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## **IMPLEMENTING AI-BASED COUNSELLING SERVICES FOR STUDENTS: A NECESSITY FOR NIGERIAN UNIVERSITIES**

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### **ABSTRACT**

This article explores the pressing need for integrating AI-based counselling services within Nigerian universities to support the mental health and well-being of students. In Nigeria, higher education faces significant challenges in providing accessible and timely mental health support for its diverse student population. Traditional counselling services often fall short due to limited resources and overwhelming demand. As a solution, the study advocates for the implementation of AI-driven counselling services to augment existing services and bridge the gap in mental health care for students. The discussion examines the advantages of leveraging AI technologies to offer personalized, accessible, and stigma-free counselling support. By analysing the current mental health status in Nigerian universities, the study highlighted the potential of AI-based platforms in providing immediate and round-the-clock assistance, tailored to individual needs and cultural sensitivities. Moreover, ethical considerations surrounding AI implementation in counselling services are addressed, emphasizing the importance of maintaining privacy, confidentiality, and ensuring human oversight in the deployment of such systems. The paper also discussed the necessary infrastructure, training, and collaboration required among educational institutions, mental health professionals, and technologists to successfully integrate AI-based counselling services into the university system. Drawing on global examples and emerging best practices, this paper aimed to offer insights and recommendations to university administrators, policymakers, and stakeholders in Nigerian higher education to prioritize and implement AI-driven counselling services. Ultimately, the adoption of these innovative technological solutions can significantly enhance student mental health support, foster academic success, and cultivate a healthier learning environment within Nigerian universities.

**Keywords:** *Artificial Intelligence, Counselling, Decision Making, Students, University Education,*

### **Introduction**

The advancement of Artificial Intelligence (AI) has significantly transformed various sectors, revolutionizing the way we work, communicate, and learn. One area that stands to benefit

immensely from AI integration is the provision of counseling services, particularly within educational institutions like Nigerian universities. Nigeria, with its growing student population, various academic programmes, and evolving societal challenges, stands poised to harness the potential of AI-based counseling to address different needs of its students. Nigerian universities have long grappled with limited resources and personnel to adequately support the mental health and well-being of their students. The increasing academic pressure, socio-economic disparities, cultural transitions, and the recent global pandemic have exacerbated these challenges, underscoring the urgent need for innovative solutions to provide comprehensive and accessible counseling services (Alowis et al., 2023).

AI-driven counseling services present a promising solution to bridge the gap between the demand for mental health support and the limited resources available within Nigerian universities. Leveraging AI technologies such as natural language processing, machine learning procedures, and Chatbot systems, these services can offer round-the-clock support, personalized guidance, and confidential platforms for students to seek advice, express concerns, and receive timely assistance. However, the successful implementation of AI-based counseling services in Nigerian universities requires a nuanced approach. Factors such as cultural sensitivities, language diversity, ethical considerations, and the need for human oversight must be carefully navigated to ensure these services are effective, culturally relevant, and respectful of individual privacy (Nosrati et al., 2020).

To address mental health issues and target different populations, specialized online counseling platforms have also arisen. These platforms are intended to meet the specific requirements of people dealing with problems like addiction, sexuality difficulties, and bereavement. These platforms boost the effectiveness of mental health services by focusing on these specific domains and providing resources and interventions that are optimized. Modern online counseling programmes are the perfect example of a proactive and innovative approach to offering mental health services. The accessibility, convenience, and effectiveness of mental health services have been significantly improved by these platforms' innovations in virtual reality therapy, Chatbot driven by artificial intelligence, mobile applications, and video conferencing (Zaidi & Sharma, 2021).

This paper aims to look into the necessity of implementing AI-based counseling services within Nigerian universities. By examining the challenges faced by students, exploring the potential benefits of AI integration, and proposing strategies for ethical and culturally sensitive deployment, this study sought to advocate for the adoption of AI-driven counseling services as a crucial step toward enhancing the overall well-being and academic success of Nigerian university students.

### **Meaning of Counselling**

According to Rahman and Yunus (2022) and Rosenblad, et al., (2022), counselling is a process that involves a professional relationship between a counselor and a client, aiming to help the client explore their feelings, thoughts, behaviors, and experiences in a safe and supportive environment. The primary goal of counseling is to assist individuals in understanding themselves better, coping with life challenges, making decisions, and improving their overall well-being. Counseling provides a confidential and non-judgmental space where individuals can express their concerns,

emotions, and thoughts freely. Qualified counselors or therapists use various therapeutic techniques and approaches tailored to the client's needs to facilitate self-exploration, personal growth, and problem-solving. Through counseling, individuals gain insight into their emotions, behaviors, and patterns, empowering them to make positive changes in their lives. Counselors often help clients develop coping mechanisms and problem-solving skills to address challenges, manage stress, and navigate difficult situations more effectively.

Counseling encompasses various approaches such as Cognitive-Behavioral Therapy (CBT), psychodynamic therapy, humanistic therapy, and others, each focusing on different aspects of a person's experiences and mental health. Counseling typically involves setting goals collaboratively between the counselor and the client. These goals help track progress and create a roadmap for personal development and change. Counselors adhere to ethical standards that prioritize client confidentiality, respect, and non-discrimination to ensure a safe and trustworthy therapeutic relationship. Counseling can be applied across various settings, including mental health clinics, schools, hospitals, workplaces, and community centers, addressing a wide range of issues such as anxiety, depression, relationship problems, grief, trauma, and more. Overall, counseling serves as a supportive and guiding process that promotes self-exploration, personal growth, and emotional well-being, helping individuals lead more fulfilling lives (Damana, 2022; Hurst & Prescott, 2022)

### **Types of Counselling**

These types of counseling have developed through the integration of various theoretical frameworks, research findings, and practical applications, catering for various needs and contexts within the field of mental health and well-being (Cavallaro, et al., 2020; Nor 2022; Poduri, 2022).

