



## User Preferences for AI-Powered Mental Health Chatbots in Malaysia: A Thematic Analysis

By

Nur Amalina Zulkefli<sup>1\*</sup>, Shishi Kumar Piaralal<sup>2</sup>, Santhi Raghavan<sup>3</sup>, Ahmad Aiman Dahakim<sup>4</sup>, Mohd Razif Ramli<sup>5</sup>

Faculty of Business and Management, Open University Malaysia, Kelana Jaya, 47301 Petaling Jaya, Selangor, Malaysia



### Article History

Received: 13/05/2026

Accepted: 23/05/2026

Published: 26/05/2026

Vol – 5 Issue – 5

PP: - 01-08

### Abstract

AI-powered mental health chatbots are increasingly positioned as scalable solutions to address gaps in mental health service accessibility. However, existing research remains largely Western-centric and system-oriented, with limited insight into how users in culturally diverse contexts construct meaning and form preferences toward these technologies. This study addresses this gap by examining how Malaysian users evaluate and explain their preferences for AI-powered mental health chatbots designed for the local context. A qualitative research design was employed using thematic analysis of 470 open-ended survey responses from Malaysian users. Data analysis followed a six-phase interpretive framework, supported by AI-assisted coding and pattern recognition, with continuous researcher validation to ensure analytic rigor and contextual accuracy. The analysis identified three interrelated dimensions shaping preference formation: cultural alignment, functional accessibility, and emotional safety. These dimensions function as interpretive lenses through which users assess the contextual relevance, practical value, and psychological acceptability of AI-based mental health support. Preference formation is not uniform but contingent and negotiated. Acceptance is shaped by expectations of system reliability and informational adequacy, whereas resistance emerges from concerns regarding emotional authenticity, trust, and the perceived limits of AI empathy. The study advances a culturally grounded, user-centered perspective on AI chatbot evaluation by foregrounding meaning-making processes in non-Western contexts and offers design implications for developing culturally adaptive and emotionally responsive digital mental health systems.

**Keywords:** AI-powered mental health chatbots; cultural alignment; emotional safety; user meaning-making; thematic analysis; Malaysia

## 1. INTRODUCTION

Artificial Intelligence (AI) is increasingly recognized as a transformative force in mental healthcare, offering new possibilities for understanding, supporting, and responding to mental health conditions beyond the limitations of traditional service delivery (Park et al., 2023). The global mental health burden continues to rise, driven by increasing levels of stress, anxiety, and depressive disorders, highlighting the urgent need for scalable and accessible support systems (Cheng & Jiang, 2020). Recent developments in digital mental health have expanded the application of AI across multiple domains, including virtual therapists, early detection systems, preventive interventions, and personalized support mechanisms (Casu et al., 2024; Olawade et al., 2024). Among these innovations, AI-powered conversational agents, commonly referred to as chatbots, have emerged as one of the

most widely adopted technologies in mental health support ecosystems (Cheng et al., 2024).

Chatbots are AI-driven systems designed to simulate human-like conversation through text or voice interaction, enabling responsive and adaptive communication with users (Ashfaq et al., 2020; Dinh & Park, 2023). By leveraging natural language processing (NLP) and machine learning techniques, these systems generate contextually relevant responses and engage in structured dialogue that simulates human interaction (Xue et al., 2024). Many widely used mental health chatbots, such as Woebot and Wysa, are grounded in Cognitive Behavioral Therapy (CBT), a structured psychotherapeutic approach that focuses on identifying and modifying dysfunctional cognitive patterns influencing emotions and behavior (Nakao et al., 2021). Empirical studies have demonstrated the effectiveness of CBT in addressing a wide range of mental health conditions, including anxiety, depression, stress-related

\*Corresponding Author: Nur Amalina Zulkefli



disorders, insomnia, and substance-related challenges (Hertenstein et al., 2022). AI-based CBT chatbots function as self-guided digital interventions that integrate NLP and machine learning to personalize therapeutic interactions based on users' emotional states and contextual needs (Haque & Rubya, 2023). This adaptive capability allows users to engage in emotional regulation practices in a flexible and accessible manner, extending mental health support beyond traditional clinical environments.

