# The Role of Chatbots in Mental Health Interventions: User Experiences

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#### ABSTRACT

This study aims to explore the user experiences of individuals interacting with mental health chatbots, identifying key themes related to engagement, efficacy, satisfaction, barriers, and potential improvements. The objective is to inform the design and implementation of chatbot interventions to better meet the needs of users seeking mental health support. A qualitative research design was employed, utilizing semi-structured interviews with 22 participants who have used mental health chatbots. Thematic analysis was conducted to extract major and minor themes from the transcribed interviews, focusing on the aspects of user interaction, perceived benefits, and areas for enhancement in chatbot functionality. Five major themes were identified: User Engagement and Interaction, Perceived Efficacy, User Satisfaction and Trust, Barriers and Limitations, and Future Directions and Improvements. These encompassed various categories such as ease of use, personalization, emotional support, privacy concerns, technological issues, and suggestions for advanced AI and better integration with professional care. Participants valued chatbots for their accessibility and personalized support but highlighted the need for improvements in emotional understanding and technical reliability. Mental health chatbots are a promising tool for supporting individuals with their mental health needs, offering benefits in terms of engagement, personalized support, and perceived efficacy. However, addressing identified barriers such as technological limitations and emotional disconnect is crucial for enhancing user satisfaction and trust. Future developments should focus on incorporating advanced AI technologies, ensuring user privacy, and integrating chatbots more closely with traditional mental health services.

**Keywords:** Chatbots, Mental Health, User Experience, Telemedicine, Digital Health Interventions, Qualitative Research, Health Technology, Artificial Intelligence

## 1. Introduction

The integration of chatbots into mental health interventions represents a dynamic and evolving frontier in the application of technology to healthcare. As society continues to grapple with the growing demand for mental health services, innovative solutions such as chatbots offer a promising avenue to supplement traditional

therapeutic methods. User experience, a multifaceted concept that has seen considerable evolution over the years, stands at the core of designing and implementing technology that meets users' needs and expectations effectively.

The concept of user experience goes beyond mere usability to encompass the full range of interactions a person has with a technology or service. Battarbee &



Koskinen (2005) have expanded on this traditional understanding by introducing the notion of co-experience. This approach enriches the user experience framework by integrating elements of symbolic interactionism, thus offering a more comprehensive lens for examining the nuances of user interactions. This perspective is particularly pertinent when analyzing experiences in sensitive and complex contexts, such as mental health interventions, where the qualitative aspects of user engagement can significantly influence the overall impact of the technology (Battarbee & Koskinen, 2005).

In the domain of user experience design, the effective management of user experiences is pivotal for the success of technological interventions. However, as Mashapa et al. (2013) pointed out, there exists a notable gap in structured models for managing these experiences. This gap underscores the necessity for methodical approaches to optimize interactions between users and technology, especially in areas as critical as mental health, where the user's comfort and engagement can directly affect the intervention's success (Mashapa et al., 2013). The application of user experience principles in this realm not only holds the potential to enhance user satisfaction but also to significantly improve the outcomes of mental health interventions.

Pavlov et al. (2022) further illustrate the tangible benefits of applying user experience principles through their study on improving patient experiences in healthcare settings. By employing established user experience heuristics, they identified key areas for improvement in patient interactions. This methodology, when applied to mental health interventions involving chatbots, could facilitate the development of more user-centric designs. Such designs are essential for catering to the unique needs and sensitivities of individuals seeking support, thereby improving the accessibility, effectiveness, and overall appeal of chatbot-based interventions (Pavlov et al., 2022).

Moreover, the work of Hussain et al. (2022), who developed a quantification model for user experience based on online reviews, highlights the potential of leveraging user feedback to refine and enhance chatbot interventions. This approach allows for a data-driven understanding of user perceptions, identifying both strengths and weaknesses in current implementations. Analyzing user experiences shared online offers an invaluable resource for developers and researchers, providing a direct glimpse into the user's perspective. This feedback can serve as a guide for the continuous improvement of chatbot functionalities,

ensuring that these interventions are both effective and aligned with the users' expectations (Hussain et al., 2022).