**1. Individual Counseling:** Individual counseling, also known as one-on-one therapy, involves a counselor or therapist working with a single client in a confidential setting. It traces its roots back to psychotherapy pioneers such as Sigmund Freud, Carl Rogers, and Albert Ellis, who laid the foundation for modern talk therapy. It aims to address personal issues, emotional struggles, mental health concerns, and self-development. The focus is on the individual's unique experiences, helping them gain insights, cope with challenges, and make positive changes in their lives.

**2. Marriage or Couples Counseling:** Couples counseling emerged as a response to the growing recognition of relationship dynamics and the need for interventions to help couples navigate conflicts and strengthen their bond. Influenced by approaches like behavioral therapy and systemic family therapy, it gained prominence in the mid-20th century. The primary goal is to improve communication, resolve conflicts, rebuild trust, and enhance intimacy between partners. It assists couples in understanding each other's perspectives and developing healthier relationship patterns.

**3. Family Counseling:** Family counseling evolved from systemic therapy models, emphasizing the interconnectedness of family members and their roles in shaping behaviors and relationships. It gained prominence in the 1950s and 1960s with pioneers like Salvador Minuchin and Murray Bowen. This type of counseling focuses on improving family dynamics, resolving conflicts, and strengthening relationships among family members. It addresses issues impacting the family unit, aiming to create a supportive and functional family environment.

**4. Career Counseling:** Career counseling originated from the need to assist individuals in making informed career choices. It evolved from vocational guidance in the early 20th century to encompass broader aspects of career development, influenced by theories like Holland's typology and Super's developmental model. It helps individuals explore career options, assess their skills and interests, set career goals, and develop plans for achieving career satisfaction and success.

**5. Substance Abuse Counseling:** Substance abuse counseling emerged in response to the increasing awareness of addiction as a complex issue requiring specialized intervention. It draws from addiction psychology, behavioral therapies, and the 12-step program principles. This type of counseling aims to support individuals struggling with substance misuse or addiction. It focuses on recovery; relapse prevention, addressing underlying issues, and helping individuals build a sober and healthier lifestyle.

**6. School Counseling:** School counseling has evolved over time, influenced by educational psychology, child development theories, and the need for comprehensive student support. It gained recognition in the mid-20th century, expanding beyond academic guidance. It supports students in academic achievement, social-emotional development, career exploration, and addressing personal challenges that may affect their educational experiences.

### **Importance of Counselling**

The importance of counseling is rooted in its ability to provide individuals, couples, families, and groups with essential support, guidance, and tools to address a wide range of issues affecting their mental, emotional, and social well-being. Several key factors contribute to the significance of counseling (Getachew, 2020; Christopher, et al., 2022; Bolu-Steve, et al., 2023).

**1. Mental Health Support:** Counseling offers a safe space for individuals to express their emotions, alleviate stress, manage anxiety, and cope with depression. It fosters emotional resilience and promotes mental health. Qualified counselors help identify mental health conditions and provide appropriate interventions, referrals, or therapy techniques to manage and treat these conditions effectively.

**2. Personal Development and Self-Exploration:** Through counseling, individuals gain deeper insight into their thoughts, feelings, behaviors, and beliefs, fostering self-awareness and personal growth. It empowers individuals to make informed decisions, set achievable goals, and develop the necessary skills to overcome challenges and obstacles in their lives.

**3. Relationships and Communication:** Counseling helps individuals, couples, and families enhance communication, resolve conflicts, rebuild trust, and strengthen their relationships. It addresses family issues, parenting challenges, and assists in developing healthier family dynamics, fostering a supportive environment for growth and connection.

**4. Coping Strategies and Stress Management:** Provides immediate support during crises, traumas, or challenging life events, helping individuals cope with and recover from such situations. It equips individuals with effective coping mechanisms and stress management techniques to navigate daily stressors and life transitions.

**5. Career and Educational Guidance:** Assists individuals in exploring career options, making informed decisions, and aligning their skills and interests with suitable career paths. It provides academic guidance, study skills, and coping strategies to students dealing with academic stress or learning difficulties.

**6. Addiction Recovery and Behavioral Changes:** Helps individuals overcome substance abuse, addictive behaviors, and other harmful patterns through counseling and recovery programs. Assists in modifying negative behaviors, fostering healthier habits, and supporting individuals in making positive lifestyle changes.

**7. Overall Well-being and Life Satisfaction:** Counseling contributes to an overall better quality of life by promoting mental wellness, healthy relationships, and personal fulfillment. It serves as a preventative measure by addressing issues before they escalate, fostering resilience and reducing the risk of more severe mental health problems.

### **An Overview of Counselling Services in Nigerian Universities**

Nigerian universities are vibrant hubs of academic pursuit, cultural diversity, and personal growth. However, amid the academic rigors and transitional phases, students often face various challenges that impact their mental health and well-being. Recognizing the importance of providing support beyond academic instruction, counselling services have emerged as vital components in the system of higher education institutions across Nigeria.

The history of counselling services in Nigerian universities dates back to the early stages of higher education institutions in the country. Initially, these services primarily focused on academic guidance and career counseling. Over time, as societal and psychological needs evolved, the scope of counselling expanded to encompass a broader spectrum of issues faced by students, including mental health concerns, personal development, interpersonal relationships, and more. The evolution has been influenced by cultural dynamics, globalization, and the increasing awareness of mental health challenges among the student population (Esere, 2020). Presently, counselling services in Nigerian universities vary in structure, scope, and resources available. Some institutions have dedicated counselling centers staffed with qualified professionals, while others may have limited resources or rely on external collaborations. Challenges such as stigma surrounding mental health, inadequate funding, shortage of trained counsellors, and cultural perceptions continue to impact the effectiveness and accessibility of these services. Despite these challenges, counselling units strive to provide student-centric support through individual counseling, group therapy, workshops, and outreach programs tailored to address diverse needs. Counselling services in Nigerian universities play a pivotal role in promoting the overall well-being and academic success of students. By addressing psychological, emotional, and social challenges, these services contribute to creating a conducive learning environment that fosters personal growth, resilience, and mental health awareness. Moreover, they serve as essential platforms for destigmatizing mental health issues and promoting a culture of seeking help when needed, thereby contributing to a healthier and more supportive campus community (Adegboyega, 2020).