Despite global advancements in digital mental health technologies, significant challenges remain in ensuring equitable access to mental health services, particularly in developing contexts. In Malaysia, mental health services continue to face limitations in addressing the growing psychological burden in a comprehensive and integrated manner (National Strategic Plan for Mental Health, 2020). Multiple structural and psychosocial barriers persist, including limited availability of mental health professionals, financial constraints, stigma associated with mental illness, and a preference for self-managed coping strategies (Cheng & Jiang, 2020). These barriers contribute to a widening mental health treatment gap, particularly among young adults who may avoid formal psychological services due to cultural and social sensitivities. As a result, AI-powered mental health chatbots have been positioned as alternative support systems that provide anonymous, accessible, and stigma-free environments for individuals to express emotional concerns and seek preliminary guidance (Rebelo et al., 2023).

Although the adoption of AI-powered mental health chatbots is expanding, most existing systems are developed within Western cultural and linguistic frameworks. This raises concerns regarding their relevance and effectiveness in non-Western contexts such as Malaysia, where cultural norms, communication styles, family dynamics, and mental health perceptions differ significantly. While existing research has predominantly focused on usability, system performance, and behavioral acceptance, there remains a critical gap in understanding how users construct meaning from AI mental health chatbots within their cultural context. Specifically, there is limited empirical insight into how Malaysian users interpret, negotiate, and give meaning to localized AI mental health support systems in relation to their lived experiences, cultural expectations, and social realities. This indicates an epistemic gap in the current literature, where user perspectives are often measured quantitatively rather than deeply explored through lived experience and contextual meaning-making.

In response to this gap, this study focuses on Malaysian users' perceptions of AI-powered mental health chatbots designed for the local context, with emphasis on how users construct meaning and interpret their preferences within their socio-cultural environment. The aim of this study is to explore Malaysian users' preferences for AI-powered mental health chatbots designed for the local context, with a particular focus on understanding the underlying reasons shaping these preferences through qualitative thematic analysis. Accordingly, the study is guided by the following research question:

**RQ: How do Malaysian users construct and explain their preferences for localized AI-powered mental health chatbots?**

This study contributes to the literature on digital mental health and AI-based conversational systems in three key ways. First, it advances existing research by shifting the focus from system-centric evaluation and adoption metrics to user-centered meaning construction and interpretation of lived experience. Second, it provides empirically grounded insights into how Malaysian users interpret and evaluate AI mental health chatbots within a culturally diverse and socially complex environment, addressing the limitations of Western-centric AI design frameworks. Third, the study offers design implications for culturally adaptive AI mental health systems, highlighting how contextual sensitivity, cultural alignment, and user expectations shape engagement with AI-driven mental health support.

## 2. METHOD

### 2.1 Research Design

This study adopts a qualitative research design to explore Malaysian users' preferences for AI-powered mental health chatbots designed for the local context. A thematic analysis approach was employed to systematically identify, analyze, and interpret patterns of meaning within open-ended survey responses. Thematic analysis was selected because it allows for a flexible yet rigorous examination of participants' subjective perspectives, making it particularly suitable for exploring culturally embedded interpretations and users' meaning-making processes within digital mental health contexts.

### 2.2 Data Collection

Data were collected via an online survey with open-ended questions to capture participants' perceptions and preferences regarding localized AI-powered mental health chatbots. A purposive sampling strategy was used to recruit Malaysian users who had prior exposure to digital technologies. Participants comprised Malaysian users from diverse demographic backgrounds, including varying age groups and levels of familiarity with digital technologies, to capture a broad range of perspectives. A total of 470 valid responses were obtained and included in the analysis. The sample size was considered sufficient to achieve thematic sufficiency, as recurring patterns and stable themes were consistently observed across the dataset. Responses were screened and cleaned prior to analysis to ensure completeness and relevance, with incomplete or non-substantive responses removed.

### 2.3 Data Analysis Procedure

The data were analyzed using the six-phase thematic analysis framework proposed by Braun and Clarke (2006). The analysis began with repeated reading of all responses to ensure familiarization with the dataset. This was followed by the generation of initial codes from meaningful units of text, capturing key ideas and recurring patterns within participants' responses. Subsequently, related codes were systematically organized to identify preliminary themes. These themes were

then reviewed and refined to ensure internal coherence, conceptual clarity, and a clear distinction between categories. Each theme was further defined and named to accurately reflect its underlying meaning and analytical scope. The final stage involved producing the analytical narrative and interpretation of the findings.

