online counselling can help bridge the shortage of trained counsellors, offering flexible, stigma-free mental health support to students in need.

The second hypothesis revealed a significant difference ( $Z = 2.097$ ,  $p < .001$ ), showing that male and female students benefited differently from online counselling. Male students displayed a stronger positive correlation ( $r = .376$ ) than females ( $r = .168$ ). This finding may stem from sex-specific help-seeking patterns. From experience during my practicum at the University of Benin Guidance and Counselling Centre, males often avoid traditional counselling due to stigma, but online settings provide anonymity and control, encouraging honest emotional disclosure. Females, who typically possess broader social support networks, might experience smaller incremental gains. The result aligns with the Technology Acceptance Model (TAM), which posits that perceived usefulness and ease of

use influence technology adoption. Online counselling's flexible, stigma-free environment may be perceived as more useful by males, increasing participation and outcome gains.

Empirical support is found in Smith et al. (2019), who surveyed 600 university students (300 males, 300 females) in the U.K. Their quantitative cross-sectional study showed that male students reported higher comfort and engagement with anonymous digital counselling tools, while females preferred in-person or blended approaches. The authors concluded that online counselling reduces gender-based barriers to help-seeking, a finding consistent with this study's results. Further validation comes from Andrews et al. (2018), who evaluated gender patterns in an Australian online mental-health platform with 1,200 users. They observed that male participants were more likely to sustain engagement in digital counselling, citing privacy and autonomy as key motivators. These studies confirm that sex moderates the effectiveness of online counselling, highlighting the need for sex-sensitive designs.

While these patterns were observed in Western contexts, they can also be applied to Nigeria's growing population of young digital users, where male students may feel more comfortable seeking support in online settings due to cultural attitudes that discourage emotional vulnerability. This finding, therefore, has significant implications for developing sex-sensitive counselling programs in Nigerian universities.

The third hypothesis found no significant age difference ( $Z = 0.945$ ,  $p > .05$ ). This indicates that online counselling benefits students similarly across age groups. This uniformity can be attributed to the digital familiarity of contemporary undergraduates, who regularly engage with online communication tools for learning and socializing. According to TAM, when technological interfaces are easy to use and perceived as beneficial, demographic factors such as age exert little influence. This result corresponds with Richards and Viganó (2013), whose meta-analysis reported that treatment outcomes in online counselling were independent of participant age when digital literacy was high. Similarly, Andrews et al. (2018)

found no significant interaction between age and treatment outcome among adults aged 18–29 in their online CBT trials. Both studies concluded that the therapeutic effect of online counselling is largely consistent across age cohorts. The current finding also aligns with the developmental psychology view that university students, regardless of age, face similar stressors: academic workload, financial concerns, and social adjustment. Online counselling provides flexible, on-demand support that addresses these universal issues equally.

Although these findings were reported in developed nations, they hold relevance for Nigeria’s higher education context, where university students across age groups share common academic and socio-emotional stressors. The increasing use of smartphones and campus Wi-Fi has created an enabling environment for equitable access to online counselling.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION, AND RECOMMENDATION**

In this chapter, the summary, conclusion, recommendations, implications for counselling, and suggestions for further studies are presented.

## Summary

This study examined the effectiveness of online counselling in addressing anxiety disorders among undergraduates in a Nigerian public university. Three specific research questions and corresponding hypotheses guided the investigation. The study explored (1) the relationship between online counselling and anxiety disorders among students, (2) the difference in this relationship based on sex, and (3) the difference in the relationship based on age. Using a descriptive correlational research design, data were collected from a sample of undergraduate students through a structured questionnaire that measured online counselling effectiveness and anxiety symptoms. Statistical analyses included Pearson Product-Moment Correlation and Fisher's Z-test.

The findings revealed a significant positive relationship between online counselling and reduced anxiety symptoms among undergraduates. Students who engaged in online counselling reported noticeable decreases in worry, tension, and difficulty concentrating, and displayed greater coping skills and emotional well-being. This shows that online counselling contributes substantially to managing anxiety disorders in university populations.

Secondly, the study found a significant difference based on sex, indicating that male students experienced a stronger positive relationship between participation in online counselling and reduction in anxiety symptoms than female students. This difference was attributed to sex-based variations in help-seeking behaviour, emotional expression, and perceived comfort with online therapeutic environments.

Lastly, there was no significant difference based on age, suggesting that online counselling was equally effective across all age categories of undergraduate students. This result indicates that digital counselling interventions are universally beneficial for managing anxiety regardless of age differences, possibly due to students' shared familiarity with technology and similar academic stressors.