Despite their importance, counselling services in Nigerian universities face significant challenges, including funding constraints, cultural barriers, and the need for more trained professionals.

Moving forward, addressing these challenges requires collaborative efforts among university administrations, government agencies, mental health advocates, and the broader society. Increased investment in resources, training programs for counsellors, awareness campaigns, and destigmatization initiatives are crucial for enhancing the efficacy and reach of counselling services. Counselling services in Nigerian universities are integral components in nurturing the holistic development of students. As these institutions continue to evolve, it is imperative to prioritize and invest in robust counselling frameworks that cater to the diverse needs of students. By addressing challenges, raising awareness, and fostering a culture of mental health support, Nigerian universities can create environments where students thrive academically, emotionally, and socially, paving the way for a brighter future (Arfasa, &Weldmeskel, 2020).

### **Meaning of Artificial Intelligence**

Artificial Intelligence (AI) refers to the development of computer systems capable of performing tasks that typically require human intelligence. It encompasses various techniques, processes, and methodologies aimed at creating machines that can simulate cognitive functions such as learning, problem-solving, perception, reasoning, and decision-making. The fundamental goal of AI is to enable machines to replicate human-like abilities to perceive, interpret, and respond to information in their environment. This field integrates multiple disciplines, including computer science, mathematics, psychology, neuroscience, linguistics, and more (Redozubov &Klepikov, 2020: Soeffner, 2023).

AI is designed to perform a specific task or set of tasks, such as voice recognition, image classification, or recommendation systems. Narrow AI operates within defined parameters and does not possess general intelligence. Artificial General Intelligence (AGI) is the hypothetical AI that can understand, learn, and apply knowledge across different domains—like human intelligence. Achieving AGI remains a significant goal but is yet to be realized. Machine Learning is a subset of AI that enables systems to learn and improve from experience without being explicitly programmed. It includes techniques like supervised learning, unsupervised learning, and reinforcement learning. Deep Learning is a type of machine learning utilizing neural networks with multiple layers (deep neural networks) to analyze and process data, particularly effective in areas such as image and speech recognition, natural language processing, and more (Garg & Pahuja, 2020: Yamakawa & Matsuo, 2022).

AI aids in diagnostics, drug discovery, personalized medicine, and streamlining administrative tasks. It is utilized for fraud detection, arithmetical trading, risk assessment, and customer service. AI powers autonomous vehicles, enhancing safety and efficiency in transportation. AI facilitates personalized shopping experiences, demand forecasting, and inventory management. It enhances adaptive learning, provides personalized tutoring, and supports administrative tasks. Ethical considerations regarding AI development, including biases in systems, data privacy, job displacement, and its societal impact, are subjects of ongoing discussion and concern. As AI continues to develop, it's potential to revolutionize education and societies while posing challenges and opportunities remains a topic of significant interest and exploration. The quest for responsible AI development involves balancing innovation with ethical, legal, and societal implications (Islam, et al., 2022).



## **Facilities Needed for AI-Based Counselling Services in Nigerian Universities**

The introduction of AI-based counseling services in Nigerian universities requires a comprehensive infrastructure to support the effective functioning of these services. This requires a functional approach involving technology, psychology, education, and regulatory compliance to ensure its success and benefit for students' mental well-being (Vinichenko, et al., 2020: Abdulquadri, et al, 2021: Idemudia & Makinde, 2022).

- **Technological Infrastructure:** High-performance servers and computing systems are necessary to handle the computational demands of AI algorithms used in counseling services. Development and deployment of AI-driven counseling platforms tailored to Nigerian university environments. High-speed and reliable internet connectivity to ensure seamless communication between the AI systems and users.
- **Data Centers and Storage:** Robust data storage facilities to securely store student data and counseling-related information, ensuring compliance with data protection laws. Reliable and scalable data centers to manage the storage and processing requirements of large volumes of data generated by counseling sessions.
- **AI-Enabled Tools and Resources:** AI-driven Natural Language Processing (NLP) Tools for understanding and responding to students' queries and concerns in various Nigerian languages and dialects. System for analyzing student behavior, mental health patterns, and counseling efficacy to improve services over time. AI-powered chatbots or virtual assistants capable of engaging with students, providing information, and scheduling counseling sessions.
- **Physical Infrastructure:** Dedicated spaces within university premises equipped with private areas for students to interact with AI-based counseling services comfortably. Computers or terminals for students to access counseling services if they don't have personal devices.
- **Training and Support Facilities:** Spaces for conducting training sessions for counselors, IT staff, and faculty members on using and managing the AI-based counseling systems. Helpdesk or technical support services to assist students, counselors, and staff members in case of system issues or queries.
- **Security Measures:** Implement robust security measures, encryption techniques, and access controls to safeguard sensitive student data and maintain confidentiality. Firewalls, intrusion detection systems, and regular security audits to protect against cyber threats and data breaches.
- **Integration with Existing Systems:** Compatibility with existing university systems and databases to streamline data sharing and ensure a cohesive experience for students and faculty. Adherence to Nigerian regulations concerning data privacy, mental health services, and ethical AI use.
- **Monitoring and Evaluation Tools:** Systems to monitor the effectiveness of counseling services, gather feedback, and make necessary improvements.

## **Strategies for Implementing AI-Based Counselling Services in Nigerian Universities**

Implementing AI-based counseling services in Nigerian universities can greatly benefit students by providing accessible and effective mental health support. By employing these strategies, Nigerian universities can successfully implement AI-based counseling services that address the mental health needs of their students while considering cultural sensitivities and ensuring effectiveness and accessibility.

