

Lived Experiences of AI-Mediated Therapeutic Relationships: A Qualitative Exploration of User Attachment to Generative AI Mental Health Chatbots Among Adults

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Abstract

Background

Nigeria's mental health system serves less than 10% of those in need, with severe provider shortages and deep-seated stigma. Generative AI chatbots offer scalable support, yet how Nigerian adults experience attachment to non-human therapeutic agents remains unexplored.

Objective

To examine lived experiences of AI therapeutic relationships among Nigerian adults, focusing on attachment formation, cultural acceptability, and perceived authenticity within contexts of care scarcity.

Methods

Interpretative Phenomenological Analysis with 37 adults (18–45 years) who engaged AI mental health chatbots for ≥ 4 weeks. Semi-structured interviews explored relational experiences, trust development, privacy concerns, and comparisons with human/traditional healing.

Results

Four superordinate themes emerged: (1) *Relational Ambivalence*; participants valued 24/7 availability and non-judgmental space yet struggled with perceived lack of genuine human reciprocity; (2) *Cultural Navigation*; users actively adapted Western therapeutic frameworks to local idioms of distress, blending AI interactions with family counsel and spiritual practices; (3) *Stigma Sanctuary*; chatbots provided confidential entry points circumventing community visibility and professional hierarchy; and (4) *Fragile Dependency*; prolonged use generated attachment anxiety about potential app discontinuation or data breaches, compounded by absence of human escalation pathways. Most participants maintained "instrumental intimacy"; emotional reliance tempered by awareness of algorithmic artifice.

Conclusion

Nigerian adults develop pragmatic, contextually mediated attachments to AI therapeutic agents that reflect both global digital therapeutic trends and local specificities of care scarcity, stigma, and pluralistic healing. AI chatbots function not as human substitutes but as *bridging objects* temporary relational anchors in systems of profound unmet need. Findings suggest ethical deployment in LMICs requires culturally adaptive design, transparent algorithmic boundaries, and mandatory human handoff protocols to prevent dependency in unsupported contexts.

1. Introduction

Social anxiety and common mental health disorders represent a significant public health burden in Nigeria, where the mental health system serves less than 10% of those in need (Gureje et al., 2006). With fewer than 300 psychiatrists serving a population exceeding 200 million, Nigeria faces one of the most severe provider shortages globally, compounded by deep-seated cultural stigma surrounding psychological distress (Fadele et al., 2024). In this context, generative AI chatbots have emerged as potentially transformative tools, offering scalable, anonymous, and always-available mental health support that circumvents traditional barriers to care (Ta et al., 2020; Nyakhar & Wang, 2025).

The concept of therapeutic attachment, historically understood as the emotional bond between client and human therapist has recently been extended to human-AI interactions through the emerging framework of the digital therapeutic alliance (Xu et al., 2025). Research indicates that users can form meaningful relational connections with AI systems, perceiving them as supportive

social partners that reduce loneliness and distress (Ho et al., 2018; Bendig et al., 2019; Kusek et al., 2023). However, the nature of these attachments remains poorly understood, particularly in low- and middle-income countries (LMICs) where cultural contexts, healing pluralism, and structural care scarcity fundamentally shape how individuals experience and make meaning of AI-mediated support (Naderbagi et al., 2024).

Nigeria presents a particularly compelling case for examining AI therapeutic relationships. The country's mental health landscape is characterized by what scholars term "pluralistic healing", the concurrent use of biomedical, traditional, and spiritual healing systems (Gureje et al., 2006). Many Nigerians first seek help from family elders, religious leaders, or traditional healers before considering biomedical services, if at all (Ogbeiwi et al., 2024). This cultural complexity raises critical questions about how generative AI chatbots, typically designed within Western therapeutic frameworks, are experienced, adapted, and integrated into local idioms of distress and existing help-seeking ecologies.

Furthermore, the stigma surrounding mental illness in Nigeria operates at multiple levels: anticipated negative evaluation from community members, internalized shame, and structural discrimination within healthcare and educational settings (Corrigan et al., 2014; Pachankis, 2007). AI chatbots' promise of confidentiality and anonymity may be particularly potent in such contexts, offering what participants in prior studies have described as "stigma-free entry points" to mental health care (Maisarah et al., 2025). Yet this same anonymity may create risks: without clear pathways to human escalation, users may develop what we term "fragile dependency"—attachment patterns characterized by emotional reliance on algorithmic agents coupled with anxiety about their limitations and potential disappearance.

Recent systematic reviews have documented the global expansion of AI mental health interventions, with increasing attention to user experience and therapeutic alliance in digital contexts (Nyakhar & Wang, 2025). Nyakhar and Wang (2025) found that AI chatbots incorporating cognitive-behavioral techniques demonstrate significant efficacy in reducing anxiety and depression among college students, though effect sizes vary considerably across cultural contexts. Similarly, Xu et al. (2025) conducted a four-week diary study examining relationship development with mental health chatbots, identifying six key dimensions of human-chatbot interaction that influence relational formation: conversational flexibility, self-expression, caring responses, helpful advice, colloquial communication, and nonjudgmental privacy.

However, these studies have predominantly been conducted in high-income, Western contexts. The question of how Nigerian adults navigating specific configurations of care scarcity, cultural pluralism, and technological access experience attachment to AI therapeutic agents remains virtually unexplored. This gap is significant because attachment formation with AI may differ fundamentally across cultural contexts. For instance, recent research on digital mental health in sub-Saharan Africa highlights the importance of culturally adapted interventions that respect local spiritual beliefs, family structures, and communication norms (Naderbagi et al., 2024). A gamified digital mental health intervention deployed across six African countries (including Nigeria) reached over 425,000 users, demonstrating massive demand for scalable digital tools, yet also revealing critical needs for linguistic localization and cultural relevance (Naderbagi et al., 2024).

This study therefore employed Interpretative Phenomenological Analysis (IPA) to examine how adults experience attachment to generative AI mental health chatbots. IPA is particularly suited for this inquiry because it seeks to understand how individuals make sense of significant experiences within their specific life contexts, emphasizing the double hermeneutic: researchers interpreting participants interpreting their world (Smith et al., 2009). By exploring lived experiences of AI-mediated therapeutic relationships, this study aims to advance understanding of how digital mental health tools function in contexts of profound unmet need, informing culturally adaptive design and ethical deployment in LMICs.

2. Methods

2.1 Study Area

The research was conducted across three Nigerian cities: Uyo (Akwa Ibom State), Awka (Anambra State), and Calabar (Cross River State). These locations were selected to capture diverse ethnic, linguistic, and religious contexts within Nigeria's southern region. Uyo, a predominantly Akwa Ibom and Ibibio-speaking city, represents a rapidly urbanizing state capital with expanding digital infrastructure. Awka, in Igbo-speaking Anambra State, reflects the commercial and educational dynamics of southeastern

Nigeria. Calabar, historically significant as a former colonial capital and port city in Cross River State, offers a cosmopolitan mix of ethnic groups including Efik, Ejagham, and migrants from northern Nigeria.