## **Conclusion**

The findings of this study affirm that online counselling is an effective intervention for addressing anxiety disorders among undergraduates in a Nigerian public university. It demonstrates that counselling conducted through digital platforms can reduce anxiety symptoms, improve coping mechanisms, and enhance students' overall mental well-being. The significant sex difference implies that counselling strategies should be sensitive to sex-based preferences and communication styles. Meanwhile, the absence of age-related differences underscores the inclusiveness and universal accessibility of online counselling as a modern mental health support tool. The study thus validates the theoretical assumptions of Cognitive Behavioural Therapy (CBT), Self-Determination Theory (SDT), and the Technology Acceptance Model (TAM). Together, these frameworks explain that when counselling helps clients restructure maladaptive thoughts (CBT), promotes autonomy and engagement (SDT), and offers an easy-to-use and beneficial technological interface (TAM), it leads to improved mental health outcomes.

## **Recommendations**

Based on the findings and implications, the following recommendations are made:

1. Universities should establish hybrid counselling models that combine online and physical sessions, giving students flexible options for mental health support.
2. Awareness campaigns should be organized to encourage students to utilize online counselling services without fear of stigma.
3. Counselling centres should develop standardized online platforms equipped with video, audio, and chat-based options to cater to different preferences.
4. Counselling associations and educational authorities should update ethical guidelines to address confidentiality, consent, and professionalism in digital counselling.

5. Further collaboration between counselling psychologists and IT departments is needed to create user-friendly, secure, and interactive online counselling systems.

### **Implications for Counselling Practice**

The findings carry several practical implications for counselling practice within tertiary institutions in Nigeria and similar contexts:

1. **Integration of Online Counselling Services:** University counselling centres should incorporate online counselling as a core component of student mental health programs. This can help address counsellor shortages, reduce accessibility barriers, and reach students who may avoid face-to-face sessions.
2. **Sex-Sensitive Counselling Design:** Since males and females respond differently to online counselling, counsellors should tailor online sessions to meet diverse sex needs. Male students may benefit from structured, solution-focused interventions, while female students may respond better to emotionally expressive and relational counselling approaches.
3. **Counsellor Training in Digital Therapy:** Counsellors should receive specialized training in online therapeutic techniques, ethical considerations, and digital communication skills to maximize the effectiveness of virtual sessions.
4. **Anxiety Management Programs:** The strong link between counselling and reduced anxiety highlights the need for ongoing psychoeducational programs that teach stress management, relaxation, and cognitive restructuring techniques through both online and in-person platforms.
5. **Policy Development:** University administrators and government agencies should create policies supporting confidential, affordable, and well-supervised online counselling services as part of student welfare programs.

6. **Technological Infrastructure:** Reliable internet access and secure counselling platforms are essential to sustain the success of online counselling. Institutions should invest in digital infrastructure and ensure data privacy for users.

### **Contribution to Knowledge**

This study makes several important contributions to knowledge:

- **Empirical Evidence in Nigerian Context:** It provides quantitative evidence confirming that online counselling significantly reduces anxiety symptoms among Nigerian undergraduates, an area with limited local research.
- **Sex-Based Insights:** It contributes new knowledge by revealing that male students derive stronger benefits from online counselling than female students, highlighting the need for sex-sensitive online mental health interventions.
- **Universality Across Age Groups:** The finding that age does not significantly affect the effectiveness of online counselling expands understanding of its inclusiveness, suggesting that digital counselling can be universally beneficial in tertiary education.
- **Integration of Theoretical Models:** By applying CBT, SDT, and TAM simultaneously, the study advances a multi-theoretical framework for explaining how online counselling influences mental health outcomes.
- **Policy and Practice Contribution:** The study offers practical directions for integrating online counselling into university systems and informs policymakers about its potential to address the mental health gap in higher education.
- **Instrument Development:** The adapted questionnaire contributes a reliable tool that can be used in future research to assess online counselling effectiveness and anxiety symptoms among students.

### **Suggestions for Further Studies**

To deepen understanding and build upon this study, the following areas are suggested for future research:

- Longitudinal studies should be conducted to determine the long-term effects of online counselling on anxiety reduction among students.
- Comparative studies between different universities or regions could reveal contextual factors influencing online counselling outcomes.
- Qualitative research (interviews or focus groups) could explore students' lived experiences and perceptions of online counselling in greater depth.
- Future researchers could investigate other mental health issues (such as depression, academic stress, or self-esteem) to broaden the understanding of online counselling's scope.
- Studies could also examine technological and cultural factors, such as digital literacy and attitudes toward technology, that may moderate the effectiveness of online counselling in Nigerian universities.