**1. Understanding Cultural Sensitivities:** Nigeria is a diverse country with over 250 ethnic groups and various languages. Each group has its unique cultural values, norms, and beliefs regarding mental health and seeking counseling. Cultural beliefs often influence how mental health issues are perceived. In some Nigerian cultures, mental health problems might be stigmatized, seen as a spiritual issue, or attributed to personal weaknesses. Understanding these perceptions is vital to effectively address mental health concerns. When offering counseling services, it is crucial to respect cultural norms and practices. Counseling approaches should align with and respect these norms to ensure they are acceptable and effective within diverse communities. Language plays a significant role in counseling. Offering services in multiple languages, including local dialects, ensures that counseling is accessible and understandable to students from different cultural backgrounds. Counseling methods should be adaptable and sensitive to cultural differences. For instance, some cultures may prefer group counseling over individual sessions, while others might emphasize familial involvement in mental health treatment. Recognizing and incorporating traditional healing practices or culturally relevant coping mechanisms within counseling services can enhance their acceptance and effectiveness. Cultural competence among counselors is crucial. Counselors should undergo cultural sensitivity training to build trust and rapport with students from diverse backgrounds. Stigma surrounding mental health issues varies across cultures. Efforts should be made to address stigma by fostering open discussions, promoting awareness, and normalizing seeking help for mental health concerns. Collaborating with local mental health professionals, community leaders, and cultural experts helps in understanding and navigating cultural nuances when designing counseling services. Being flexible and adaptable in counseling approaches allows for adjustments that resonate with different cultural contexts and individual preferences. Acknowledging and respecting cultural diversity, beliefs, and practices is integral to providing effective and inclusive AI-based counseling services in Nigerian universities. These notes emphasize the importance of cultural sensitivity in designing programme that cater to the mental health needs of students from diverse cultural backgrounds (Jameel, et al., 2022).

**2. Collaboration with Mental Health Professionals:** Mental health professionals, including licensed psychologists, counselors, and psychiatrists, provide invaluable expertise. Their knowledge helps in understanding the complexities of mental health issues, ethical considerations, and effective counseling techniques. Professionals familiar with the local context understand cultural nuances, prevalent mental health issues, and societal stigmas. They can advise on adapting counseling programs to suit Nigerian students' needs. Collaborating professionals can contribute to the development of AI procedures. Their insights help in creating algorithms that accurately address various mental health concerns and provide appropriate responses. Mental health professionals ensure the accuracy and reliability of counseling services. They can review and



assess the effectiveness of AI-driven counseling approaches and provide recommendations for improvement. These professionals play a key role in training AI models by providing data, scenarios, and behavioral patterns. Additionally, they can train AI systems to respond appropriately to various mental health issues. Collaboration helps establish ethical guidelines for AI-based counseling services (Rugkåsa, et al., 2023).

According to Fitzgerald and Vaidyanathan, (2023), mental health professionals ensure that confidentiality, privacy, and ethical boundaries are maintained throughout the counseling process. Professionals can supervise the implementation of AI-driven counseling services, ensuring they align with established best practices and ethical standards. They also provide oversight to address any emerging issues promptly. When AI systems identify complex cases, mental health professionals can handle referrals and follow-ups. They can offer in-person counseling or specialized treatments for individuals needing more personalized support. Collaboration fosters an environment for continuous improvement. Mental health professionals' feedback is crucial for refining AI algorithms and counseling services based on real-world experiences and evolving mental health needs. Working with mental health professionals can help in designing services that aim to reduce stigma surrounding mental health. They can provide guidance on creating approaches that encourage students to seek help without fear of judgment. Collaboration with mental health professionals ensures that AI-based counseling services in Nigerian universities are effective, culturally sensitive, ethically sound, and aligned with the needs of students while leveraging the expertise of trained professionals in the field of mental health.

**3. Accessible Platforms:** Prioritize user experience (UX) and user interface (UI) design to ensure ease of navigation and understanding. Implement clear and intuitive interfaces that cater for individuals with varying levels of technological familiarity. Optimize platforms for mobile devices, considering that many students in Nigeria access the internet primarily through smartphones. Develop responsive designs that adapt to different screen sizes and resolutions to ensure usability across various devices. Recognize that internet connectivity might be limited or inconsistent in some regions. Design platforms that consume minimal data and load quickly, even in low-bandwidth situations. Adhere to accessibility standards (for example WCAG guidelines) to ensure inclusivity for individuals with disabilities. Implement features like screen reader compatibility, alt text for images, and keyboard navigation. Offer language options, including local Nigerian languages, to cater to students more comfortable communicating in their native tongues. Ensure translations are accurate and culturally appropriate to maintain the effectiveness of counseling services. Prioritize robust security measures to safeguard sensitive user information and maintain confidentiality. Use encryption protocols and secure data storage practices. Keep the platform design simple and clutter-free. Use clear and concise language to communicate information effectively, especially regarding counseling resources and support. Ensure the platform is accessible across various web browsers and operating systems to reach a wider audience without technical limitations. Incorporate features that allow users to provide feedback easily. This could include surveys, rating systems, or suggestion boxes, helping to continually improve the platform. Provide clear instructions and tutorials to assist users in navigating the platform effectively. Include help sections or Chabot for immediate assistance. Commit to ongoing maintenance and updates to address any bugs, improve functionality, and incorporate new features

based on user feedback and technological advancements. Creating accessible platforms for AI-based counseling services in Nigerian universities is essential to ensure that all students, regardless of their technological proficiency, language preferences, or accessibility needs, can benefit from and access these crucial mental health resources effectively (Lattie, et al., 2022: Rowen et al., 2022).

**4. AI-Driven Chabot:** Chabot use Natural Language Processing (NLP) to comprehend and interpret human language. This allows them to understand user queries, analyze intent, and generate appropriate responses. They leverage machine learning techniques, such as deep learning and neural networks, to continuously learn from interactions with users. This enables Chabot to improve their responses and accuracy over time. It offers round-the-clock availability, providing immediate responses to users' inquiries irrespective of time zones or working hours. This accessibility is beneficial for services that need constant availability, like customer support or counseling services. They can handle multiple conversations simultaneously, making them scalable for handling large volumes of queries without the need for additional human resources. This scalability also makes them cost-effective compared to employing a large team of human agents. AI-driven Chabot can be designed to provide personalized responses based on user history, preferences, and behavior. They can offer tailored recommendations and solutions, enhancing user experience (Nosrati, et al., 2022).