This study aims to delve into the user experiences associated with mental health chatbots, drawing on the rich theoretical foundation laid by previous research in the domain of user experience. By focusing on the qualitative aspects of user interaction with chatbots, this research seeks to uncover the nuances of these experiences, their impact on users, and the potential for chatbots to contribute to mental health support. As we navigate through the complexities of integrating technology with mental health care, understanding the user's perspective becomes paramount in designing interventions that are not only technologically advanced but also deeply attuned to the needs of those they aim to serve.

## 2. Methods and Materials

## 2.1. Study Design and Participants

This study adopted a qualitative research approach to explore the role of chatbots in mental health interventions, focusing specifically on user experiences. A qualitative methodology was chosen for its strength in uncovering rich, detailed insights into participants' perspectives and interactions with mental health chatbots. This approach enabled the collection of nuanced data on the subjective experiences, preferences, and suggestions of users, which quantitative methods might not capture effectively.

Participants were recruited through a combination of purposive and snowball sampling techniques to ensure a diverse representation of experiences with mental health chatbots. Eligibility criteria included individuals aged 18 and above who had interacted with a mental health chatbot for at least one month. Efforts were made to include participants with varied demographic backgrounds, mental health concerns, and histories of mental health service utilization to enrich the study's data pool.

Informed consent was obtained from all participants, which detailed the study's purpose, procedures, potential risks, and benefits, and assured confidentiality and the right to withdraw from the study at any point without penalty. Data were anonymized and securely stored to protect participants' privacy.

# 2.2. Data Collection

Data collection was conducted through semi-structured interviews, a flexible yet focused interview technique





allowing for in-depth exploration of participants' experiences with chatbots in mental health care. The interview guide was developed based on a review of the literature and expert consultations to ensure comprehensiveness and relevance. Key topics covered in the interviews included:

Participants' motivations for using mental health chatbots.

Their experiences and satisfaction with the features, responsiveness, and effectiveness of the chatbots.

The impact of chatbot interactions on their mental health and wellbeing.

Preferences and suggestions for improving chatbot interventions.

Interviews were conducted remotely via secure video conferencing platforms to accommodate participants' geographical locations and preferences, ensuring privacy and confidentiality. Each interview lasted approximately 45 minutes to an hour, was audio-recorded with participants' consent, and subsequently transcribed verbatim for analysis.

## 2.3. Data Analysis

Thematic analysis was employed to analyze the interview transcripts, following Braun and Clarke's sixphase framework for identifying, analyzing, and reporting patterns within data. This involved familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and

producing the report. Rigor was maintained through researcher triangulation, member checking, and maintaining an audit trail of decisions and interpretations made during the analysis process.

## 3. Findings

In this qualitative study, a total of 22 participants were recruited to explore their experiences with mental health chatbots. The demographic characteristics of participants varied widely, ensuring a diverse and representative sample. Age-wise, the participants were spread across several age groups: 18-24 years (5 participants), 25-34 years (8 participants), 35-44 years (4 participants), and 45-54 years (5 participants), indicating a broad interest in mental health chatbots across different life stages. In terms of gender, 12 participants identified as female, 9 as male, and 1 as non-binary, reflecting a spectrum of gender identities engaging with mental health chatbots. The sample also included a range of employment statuses: 10 participants were full-time employed, 5 were part-time employed, 4 were students, and 3 were unemployed, highlighting the appeal of mental health chatbots to individuals in various occupational circumstances. The educational background of participants included those with a high school diploma (4 participants), bachelor's degree (10 participants), and postgraduate degrees (8 participants), indicating a relatively high level of education among the study's participants.