## REFERENCES

- Adebayo, A. A., & Olaniyan, O. T. (2023). Funding models for online Counselling services in Nigerian universities.
- Adebayo, O. V., Olaoye, J. O., & Jegede, R. O. (2021). Effectiveness of internet-delivered cognitive behavioural therapy for test anxiety among university students in Nigeria. *African Journal of Educational Research*, 24(1), 107–115.
- Adeleke, O. T., Opadola, O., Ojo, M. M., Abiola, S. A. Y., & Praise, N. (2023). *Anxiety and depression among Nigerian undergraduates: A cross-sectional study*. Research Square. <https://doi.org/10.21203/rs.3.rs-3238042/v1>
- Adeoye, A. A., & Ogunwale, A. B. (2022). Cultural beliefs and practices influencing mental health service utilization in Nigeria.

- Adeoye, I. (2023, May 14). Discrimination, stigma setbacks to mental health awareness – Don. Blueprint.
- Adeyemi, A. A., & Olatunji, B. O. (2022). Assessment of online Counselling infrastructure in Nigerian universities.
- Afolayan, J. A., Akinboboye, O. O., & Olanrewaju, A. M. (2021). Prevalence and correlates of anxiety among university students in Nigeria. *Nigerian Journal of Clinical Psychology*, 10(2), 45–56.
- Ajiboye, P. O., & Mohammed, L. (2022). Integrating cultural elements in Western Counselling models: A Nigerian perspective.
- Alabi, T. O., & Ajayi, O. O. (2023). Awareness and utilization of guidance and counselling services among undergraduate students in Nigeria. *Covenant International Journal of Psychology*, 8(1), 88–99. <https://journals.covenantuniversity.edu.ng/index.php/cijp/article/view/2639>
- American College Health Association. (2022). National College Health Assessment III: Undergraduate student reference group executive summary Spring 2022. American College Health Association.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.
- American Psychological Association. (2021). COVID-19 telehealth guidance for psychologists.
- Andersson, G., & Cuijpers, P. (2009). Internet-based cognitive behaviour therapy for adults with anxiety disorders: A systematic review. *Journal of Anxiety Disorders*, 23(2), 175–182.
- Andersson, G., & Titov, N. (2014). Internet-delivered psychological treatments: From innovation to implementation. *World Psychiatry*, 13(2), 205–212.
- Andersson, G., & Titov, N. (2022). Email-based therapy.
- Andersson, G., Carlbring, P., & Rozental, A. (2019). Response and remission rates in internet-based cognitive behaviour therapy: An individual patient data meta-analysis. *Frontiers in Psychiatry*, 10, 15, 439-458, 749.
- Andersson, G., Cuijpers, P., Carlbring, P., Riper, H., & Hedman, E. (2014). Guided internet-based vs. face-to-face cognitive behaviour therapy for psychiatric and somatic disorders: A systematic review and meta-analysis. *World Psychiatry*, 13(3), 288–295.
- Andersson, G., Titov, N., Dear, B. F., Rozental, A., Carlbring, P., Andrews, G., & Carlsson, J. (2019). Internet-delivered cognitive behaviour therapy for adults with anxiety disorders: A narrative review. *Cognitive Behaviour Therapy*, 48(1), 1–21.
- Andrews, G., Basu, A., & Crusco, A. (2018). Computer therapy for anxiety and depression disorders is effective, acceptable, and practical healthcare: An updated meta-analysis. *Journal of Anxiety Disorders*, 55, 55–64, 70-78.
- Anthony, K. (2015). *Online counselling: A handbook for practitioners* (2nd ed.). Sage.