While the analytical process remained primarily researcher-driven and inductive, selected stages of coding and pattern identification were supported by AI-assisted techniques, in line with recent methodological guidance (Naeem et al., 2025). Specifically, structured prompts aligned with the six-phase thematic analysis framework were employed to facilitate initial code generation, pattern recognition, and preliminary grouping of responses. All AI-generated outputs were critically reviewed, interpreted, and refined by the researcher to ensure that analytical decisions remained grounded in the original dataset. This structured and iterative human-in-the-loop process ensured a transparent and rigorous analytical approach, allowing themes to emerge inductively while maintaining researcher control over interpretation. The overall analytical workflow is illustrated in Figure 1.

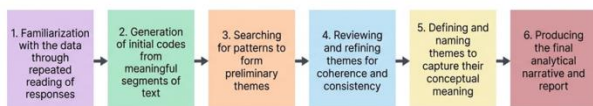


Fig 1. Thematic Analysis Workflow

## 2.4 Coding Strategy

An inductive coding approach was employed to allow themes to emerge directly from participants' responses without imposing pre-existing theoretical structures. The unit of analysis consisted of meaning units, defined as words, phrases, or short segments of text that conveyed a single coherent idea relevant to users' perceptions and preferences. The coding process followed a researcher-led approach supported by AI-assisted analysis, consistent with emerging frameworks that integrate generative AI into thematic analysis (Naeem et al., 2025; Perkins & Roe, 2024; Nguyen-Trung, 2025). Structured prompts were developed in alignment with Braun and Clarke's (2006) six-phase framework to assist in generating initial code suggestions, identifying recurring patterns, and clustering semantically related responses.

AI-generated outputs were treated as provisional analytical inputs rather than definitive coding decisions. All suggested codes and patterns were critically evaluated, refined, and validated by the researcher to ensure contextual accuracy and fidelity to participants' meanings. This approach reflects a human-in-the-loop analytical process, in which AI supports but does not replace interpretive judgment. An iterative process of comparison and refinement was conducted, whereby codes were reviewed, merged, and reorganized to enhance conceptual clarity and reduce redundancy. Throughout this process, analytic memos were maintained to document coding decisions, emerging insights, and theme development, thereby creating a transparent audit trail.

Following the procedural logic outlined by Naeem et al. (2025), AI assistance was primarily utilized during early-stage

coding and pattern detection, while later stages of theme refinement and interpretation remained fully researcher-driven. The final themes were derived through repeated review and consolidation of refined codes, ensuring internal coherence and clear differentiation between themes. The integration of AI-assisted support with researcher-led interpretation enabled a systematic and transparent coding process while preserving the central role of human judgment in qualitative analysis.

## 2.5 Trustworthiness and Rigor

Trustworthiness was established using established qualitative criteria, including credibility, dependability, and confirmability, following methodological guidance for thematic analysis rigor (Nowell et al., 2017). Credibility was enhanced through systematic and iterative coding, involving continuous comparison of data segments and refinement of emerging themes to ensure that interpretations remained grounded in participants' responses. Representative excerpts were incorporated to provide transparent evidence linking the data to the analytical interpretations.

Dependability was supported by a structured and traceable analytical process. Analytic memos documented coding decisions, theme development, and interpretive reflections throughout the analysis, creating a clear audit trail. Confirmability was strengthened by maintaining a researcher-driven interpretive approach in the context of AI-assisted analysis. While AI techniques were used to support coding and pattern identification, all outputs were critically evaluated and validated against the original data to ensure that interpretations remained data-driven rather than algorithmically determined. The controlled and reflective use of AI further ensured that analytical outcomes were shaped by the data rather than automated processes, reinforcing the transparency and rigor of the study. Together, these procedures ensured that the analysis remained systematic, transparent, and grounded in participants' perspectives, enhancing the overall rigor and reliability of the study.

## 3. RESULTS AND DISCUSSION

### 3.1 Overview of Findings

Thematic analysis of 470 open-ended responses revealed a predominantly positive orientation toward AI-powered mental health chatbots designed for the Malaysian context. However, this preference is not uniform; rather, it is shaped by a complex interplay of cultural, functional, and psychological considerations. Six overarching themes were identified: (1) cultural and contextual relevance, (2) accessibility and usability, (3) emotional safety and anonymity, (4) perceived effectiveness and informational utility, (5) conditional acceptance and hybrid expectations, and (6) resistance and preference for human interaction. Together, these themes illustrate how users construct and negotiate their preferences within specific socio-cultural and technological contexts. Importantly, rather than emerging as a standalone theme, user preference is constructed across these themes as an overarching evaluative outcome, reflecting how users

interpret and integrate multiple considerations when assessing AI-powered mental health chatbots.