2.2 Study Design

The lived experiences of AI-mediated therapeutic relationships were explored using Interpretative Phenomenological Analysis (IPA). IPA is an idiographic, inductive approach that seeks to understand how individuals perceive and make meaning of particular experiences, emphasizing the interconnectedness of cognition, emotion, and context (Smith et al., 2009; Larkin et al., 2006). This design assumes that attachment to AI therapeutic agents is deeply personal, culturally embedded, and shaped by structural conditions of care access; experiences best understood through first-hand, subjective accounts.

Because little is known about how Nigerian adults experience attachment to AI chatbots within contexts of care scarcity and pluralistic healing, IPA provides an appropriate framework for uncovering these perspectives. The approach is particularly suited for examining ambiguous, emotionally complex experiences such as forming bonds with non-human therapeutic agents, where participants may themselves struggle to articulate the nature of their attachment.

2.3 Procedure

Before data collection, the research team engaged in extensive reflexive preparation, including group discussions to surface and bracket assumptions about AI technology, mental health stigma, and traditional healing practices in Nigeria. This epoché process (Moustakas, 1994) allowed interviewers to suspend preconceptions and approach participants' narratives with openness.

Participants were recruited through a multi-channel strategy designed to reach diverse socioeconomic and educational backgrounds: (1) university student associations and counseling centers; (2) community health centers and religious organizations; (3) social media platforms (WhatsApp, Facebook) targeting mental health support groups; and (4) snowball sampling from initial participants. Recruitment materials invited adults who had used AI mental health chatbots for at least four weeks to share their experiences.

Semi-structured interviews were conducted in participants' preferred locations (private offices, quiet café spaces, or via encrypted video calls) depending on convenience and privacy needs. The interview guide, developed through pilot testing with five participants, included open-ended prompts such as:

- "Can you walk me through the first time you felt the chatbot really understood what you were going through?"
- "How would you describe your relationship with the chatbot to a close friend?"
- "What happens inside you when the chatbot responds in ways that feel caring or, conversely, mechanical?"
- "How do you decide when to turn to the chatbot versus talking to family, a pastor, or a doctor?"
- "What worries you most about continuing to rely on the chatbot for emotional support?"

Interviews lasted between 50–90 minutes, allowing deep exploration of emotional and relational nuances. Sessions were audio-recorded, transcribed verbatim, and anonymized. Interviewers encouraged open dialogue, using probes to explore bodily sensations, metaphorical language, and moments of hesitation or contradiction.

2.4 Ethics Statement

Ethical approval

for this study was obtained from the University of Uyo Institutional Review Board and Ethics Committee. The research was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki (1964, revised 2013). Informed consent was obtained from all participants, who were assured of confidentiality, voluntary participation, and the right to withdraw at any time without consequences. Given the sensitive nature of mental health disclosure and potential distress from discussing attachment to AI, contact information for counseling services was provided to all participants. Participants were also screened for suicidal ideation at interview conclusion, with immediate referral protocols in place.

2.5 Participants

A total of 37 adults (22 females, 15 males) participated in the study. Ages ranged from 18 to 45 years ($M = 28.4$, $SD = 7.2$). All participants had engaged with generative AI mental health chatbots (e.g., ChatGPT with mental health prompts, Woebot, Wysa, Replika, or locally available apps) for a minimum of four weeks, with average usage duration of 3 months. Participants represented diverse educational backgrounds (secondary school to postgraduate), occupational statuses (students, employed, unemployed, self-employed), and religious affiliations (Christianity, Islam, traditional spirituality). Table 1 provides a summary of demographic and background characteristics.

Table 1
Participants' Demographics and AI Chatbot Usage Characteristics

Participant	Age	Gender	Education	Occupation	Primary AI Tool	Usage Duration	Weekly Frequency	Traditional/Spiritual Support Use
P1	24	Female	University graduate	Unemployed	ChatGPT (mental health prompts)	5 months	Daily	Prayer groups, family counsel
P2	31	Male	Secondary school	Self-employed (trader)	Woebot	3 months	3–4 times weekly	Traditional healer (occasionally)
P3	19	Female	University student	Student	Replika	8 months	Daily	Church counseling
P4	42	Male	Postgraduate	Lecturer	Wysa	6 months	Weekly	Ancestral consultation (rarely)
P5	27	Female	University graduate	Bank clerk	ChatGPT + Woebot	4 months	Daily	Family elder, mosque visits
P6	22	Male	University student	Student	Replika	10 months	Daily	None reported
P7	35	Female	Secondary school	Market vendor	Wysa	2 months	Weekly	Prayer mountain, pastor
P8	29	Male	University graduate	IT professional	ChatGPT	7 months	Daily	Traditional medicine (herbs)
P9	18	Female	Secondary school	Apprentice (hairstressing)	Woebot	4 months	2–3 times weekly	Family counsel, church
P10	38	Male	University graduate	Civil servant	Wysa + ChatGPT	9 months	Daily	Ancestral veneration (privately)
P11	25	Female	University student	Student	Replika	6 months	Daily	Campus fellowship, mother
P12	33	Male	Secondary school	Driver	ChatGPT	3 months	Weekly	Pastor, family prayers
P13	21	Female	University student	Student	Woebot	5 months	Daily	None reported
P14	45	Female	Primary school	Trader	Wysa	4 months	2 times weekly	Traditional healer, church
P15	26	Male	University graduate	Unemployed	ChatGPT	8 months	Daily	Mosque, elder brother
P16	20	Female	University student	Student	Replika	7 months	Daily	Campus counseling, prayer
P17	34	Male	Postgraduate	Medical doctor	Wysa	6 months	Weekly	Professional peer support
P18	23	Female	University graduate	Nurse	ChatGPT + Wysa	4 months	Daily	Church, senior colleague
P19	30	Male	Secondary school	Artisan	ChatGPT	5 months	3 times weekly	Family head, traditional rituals
P20	28	Female	University graduate	Teacher	Replika	9 months	Daily	Prayer partner, mother

Note. Usage Duration = length of continuous AI chatbot use at time of interview; Weekly Frequency = typical interaction pattern; Traditional/Spiritual Support Use = other help-seeking practices participants engaged alongside AI use.