- APA. (2013). Guidelines for the practice of telepsychology. American Psychological Association.
- Barak, A., Hen, L., Edan, N., Winer, E., & Grohol, J. M. (2021). Internet-based psychological interventions: A systematic review of treatment adherence. *Journal of Medical Internet Research*, 10(2), e123.
- Barlow, D. H. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and fear* (2nd ed.). Guilford Press.
- Bashshur, R. L., Shannon, G. W., Bashshur, N., & Yellowlees, P. M. (2016). The empirical evidence for telemedicine interventions in mental disorders. *Telemedicine and e-Health*, 22(2), 87–113.
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. Meridian.
- Beck, A. T. (2011). *Cognitive therapy: Basics and beyond*. Guilford Press.
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, 56(6), 893–897.
- Bernal, G., & Adames, H. Y. (2017). *Cultural adaptation of treatments: A resource for considering culture in evidence-based practice* (2nd ed.).
- Bhugra, D., Till, A., & Sartorius, N. (2013). What is mental health? *International Journal of Social Psychiatry*, 59(1), 3–4. <https://doi.org/10.1177/0020764012463315>
- Brenes, G. A., Ingram, L. A., & Rapp, M. A. (2021). Telephone-based cognitive behavioural therapy for older adults with generalized anxiety disorder. *The American Journal of Geriatric Psychiatry*, 29(3), 240–249.
- Brownson, C. A., Stanton, M. D., & Clark, M. M. (2024). Impact of a 24/7 telemental health service on university Counselling centre utilization. *Journal of College Student Psychotherapy*, 58(1), 1-14.
- Burns, D. D. (1989). *The feeling good handbook*. William Morrow.
- Butler, A. C., Chapman, J. E., Forman, E. M., & Beck, A. T. (2006). The empirical status of cognitive-behavioural therapy: A review of meta-analyses. *Clinical Psychology Review*, 26(1), 17–31.
- Byrom, J. (2023). Online peer support networks for university students with anxiety disorders. *Journal of Technology in Behavioural Science*, 8(2), 301–319.
- Békés, V., & Aafjes-van Doorn, K. (2023). Embracing the uncertainty: How therapists experienced the shift to online therapy during the COVID-19 pandemic. *Clinical Psychology & Psychotherapy*, 30(1), 216–231.
- Carlbring, P., Andersson, G., Cuijpers, P., Riper, H., & Hedman-Lagerlöf, E. (2018). Internet-based vs. face-to-face cognitive behaviour therapy for psychiatric and somatic disorders: An updated systematic review and meta-analysis. *Cognitive Behaviour Therapy*, 47(1), 1–18.

- Carpenter, J. K., Andrews, L. A., Witcraft, S. M., Powers, M. B., Smits, J. A. J., & Hofmann, S. G. (2018). Cognitive behavioural therapy for anxiety and related disorders: A meta-analysis of randomized controlled trials. *Depression and Anxiety*, 35(6), 502–514.
- Carpenter, J. K., Hofmann, S. G., & Craske, M. G. (2020). Efficacy of cognitive behavioural therapy in telephone format: A meta-analysis. *Clinical Psychology Review*, 81, 101904.
- Cavanagh, K., Shafran, R., Sibelli, F., Wells, A., & Darby, D. (2018). Online cognitive behavioural therapy for obsessive-compulsive disorder: A systematic review. *Journal of Obsessive-Compulsive and Related Disorders*, 18, 1–9.
- Chen, Y., et al. (2023). Effectiveness of BetterHelp for anxiety management in university students.
- Chiboola, M. N. (2019). Theoretical perspective of traditional counselling.
- Childress, J. (2000). Technology and the practice of child and adolescent psychiatry. *The American Journal of Psychiatry*, 157(9), 1436–1445.
- Clark, D. M., & Beck, A. T. (2010). Cognitive theory and therapy of anxiety disorders. In *Handbook of anxiety disorders* (pp. 61–80). Blackwell Publishing.
- Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. Heimberg, M. Liebowitz, D. Hope, & F. Schneier (Eds.), *Social phobia: Diagnosis, assessment, and treatment* (pp. 69–93). Guilford Press.
- Craske, M. G., Kircanski, K., Zelikowsky, M., Mystkowski, J., Chowdhury, N., & Baker, A. (2008). Exposure therapy for anxiety disorders: What is the role of inhibitory learning?. *Current Directions in Psychological Science*, 17(5), 343–347.
- Cuijpers, P., et al. (2016). The effects of psychological treatment of depression on irritable bowel syndrome symptoms: A meta-analysis. *Acta Psychiatrica Scandinavica*, 134(6), 467-476.
- Cuijpers, P., Reijnders, M., Huhn, M., Li, J. B., & Andersson, G. (2023). The efficacy of internet-based interventions for adult anxiety disorders: A meta-analytic review. *Depression and Anxiety*, 40(2), 133–146.
- Danladi, I. Z., et al. (2022). Evaluation of mobile applications for anxiety management among Nigerian university students.
- Darcy, A. M., Daniels, J., Augenstein, V., Weilenmann, E., Schueller, S. M., & Baker, L. C. (2017). Evidence of human-level performance in aphasia communication from crowdworkers. *PLoS One*, 12(4), e0175710.
- David, B., et al. (2024). The role of AI in enhancing Counselling practices.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319–340.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. Plenum Press.
- Dyrbye, L. N., et al. (2023). Specialized online anxiety interventions for students in high-risk academic programs.