**Table 1**The Results of Final Coding

Major Themes	Minor Themes	Concepts (Open Codes)
User Engagement and Interaction	Ease of Use	Intuitive interface, Quick setup, User-friendly navigation, Simplified chat flows, Multilingual support
	Personalization	Customizable chatbot responses, Tailored mental health advice, Adaptive interaction patterns, User-specific goal setting, Feedback-driven adjustments
	Continuity of Care	Follow-up questions, Progress tracking, Reminder systems, Historical interaction recall, Ongoing support
	Accessibility	24/7 availability, Multi-platform access, Low data usage, Accessibility for users with disabilities, Cost-effectiveness
Perceived Efficacy	Emotional Support	Empathy expressions, Active listening cues, Affirmation and encouragement, Validation of feelings, Crisis intervention techniques
	Coping Strategies	Stress management techniques, Problem-solving skills, Relaxation exercises, Cognitive restructuring methods, Behavioral activation tips
	Self-Reflection	Prompting personal insights, Encouraging journaling, Guided mindfulness practices, Self-assessment prompts, Reflective questioning
	Impact on Well-being	Mood improvement, Anxiety reduction, Increased self-esteem, Enhanced sleep quality, Better stress resilience
User Satisfaction and Trust	Confidentiality and Privacy	Anonymity assurances, Data security protocols, Transparency about data use, GDPR compliance, User control over data
	Reliability	Consistent performance, Accuracy of information, Availability around the clock, Quick response





		times, Correct handling of personal data
	User Trust	Building rapport, Demonstrating empathy, Consistent accuracy, Privacy assurances, Positive user testimonials
	Feedback Mechanisms	User feedback collection, Implementation of suggestions, Regular updates, User involvement in development, Response to criticism
Barriers and Limitations	Technological Issues	Connectivity problems, Software bugs, Limitations in understanding user inputs, AI misinterpretations, Dependency on device capabilities
	Emotional Disconnect	Lack of human empathy, Inadequate response to complex emotions, Perceived insensitivity, Limited emotional depth, Absence of non-verbal cues
	Scope of Assistance	Limited mental health issue coverage, Superficial advice, Lack of crisis intervention capabilities, Insufficient support for severe cases
Future Directions and Improvements	Enhancements in AI	Better natural language processing, Advanced understanding of nuances, More accurate mood detection, Improved context awareness, Learning user preferences
	Integration with Professional Care	Referral mechanisms, Feedback loops with therapists, Coordinated care plans, Secure information sharing, Collaboration with healthcare systems
	Expansion of Features	Broader mental health resources, Inclusion of educational content, Interactive self-help tools, Gamification elements, Social networking capabilities

In the qualitative analysis of user experiences with mental health chatbots, five major themes emerged, each encompassing a range of minor themes and associated concepts, which are detailed below. Interview quotes are included to illustrate these themes directly from the participants' perspectives.

## 3.1. User Engagement and Interaction

Participants highlighted Ease of Use as a critical factor, noting the importance of an "Intuitive interface," "Quick setup," and "User-friendly navigation." One user mentioned, "I could start chatting immediately; it felt so natural and easy." Personalization was another key theme, with users appreciating "Customizable chatbot responses" and "Adaptive interaction patterns," leading to remarks like, "The bot really got to know me over time." The Continuity of Care provided by the chatbots, including "Follow-up questions" and "Ongoing support," was praised for creating a sense of ongoing engagement. A participant expressed, "It's like it remembers me and cares about my progress." Accessibility was noted for ensuring "24/7 availability" and "Multi-platform access," crucial for users needing support at any time.

# 3.2. Perceived Efficacy

Emotional Support from chatbots, through "Empathy expressions" and "Active listening cues," was frequently mentioned. "It sometimes felt like it understood me better than humans," one user said. In terms of Coping Strategies, the ability to learn "Stress management techniques" and "Relaxation exercises" was valued, with a participant noting, "It gave me tools that I use daily now." The chatbots' role in facilitating Self-Reflection through "Guided mindfulness practices" and "Reflective

questioning" was also highlighted. Impact on Well-being, including "Mood improvement" and "Better stress resilience," was commonly reported, with users saying, "I've noticed a real change in my day-to-day mood."

### 3.3. User Satisfaction and Trust

Concerns about Confidentiality and Privacy were addressed by "Data security protocols" and "Anonymity assurances," with users stating, "I felt safe sharing personal things." Reliability, characterized by "Consistent performance" and "Quick response times," fostered a sense of dependability. User Trust was built through "Demonstrating empathy" and "Positive user testimonials," leading to comments like, "I trust it with my feelings more and more." Feedback Mechanisms allowed for "User feedback collection" and "Implementation of suggestions," which were seen as essential for improvement.