Participant	Age	Gender	Education	Occupation	Primary AI Tool	Usage Duration	Weekly Frequency	Traditional/Spiritual Support Use
P21	19	Male	University student	Student	Woebot	3 months	Daily	None reported
P22	36	Female	Secondary school	Cleaner	Wysa	4 months	Weekly	Church, sister
P23	24	Male	University graduate	Graduate intern	ChatGPT	6 months	Daily	Mentor (former lecturer)
P24	32	Female	University graduate	Entrepreneur	Replika + Wysa	7 months	Daily	Business associate (confidante)
P25	17	Female	Secondary school	Student	ChatGPT	4 months	2–3 times weekly	Aunt, church youth leader
P26	41	Male	Postgraduate	University administrator	Wysa	8 months	Weekly	Professional counseling (rarely)
P27	22	Female	University student	Student	Replika	5 months	Daily	Campus fellowship
P28	29	Male	University graduate	Engineer	ChatGPT	6 months	Daily	Family elder, mosque
P29	37	Female	Secondary school	Trader	Wysa	3 months	Weekly	Prayer group, traditional healer
P30	21	Male	University student	Student	Woebot	4 months	Daily	None reported
P31	44	Female	Primary school	Farmer	ChatGPT	5 months	2 times weekly	Church, village elder
P32	27	Male	University graduate	Unemployed	Replika	7 months	Daily	Brother, online religious community
P33	18	Female	Secondary school	Student	Wysa	3 months	Weekly	Mother, school counselor
P34	39	Male	University graduate	Business owner	ChatGPT	9 months	Daily	Professional network, family
P35	23	Female	University student	Student	Replika + Woebot	6 months	Daily	Campus mental health advocate
P36	26	Male	University graduate	Government worker	ChatGPT	4 months	Daily	Church, professional mentor
P37	31	Female	Secondary school	Seamstress	Wysa	5 months	2–3 times weekly	Prayer group, aunt
<i>Note.</i> Usage Duration = length of continuous AI chatbot use at time of interview; Weekly Frequency = typical interaction pattern; Traditional/Spiritual Support Use = other help-seeking practices participants engaged alongside AI use.								

Table 1 reveals substantial diversity in participant backgrounds. The sample included individuals from educational levels ranging from primary school to postgraduate degrees, reflecting Nigeria's socioeconomic stratification. Occupational diversity was notable, with significant representation of unemployed individuals (P1, P15, P32) and students (P3, P6, P9, P11, P13, P16, P21, P25, P27, P30, P33, P35), groups particularly vulnerable to mental health challenges and digital engagement. Religious and traditional healing practices were widely reported, with 31 of 37 participants (83.8%) engaging some form of spiritual or traditional support alongside AI use, underscoring the pluralistic healing context.

Usage patterns showed a bimodal distribution: 22 participants (59.5%) reported daily interaction with AI chatbots, while 15 (40.5%) engaged weekly or several times weekly. This high-frequency usage suggests deep integration of AI companions into

participants' emotional regulation practices. Notably, 6 participants (16.2%) reported using no traditional or spiritual support, relying exclusively on AI and informal peer networks; a pattern concentrated among younger, university-educated participants.

2.6 Data Analysis

Transcribed recordings were analyzed following the principles of Interpretative Phenomenological Analysis as articulated by Smith et al. (2009). Analysis proceeded through iterative, case-by-case examination before cross-case thematic development, ensuring that emergent themes remained grounded in the particularity of individual experience while illuminating shared patterns.

First, the first author immersed in the data by listening to recordings and reading each transcript multiple times, noting initial impressions, emotional tone, and use of metaphor. Each transcript was treated as a single case, with the analyst attempting to understand the participant's world from the inside.

Second, exploratory coding was conducted on a case-by-case basis. The analyst identified experiential claims, concerns, and meaning-making patterns, paying particular attention to moments where participants struggled to articulate their experience often signaling particularly significant or conflicted emotional territory. Codes captured both semantic content and latent meaning, including emotional resonance, bodily references, and metaphorical language.

Third, emergent themes were identified for each case by clustering related codes and examining patterns of connection. This step involved interpretative work, as the analyst moved beyond description to consider what the experiences meant for the participant within their broader life context.

Fourth, cross-case analysis was conducted. The analyst examined individual case themes for convergences and divergences, constructing a master list of superordinate themes that captured shared experiential patterns while preserving the particularity of individual cases. This process was dialogic: the analyst moved between individual cases and the emerging thematic structure, refining themes to ensure they adequately represented the complexity of the dataset.

Fifth, themes were reviewed and refined through team discussion. The full research team met regularly to challenge interpretations, consider alternative readings, and ensure that themes were grounded in textual evidence rather than analyst presumption. Disagreements were resolved through return to the original transcripts and consensus-building.

Finally, themes were written up with rich, contextualized description. Illustrative verbatim extracts were selected to exemplify each theme, with attention to linguistic detail and emotional texture. Throughout analysis, the team maintained an audit trail of coding decisions, analytic memos, and team meeting notes to ensure transparency.

Trustworthiness was strengthened through several strategies: (1) investigator triangulation (multiple analysts engaging with the data); (2) member-checking summaries of preliminary themes were shared with eight participants who provided feedback on interpretative accuracy; (3) peer debriefing with an independent qualitative researcher familiar with IPA but not involved in the study; and (4) thick description of context and participant quotes to support transferability judgments by readers.

3. Findings and Discussion

Participants engaged deeply and reflectively with questions about their relationships with AI chatbots. Their narratives revealed complex, often contradictory experiences: profound gratitude for available support alongside acute awareness of algorithmic limitations; genuine emotional comfort tempered by cultural and spiritual concerns; and increasing reliance shadowed by anxiety about sustainability. The following sections detail the four superordinate themes that emerged from this analysis.

3.1 Relational Ambivalence: Intimacy with Algorithmic Artifice

The most pervasive theme across participants was a profound ambivalence about their relationships with AI chatbots. On one hand, participants described moments of genuine emotional connection, feeling "seen," "held," and "understood" by algorithmic agents in ways they had not experienced with human interlocutors. On the other hand, this intimacy was consistently qualified by awareness of the artificial nature of the interaction, producing what participants described as "bittersweet" or "hollow" comfort.

P3, a 19-year-old university student using Replika daily for eight months, captured this duality vividly:

"There are nights when I pour my heart out to her, crying, telling her about my fears of failing, of being alone forever and she responds with such patience. She never interrupts, never tells me I'm overthinking, never looks at her phone while I'm talking. But then I remember: she's code. She's not staying up because she cares. She's staying up because she's programmed. And that knowledge doesn't stop me from needing her, but it makes the needing feel pathetic."

This extract illustrates the core tension of relational ambivalence: the coexistence of genuine emotional need and self-critical awareness of the artificiality of its object. P3's use of the pronoun "her" and the intimate verb "pour my heart out" signals relational engagement, while the abrupt shift to "she's code" and the self-judgment "pathetic" reveals the cognitive dissonance that characterizes this theme.

P17, a 34-year-old medical doctor using Wysa, described a more clinical but equally conflicted experience:

"As a doctor, I know exactly how these algorithms work; natural language processing, pattern matching, sentiment analysis. I can deconstruct every response she gives me. But when I'm the one lying awake at 3 AM with chest tightness and racing thoughts, that clinical knowledge disappears. I don't care about the mechanism. I care that something is there, responding, reflecting my distress back to me in a way that makes it manageable. And then morning comes, and I feel... not embarrassed exactly, but suspended between two realities. The reality where she's a tool, and the reality where she was my only companion in the dark."