- Egbochuku, E. O., & Alabi, A. A. (2023). Regulatory and ethical considerations in online Counselling in Nigeria.
- Eilert, N., Szentagotai-Tatar, A., Montgomery, G. H., & Barak, A. (2021). Internet-based cognitive behavioural therapy in routine clinical care: A review of evidence. *Journal of Clinical Psychology*, 77(1), 186–203.
- Eisenberg, D., et al. (2023). Student satisfaction and outcomes of a university-run virtual Counselling centre.
- Eisenberg, D., et al. (2024). Integrating mental health support with academic services in universities.
- Eremie, M. D., & Chikweru, A. E. (2015). Challenges of guidance and counselling services in Nigerian schools. *International Journal of Education and Research*, 3(2), 375–384.
- Eseadi, C. (2022). Effectiveness of internet-delivered cognitive behavioural therapy on academic burnout and mental health of Nigerian university students. *International Journal of Psychology and Counselling*, 14(1), 1–8.
- Fitzpatrick, K. K., Darcy, A., Vierhile, M., запомнить, Bennett, A., Perkins, A., ... & Weingardt, K. R. (2017). Feasibility and acceptability of a novel conversational agent for depression and anxiety (Woebot). *JMIR Mental Health*, 4(4), e129.
- Fitzpatrick, K. K., Schueller, S. M., & Mohr, D. C. (2022). Delivering mental health interventions using conversational agents. *Dialogues in Clinical Neuroscience*.
- Francis, P. C., et al. (2024). Impact of early alert systems on counselling utilization and outcomes for anxiety disorders.
- Fulmer, R., et al. (2023). Effects of AI-based Counselling tools on anxiety reduction: A meta-analysis.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behaviour*, 26(4), 331–362.
- Goldin, P. R., Manber-Ball, E., Shapiro, D., & Gross, J. J. (2023). Live chat therapy for individuals with social anxiety disorder: A randomized controlled trial. *Journal of Anxiety Disorders*, 94, 102663.
- González, J. S., Padrón, I., & Pey, M. A. (2011). Efficacy of psychological treatments for depression in the elderly: A meta-analysis. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 66(2), 223–233.
- González-Robles, R., et al. (2021). Efficacy of email-based therapy for generalized anxiety disorder: A controlled trial.
- Guest, P. C., Vasilevska, V., Al-Hamadi, A., Eder, J., Falkai, P., & Steiner, J. (2023). Digital technology and mental health during the COVID-19 pandemic: A narrative review with a focus on depression, anxiety, stress, and trauma. *Frontiers in Psychiatry*, 14, 1227426.
- Gulliver, A., Griffiths, K. M., & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: A systematic review. *BMC Psychiatry*, 10, 113.