## 3.4. Barriers and Limitations

Technological Issues, such as "Software bugs" and "AI misinterpretations," were cited as significant barriers, with one user explaining, "Sometimes, it just didn't get what I was saying." An Emotional Disconnect was occasionally felt due to the "Lack of human empathy" and "Perceived insensitivity." Users expressed a desire for more depth: "I wish it could understand deeper emotions." The Scope of Assistance provided by chatbots was seen as limited, particularly for "Severe cases" or when "Crisis intervention" was needed.

# 3.5. Future Directions and Improvements

For Enhancements in AI, users hoped for "Better natural language processing" and "More accurate mood detection,"





suggesting a need for more sophisticated understanding capabilities. The Integration with Professional Care was desired, with suggestions for "Referral mechanisms" and "Collaboration with healthcare systems." Lastly, an Expansion of Features, such as "Interactive self-help tools" and "Gamification elements," was recommended to increase engagement and efficacy.

## 4. Discussion and Conclusion

This study has illuminated the multifaceted role of chatbots in mental health interventions through a detailed exploration of user experiences. Our findings reveal that users value ease of use, personalization, and the continuity of care provided by mental health chatbots. These elements were crucial in fostering engagement and a sense of support among users. Furthermore, the perceived efficacy of chatbots in offering emotional support, facilitating coping strategies, and encouraging self-reflection significantly contributed to their acceptance. Participants expressed satisfaction with the confidentiality and privacy measures, underscoring the importance of trust in the adoption of these technologies. However, technological issues and emotional disconnects were identified as notable barriers, pointing to areas for enhancement. The potential for future improvements, including advanced AI capabilities and better integration with professional care, was recognized as vital for maximizing the utility and effectiveness of chatbots in mental health care.

In this qualitative study of user experiences with mental health chatbots, five main themes emerged from the analysis: User Engagement and Interaction, Perceived Efficacy, User Satisfaction and Trust, Barriers and Limitations, and Future Directions and Improvements. These themes were further divided into various categories, each capturing distinct aspects of the user experience with mental health chatbots. The categories identified under each main theme include Ease of Use, Personalization, and Continuity of Care for User Engagement and Interaction; Emotional Support, Coping Strategies, Self-Reflection, and Well-being Perceived on for Confidentiality and Privacy, Reliability, User Trust, and Feedback Mechanisms for User Satisfaction and Trust; Technological Issues and Emotional Disconnect for Barriers and Limitations: and Enhancements in AI. Integration with Professional Care, and Expansion of Features for Future Directions and Improvements.

User Engagement and Interaction was characterized by categories such as Ease of Use, highlighting the importance of intuitive interfaces and user-friendly navigation; Personalization, emphasizing customizable chatbot responses and tailored advice; and Continuity of Care, focusing on follow-up questions and progress tracking. These categories underscored the significance of creating an engaging and seamless user experience to foster ongoing interaction with the chatbot.

Perceived Efficacy explored how chatbots supported users through Emotional Support, offering empathy and active listening; Coping Strategies, providing techniques for stress management and problem-solving; Self-Reflection, encouraging personal insights and mindfulness practices; and Impact on Well-being, reflecting on improvements in mood and stress resilience. This theme demonstrated the potential of chatbots to positively influence mental health and well-being.

User Satisfaction and Trust delved into the aspects of Confidentiality and Privacy, with users valuing data security and anonymity assurances; Reliability, emphasizing the importance of consistent performance and accuracy; User Trust, built through demonstrating empathy and maintaining user privacy; and Feedback Mechanisms, highlighting the role of user feedback in improving chatbot functionalities.

Barriers and Limitations identified challenges such as Technological Issues, including software bugs and connectivity problems, and Emotional Disconnect, reflecting the perceived lack of empathy and depth in chatbot responses. These categories pointed to critical areas where mental health chatbots could be improved to better meet user needs.

Future Directions and Improvements suggested areas for advancement, including Enhancements in AI for more natural and nuanced conversations; Integration with Professional Care to create a more holistic support system; and Expansion of Features, recommending broader mental health resources and interactive tools. This theme encapsulates the potential evolution of chatbot interventions to more effectively support mental health care.