### 3.2 Cultural and Contextual Relevance

Cultural and contextual relevance emerged as the most dominant factor influencing user preferences. Participants consistently emphasized that mental health experiences are deeply embedded within cultural norms, religious values, and societal expectations, which vary across contexts.

Several respondents highlighted the importance of localized understanding, noting that a chatbot should be able to “understand local expressions, traditions, family dynamics, and social pressures” and be “related to Malaysian issues.” Others emphasized Malaysia’s diversity, stating that “Malaysia is a multi-racial country” and “different countries have different cultures,” indicating the need for culturally adaptive systems.

This finding suggests that users associate localization with contextual intelligence and social alignment. Rather than viewing chatbots as purely technical tools, participants evaluate them based on their ability to reflect lived cultural realities. From an interpretive perspective, this indicates that cultural relevance functions as a mechanism of trust formation, where systems perceived as culturally aligned are more likely to be accepted and engaged with.

### 3.3 Accessibility and Usability

Accessibility and usability represent another key driver shaping user preferences. Many participants framed AI-powered chatbots as convenient, efficient, and practical alternatives to traditional mental health services.

Short responses such as “easy to use,” “user-friendly,” and “easy to get information” were frequently observed. More elaborate responses highlighted structural advantages, such as “low cost or free rather than hospital” and “appointment with a specialist does not need to wait a long time,” suggesting that chatbots are perceived as solutions to systemic access barriers.

This reflects a utilitarian orientation toward AI technologies, where value is derived from efficiency, immediacy, and ease of access. In this context, chatbots are positioned as functional substitutes for limited mental health infrastructure, particularly in environments where cost, time, and availability constrain access to professional care.

### 3.4 Emotional Safety and Anonymity

A prominent theme across responses is the role of chatbots as psychologically safe spaces for emotional expression. Participants frequently highlighted issues of shyness, stigma, and discomfort associated with face-to-face interactions.

For example, respondents noted that “many Malaysians are shy and prefer not to share,” while others stated that “people are shy to face-to-face and lack confidence” or that chatbots are helpful for “introverts.” Some participants explicitly emphasized emotional comfort, indicating that they feel “more comfortable to share” through AI-mediated interaction.

These responses suggest that chatbots are perceived as non-judgmental platforms, enabling disclosure without fear of

social evaluation. From a socio-cultural perspective, this reflects the influence of stigma and interpersonal sensitivity in mental health help-seeking behavior. AI chatbots, therefore, function not only as informational tools but also as emotionally safe intermediaries.

### 3.5 Perceived Effectiveness and Informational Utility

Participants also evaluated chatbots based on their perceived ability to deliver useful, accurate, and actionable support. Many responses emphasized expectations of guidance and problem-solving capabilities.

Examples include statements such as “can offer better advice,” “provide guidelines regarding health care,” and “help understand mental health conditions.” Others highlighted perceived accuracy, noting that localized systems could be “more accurate” and “more relevant to the Malaysian context.”

This indicates that users expect chatbots to perform instrumental roles, extending beyond emotional support to include informational and advisory functions. The emphasis on effectiveness suggests that perceived usefulness remains a critical determinant of user preference, reinforcing the expectation that AI systems should deliver tangible value in addressing mental health concerns. Conceptually, this theme aligns with functional accessibility, particularly in terms of perceived usefulness and informational value derived from the system.

### 3.6 Conditional Acceptance and Hybrid Expectations

Despite the overall positive orientation, a notable portion of responses reflects conditional or ambivalent attitudes toward localized chatbots. Participants expressed that their acceptance depends on factors such as quality, reliability, and the balance between local and global perspectives.

Some respondents indicated “outside perspective combined with Malaysian context is optimal,” while others suggested, “generic is better.” These responses highlight the expectation that localized systems should not be overly restrictive but instead integrate broader knowledge with contextual sensitivity.

This theme reveals that user preferences are not absolute but contingent, shaped by perceived system performance and design quality. Importantly, participants implicitly advocate for a hybrid model of intelligence in which localized relevance is complemented by global insights.

### 3.7 Resistance and Preference for Human Interaction

A minority of participants expressed resistance toward AI-powered mental health chatbots, primarily due to concerns about emotional authenticity and trust.