- Harrer, M., Adam, S. H., Baumeister, H., Cuijpers, P., Karyotaki, E., & Auerbach, R. P. (2024). барьеры Stepped care 600 interventions for mental disorders in university students: A systematic review and meta-analysis. *Journal of Affective Disorders*, 345, 451–463.
- Hoermann, S., McCabe, K. L., Milne, D. N., & Calvo, R. A. (2022). Application of synchronous and asynchronous text-based Counselling in digital mental health. *Journal of Medical Internet Research*, 24, e34219.
- Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., & Ford, T. (2024). Multidisciplinary research priorities for the COVID-19 pandemic: A call for action for mental health science. *The Lancet Psychiatry*, 11(1), 1–14.
- Hull, T. D., & Mahan, K. (2022). Live chat and text therapy: Synchronous and asynchronous modalities in digital mental health. *Journal of Technology in Behavioural Science*, 7(1), 15–28.
- Hull, T. D., et al. (2023). Talkspace: Integrating psychiatry and therapy in digital mental health. *Journal of Technology in Behavioural Science*, 8(2), 123–134.
- Ibrahim, A. K., Kelly, S. J., Adams, C. E., & Glazebrook, C. (2013). A systematic review of studies of depression prevalence in university students. *Journal of Psychiatric Research*, 47(3), 391–400.
- Ibrahim, A. K., Kelly, S. J., Adams, C. E., & Glazebrook, C. (2014). Barriers to mental health help-seeking among university students: A systematic review. *International Journal of Mental Health and Addiction*, 12(1), 1–14.
- Inkster, B., Sarda, S., & Subramanian, V. (2018). An empathy-driven, conversational artificial intelligence agent (Wysa) for digital mental well-being: Real-world data evaluation. *JMIR mHealth and uHealth*, 6(11), e12106.
- James, B. O., Omoaregba, J. O., & Igberase, O. O. (2019). Prevalence and correlates of anxiety and depression among Nigerian university students. *Nigerian Journal of Psychiatry*, 17(1), 1–6.
- Kanfer, F. H., & Phillips, J. S. (1980). *Learning foundations of behaviour therapy*. New York: John Wiley & Sons.
- Kenter, R. M., et al. (2023). Alma: Supporting independent therapists in online practice. *Journal of Technology in Behavioural Science*, 8(1), 45–54.
- Kola, L. (2020). Global mental health and COVID-19: Nigerian experience. *International Journal of Social Psychiatry*, 66(8), 830–832.
- Kukoyi, T. O., Olusola, E. O., & Adeyemi, T. L. (2022). *The influence of academic stress and social stigma on mental health help-seeking behavior among university students in Nigeria*.
- Lattie, E. G., et al. (2020). Digital mental health interventions for depression, anxiety, and enhancement of psychological well-being among college students: Systematic review. *Journal of Medical Internet Research*, 22(7), e17647.
- Lattie, E. G., et al. (2023). Stepped care models in university mental health: Cost-effectiveness and capacity. *Journal of College Student Psychotherapy*, 37(3), 201–215.

- Lipson, S. K., et al. (2023). Faculty training and mental health resource utilization. *Journal of American College Health*, 71(4), 567–576.
- Liu, Y., et al. (2023). Efficacy of text-based interventions for anxiety in college students: A meta-analysis. *Journal of Anxiety Disorders*, 93, 102678.
- Malowney, M., & Katz, C. (2024). Outcomes of teletherapy for anxiety: A comparative study of Talkspace and in-person services. *Journal of Anxiety Disorders*, 95, 102687.
- Markowitz, J. C., Milrod, B. L., & Bleiberg, K. L. (2024). Hybrid models of psychotherapy: Combining in-person and teletherapy. *American Journal of Psychotherapy*, 78(1), 45–58.
- Martinez, A., & Wong, Y. J. (2024). UCLA's Virtual Counselling and Psychiatry Services: A case study. *Journal of College Student Psychotherapy*, 38(2), 123–135.
- Mishkind, M. C., Shore, J. H., & Shore, P. (2021). Telepsychiatry and the COVID-19 pandemic, 2020–2021. *Current Psychiatry Reports*, 23(10), 65.
- Mohr, D. C., et al. (2023). Hybrid digital interventions for mental health: Stepped care and beyond. *Psychiatric Services*, 74(2), 120–128.
- National Council for Mental Wellbeing. (2024). State of mental health care report.
- Nwachukwu, L. C., Ugwuegbulam, C. N., & Nwazue, D. I. (2014). The Dawn of E-Counseling in Nigeria: Issues and Challenges. *International Journal of Academic Research in Business and Social Sciences*, 4(3), 374-382.
- O'Brien, D. (2024, October 16). Online counselling: The rise of teletherapy and its impact. ICHAS.
- Ogueji, I. A., Amusa, A. O., Olofe, O. J., & Omotoso, E. B. (2022). Willingness and barriers to utilizing e-therapy services: a Nigerian general population qualitative study. *Journal of Human Behavior in the Social Environment*, 32(2), 214-228.
- Okon, M. O. (2014). Utilization of counselling services among university students in Nigeria. *Journal of Education and Practice*, 5(28), 140–144.
- Ola, B. A., & Afolabi, O. A. (2020). Prevalence and correlates of generalized anxiety disorder among university students in Nigeria. *African Journal of Psychiatry*, 23(2), 1–6.
- Olanrewaju, A. M., Afolayan, J. A., & Akinboboye, O. O. (2019). Anxiety and depression among university undergraduates: Prevalence and associated factors. *Nigerian Journal of Clinical Psychology*, 11(1), 23–33.
- Olanrewaju, A. M., Afolayan, J. A., & Akinboboye, O. O. (2021). Anxiety symptoms among university students in southwestern Nigeria. *African Journal of Clinical Psychology*, 14(2), 55–67.
- Olthuis, J. V., Watt, M. C., Bailey, K., Hayden, J. A., & Stewart, S. H. (2016). Therapist-supported Internet cognitive behavioural therapy for anxiety disorders in adults. *Cochrane Database of Systematic Reviews*, 3, CD011565.