Chabot excel in automating repetitive tasks, such as FAQs, appointment scheduling, form filling, or providing general information. This frees up human agents to focus on more complex or high-value tasks. Through machine learning, Chabot improve their performance over time by analyzing data from interactions. They learn from user feedback and adapt to new patterns, enhancing their accuracy and effectiveness. Chabot can be integrated into various platforms such as websites, messaging apps, social media platforms, and mobile applications, meeting users wherever they prefer to interact. Chabot find applications in various industries including customer service, healthcare (patient support), e-commerce (product recommendations, order tracking), education (tutoring, student support), and counseling (providing mental health guidance and resources). Ensuring data privacy, transparency, and ethical use of AI is crucial. Protecting user data and maintaining confidentiality is essential in building trust with users. AI-driven chatbots have emerged as valuable tools across industries, offering efficient and personalized interactions, improving user experiences, and streamlining processes while continuously learning and evolving to meet user needs more effectively (Omarov, et al., 2023: Talyshinskii, et al., 2023).

**5. Personalization and Confidentiality:** Personality refers to the unique set of characteristics, behaviors, emotions, and patterns of thinking that define an individual's distinctive identity and behavior. Genetic predispositions and neurological factors contribute to the formation of personality traits. Upbringing, cultural influences, social interactions, and life experiences significantly shape one's personality. Cognitive processes, emotions, and personal perceptions play a role in shaping personality. Emphasize identifying and categorizing specific traits that describe an individual's personality. Focus on unconscious influences and conflicts shaping personality, as proposed by Freud and Jung. Highlight self-actualization, personal growth, and fulfillment as key aspects of personality development (e.g., Maslow's hierarchy of needs). Emphasize learned

behaviors and the impact of the environment on shaping personality. Tools like the Myers-Briggs Type Indicator (MBTI), Big Five Personality Traits, and others help assess and categorize personality traits. Psychologists and counselors use interviews and observations to understand an individual's behaviors, attitudes, and thought patterns. Understanding a person's personality aids counselors in developing personalized approaches to therapy, enhancing rapport, and tailoring interventions to suit the individual's needs and preferences (Normandin et al., 2021).

Confidentiality refers to the ethical and legal obligation of professionals to safeguard sensitive information shared by clients or patients during counseling or therapy sessions. Maintaining confidentiality is crucial to building trust between the counselor and client, creating a safe space for open and honest communication. Counselors are bound by professional codes of ethics and laws that mandate the protection of client information. If a client poses a danger to themselves or others, counselors may breach confidentiality to prevent harm. Legal requirements may compel counselors to disclose information in cases involving abuse, court orders, or specific legal situations. Clarifying confidentiality boundaries and exceptions during the initial sessions helps clients understand what information will be kept confidential. Ensuring that client records are stored securely and accessed only by authorized personnel or as legally required. Counselors may seek professional consultation without revealing identifying client information to ensure effective treatment. Confidentiality promotes trust, openness, and a safe therapeutic environment, encouraging clients to share sensitive information essential for effective counseling and therapy. Understanding personality dynamics aids counselors in tailoring interventions, while maintaining confidentiality is fundamental to fostering trust and ensuring ethical practices in counseling and therapy settings (Nagarajan, 2021).

**6. Training and Education:** Conduct orientation sessions for students, faculty, and staff to introduce them to the AI-based counseling services. Explain how the technology works, its benefits, and how it can complement traditional counseling methods. It provides specialized training to counselors and mental health professionals on using AI tools effectively. This includes understanding AI algorithms, interpreting data, and incorporating technology into their counseling practices while maintaining empathy and human connection. It can educate the university community about mental health awareness, stigma reduction, and the importance of seeking help when needed. This can be through workshops, seminars, and awareness campaigns and offer hands-on demonstrations of the AI counseling platform to familiarize users with its functionalities. Encourage users to practice interacting with the AI Chabot to gain confidence in using the service. It incorporates cultural sensitivity training to ensure counselors and AI procedures are respectful and responsive to the diverse cultural backgrounds of students. This involves understanding cultural norms, beliefs, and practices that may impact counseling interactions. It has the capacity to emphasize the importance of maintaining ethical standards in AI-based counseling (Supriyanto & Saputra, 2022).

Educate counselors and users on ethical considerations, confidentiality, data privacy, and the limitations of AI in providing counseling services. Establish a system for ongoing professional development for counselors and staff involved in the AI-based counseling services. This includes staying updated on advancements in AI technology, mental health practices, and feedback from

users. Foster a culture of collaboration among counselors, mental health professionals, and AI developers. Encourage sharing experiences, best practices, and strategies for improving the effectiveness of AI-based counseling services. Create mechanisms for collecting feedback from students and users regarding their experiences with the AI-based counseling services. Use this feedback to make necessary improvements and adjustments to the services. Implement processes to regularly evaluate the impact and efficacy of the AI-based counseling services. Measure outcomes such as student satisfaction, mental health improvements, and usage statistics to assess the effectiveness of the program. By focusing on comprehensive training and education initiatives, universities can ensure that both counselors and students are well-equipped to utilize and benefit from AI-based counseling services while maintaining ethical standards and cultural sensitivity (Xia, et al., 2022).

**7. Integration with Existing Support Services:** Work collaboratively with existing support services such as mental health centers, counseling departments, student affairs offices, and academic advisors. Engage these stakeholders in the planning and implementation process to ensure a cohesive support system. Enable seamless information sharing between AI-based counseling platforms and traditional support services. Establish protocols for referring students from AI-based counseling to in-person counseling or specialized services when necessary. Conduct joint training sessions for AI-based counseling service providers and traditional counselors. This collaboration can foster mutual understanding, trust, and a shared understanding of how the services complement each other. Pool resources, expertise, and knowledge from existing support services to enhance the effectiveness of AI-based counseling. Utilize the experience and insights of traditional counselors to refine AI algorithms and improve counseling outcomes. Establish a well-defined referral network between AI-based counseling services and external mental health professionals or organizations. This ensures that students can access specialized care beyond what the AI service can offer (Maurya & DeDiego, 2023).