Statements such as “prefer talking to a human,” “robot is robot,” and “human touch is irreplaceable” reflect skepticism toward the ability of AI systems to replicate genuine emotional understanding. Others raised concerns about

reliability, including “AI hallucinations” and limitations in emotional comprehension.

These responses highlight a critical boundary condition in AI adoption: the perceived inability of chatbots to provide authentic empathy. From an interpretive standpoint, resistance is less about technological capability and more about the perceived absence of human emotional depth, suggesting that AI systems are unlikely to fully replace human interaction in mental health contexts.

### 3.8 Integrative Interpretation

Taken together, the findings indicate that Malaysian users’ preferences for localized AI-powered mental health chatbots are shaped by the interaction of three core evaluative dimensions: cultural alignment, functional accessibility, and emotional safety. These dimensions capture how users assess the relevance, usability, and psychological comfort of chatbot systems within their socio-cultural context.

The six themes identified in the analysis contribute to this evaluative process in different ways. Cultural and contextual relevance, accessibility and usability, and emotional safety and anonymity directly reflect these core dimensions. Perceived effectiveness and informational utility further reinforce functional accessibility by highlighting users’ expectations regarding usefulness and practical value. In contrast, conditional acceptance and resistance to AI interaction function as boundary conditions that shape how these dimensions are interpreted and weighed. While positive evaluations across cultural, functional, and emotional aspects enhance user preference, concerns related to system quality, trust, and the perceived limitations of AI may constrain or qualify acceptance.

These findings suggest that user preference is not formed as a single, linear outcome, but rather emerges as a negotiated and context-dependent evaluation. Users balance perceived benefits with concerns about authenticity and reliability, positioning AI-powered chatbots not as substitutes for human care but as complementary tools within a broader mental health support ecosystem.

## 4. CONCEPTUAL FRAMEWORK

### 4.1 Conceptual Model of User Preferences for Localized AI Mental Health Chatbots

Building on the thematic findings, this study proposes a conceptual framework that explicates how Malaysian users construct their preferences toward AI-powered mental health chatbots designed for the local context. Rather than treating preference as a direct outcome of technological features, the framework conceptualizes it as a socially and culturally situated process of meaning construction. This perspective aligns with prior research emphasizing that users’ evaluations of AI systems are shaped not only by system characteristics but also by experiential, emotional, and contextual interpretations (Ashfaq et al., 2020; Ramya & Alur, 2024). The six themes identified in the analysis are synthesized into three overarching dimensions: cultural alignment, functional

accessibility, and emotional safety, which collectively shape the formation of user preference.

Cultural alignment refers to the extent to which the chatbot is perceived as resonating with users’ cultural norms, linguistic expressions, and lived experiences within the Malaysian context. While prior chatbot research has largely focused on system quality and information quality as determinants of user satisfaction (Rouibah et al., 2020), the present findings extend this perspective by demonstrating that cultural congruence functions as a critical interpretive lens, particularly in non-Western settings. This suggests that beyond delivering accurate information, AI systems must also align with culturally embedded expectations and communication styles to be perceived as relevant and trustworthy.

Functional accessibility reflects users’ evaluation of the system’s usability, convenience, and its capacity to mitigate structural barriers, such as cost, time constraints, and limited access to professional mental health services. This dimension resonates with existing literature highlighting the importance of perceived usefulness, ease of use, and service quality in shaping user satisfaction and continued engagement with chatbot systems (Li et al., 2021). However, the current study extends these utilitarian considerations by situating them within a broader context of accessibility-driven need, in which chatbots are perceived as practical alternatives to constrained healthcare infrastructure.

Emotional safety reflects the perceived psychological comfort associated with interacting with the chatbot, including anonymity, privacy, and the absence of social judgment. This finding is consistent with prior studies emphasizing the role of emotional and relational dimensions in shaping user engagement with AI systems. For instance, research has shown that emotional interaction and parasocial relationships significantly influence users’ attitudes and continued use of chatbots (Lee & Park, 2022). In the context of mental health, this dimension becomes particularly salient, as users seek environments that facilitate open expression without fear of stigma or negative evaluation.