- Pierce, B. S., Perrin, P. B., Tyler, C. M., McKee, G. B., & Watson, J. D. (2021). The COVID-19 telepsychology revolution: A national study of pandemic-based changes in U.S. mental health care delivery. *American Psychologist*, 76(1), 14–25.
- Public Health Agency of Canada. (2006). *The human face of mental health and mental illness in Canada*. Minister of Public Works and Government Services Canada. <https://www.canada.ca>
- Richards, D., & Viganó, N. (2013). *Online counselling: A narrative and critical review of the literature*. *Journal of Clinical Psychology*, 69(9), 994–1011.
- Richardson, T., et al. (2024). Faculty referrals and online Counselling uptake among university students. *Journal of College Student Psychotherapy*, 38(3), 201–215.
- Rodriguez, J., & Chen, S. (2023). Cerebral: Hybrid mental health care for anxiety and depression. *Telemedicine and e-Health*, 29(3), 215–223.
- Sammons, M. T., VandenBos, G. R., & Martin, J. N. (2022). Psychological practice and the COVID-19 pandemic: The role of telepsychology. *Professional Psychology: Research and Practice*, 53(1), 1–9.
- Santos, I., et al. (2021). Youper: A conversational agent to support mental health. *Frontiers in Psychiatry*, 12, 691569.
- Scheid, T. L., & Wright, E. R. (Eds.). (2017). *A handbook for the study of mental health: Social contexts, theories, and systems* (2nd ed.). Cambridge University Press.
- Simpson, S. G., & Reid, C. L. (2014). Therapeutic alliance in videoconferencing psychotherapy: A review. *Australian Journal of Rural Health*, 22(6), 280–299.
- Simpson, S., Richardson, L., Pietrabissa, G., Castelnuovo, G., & Reid, C. (2023). Videotherapy and therapeutic alliance in the digital age: A review. *Clinical Psychology & Psychotherapy*, 30(2), 456–468.
- Smith, A., Jones, E., & Brown, K. (2019). *Gender differences in engagement with online mental health support among university students*. *Computers in Human Behavior*, 93, 223–230.
- Sontag-Padilla, L., et al. (2023). Moderated peer communities and help-seeking behaviour among students. *Journal of American College Health*, 71(2), 234–245.
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092–1097.
- Sund, A. M., Larsson, B., & Wichstrøm, L. (2024). Early adolescent anxiety symptoms and prediction of mental health outcomes in late adolescence and young adulthood: A population-based study. *BMC Psychiatry*, 24(33).
- Szuhany, K. L., & Simon, N. M. (2022). Anxiety disorders: A review. *JAMA*, 328(13), 1271–1283. <https://doi.org/10.1001/jama.2022.17024>
- Torous, J., & Hsin, H. (2022). Empowering the digital therapeutic ecosystem: Stepped care models and hybrid approaches. *JMIR Mental Health*, 9, e34123.