Develop mechanisms for integrating data collected by AI-based counseling services with existing systems. Analyze this combined data to gain comprehensive insights into student needs, trends, and mental health patterns. Ensure a smooth transition and continuity of care for students moving between AI-based counseling and traditional counseling services. Maintain consistent communication and shared records to provide holistic support. Implement feedback loops between AI-based counseling services and traditional support services. Regularly exchange insights, best practices, and user feedback to refine and improve both systems. Collaborate on promotional campaigns and awareness initiatives to highlight the availability and benefits of integrated counseling services. This joint effort can encourage more students to seek support when needed. Conduct regular evaluations and assessments of the integrated services. Measure the impact, efficacy, and satisfaction levels of students utilizing both AI-based and traditional counseling services to make informed improvements. Integrating AI-based counseling with existing support services requires close collaboration, effective communication, and a concerted effort to ensure a seamless, comprehensive, and supportive environment for students' mental health and well-being (Chamunyonga, et al., 2020).

**8. Ethical Guidelines and Oversight:** It entails ensuring strict adherence to confidentiality standards to protect students' privacy. Encrypt data and implement robust security measures to prevent unauthorized access to sensitive information. Clearly inform students about the use of AI technology in counseling. Obtain informed consent from students regarding the collection and use of their data. Mitigate bias in AI systems by regularly assessing and addressing biases that may influence counseling outcomes. Ensure fairness and equal treatment for all students, regardless of their backgrounds or characteristics. Uphold professional standards by ensuring that AI-based counseling adheres to the ethical guidelines set by counseling and psychological associations. Maintain the integrity of counseling services by prioritizing the well-being of students over commercial interests or data exploitation. Establish clear accountability structures to monitor the use of AI in counseling. Clearly define roles and responsibilities of those involved in developing, maintaining, and using AI-based counseling systems. Regularly assess the impact, effectiveness, and ethical implications of AI-based counseling services (World Health Organization, 2021).

Use feedback from students, counselors, and other stakeholders to improve the system and ensure ethical practices. Ensure that AI-based counseling services do not cause harm to students. Prioritize the well-being of students and aim to provide beneficial support and guidance through ethical counseling practices. Adhere to local laws, regulations, and ethical guidelines related to data protection, privacy, and mental health services. Establish oversight committees comprising professionals, ethicists, legal experts, and stakeholders to monitor and guide the ethical use of AI in counseling. Ensure transparency in how decisions are made by AI algorithms and provide explanations to students about the reasoning behind the counseling recommendations or actions. Provide training and education to counselors, staff, and students about the ethical use of AI in counseling to raise awareness and ensure ethical conduct. By adhering to these ethical guidelines and establishing robust oversight mechanisms, Nigerian universities can ensure that AI-based counseling services prioritize ethical principles, safeguard student welfare, and maintain trust in the counseling process (Joerin, 2020).

### **Challenges in Implementing AI-Based Counselling**

Implementing AI-based counseling presents several challenges. These challenges require interdisciplinary collaboration among mental health professionals, technologists, ethicists, policymakers, and researchers to develop AI systems that are ethical, effective, and respectful of clients' needs and rights (Denecke, et al., 2021; Holohan & Fiske, 2021; Gual-Montolio, et al. 2022; Grodniewicz & Hohol, 2023).

**1. Ethical Concerns:** Ethical concerns pose significant challenges in the implementation of AI-based counseling. AI systems collecting and processing sensitive personal data raise concerns about confidentiality and privacy. Ensuring that client information is securely stored, encrypted, and protected from unauthorized access or breaches is crucial. Obtaining informed consent from clients regarding the use of AI in counseling is essential. Clients should understand how their data will be used, what decisions AI might influence, and the limitations of AI in providing counseling services. The use of AI in counseling might affect client autonomy by influencing or making decisions about their treatment. Ensuring that clients remain in control of their therapeutic process and decisions is vital. AI functions can perpetuate biases present in the data used to train them,



leading to unfair or discriminatory outcomes. Ensuring that AI systems are continuously monitored, audited, and adjusted to minimize biases is critical. Determining who is accountable for the advice or decisions made by AI systems in counseling sessions is challenging. Establishing clear lines of responsibility and accountability in cases of errors or adverse outcomes is essential. AI lacks the human touch, empathy, and intuition that form the foundation of the therapeutic relationship. Balancing the use of AI with maintaining a supportive, empathetic, and trust-based therapeutic alliance is a critical ethical consideration.

AI systems are tools designed to assist professionals, not replace them. Ensuring that mental health professionals using AI-based counseling tools are adequately trained, competent, and knowledgeable in their use is crucial. AI systems should be transparent in their operations and provide explanations for their recommendations or decisions. Clients have the right to understand how AI influences their counseling experience. The potential long-term effects of relying on AI-based counseling on individuals' mental health and well-being need careful consideration. Balancing technological advancement with the human aspect of mental health care is essential. Adhering to existing laws, regulations, and professional ethical guidelines while integrating AI into counseling practice is crucial. Ensuring compliance with ethical codes and legal frameworks is essential for protecting clients' rights and well-being. Addressing these ethical concerns requires ongoing interdisciplinary dialogue, the establishment of ethical guidelines specific to AI-based counseling, robust oversight mechanisms, and continuous reflection on the impact of AI on the practice of mental health care. Balancing technological advancements with ethical considerations is crucial for ensuring responsible and ethical implementation of AI-based counseling.

**2. Lack of Empathy and Emotional Intelligence:** Human emotions are intricate and multifaceted, often expressed through subtle cues, non-verbal communication, and contextual nuances. AI, despite advancements, struggles to fully comprehend and interpret these complexities accurately. Empathy involves the ability to understand and share another person's feelings, perspectives, and experiences. AI lacks genuine emotions and personal experiences, making it challenging to empathize with individuals in a meaningful way. Emotional communication often extends beyond words, encompassing facial expressions, body language, tone of voice, and other non-verbal cues. AI systems may have limitations in recognizing and appropriately responding to these non-verbal signals. Tailoring responses to emotional states: Effective counseling involves adjusting responses based on a client's emotional state, such as providing comfort, validation, or encouragement. AI might struggle to adapt its responses dynamically to suit individual emotional needs. Understanding emotions often requires contextual awareness of a person's background, cultural influences, and personal history. AI may lack the ability to contextualize emotions accurately, leading to potential misinterpretations or inadequate responses. Establishing rapport and trust is crucial in counseling relationships. AI's lack of emotional depth and human connection might hinder the development of trust between the client and the AI counseling system. Counseling frequently involves addressing highly sensitive and distressing topics. AI's inability to comprehend the gravity of such situations or provide appropriate emotional support may fall short of meeting the client's needs.