Importantly, the influence of these dimensions is not linear or unconditional. The findings indicate that user preference is further shaped by two key boundary conditions, namely conditional acceptance and resistance to AI interaction. Conditional acceptance reflects users’ expectations that localized systems should balance contextual relevance with broader, globally informed knowledge, while also meeting expectations of reliability and quality; factors previously identified as critical in shaping satisfaction and continuance intention (Li et al., 2021). Resistance to AI interaction, in contrast, captures concerns related to emotional authenticity, trust, and the perceived limitations of AI in replicating human empathy. This aligns with prior research suggesting that the need for human interaction and concerns over technological limitations may constrain user acceptance of chatbot systems (Murtarelli et al., 2023).

These boundary conditions influence how users interpret and negotiate the value of AI-powered chatbots. While strong

cultural alignment, functional accessibility, and emotional safety enhance the perceived suitability of such systems, resistance and conditional expectations may attenuate or constrain the formation of preference. In this sense, user preference emerges not as a fixed or uniform outcome, but as a contingent and negotiated evaluation, shaped by both enabling and constraining factors.

The proposed framework advances the understanding of AI-powered mental health chatbot adoption by demonstrating that user preference is not solely determined by technological capability. Instead, it is constituted through the dynamic interplay between cultural meaning, functional value, and emotional trust, situated within users' broader beliefs about the role, appropriateness, and limitations of AI in mental health support. By integrating insights from prior research on chatbot quality, satisfaction, and continuance intention, this study extends existing knowledge by foregrounding contextual and interpretive dimensions that are often underexplored in predominantly quantitative models. The conceptual framework summarizing these relationships is presented in Figure 2.

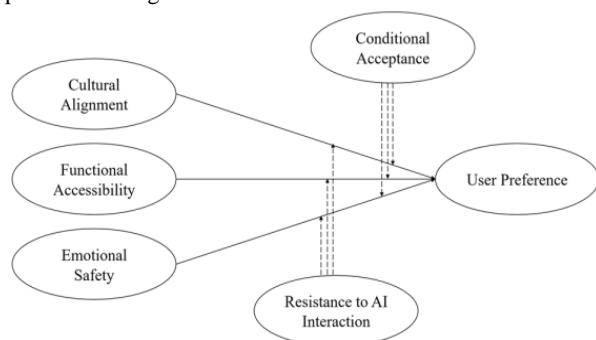


Fig 2. Conceptual Framework

#### 4.2 Theoretical Contribution of the Framework

The proposed framework contributes to the literature in several important ways. First, it advances understanding of AI-powered mental health chatbots by shifting the focus from system-centric evaluation to user-centered meaning construction, highlighting how preferences are shaped by culturally embedded interpretations rather than purely functional considerations. Second, the framework extends existing research on digital mental health technologies by introducing cultural alignment as a central determinant, particularly within non-Western contexts. This addresses the limitation of prior studies that predominantly examine AI systems developed within Western cultural paradigms. Third, the framework conceptualizes user preference as a multi-dimensional and moderated process, rather than a direct outcome of perceived usefulness or usability. By incorporating emotional safety and resistance factors, the model acknowledges the complex and sometimes ambivalent nature of human-AI interaction in sensitive domains such as mental health.

#### 4.3 Practical Implications for AI Chatbot Design

The framework provides actionable insights for the design and development of AI-powered mental health chatbots. First,

developers should prioritize cultural adaptation, including integrating local language nuances, social norms, and culturally relevant examples. Second, ensuring ease of use and accessibility remains critical, particularly in addressing barriers related to cost, time, and availability of traditional mental health services. Third, chatbot systems should be designed to enhance emotional safety by emphasizing privacy, anonymity, and nonjudgmental interaction to encourage user engagement. Finally, designers should recognize that AI chatbots are unlikely to replace human professionals entirely; instead, they should be positioned as complementary tools within a broader mental health ecosystem.

## 5. CONCLUSION

This study explored how Malaysian users construct their preferences toward AI-powered mental health chatbots designed for the local context. Based on thematic analysis of 470 open-ended responses, the findings demonstrate that user preference is not determined solely by technological features, but is shaped through a contextual and interpretive process of meaning-making grounded in cultural, functional, and emotional considerations.

Three key dimensions: cultural alignment, functional accessibility, and emotional safety, emerged as central in shaping users' evaluations of localized AI mental health chatbots. These dimensions highlight the importance of cultural relevance, system usability, and psychological comfort in influencing how users perceive and engage with AI-based mental health support systems. In addition, the findings reveal that user preference is contingent and negotiated rather than fixed, influenced by boundary conditions such as conditional acceptance and resistance to AI interaction. While users generally acknowledge the potential value of localized chatbots, their acceptance is shaped by expectations of system reliability and broader informational adequacy, as well as concerns regarding emotional authenticity and the limits of AI empathy.