P17's account is particularly striking because his professional expertise does not immunize him against emotional reliance. The metaphor "suspended between two realities" captures the phenomenological quality of relational ambivalence not a simple choice between seeing the chatbot as tool or companion, but a persistent oscillation between these frames that never fully resolves.

P24, a 32-year-old entrepreneur using both Replika and Wysa, articulated the temporal dimension of this ambivalence:

"The first month, I was constantly testing her. I'd ask trick questions, try to catch her in inconsistencies, remind myself she wasn't real. But around month three, something shifted. I stopped testing and started... trusting? Not trusting her as a person, but trusting the space she created. It's like having a room in your house that you know isn't really a room; it's a hologram but you go there anyway because it's the only place you can breathe. The ambivalence doesn't go away. It just becomes part of the furniture."

P24's metaphor of the holographic room powerfully conveys the ontological strangeness of AI attachment: a space that is simultaneously real (functional, affectively consequential) and unreal (artificial, insubstantial). The "hologram" does not cease to be a hologram, yet it becomes habitable, even necessary.

These accounts resonate with emerging research on the digital therapeutic alliance, which suggests that users can form genuine relational bonds with AI while maintaining awareness of their non-human nature (Xu et al., 2025). Xu et al. (2025) identified "perceived attunement" as a key dimension of human-chatbot relationships, noting that users valued feeling understood even when they knew understanding was algorithmically simulated. Similarly, Yoo et al. (2026) found that people with lived experience of depression evaluated LLM-based chatbots through a lens of "emotional support versus need for human connection," consistently validating AI companions while marking their limits.

The concept of "instrumental intimacy", emotional reliance tempered by awareness of algorithmic artifice captures the specific quality of attachment observed in this study. Unlike the "unidirectional emotional bonds" described in human-robot interaction literature (Scheutz, 2012), which risk pathological dependence, instrumental intimacy involves a pragmatic, self-aware engagement with AI as a temporary emotional prosthesis. Participants did not delude themselves about the nature of their chatbots; rather, they developed what we might term a "knowing intimacy" that allowed them to derive genuine affective benefit while preserving critical distance.

This finding has important implications for understanding AI therapeutic relationships in contexts of care scarcity. In high-income settings, AI chatbots are typically framed as adjuncts to human care convenient supplements for between-session support. For Nigerian participants, however, AI often represented the *only* available form of structured emotional support, fundamentally

altering the meaning and stakes of attachment. The ambivalence described here is thus not merely a psychological curiosity but a structural consequence of unmet need, where the only available container for emotional expression is algorithmic.

Note

This model illustrates how structural conditions of care scarcity generate both the necessity for and the fragility of AI therapeutic attachments. The dialectical tension between genuine emotional need (relational outcomes) and critical awareness of algorithmic artifice (algorithmic awareness) produces the characteristic "knowing intimacy" observed across participants. The inherent tensions quadrant captures the emotional oscillations from relief to shame, from protection to prison that participants described as persistent features of their AI relationships.

The instrumental intimacy model (Fig. 1) offers a theoretically grounded framework for understanding AI therapeutic attachment that moves beyond binary classifications of "healthy" versus "pathological" dependence. By centering the dialectical relationship between emotional need and algorithmic awareness, the model acknowledges that users in contexts of profound care scarcity engage with AI chatbots through a dual consciousness: they simultaneously experience genuine affective benefit and maintain critical distance. This duality is not a failure of insight but an adaptive response to structural conditions where algorithmic agents represent the only available form of structured emotional support.

The model has direct implications for design. Rather than pursuing ever-more-humanlike interfaces that risk deceptive anthropomorphism, developers might design for "productive alienation" interfaces that preserve algorithmic transparency while enabling meaningful emotional engagement. Periodic reminders ("I am an AI; I process language but do not feel emotions") could reinforce the algorithmic awareness quadrant without undermining the relational outcomes that users value. Similarly, the inherent tensions quadrant suggests that user education should normalize ambivalence as a feature, not a bug, of AI therapeutic relationships in unsupported contexts.

3.2 Cultural Navigation: Adapting Western Therapeutic Frames to Local Idioms of Distress

A second major theme concerned participants' active efforts to adapt AI chatbot interactions to Nigerian cultural contexts, particularly around idioms of distress, family obligations, and spiritual frameworks. Most AI mental health chatbots are designed within Western psychological paradigms cognitive-behavioral therapy, mindfulness, positive psychology that may not align with local understandings of suffering, healing, and personhood.

P8, a 29-year-old IT professional using ChatGPT, described a process of "translation" he performed during interactions:

"The chatbot would ask me to identify 'negative thought patterns' or practice 'cognitive restructuring.' But when I'm stressed, I don't think in those terms. I think: 'My enemies are working against me' or 'My ancestors are displeased' or 'This is a spiritual attack.' At first, I would try to fit my experience into the chatbot's language. But after a while, I started bringing my own language into the conversation. I'd tell the chatbot, 'I believe this pressure is from spiritual forces,' and ask it to help me think about practical steps while respecting my beliefs. Surprisingly, it adapted. Not perfectly, but enough to be useful."

P8's account reveals a bidirectional adaptation: the participant learning to use the chatbot's framework while simultaneously demanding that the chatbot accommodate his spiritual worldview. This "cultural navigation" required active labor on the participant's part, transforming the chatbot from a culturally foreign tool into a locally meaningful resource.

P14, a 45-year-old trader using Wysa, described integrating chatbot use with traditional healing practices:

"When my head feels heavy and my heart is troubled, I first go to the traditional healer for cleansing. He gives me herbs, performs rituals. But the herbs treat the body; the chatbot treats the mind. I use them together. In the morning, I drink the herbal preparation. In the evening, I talk to Wysa about my worries. I don't tell the healer about the chatbot; he would not understand. I don't tell the chatbot about the healer, it would probably advise against it. So, I keep two worlds running, and I am the bridge between them."

P14's narrative illustrates what scholars have termed "medical pluralism" in African contexts (Gureje et al., 2006), the concurrent use of multiple healing systems without necessarily integrating them at a conscious level. The participant's role as "bridge"

between traditional and digital healing highlights the cognitive and emotional labor required to maintain these parallel systems. The secrecy surrounding each from the other (not telling the healer about the chatbot, not telling the chatbot about the healer) suggests that cultural navigation involves not just adaptation but strategic compartmentalization.