**3. Bias and Fairness:** AI systems learn from data, and if the training data used to develop these systems contain biases or inaccuracies, the AI can perpetuate and even amplify these biases. In the context of counseling, biased data or algorithms can lead to unfair treatment or recommendations, affecting the quality of care provided to individuals seeking help. AI models trained on biased or limited datasets might not adequately represent diverse populations, leading to disparities in the effectiveness of counseling services across different demographic groups. Ensuring comprehensive, diverse, and high-quality data is crucial to minimize bias in AI counseling systems. Biases in AI counseling systems can have ethical implications, potentially resulting in discriminatory practices, infringing upon the rights of certain groups, or exacerbating existing societal biases and stereotypes. The black-box nature of some AI algorithms can make it challenging to understand how decisions are reached. Lack of transparency can hinder the identification and mitigation of biases in these systems, making it difficult to hold them accountable for their outcomes.

**4. Limited Understanding of Complex Human Emotions:** Human emotions encompass a wide spectrum of feelings, including subtle nuances, non-verbal cues, and tone of voice, facial expressions, and body language. Deciphering these intricate signals accurately is a skill honed through experience and empathy, which AI systems struggle to replicate. Emotions are influenced by cultural backgrounds, personal experiences, and individual differences. Understanding and interpreting emotions accurately require a deep understanding of cultural contexts and individual nuances, which can be challenging for AI systems that rely on standardized data. Emotions are not static; they evolve, change, and vary based on different situations and contexts. AI models may have limitations in adapting to these dynamic shifts in emotions, potentially leading to misinterpretations or inadequate responses. Human emotions often manifest in unstructured or indirect ways, which may not follow a predictable pattern. AI systems typically rely on structured data, making it challenging to interpret and respond appropriately to unstructured emotional expressions. Emotions are highly subjective and influenced by an individual's perceptions and interpretations. AI systems might struggle to grasp the subjective experiences of individuals, as they lack personal experiences and consciousness.

**5. Trust and Acceptance:** Many individuals might be hesitant or skeptical about engaging in counseling sessions with AI due to concerns about privacy, confidentiality, or the ability of machines to understand and empathize with their emotional struggles. Establishing rapport and a sense of connection is crucial in counseling. AI lacks human emotions, making it challenging to convey empathy, genuine understanding, and emotional support, which are fundamental in fostering trust during counseling sessions. Clients may feel uncomfortable sharing their innermost thoughts, feelings, and vulnerabilities with an AI system. Concerns about data security and confidentiality breaches may hinder individuals from disclosing sensitive information. Clients may question the competence and reliability of AI-based counselors in providing appropriate guidance or solutions for their mental health concerns. The perceived limitations of AI in understanding complex emotions and providing tailored advice can undermine trust. Cultural beliefs, social norms, and individual preferences influence the acceptance of AI in counseling. Some individuals might find it culturally inappropriate or socially unacceptable to seek mental health support from

a non-human entity. Previous negative experiences with AI technologies or mental health services might lead to mistrust or reluctance in engaging with AI-based counseling platforms.

### **Potential Opportunities in Implementing AI-Based Counselling**

Implementing AI-based counseling presents numerous opportunities in various domains due to the technological advancements and the growing need for mental health support. However, it's essential to consider ethical concerns, privacy issues, and the importance of maintaining a human element in mental health care. AI should be seen as a supportive tool to enhance mental health services rather than a complete replacement for human therapists. Regulatory compliance, data security, and the ethical use of AI in counseling are critical factors that need careful consideration when implementing such systems to ensure they adhere to professional standards and guidelines (Karako, et al., 2020; Denecke, et al., 2021; Lee & Yoon, 2021; Gual-Montolio, et al., 2022).

**1. Accessibility:** AI-based counseling transcends geographical limitations, offering support to individuals residing in remote or underserved areas where access to traditional counseling services might be limited or non-existent. This broadens the reach of mental health care to a more extensive population, irrespective of their location. AI-based counseling platforms can operate round the clock, providing immediate assistance and support at any time of the day or night. This flexibility addresses the constraints of traditional office hours, catering to individuals who require help during non-standard hours due to work commitments or time zone differences. Traditional mental health services often have long waited lists due to the high demand for therapists. AI-based counseling can significantly reduce these waiting times by offering immediate or quicker access to support, thereby addressing mental health concerns promptly. For individuals with physical disabilities or limitations that hinder commuting to therapy sessions, AI-based counseling provides a convenient and accessible alternative. It eliminates the need for physical travel, making mental health support available from the comfort of one's home.

Some individuals might hesitate to seek counseling due to concerns about privacy or the fear of being recognized while seeking help. AI-based counseling ensures a level of anonymity, encouraging individuals to seek support without worrying about stigma or privacy breaches. AI can be programmed to accommodate various languages and cultural nuances, ensuring that counseling services are more relatable and accessible to diverse populations. This inclusivity is crucial in making mental health support available to multicultural communities. AI-based counseling has the potential to be more cost-effective compared to traditional therapy services. This affordability can make mental health support more accessible to individuals who might not afford or have limited resources for conventional therapy sessions.