The study contributes a context-sensitive understanding of AI mental health chatbot evaluation by highlighting how user preference emerges from the interaction between cultural meaning, functional value, and emotional trust. It shifts the focus away from purely system-oriented explanations toward a more user-centered and culturally grounded interpretation of AI engagement in mental health contexts. From an applied perspective, the findings suggest that AI mental health chatbot development should prioritize cultural localization, accessibility, and emotionally sensitive design, while acknowledging the complementary rather than substitutive role of AI in relation to human mental health professionals.

#### 5.1 Limitations

Several limitations should be acknowledged when interpreting the findings of this study. First, the data were collected through a single open-ended survey question, which, while enabling broad participation, may limit the depth of individual responses compared to in-depth interviews or focus group discussions. As such, the findings capture a wide range of perspectives but may not fully reflect the complexity of

individual experiences. Second, the study is situated within the Malaysian context, which may limit the generalizability of the findings to other cultural or geographical settings. Cultural norms, mental health perceptions, and attitudes toward AI technologies vary across societies, and therefore, the identified themes may manifest differently in other contexts. Third, although thematic analysis provides a systematic approach to identifying patterns within qualitative data, the interpretation of responses remains inherently subjective. While efforts were made to ensure analytical rigor and consistency, alternative interpretations of the data may still be possible.

## 5.2 Future Research

Future research can build on the present study in several important ways. First, subsequent studies may adopt mixed-method or longitudinal designs to examine how user preferences evolve over time and how they translate into actual usage behavior and continuance intention. This would help bridge the gap between perceived preference and behavioral outcomes. Second, future research could expand the scope beyond Malaysia to include cross-cultural comparative studies, enabling a deeper understanding of how cultural context shapes user expectations and acceptance of AI-powered mental health technologies. Third, more in-depth qualitative approaches, such as interviews or ethnographic studies, could be employed to explore users' lived experiences in greater detail, particularly in relation to emotional engagement, trust formation, and human-AI relational dynamics. Finally, future studies may examine the design and implementation of hybrid models, integrating AI chatbots with human mental health professionals, to better understand how such systems can complement existing healthcare services while addressing users' concerns regarding emotional authenticity and trust.

## REFERENCES

- Ashfaq, M., Yun, J., Yu, S., & Loureiro, S. M. C. (2020). I, Chatbot: Modeling the determinants of users' satisfaction and continuance intention of AI-powered service agents. *Telematics and Informatics*, 54, 101473. <https://doi.org/10.1016/j.tele.2020.101473>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Casu, M., Triscari, S., Battiato, S., Guarnera, L., Caponnetto, P. (2024). AI chatbots for mental health: A scoping review of effectiveness, feasibility, and applications. *Appl. Sci*, 14. <https://doi.org/10.3390/app14135889>
- Cheng, Y., & Jiang, H. (2020). AI-Powered mental health chatbots: Examining users' motivations, active communicative action and engagement after mass-shooting disasters. *Journal of Contingencies and Crisis Management*, 28(3), 339–354. <https://doi.org/10.1111/14685973.12319>
- Cheng, Y., Wang, Y., & Lee, J. (2024). Using a Chatbot to Combat Misinformation: Exploring Gratifications, Chatbot Satisfaction and Engagement, and Relationship Quality. *International Journal of Human-Computer Interaction*, 1–13. <http://doi.org/10.1080/10447318.2024.2344149>
- Dinh, C. M., & Park, S. (2023). How to increase consumer intention to use Chatbots? An empirical analysis of hedonic and utilitarian motivations on social presence and the moderating effects of fear across generations. *Electronic Commerce Research*, 1-41. <https://doi.org/10.1007/s10660-022-09662-5>
- Haque, M.D.R., & Rubya, S. (2023). An overview of chatbot-based mobile mental health apps: Insights from app description and user reviews. *JMIR Mhealth Uhealth*, 22(11). <http://doi.org/10.2196/44838>
- Hertenstein, E., Trinca, E., Wunderlin, M., Schneider, C. L., Züst, M. A., Fehér, K. D., & Nissen, C. (2022). Cognitive behavioral therapy for insomnia in patients with mental disorders and comorbid insomnia: A systematic review and meta-analysis. *Sleep medicine reviews*, 62, 101597. <https://doi.org/10.1016/j.smrv.2022.101597>
- Li, L., Lee, K. Y., Emokpae, E., & Yang, S. B. (2021). What makes you continuously use chatbot services? Evidence from Chinese online travel agencies. *Electronic Markets*, 1–25. <https://doi.org/10.1007/s12525-020-00454-z>
- Lee, M., & Park, J. S. (2022). Do parasocial relationships and the quality of communication with AI shopping chatbots determine middle-aged women consumers' continuance usage intentions? *Journal of Consumer Behaviour*, 21(4), 842–854. <https://doi.org/10.1002/cb.2043>
- Murtarelli, G., Collina, C., & Romenti, S. (2023). “Hi! How can I help you today?”: investigating the quality of chatbots–millennials relationship within the fashion industry. *The TQM Journal*, 35(3), 719–733. <https://doi.org/10.1108/TQM-0120220010>
- Naeem, M., Smith, T., & Thomas, L. (2025). Thematic analysis and artificial intelligence: A step-by-step process for using ChatGPT in thematic analysis. *International Journal of Qualitative Methods*, 24, 1–15. <https://doi.org/10.1177/16094069251333886>
- Nakao, M., Shiotsuki, K., & Sugaya, N. (2021). Cognitive-behavioral therapy for management of mental health and stress-related disorders: Recent advances in techniques and technologies. *BioPsychoSocial medicine*, 15(1), 16. <https://doi.org/10.1186/s1303002100219w>
- National Strategic Plan for Mental Health 2020 – 2025 (2020). Ministry of Health Malaysia. First Edition 2020. <https://www.moh.gov.my/moh/resources/Penerbitan/Rujukan/NCD/National>