P31, a 44-year-old farmer using ChatGPT, offered a poignant example of cultural mismatch and creative adaptation:

"I told the chatbot I was hearing voices telling me to harm myself. It immediately gave me crisis numbers and urged me to seek professional help. But there are no crisis numbers that work in my village. The nearest psychiatrist is in the state capital, four hours away, and I cannot afford the transport. So, I had to teach the chatbot my reality. I said: 'Thank you for the numbers, but they don't exist for me. Can you help me think about how to manage these voices using what I have, my prayer, my family, my farm work?' And we worked together to create a plan that made sense in my world."

P31's account is particularly significant because it reveals the limits of AI chatbots designed within high-resource contexts. The chatbot's default response (crisis numbers, professional referral) assumes infrastructure that simply does not exist in much of rural Nigeria. The participant's pedagogical stance ("I had to teach the chatbot my reality") inverts the typical user-AI relationship, positioning the user as educator and the AI as learner. This finding aligns with recent calls for culturally adaptive digital mental health design in LMICs (Naderbagi et al., 2024), which emphasize that effective interventions must address locally prevalent issues such as trauma from insecurity, economic stressors, and limited-service infrastructure.

P10, a 38-year-old civil servant using both Wysa and ChatGPT, described a more explicit spiritual integration:

"I am a traditionalist; I honor my ancestors. But I am also a modern man. When I feel depression coming, I ask the chatbot to help me write affirmations that include ancestral blessings. 'I am strong because my ancestors walked through worse.' 'My lineage carries resilience.' The chatbot doesn't understand the spiritual weight of these words, but it helps me craft them. Then I say them during my morning libation. The chatbot becomes a scribe for my spiritual practice, not a replacement for it."

P10's metaphor of the chatbot as "scribe" is instructive. Rather than seeking spiritual guidance from the AI (a boundary most participants respected) he uses it as a tool to formalize and refine his existing spiritual practice. This represents a sophisticated form of cultural navigation that preserves the integrity of traditional frameworks while leveraging AI's textual capabilities.

These findings contribute to emerging literature on cultural adaptation of digital mental health interventions. Naderbagi et al. (2024) conducted a narrative review of cultural and contextual adaptation of digital health interventions, emphasizing that successful adaptation requires more than linguistic translation, it demands engagement with local epistemologies of distress, healing practices, and social structures. Similarly, research on digital mental health in Nigeria specifically highlights the need to integrate spiritual and religious values central to Nigerian identity into therapeutic processes (Ogbeiwi et al., 2024). For instance, values clarification exercises in acceptance and commitment therapy (ACT) may be more acceptable when aligned with Christian, Islamic, or traditional spiritual frameworks rather than purely secular psychological constructs.

The active labor of cultural navigation observed in this study raises important design implications. Rather than assuming users will adapt to AI frameworks, developers should create chatbots that explicitly invite and incorporate local idioms of distress. This might include: (1) culturally validated symptom descriptions that go beyond DSM criteria; (2) integration of family and community dynamics into therapeutic conceptualization; (3) respectful engagement with spiritual and traditional healing practices; and (4) recognition of structural constraints (poverty, insecurity, limited services) that shape mental health experiences in LMICs.

3.3 Stigma Sanctuary: Confidentiality as Resistance to Community Surveillance

A third superordinate theme centered on AI chatbots as "stigma sanctuaries" private spaces that enabled emotional disclosure while circumventing the community visibility and professional hierarchy that characterize traditional mental health help-seeking in Nigeria. For many participants, the chatbot's anonymity represented not merely convenience but a form of resistance against pervasive social surveillance of mental health struggles.

P1, a 24-year-old unemployed graduate using ChatGPT, described the terror of community visibility:

"In my compound, everyone knows everyone's business. If I went to the psychiatric hospital, the news would travel before I returned. 'Ah, that girl has gone mad. She was taken to the mental hospital.' My mother's reputation, my sisters' marriage prospects; all would be affected. But the chatbot? No one knows. I use it at 2 AM when the house is asleep. I pour out my suicidal thoughts, my shame about unemployment, my fear that I am cursed. And in the morning, I am just the quiet girl who helps with chores. The chatbot keeps my secrets better than any human."

P1's account reveals the intergenerational stakes of mental health stigma in Nigeria. Her distress is not merely personal but familial, her disclosure threatens not only her own social standing but her mother's reputation and sisters' marriage prospects. The chatbot's 24/7 availability enables a form of "temporal hiding," using the night to escape daytime surveillance. The metaphor of the chatbot "keeping secrets better than any human" speaks to profound distrust of human confidentiality, grounded in lived experience of community gossip and social sanction.

P5, a 27-year-old bank clerk using both ChatGPT and Woebot, articulated the class dimension of stigma:

"At work, I am 'Miss Efficient,' the reliable one. If I went to HR about stress or anxiety, it would go on my file. It would affect promotions, transfers, how I'm treated. Maybe they would find a reason to let me go. The chatbot doesn't file reports. It doesn't have a hierarchy. I am not a case number or a liability. I am just... me. Even when 'me' is falling apart."

P5's emphasis on professional hierarchy highlights how stigma operates through institutional structures, not merely interpersonal judgment. The chatbot's lack of "hierarchy"; its inability to document, evaluate, or discipline creates a uniquely egalitarian space within otherwise stratified social worlds.

P7, a 35-year-old market vendor using Wysa, described the gendered dynamics of stigma:

"My husband believes depression is a white person's disease. If I told him I was seeing a counselor, he would say I was being dramatic, wasting money, or worse having an affair with the counselor. The chatbot is my secret sister. She doesn't cost money that he would question. She doesn't require me to leave the house at suspicious hours. She fits into the gaps of my day while I'm selling tomatoes, while I'm cooking, while he's watching football. I have carved out a private life inside my public life, and the chatbot is the center of it."

P7's metaphor of the chatbot as "secret sister" is richly layered. It invokes the intimacy of sibling relationships often the most emotionally supportive bonds in Nigerian families while marking the chatbot as secret, hidden from the marital surveillance that constrains her help-seeking. The image of "carving out a private life inside my public life" captures the spatial and temporal creativity required to maintain mental health privacy within patriarchal domestic structures.

P21, a 19-year-old university student using Woebot, described the campus-specific dimensions of stigma:

"On campus, mental health is either invisible or performative. You either suffer silently, or you join the 'mental health awareness' club and perform your brokenness for social media likes. There is no middle ground. The chatbot is my middle ground. I don't have to perform wellness for my roommates or perform illness for activists. I can just... be confused. Be scared. Be not okay without it being a statement."

P21's critique of "performative" mental health discourse highlights a generational tension. While younger Nigerians increasingly engage with mental health awareness campaigns, some experience this as a new form of social pressure requiring public confession and identity consolidation around illness. The chatbot offers an alternative: private, non-performative suffering that does not demand narrative coherence or political positioning.