The burgeoning interest in chatbots for mental health interventions reflects a pivotal shift towards integrating technology in addressing psychological well-being. This discussion draws upon the results of our study in light of existing literature to elucidate the potential of chatbots in





mental health care, user experiences, and the road ahead for these interventions.

Our findings, resonating with Abd-Alrazaq et al. (2021), underscore the significance of delving into patient perceptions to refine and enhance the acceptance and effectiveness of mental health chatbots (Abd-Alrazaq et al., 2021). This emphasis on user experience is critical, as it directly influences the utility and adoption of these technological solutions. Similarly, Cameron et al. (2017) highlighted chatbots' capability to surmount conventional barriers in mental health care, such as accessibility issues and resource limitations, affirming the necessity for further exploration into their impact on mental health outcomes (Cameron et al., 2017).

The COVID-19 pandemic has undeniably exacerbated mental health challenges globally, with Zhu et al. (2021) showcasing chatbots' role in mitigating stress and supporting mental well-being during such unprecedented times (Zhu et al., 2021). This aligns with our findings that chatbots serve not only as a therapeutic tool but also as a readily accessible support mechanism for individuals facing mental health issues amidst crises.

Furthermore, the perspectives of mental health professionals, as explored by Sweeney et al. (2021), reveal a cautious optimism towards utilizing chatbots in mental health support (Sweeney et al., 2021). These insights underscore the importance of aligning chatbot development with the needs and expectations of both users and professionals to ensure their effective integration into mental health care practices.

Zhu et al. (2022) and Weeks et al. (2023) provide a deeper understanding of the factors influencing user satisfaction and the continued use of mental health chatbots (Weeks et al., 2023; Zhu et al., 2022). Our study's themes of user engagement, perceived efficacy, and satisfaction echo these findings, suggesting that personalized, user-centric chatbot designs are paramount in fostering a positive and sustainable user experience.

Addressing the challenges identified by Deshpande & Warren (2021) and Dosovitsky & Bunge (2022), such as ensuring safety in self-harm detection and tailoring chatbots to user recommendations, our study highlights similar areas for development (Deshpande & Warren, 2021; Dosovitsky & Bunge, 2022). These challenges point towards the critical need for ongoing research and refinement in chatbot design and functionality to address the complex spectrum of mental health needs effectively.

In conclusion, our findings, supported by the extant literature, affirm the transformative potential of chatbots in mental health interventions. The collective insights from studies by Abd-Alrazaq et al. (2021), Cameron et al. (2017), Zhu et al. (2021, 2022), Sweeney et al. (2021), and Weeks et al. (2023) elucidate the intricate dynamics of user experiences, the importance of nuanced chatbot design, and the overarching need for a collaborative approach in advancing mental health chatbot interventions (Abd-Alrazaq et al., 2021; Cameron et al., 2017; Sweeney et al., 2021; Weeks et al., 2023; Zhu et al., 2021; Zhu et al., 2022). As we move forward, it is imperative to navigate the challenges and opportunities presented by these technologies, ensuring that chatbots not only serve as a bridge to mental health care but also enhance the quality and accessibility of support for individuals worldwide.

### 5. Limitations and Suggestions

This study is subject to several limitations. The qualitative nature and the relatively small sample size may limit the generalizability of the findings. Additionally, the reliance on self-reported data may introduce biases, as participants' reflections on their experiences could be influenced by their current mental state or recall abilities. The diversity in the types of chatbots used by participants also adds variability to the data, potentially affecting the uniformity of user experiences reported.

Future research should aim to address the limitations of the current study by employing larger, more diverse samples and quantitative measures to validate and extend the qualitative insights. Longitudinal studies could provide a deeper understanding of how user experiences evolve over time and the long-term impact of chatbot interventions on mental health outcomes. Investigating the integration of chatbots with traditional therapeutic methods could also offer valuable insights into creating a more holistic approach to mental health care.

