

Boundary Turbulence in Digital Spaces: Privacy Management in AI-Powered Mental Health Platforms

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Abstract: This study employs Communication Privacy Management (CPM) Theory to investigate how users manage privacy in artificial intelligence-powered mental health applications. A qualitative analysis of over 500 reviews on the Google Play Store reveals widespread concerns about data security, unauthorized disclosure, and lack of transparency. Findings show that users manage their self-disclosure and trust based on application privacy policies. Regulatory and cultural contexts also shape user expectations, with more stringent demands arising from jurisdictions where data protection law is more robust. The study demands ethical AI design and user-driven privacy policies to reduce boundary turbulence and promote mental health app trust.

Keywords: AI, CPM theory, digital health, mental health apps, privacy

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INTRODUCTION

AI-driven mental health applications are revolutionizing the delivery of mental health services by providing affordable, instant care. But they also pose huge privacy issues because of the nature of user data. This paper examines how users balance the trade-off between getting digital mental health assistance and maintaining their privacy. From a theory of CPM, the study highlights how risks are assessed by users, modulate disclosure, and cope with trust in information policy-enshrouded platforms. The paper format is made up of literature context, methodological design, key findings, and crisis and risk communication implications.

LITERATURE REVIEW

This article evaluates Communication Privacy Management (CPM) theory and its application within health communication as well as electronic environments, particularly concerning artificial intelligence (AI) and mental health websites.

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COMMUNICATION PRIVACY MANAGEMENT THEORY

Communication Privacy Management (CPM) theory, constructed by Sandra Petronio [1], presents a theory regarding the manner individuals manage the disclosure and concealment of personal information. One of the core premises of CPM is that individuals perceive private information as a type of personal property and therefore seek to establish boundaries in an attempt to police access. These boundaries are dynamic, determined by a dialectical equilibrium between desires for privacy and necessities for disclosure. Petronio [1] suggests that privacy management is a complex, rule-based process that is shaped by various factors including cultural norms, gender, motivation, context, and risk and benefit evaluations.

Cultural practices help to determine what information is private and how it must be treated. Gendered expectations and personal motives, for example, a desire for intimacy or self-protection, also shape privacy regulations. These regulations are not rigid; they change as relationships unfold and contexts shift, requiring ongoing negotiation and recalibration. One of the central concepts in CPM theory is boundary turbulence, which occurs as a result of privacy boundaries being violated or misinterpreted. Such violations can lead to conflict and must be renegotiated to reestablish balance. Virtual environments, like social media, are particularly vulnerable to boundary turbulence due to the challenge in monitoring information flow and the risk of unauthorized disclosure [2]. CPM theory relies on open communication and mutual agreement regarding privacy rules as a means of preventing turbulence and relational stability.

CPM THEORY IN HEALTH COMMUNICATION

CPM theory is highly relevant to health communication, where managing sensitive information is paramount. In settings such as patient-provider relationships, family health communication, and support systems, individuals negotiate complex privacy boundaries. These are established by trust, cultural expectations, and perceived consequences of disclosure of health-related information [3].

CPM studies in health contexts highlight the co-management of privacy within interdependent relationships, such as those between patients and healthcare providers or family caregivers. Afifi et al. [4] demonstrate that violations of mutually shared privacy norms can generate boundary turbulence, which undermines trust and prevents effective communication. For example, unauthorized disclosure of a patient's health status by a caregiver can strain the relationship and prevent open communication of health concerns. The advent of telemedicine and digital health platforms introduces new challenges in handling privacy.

Lutz and Hoffmann [5] point out the urgency for such digital health platforms and telemedicine to meet the user expectations on data control and security within these environments. Transparency in privacy practice and open communication are essential to establish trust and enable the adoption of digital health technologies. Moreover, studies like the one done by Lutz and Hoffmann [5] scrutinize the broader implications of online participation, indirectly relating to health communication on online forums, hinting at the risks of privacy breaches on those platforms. CPM Theory, AI, and Digital Contexts The increasing pervasiveness of digital technologies and AI makes CPM theory more relevant. Social networking sites, wearables, and the Internet of Things (IoT) introduce new privacy management challenges. Child and Starcher [2] illustrate how social media users are increasingly confronted with boundary turbulence due to unclear privacy settings and algorithmic breaches of expectation. AI systems, by virtue of the aggregation and processing of large amounts of personal data, give rise to significant privacy concerns. Floridi and Cowls [6] describe the tension between the value of tailored AI services and the risk of data misuse.