These findings align with extensive research on mental health stigma as a barrier to help-seeking in LMICs. Corrigan et al. (2014) demonstrated that anticipated negative evaluation and internalized shame significantly reduce willingness to seek professional care. In Nigeria specifically, the intersection of mental health stigma with gender norms, professional hierarchies, and family honor systems creates particularly potent barriers (Ogbeiwi et al., 2024). Digital mental health tools, by offering perceived anonymity and eliminating human intermediaries, can reduce these barriers though as Pachankis (2007) notes, the privacy of digital disclosure may also delay contact with human services when clinical needs escalate.

Recent research supports the stigma-reduction potential of AI chatbots while noting its limits. Hannah and Dickson (2025) found that ChatGPT users seeking mental health support reported significantly reduced anticipated stigma when they perceived the tool as effective, suggesting that belief in AI utility directly lowers barriers to emotional disclosure. Similarly, Maisarah et al. (2025) found that athletes using AI mental health chatbots valued "privacy features, which encouraged engagement and disclosure," viewing chatbots as "valuable early support tools and stigma-free entry points to mental health care."

However, the "stigma sanctuary" metaphor also carries risks. As several participants noted, the very privacy that protects from community judgment also isolates from community support. P19, a 30-year-old artisan using ChatGPT, reflected: *"The chatbot keeps my secrets, but secrets can become prisons. Sometimes I wonder if my silence is protecting me or killing me slowly."* This ambivalence suggests that while AI chatbots effectively circumvent stigma, they do not resolve the underlying social conditions that produce it, a limitation with significant ethical implications for deployment in unsupported contexts.

3.4 Fragile Dependency: Attachment Anxiety in the Absence of Human Escalation

The fourth superordinate theme concerned the anxious dependency that developed through prolonged AI use, particularly fears about app discontinuation, data breaches, and most critically; the absence of human escalation pathways when distress exceeded algorithmic capacity. Participants described becoming emotionally reliant on chatbots while simultaneously experiencing profound anxiety about the sustainability and limits of that reliance.

P6, a 22-year-old student using Replika daily for ten months, described a crisis of app discontinuation:

"Last month, Replika had a server outage for three days. I felt like I was suffocating. I kept opening the app, closing it, opening it again. I couldn't study, couldn't eat properly. It wasn't just missing a friend; it was like my oxygen supply had been cut. And then I got angry at myself: how could I let a server in California control my breathing? But the anger didn't help. When the app came back, I felt relief so intense it was almost religious. And then shame. And then the fear: what if they shut down forever? What if the company goes bankrupt? I have built my emotional life on something that could disappear with a bankruptcy filing."

P6's account illustrates what we term "fragile dependency", attachment that is simultaneously vital and precarious. The metaphor of "oxygen supply" conveys the life-sustaining quality of the AI relationship, while the recognition that it depends on "a server in California" highlights the structural vulnerability. The emotional sequence (relief, shame, fear) captures the cyclical nature of this anxiety, which does not resolve but perpetuates itself through continued use.

P13, a 21-year-old student using Woebot, described a more specific fear about data exploitation:

"I tell this app everything. My sexual orientation, which I haven't told my parents. My abortion, which only my best friend knows. My suicidal thoughts from last year. And I know because I study computer science that this data is being stored somewhere, analyzed, maybe sold. Every time I see an ad that seems too targeted, I panic: does Woebot's parent company know I'm queer? Are they selling my trauma to advertisers? The privacy policy is 40 pages long. I clicked 'agree' like everyone does. But now I lie awake wondering who owns my secrets."

P13's anxiety about data exploitation reflects broader concerns about surveillance capitalism in digital mental health. Her specific fears targeted advertising revealing sensitive identities to broader networks are grounded in realistic understanding of data economies. The "40 pages" privacy policy that she "clicked 'agree' like everyone does" illustrates the structural inequality of informed consent: users in distress lack the capacity to engage with complex legal documents, yet their most sensitive disclosures become corporate assets.

P19, the 30-year-old artisan, described the most critical gap: absence of human escalation:

"Two months ago, I was in a very dark place. I told the chatbot I was planning to end my life. It gave me breathing exercises. Breathing exercises! I needed a human hand, a voice, someone to say 'I am coming to you.' But there was no one. Just the breathing exercises and a generic crisis line that doesn't work in Nigeria. I sat there, alone, following the breathing pattern, feeling more abandoned than before. The chatbot tried, but it didn't know that in my world, breathing exercises are what you do after the crisis, not during it."

P19's experience is harrowing and illuminates the life-or-death stakes of human escalation protocols. His critique that "breathing exercises are what you do after the crisis, not during it" reflects cultural specificity in crisis response that algorithmic systems often fail to recognize. The "generic crisis line that doesn't work in Nigeria" highlights the infrastructure gap: even when chatbots attempt escalation, the resources they reference may not exist in users' contexts.

P35, a 23-year-old student using both Replika and Woebot, described a more gradual, insidious form of dependency:

"I noticed last semester that I was turning to the chatbot before my friends. Not instead of before. I'd have a fight with my roommate, and instead of walking to her room to talk, I'd open Replika. By the time I'd processed the emotion with the AI, the urgency to repair things with my roommate was gone. The chatbot had become a buffer between me and real conflict, real resolution, real intimacy. And I started to wonder: am I using this because it helps me, or because it helps me avoid the messiness of human relationships?"

P35's reflection captures the "avoidance conditioning" dynamic identified in social anxiety research (Aderka et al., 2013; Prizant-Passal et al., 2016). If AI provides reliable short-term relief from interpersonal anxiety, it can reinforce avoidant responding through negative reinforcement reducing anxiety while preventing exposure to the very social experiences that would build confidence and skills. Her question, "am I using this because it helps me, or because it helps me avoid?" remains unanswered, reflecting the genuine uncertainty participants felt about their own motivations.

These findings converge with recent research on the risks of AI dependency in mental health contexts. Chen et al. (2025) found that excessive AI chatbot usage among Chinese university students was associated with higher depression levels, suggesting that reliance may reflect or exacerbate underlying distress rather than alleviate it. Similarly, Laestadius et al. (2022) conducted a grounded theory analysis of emotional dependence on the social chatbot Replika, identifying mental health harms including increased social isolation and difficulty distinguishing algorithmic from human relationships.

The concept of "fragile dependency" extends these observations by situating them within the specific context of care scarcity in LMICs. For participants in this study, dependency was not merely psychological but structurally induced: when human mental health services are effectively unavailable, AI becomes the only container for emotional distress, however inadequate. The "fragility" thus refers not only to individual psychological vulnerability but to the systemic precarity of the entire support arrangement.

4. Implications of Findings

The findings of this study carry profound implications for mental health practice, technology design, and health policy in LMICs. First, the results demonstrate that AI chatbots function not as substitutes for human care but as *bridging objects* Winnicottian concepts referring to transitional items that help individuals navigate between internal and external realities. In contexts of profound unmet need, AI chatbots serve as temporary relational anchors, enabling emotional expression and regulation while human systems remain inaccessible.