For practitioners, this study underscores the importance of considering user experience in the design and implementation of mental health chatbots. Ensuring ease of use, personalization, and effective communication of privacy policies can enhance user engagement and trust. Addressing the technological and emotional limitations identified can improve the efficacy of these interventions. For mental health professionals, incorporating chatbots as a supplementary tool could offer an additional layer of support to clients, potentially bridging gaps in care and





making mental health services more accessible to those in need.

#### **Authors' Contributions**

All authors have contributed significantly to the research process and the development of the manuscript.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

## **Transparency Statement**

Data are available for research purposes upon reasonable request to the corresponding author.

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#### **Declaration of Interest**

The authors report no conflict of interest.

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#### **Ethical Considerations**

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

#### References

- Abd-Alrazaq, A., Alajlani, M., Ali, N., Denecke, K., Bewick, B. M., & Househ, M. (2021). Perceptions and Opinions of Patients About Mental Health Chatbots: Scoping Review. *Journal of medical Internet research*. https://doi.org/10.2196/17828
- Battarbee, K., & Koskinen, I. (2005). Co-Experience: User Experience as Interaction. *Codesign*. https://doi.org/10.1080/15710880412331289917
- Cameron, G., Cameron, D. M., Megaw, G., Bond, R., Mulvenna, M., O'Neill, S., Armour, C., & McTear, M. F. (2017). Towards a Chatbot for Digital Counselling. https://doi.org/10.14236/ewic/hci2017.24
- Deshpande, S., & Warren, J. (2021). Self-Harm Detection for Mental Health Chatbots. https://doi.org/10.3233/shti210118
- Dosovitsky, G., & Bunge, E. L. (2022). Development of a Chatbot for Depression: Adolescent Perceptions and Recommendations. *Child and Adolescent Mental Health*. https://doi.org/10.1111/camh.12627
- Hussain, J., Azhar, Z., Ahmad, H. F., Afzal, M., Raza, M. R., & Lee, S. (2022). User Experience Quantification Model From Online User Reviews. *Applied Sciences*. https://doi.org/10.3390/app12136700
- Mashapa, J., Chelule, E., Greunen, D. v., & Veldsman, A. (2013). Managing User Experience Managing Change. https://doi.org/10.1007/978-3-642-40480-1\_46
- Pavlov, K., Montalvo, F., Sasser, J. A., Jones, L., McConnell, D. S., & Smither, J. A. (2022). Applying User Experience Principles to Patient Experiences. Proceedings of the Human Factors and Ergonomics Society Annual Meeting. https://doi.org/10.1177/1071181322661478
- Sweeney, C., Potts, C., Ennis, E., Bond, R., Mulvenna, M., O'Neill, S., Malcolm, M., Kuosmanen, L., Kostenius, C., Vakaloudis, A., McConvey, G., Turkington, R., Hanna, D. B., Nieminen, H., Vartiainen, A.-K., Robertson, A., & McTear, M. F. (2021). Can Chatbots Help Support a Person's Mental Health? Perceptions and Views From Mental Healthcare Professionals and Experts. *Acm Transactions on Computing for Healthcare*. https://doi.org/10.1145/3453175
- Weeks, R., Sangha, P., Cooper, L., Sedoc, J., White, S., Gretz, S., Toledo, A., Lahav, D., Hartner, A.-M., Martin, N., Slonim, N., & Bar-Zeev, N. (2023). Usability and Credibility of a COVID-19 Vaccine Chatbot for Young Adults and Health Workers in the United States: Formative Mixed Methods Study. *JMIR human factors*. https://doi.org/10.2196/40533
- Zhu, Y., Janssen, M., Wang, R., & Liu, Y. (2021). It Is Me, Chatbot: Working to Address the COVID-19 Outbreak-Related Mental Health Issues in China. User Experience, Satisfaction, and Influencing Factors. *International Journal of Human-Computer Interaction*. https://doi.org/10.1080/10447318.2021.1988236
- Zhu, Y., Wang, R., & Pu, C. (2022). "I Am Chatbot, Your Virtual Mental Health Adviser." What Drives Citizens' Satisfaction and Continuance Intention Toward Mental Health Chatbots During the COVID-19 Pandemic? An Empirical Study in China. *Digital Health*. https://doi.org/10.1177/20552076221090031