**2. Scalability:** The demand for mental health services has been steadily increasing, with many individuals seeking support for various mental health issues. Traditional counseling services often face limitations in meeting this growing demand due to resource constraints, such as the availability of trained professionals and time limitations for one-on-one sessions. AI-based counseling offers scalability to address these challenges. AI technology allows for the simultaneous handling of multiple inquiries and counseling sessions. Through chatbots, virtual assistants, or online platforms, AI systems can engage with numerous individuals seeking

counseling at the same time, significantly expanding the capacity to address a larger volume of mental health concerns. Long waiting times are common in traditional counseling setups, causing delays in receiving much-needed mental health support. Scalable AI-based counseling can significantly reduce or eliminate these waiting times, providing quicker access to support for those in need. Certain geographical areas or marginalized populations might lack access to adequate mental health resources. AI-based counseling, being scalable and accessible through digital platforms, can bridge this gap by reaching underserved communities that otherwise might not have access to mental health services. Scalability allows AI-based counseling services to adapt to fluctuations in demand. During peak times or in crisis situations, the system can efficiently handle increased traffic and demands for support without compromising the quality of service provided. Scalability in AI-based counseling enables the collection of vast amounts of data from numerous interactions. This data can be analyzed to enhance the system's performance, improve responses, and tailor counseling sessions more effectively, ultimately improving the quality of care provided. With the ability to serve more individuals simultaneously, AI-based counseling has the potential to be cost-effective compared to traditional counseling services. This scalability can reduce the overall cost per session, making mental health support more financially accessible.

**3. Personalization:** In the realm of mental health care, personalization has emerged as a cornerstone, empowered by the integration of AI-based counseling. This transformative approach harnesses technology to tailor counseling experiences according to individual needs, preferences, and circumstances. AI algorithms have the capability to ingest vast amounts of data - from initial assessments, behavioral patterns, to real-time interactions. This enables a profound understanding of an individual's unique mental health landscape, surpassing generic approaches. For instance, an AI system can identify nuanced triggers, coping mechanisms, and preferred communication styles. Leveraging gathered insights, AI facilitates the creation of bespoke treatment plans. These plans are finely tuned to address specific mental health concerns, offering interventions that resonate with the individual's personality, culture, and past experiences. Whether it's through targeted exercises, coping strategies, or recommended resources, personalization ensures the guidance provided is relevant and effective.

AI-based systems continuously adapt to an individual's progress and responses. Through iterative learning, the counseling process evolves dynamically, refining its approach based on real-time feedback. This adaptability fosters a more engaging and effective therapeutic journey, enhancing the likelihood of positive outcomes. Personalization bridges the gap between users and mental health services. By tailoring interventions to suit individual needs, it enhances user engagement and motivation, thereby reducing barriers to seeking and sustaining mental health support. Despite the immense benefits, ethical considerations loom large. Ensuring data privacy, consent, and transparency in how AI systems use personal information is paramount. Additionally, maintaining a balance between personalization and preserving the human element in counseling is crucial to prevent a sense of detachment or reliance solely on technology.

**4. Anonymity and Reduced Stigma:** Stigma remains a substantial barrier that prevents many individuals from seeking mental health assistance. AI-based counseling platforms, with their anonymous nature, create a safe space for individuals to discuss their concerns without the fear of

societal judgment. By reducing the stigma associated with mental health issues, these platforms encourage more people to acknowledge and address their mental health needs. Anonymity allows individuals to seek help at an earlier stage of their mental health concerns. Since they can access support discreetly and without fear of social repercussions, they are more likely to seek help when symptoms first arise. Early intervention is crucial for preventing the exacerbation of mental health conditions. Certain vulnerable groups, such as marginalized communities, or those in conservative societies where mental health discussions are stigmatized, can benefit greatly from the anonymity offered by AI-based counseling. It provides them with a platform to seek support without facing potential discrimination or social backlash. Anonymity can also facilitate more honest and open communication between the user and the AI counseling system. This transparency enables the AI to gather accurate information and provide tailored support without biases or preconceived notions, ensuring a more effective counseling experience. Anonymity allows AI-based counseling to transcend geographical and cultural barriers. It can cater to individuals from various backgrounds, languages, and regions, thereby promoting inclusivity and ensuring that mental health support is accessible to a more extensive and diverse population.

**5. Continuous Support and Monitoring:** AI-based systems can conduct consistent follow-ups and track an individual's progress over time. This ongoing monitoring allows for the assessment of treatment effectiveness, making adjustments when necessary, and ensuring continuity in care. These systems can offer reminders for self-care activities, meditation, breathing exercises, or other therapeutic practices tailored to an individual's preferences. This fosters a proactive approach to mental wellness outside of counseling sessions. AI can provide valuable insights and data to caregivers and mental health professionals, aiding them in understanding a client's progress and adjusting treatment plans accordingly. It assists professionals in delivering more informed and effective care. By providing ongoing support and monitoring, AI-based counseling systems can contribute significantly to reducing relapse rates among individuals receiving mental health care. The continuous engagement helps in maintaining stability and progress.

## **Conclusion**

The implementation of AI-based counseling services stands as a compelling necessity for Nigerian universities in addressing the mental health challenges faced by students. The contemporary educational structure witnesses an increasing demand for accessible, scalable, and personalized mental health support, especially considering the unique stressors and pressures faced by students. Nigerian universities, like institutions worldwide, grapple with the imperative to provide adequate mental health resources to support their students effectively. AI-based counselling services offer a transformative solution that transcends geographical barriers, time constraints, and the stigma often associated with seeking mental health assistance. The benefits of such a system are profound, it promises accessibility, scalability, and personalized support tailored to individual student needs. It not only augments the existing counseling infrastructure but also serves as a proactive tool for early intervention and continuous support. However, successful implementation necessitates strategic planning, robust infrastructure, and ethical considerations. Ensuring the privacy and security of student data, integrating culturally sensitive and language-specific solutions, and establishing a balance between AI-driven assistance and human intervention are crucial aspects.

Moreover, collaborative efforts involving university administrators, mental health professionals, technologists, and students themselves are imperative. These partnerships can ensure that AI-based counseling services align with the specific needs and cultural nuances of Nigerian universities while maintaining a human-centric approach to mental health care. As we navigate the evolving landscape of mental health awareness and support, embracing AI-based counseling services for Nigerian universities holds the promise of revolutionizing mental health care for students. It not only addresses the pressing need for accessible and efficient support but also underscores the commitment towards fostering a healthy and resilient student community poised for academic success and holistic well-being. In light of these considerations, the integration of AI-based counseling services within Nigerian universities emerges not just as a necessity, but as an opportunity to transform the mental health status and empower the student population for a brighter, healthier future.

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