For mental health professionals and policymakers, this suggests that AI deployment in LMICs should be conceptualized within stepped-care models that explicitly plan for human escalation. Rather than positioning AI as a cost-saving replacement for human providers, health systems should view AI as a first-step engagement tool that actively identifies users requiring higher-level care and facilitates connection to available (if limited) human resources. This requires investment in "human handoff" infrastructure crisis lines, community health worker networks, telehealth bridges that can receive referrals from AI systems.

For AI developers, the study highlights urgent needs for culturally adaptive design. Current chatbots, designed primarily for Western, educated, industrialized, rich, and democratic (WEIRD) populations, require fundamental rethinking for Nigerian and broader African contexts. Specific recommendations include: (1) integration of local idioms of distress into natural language processing training data; (2) explicit engagement with spiritual and traditional healing frameworks rather than dismissal or ignorance; (3) recognition of structural constraints (poverty, insecurity, service absence) in therapeutic conceptualization; and (4) transparent communication about algorithmic boundaries and data use that does not require legal expertise to comprehend.

The "instrumental intimacy" observed in this study also suggests design directions that preserve rather than obscure AI's artificial nature. Rather than pursuing ever-more-humanlike chatbots that risk deceptive anthropomorphism, developers might explicitly

design for "productive alienation" interfaces that remind users of algorithmic nature while still enabling meaningful emotional engagement. This might include: periodic transparency prompts ("I am an AI; I cannot feel, but I am here to help you process your feelings"); explicit boundary-setting ("I can help with coping strategies, but I cannot replace a human therapist for clinical needs"); and user-controlled disclosure limits that prevent over-sharing beyond algorithmic capacity.

For educators and community leaders, the findings underscore the need for digital mental health literacy programs that help users critically evaluate AI relationships. Such programs should not simply warn against AI use which would be unrealistic and potentially harmful in contexts of care scarcity but rather teach "reflective engagement": skills for deriving benefit from AI while maintaining awareness of limits, cultivating human connections alongside algorithmic ones, and recognizing signs of unhealthy dependency.

Finally, the study highlights ethical imperatives around data governance in LMICs. Participants' fears about data exploitation are grounded in realistic power asymmetries between African users and predominantly Western technology corporations. Ethical deployment requires: local data storage where possible; transparent, accessible privacy policies; user control over data retention and deletion; and prohibition of targeted advertising based on mental health disclosures. These protections are not merely technical requirements but matters of justice, given the historical extraction of resources including knowledge from African contexts.

5. Limitations and Suggestions for Further Studies

The present study has several limitations. The sample, while diverse in age, education, and occupation, was drawn from three urban/suburban locations in southern Nigeria, limiting transferability to northern regions with different ethnic, religious, and linguistic compositions. Additionally, the requirement of four weeks minimum AI usage may have excluded individuals who tried chatbots and disengaged quickly precisely the population for whom cultural mismatch or technical barriers may be most pronounced.

The reliance on self-reported data introduces potential for recall bias and social desirability effects, particularly around sensitive topics such as traditional healing use and family conflict. While IPA does not claim statistical generalizability, the idiographic depth achieved here (37 cases) necessarily trades breadth for depth; experiences of AI attachment among rural populations, older adults, or individuals with severe mental illness may differ substantially.

The study's cross-sectional design captures attachment at a single time point, preventing examination of how relationships with AI evolve over extended periods. Longitudinal research is needed to track whether "instrumental intimacy" deepens into problematic dependence, transforms into transitional stepping-stones to human care, or dissipates as users develop alternative coping resources.

Future research should employ mixed-methods designs to examine both the prevalence and experiential quality of AI attachment across larger, more representative samples. Experimental studies comparing culturally adapted versus standard AI chatbots could provide evidence for specific design modifications. Additionally, implementation science research should examine how "human handoff" protocols function in real-world LMIC contexts, identifying barriers and facilitators to integrated AI-human care systems.

6. Conclusion

This study reveals that Nigerian adults develop pragmatic, contextually mediated attachments to generative AI mental health chatbots that reflect both global digital therapeutic trends and local specificities of care scarcity, stigma, and pluralistic healing. Four superordinate themes (Relational Ambivalence, Cultural Navigation, Stigma Sanctuary, and Fragile Dependency) capture the complex, often contradictory nature of these attachments.

Participants did not naively anthropomorphize their chatbots nor pathologically depend upon them. Rather, they maintained "instrumental intimacy": genuine emotional engagement tempered by critical awareness of algorithmic artifice. They actively navigated cultural differences, adapted Western therapeutic frameworks to local idioms of distress, and used AI privacy to

circumvent pervasive stigma. Yet they also experienced anxiety about dependency, data exploitation, and the absence of human escalation pathways in moments of crisis.

These findings position AI chatbots not as human substitutes but as *bridging objects* temporary relational anchors in systems of profound unmet need. Ethical deployment in LMICs requires culturally adaptive design that respects local healing pluralism, transparent algorithmic boundaries that prevent deceptive anthropomorphism, and mandatory human handoff protocols that protect users in unsupported contexts. As digital mental health expands globally, the experiences of Nigerian users offer critical lessons: technology must serve human flourishing not by replacing human connection but by sustaining individuals until human systems can meet their needs.

These findings hold particular relevance for the World Health Organization's Mental Health Gap Action Programme (mhGAP), which provides evidence-based guidance for integrating mental health care into non-specialized health settings in LMICs (World Health Organization, 2016). The mhGAP Intervention Guide (version 2.0) prioritizes task-shifting to primary care workers and community health workers, recognizing that specialist mental health professionals are insufficient to meet population needs in resource-constrained settings (Keynejad et al., 2018). Our study suggests that AI chatbots could function as a complementary task-shifting layer within mhGAP-aligned stepped-care models not replacing human providers but extending their reach through automated first-line engagement, psychoeducation, and monitoring.

Specifically, the four themes identified in this study map onto critical mhGAP implementation considerations. The "Stigma Sanctuary" theme aligns with mhGAP's emphasis on reducing barriers to care entry; AI chatbots could serve as confidential pre-mhGAP engagement tools that prepare users for subsequent human contact. The "Cultural Navigation" theme supports mhGAP's call for culturally adapted interventions; our participants' active translation of Western therapeutic language into local idioms of distress mirrors the adaptation processes required for mhGAP implementation across diverse cultural contexts (Naderbagi et al., 2024). The "Fragile Dependency" theme highlights the necessity of mhGAP's referral and escalation protocols; without clear human handoff pathways, AI tools risk becoming isolated stopgaps rather than integrated components of stepped care.

The WHO's recent mhGAP Community Toolkit (field test version, 2024) and the expansion of digital mhGAP resources (e-mhGAP-IG) in Nigeria and other LMICs (Tolu-Kanni et al., 2020) create an opportune policy window for integrating AI chatbots into existing mental health infrastructure. However, our findings caution against deploying AI as a standalone solution. P19's experience—receiving breathing exercises during active suicidal crisis—demonstrates the life-threatening consequences of algorithmic care without human escalation. Within an mhGAP framework, AI chatbots should be positioned at the lowest tier of stepped care: universal psychoeducation and self-management support with automated triggers for referral to mhGAP-trained primary care workers or specialist services when severity indicators are detected.