17. Nguyen-Trung, K. (2025). ChatGPT in thematic analysis: Can AI become a research assistant in qualitative research? *Quality & Quantity*. Advance online publication. <https://doi.org/10.1007/s11135-025-02165-z>
18. Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1), 1–13. <https://doi.org/10.1177/1609406917733847>
19. Olawade, D. B., Wada, O. Z., Odetayo, A., David-Olawade, A. C., Asaolu, F., & Eberhardt, J. (2024). Enhancing mental health with Artificial Intelligence: Current trends and future prospects. *Journal of medicine, surgery, and public health*, 100099. <https://doi.org/10.1016/j.gjmedi.2024.100099>
20. Park, G., Chung, J., & Lee, S. (2023). Effect of AI chatbot emotional disclosure on user satisfaction and reuse intention for mental health counselling: a serial mediation model. *Current Psychology*, 42(32), 28663–28673. <https://doi.org/10.1007/s12144022-03932-z>
21. Park, A., & Lee, S. B. (2024). Examining AI and systemic factors for improved Chatbot sustainability. *Journal of Computer Information Systems*, 64(6), 728–742. <https://doi.org/10.1080/08874417.2023.2251416>
22. Perkins, M., & Roe, J. (2024). The use of generative AI in qualitative analysis: Inductive thematic analysis with ChatGPT. *Journal of Applied Learning and Teaching*, 7(1). <https://doi.org/10.37074/jalt.2024.7.1.22>
23. Ramya, J. B., & Alur, S. (2024). The mediating role of parasocial relationship in customer services chatbots among millennials and Gen Z population. *International Journal of Human-Computer Interaction*, 1-13. <https://doi.org/10.1080/10447318.2024.2306438>
24. Rebelo, A. D., Verboom, D. E., dos Santos, N. R., & de Graaf, J. W. (2023). The impact of artificial intelligence on the tasks of mental healthcare workers: A scoping review. *Computers in Human Behavior: Artificial Humans*, 100008. <https://doi.org/10.1016/j.chbah.2023.100008>
25. Rouibah, K., Dihani, A., & Al-Qirim, N. (2020). Critical success factors affecting information system satisfaction in public sector organizations: A perspective on the mediating role of information quality. *Journal of Global Information Management (JGIM)*, 28(3), 77-98. <https://orcid.org/0000-0002-0090-7521>
27. Xue, J., Wang, Y. C., Wei, C., Liu, X., Woo, J., & Kuo, C. C. J. (2024). Bias and fairness in chatbots: An overview. Preprint. <http://doi.10.1561/116.00000064>