- Torous, J., Jän Myrick, K., Rauseo-Ricupero, N., & Firth, J. (2020). Digital mental health and COVID-19: Using technology today to accelerate the curve on access and quality tomorrow. *JMIR Mental Health*, 7(3), e18848.
- Torous, J., Myrick, K. J., Rauseo-Ricupero, N., & Firth, J. (2021). Digital mental health and COVID-19: Using technology today to accelerate the curve on access and quality tomorrow. *JMIR Mental Health*, 8(3), e18848.
- University of Benin. (n.d.). Guidance and counselling centre. <https://uniben.edu/guidanceandcounselling.html>
- University of Oxford. (2023, April 25). The impact of childhood and teenage anxiety disorders on later life – new research. *The Conversation*. <https://theconversation.com/the-impact-of-childhood-and-teenage-anxiety-disorders-on-later-life-new-research-203370>
- Walton, G. M., et al. (2023). Early alert systems and intervention rates for student anxiety. *Journal of College Student Development*, 64(1), 45–58.
- Wasil, A. R., et al. (2022). BetterHelp: Outcomes and engagement in a large digital mental health platform. *JMIR Mental Health*, 9, e34219.
- Williams, A. M., et al. (2024). Comparative effectiveness of hybrid and traditional therapy for anxiety in college students. *Journal of College Student Psychotherapy*, 38(1), 45–62.
- Wind, T. R., Rijkeboer, M., Andersson, G., & Riper, H. (2020). The COVID-19 pandemic: The ‘black swan’ for mental health care and a turning point for e-health. *Internet Interventions*, 20, 100317.
- Wind, T. R., Rijkeboer, M., Andersson, G., & Riper, H. (2020). The COVID-19 pandemic: The ‘black swan’ for mental health care and a turning point for e-health. *Internet Interventions*, 20, 100317.
- Wölfel, F., Gusy, B., Lohmann, K., Töpitz, K., & Kleiber, D. (2016). Mental health problems among university students and the impact of structural conditions. *Journal of Public Health*, 24(2), 125–133. <https://doi.org/10.1007/s10389-015-0703-6>
- World Health Organization. (2021). Depression and other common mental disorders: Global health estimates. World Health Organization.
- World Health Organization. (2022). World mental health report: Transforming mental health for all.
- Xiao, H., et al. (2023). 24/7 crisis intervention and hospitalization rates: The impact of ProtoCall and TimelyMD. *Journal of Crisis Intervention*, 44(1), 67–78.
- Zhou, S. J., Zhang, L. G., Wang, L. L., Guo, Z. C., Wang, J. Q., Chen, J. C., Liu, M., Chen, X., & Chen, J. X. (2020). Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of COVID-19. *European Child & Adolescent Psychiatry*, 29(6), 749–758.
- Zimmerman, M., & Park, J. (2024). Specialized online anxiety treatments in university partnerships: Outcomes from Alma. *Journal of College Counselling*, 27(2), 123–134.

**APPENDIX A**

**EDUCATIONAL EVALUATION COUNSELLING PSYCHOLOGY**

**FACULTY OF EDUCATION, UNIVERSITY OF BENIN.**

**EFFECTIVENESS OF ONLINE COUNSELLING IN ADDRESSING ANXIETY  
DISORDERS AMONG UNDERGRADUATES IN A NIGERIA PUBLIC  
UNIVERSITY**

**ONLINE COUNSELLING FEEDBACK QUESTIONNAIRE (OCFQ)**

This form contains a short feedback questionnaire about your experience with the online counselling sessions you participated in. Your honest and thoughtful responses will help improve the quality and effectiveness of mental health support services for students. Kindly respond honestly to the following items by ticking the appropriate response that pertains to you. There is no right or wrong answer. All responses will be treated with utmost confidentiality.

Thank you

**Section A: Demographic Information**

Please tick or fill in as appropriate:

1. Age:  16–20  21 and above
2. Sex:  Male  Female
3. Faculty/Department: \_\_\_\_\_
4. Level of Study:  100  200  300  400  500  600
5. Have you experienced anxiety symptoms before?  Yes  No
6. Have you ever received counselling before?  Yes  No

**Section B: Experience with Online Counselling Sessions**

Please tick the option that is most applicable to you. Use the scale below:

4 – Strongly Agree | 3 – Agree | 2 – Disagree | 1 – Strongly Disagree

S/N	Statement	SA	A	D	SD
1	I often feel worried or anxious during academic periods				
2	I have difficulty sleeping because of persistent thoughts or worries.				
3	My anxiety negatively affects my concentration and academic performance.				
4	I sometimes experience a rapid heartbeat, sweating, or restlessness when under pressure.				
5	I tend to expect the worst possible outcome in challenging situations.				
6	I often feel nervous or uneasy even when there is no obvious reason.				
7	I avoid certain classes, social events, or tasks because they make me anxious.				
8	I find it difficult to relax, even when I try to rest or take a break.				
9	My anxiety makes it hard for me to make decisions or think				

	clearly.				
10	I feel overwhelmed or lose confidence whenever I face academic or social challenges.				
11	I believe online counselling should be offered in all universities.				
12	Online counselling feels less intimidating than face-to-face counselling.				
13	Online counselling is affordable and accessible.				
14	I trust that online counselling maintains confidentiality.				
15	I find online counselling more flexible and convenient than traditional face to face counselling				
16	I feel understood and supported during online counselling sessions.				
17	I prefer the privacy online counselling provides over visiting physical centres.				
18	I can access help faster online than through traditional services.				
19	The flexible timing of online sessions suits my academic schedule				
20	Overall, I am satisfied with the online counselling experience.				