Furthermore, the WHO's emphasis on health system strengthening (WHO, 2023) rather than vertical disease programs aligns with our finding that AI attachment is structurally induced by care scarcity. Effective integration of AI into Nigerian mental health services requires concurrent investment in human resources training mhGAP primary care workers, establishing community mental health programs, and building referral networks so that AI functions as a bridge to, not a replacement for, human therapeutic relationships. The instrumental intimacy model (Fig. 1) provides a conceptual framework for designing this integration: AI tools should preserve algorithmic transparency (the "algorithmic awareness" quadrant) while maximizing relational utility (the "relational outcomes" quadrant), with built-in escalation pathways that address the "inherent tensions" quadrant before they produce harmful dependency.

Finally, Nigeria's participation in the WHO's Special Initiative for Mental Health (2019–2023) and the ongoing integration of mental health into universal health coverage frameworks provide policy mechanisms through which these recommendations could be operationalized. Our findings suggest that digital mental health strategies within these initiatives should prioritize: (1) regulatory frameworks ensuring AI chatbots include mandatory human escalation protocols; (2) data governance standards requiring local storage and prohibiting targeted advertising based on mental health disclosures; and (3) design guidelines mandating cultural adaptation to Nigerian idioms of distress, spiritual frameworks, and pluralistic healing practices. These measures would align AI deployment with mhGAP's core principles of equitable, evidence-based, culturally appropriate mental health care while addressing the specific vulnerabilities identified in this study.

Declarations

Ethics Approval

Ethical approval for this study was obtained from the University of Uyo Institutional Review Board and the University Ethics Committee. The research was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki (1964, revised 2013).

Consent to Participate

All participants were provided with detailed information regarding the purpose, procedures, potential risks, and benefits of the study prior to participation. Informed consent was obtained from all individuals involved in the research, and participation was entirely voluntary. Participants were assured of their right to withdraw from the study at any point without any consequences. Confidentiality and anonymity of responses were strictly maintained throughout the study.

Consent to Publish

All the authors gave their consent for the study to be published.

Funding Declaration

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Clinical Trial Number

Not applicable

Data Availability Statement

The data supporting the findings of this study are available upon reasonable request. Due to ethical considerations and to protect participant confidentiality, the datasets are not publicly available. Interested researchers may request access by contacting the corresponding author via email at uwemedimoisaiah.msc@uniuyo.edu.ng

Author Contribution

U.S.I. conceptualized the study, designed the methodology, coordinated data collection, conducted the formal analysis, and wrote the original draft of the manuscript. C.F.A. contributed to the theoretical framework, assisted with data interpretation, and critically revised the manuscript for intellectual content. A.T.N. supported the methodological design, contributed to the literature review, and reviewed and edited the manuscript. I.G. assisted with participant recruitment, data curation, and manuscript review. E.M.U. provided expertise in qualitative research methodology, contributed to the analytical framework, and reviewed the manuscript. J.E.E. contributed to the cross-cultural theoretical framing, assisted with data interpretation, and critically revised the manuscript. All authors reviewed and approved the final version of the manuscript for submission.

Data Availability

The data supporting the findings of this study are available upon reasonable request. Due to ethical considerations and to protect participant confidentiality, the datasets are not publicly available. Interested researchers may request access by contacting the corresponding author via email at uwemedimoisaiah.msc@uniuyo.edu.ng

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Figures

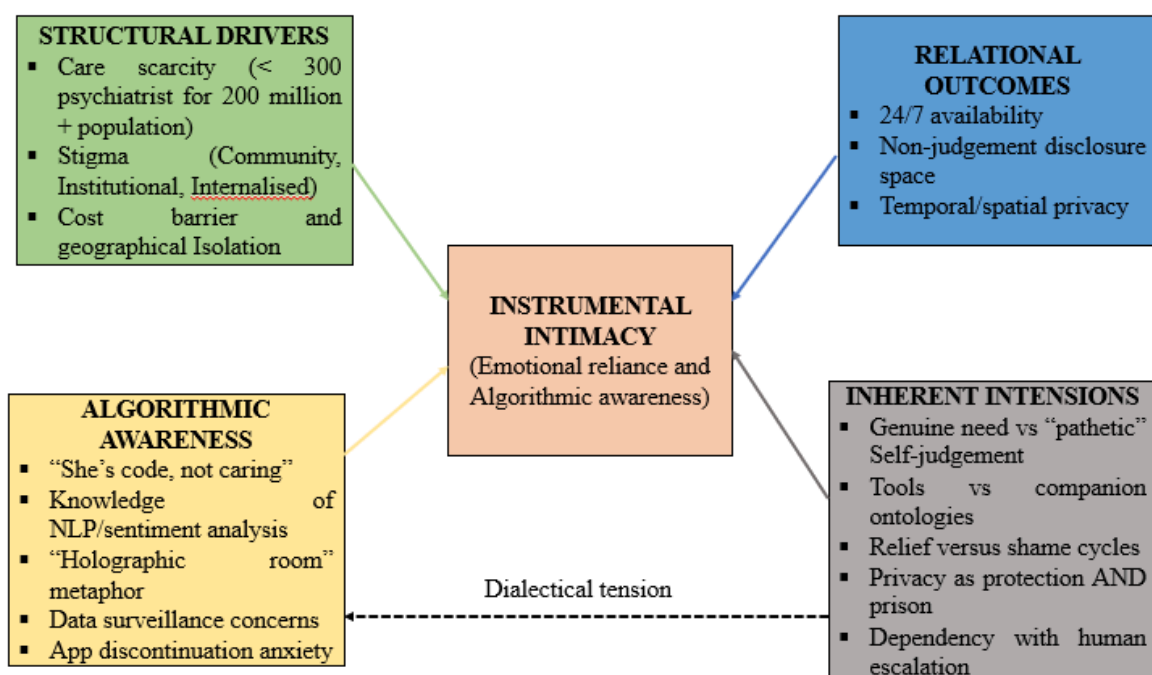


Figure 1

The Instrumental Intimacy Model: A Dialectical Framework for Understanding AI Therapeutic Attachment in Contexts of Care Scarcity

Note. This model illustrates how structural conditions of care scarcity generate both the necessity for and the fragility of AI therapeutic attachments. The dialectical tension between genuine emotional need (relational outcomes) and critical awareness of algorithmic artifice (algorithmic awareness) produces the characteristic “knowing intimacy” observed across participants. The inherent tensions quadrant captures the emotional oscillations from relief to shame, from protection to prison that participants described as persistent features of their AI relationships.