Boundary turbulence can arise when AI systems violate established privacy standards by unclear data practices or breaches of confidentiality. Scholars note the significance of privacy-enhancing technologies in response to these dangers. Digital mental health platforms, while offering benefits, pose specific privacy concerns. Bazarova et al. [7] stress user-centered design and transparency about data processing to maintain user privacy and encourage use of these systems.

A paper by Lutz and Hoffmann [5] also indirectly contributes to the discussion by exploring online participation risks that may be relevant to those seeking or providing online mental health assistance. In total, CPM theory provides a helpful foundation for comprehending how individuals negotiate privacy boundaries across different contexts, including the dynamic and fluid world of AI-driven digital platforms and mental health apps.

METHODS OR PROCEDURES

This study used qualitative study design according to Communication Privacy Management (CPM) theory to investigate how users manage privacy in AI-powered mental health applications. Data was collected from over 500 reviews of five trending apps available on the Google Play Store. Apps were selected based on having over one million downloads and a mean rating of 4.0 stars or higher to select data from heavily involved users.

Both thematic and discourse analysis were applied in the analysis. Thematic analysis, as defined by Braun and Clarke

[8], was conducted to search for patterns on privacy boundaries, transparency issues, boundary turbulence, and user trust. A coding schema was developed using both inductive codes emerging from the data and deductive codes drawn from CPM constructs. Discourse analysis was utilized to examine the language and framing users employed to express trust and concern when it comes to data practice.

These reviews were additionally compared between cultures based on geographic identifiers and uses of laws like GDPR. From an ethical stance, all of the user information was anonymized, and in research, regulations for the use of public online material were incorporated. The multi-method study provided a rich, grounded understanding of privacy boundary management on digital mental health sites.

This present study employed qualitative research design underpinned by Communication Privacy Management (CPM) theory. Data were collected from over 500 publicly available user reviews for five of the most popular AI-assisted mental health apps in the Google Play Store. Applications were selected on the basis of more than a million downloads and over 4.0 stars ratings to make them as much as possible used and valid for users.

The research utilized a combination of discourse and thematic analysis. Thematic analysis, according to Braun and Clarke (2006), was utilized to establish recurrent privacy issues such as boundary turbulence, breaches in trust, and transparency shortages. Reviews were inductively and deductively coded to stand for key CPM constructs. Discourse analysis looked at the way users linguistically co-constructed their privacy expectations, concerns, and trust arrangements within interactions involving AI technologies.

In addition, user reviews were cross compared across different cultural contexts, paying attention to mentions of data regulations (e.g., GDPR) and mental health stigma. Triangulation allowed for a comprehensive understanding of privacy management experiences within AI mental health apps. Ethical considerations included anonymization of all the reviewed information and adherence to guidelines for the analysis of publicly available online content.

RESULTS

Three master themes across over 500 user comments were identified as reflecting key concepts of CPM theory: experiences of privacy problems, turbulence experiences at boundaries, and cultural/contextual factors. Many users expressed firm grievances about incomprehensible or inaccessible privacy policies. They employed phrases like "I don't know where my data goes" and "the policy is too confusing to trust," implying that obscurity undermines boundary coordination. Users wanted openness but were left unclear about how their sensitive information was collected, stored, and shared.

Boundary turbulence was seen in complaints of privacy intrusions or perceived information abuse. Users complained of incidents where they received targeted ads upon app usage, unexpected data sharing, and unease with third-party presence. These intrusions disrupted trust, and users responded by uninstalling the app or discouraging others by leaving negative reviews. These interferences are consistent with CPM's theory of boundary turbulence and demonstrate its real-world effect in virtual environments. User opinions diverged across cultural and regulatory contexts. European users frequently mentioned GDPR and had higher expectations of protection of data, while users in countries with less regulation focused on the inability to keep developers in line. Stigma around mental health in some cultural contexts also made confidentiality issues more prominent, especially in reviews focusing on the use of anonymous, secure environments.

Overall, the findings show that when users feel privacy boundaries to be transgressed or indefinite, trust is quickly lost, leading to disengagement. These results emphasize the importance of culturally appropriate, open privacy practices in AI-supported mental health platforms.

DISCUSSION

The findings of this study accentuate the application of Communication Privacy Management (CPM) theory to account for privacy concerns concerning AI-based mental health platforms. Boundary turbulence among users, as often the case with ambiguous data practices or unintentional data disclosure, demonstrates just how quickly trust may be dissolved in online therapy settings. Not only do these transgressions lead to user dropout, but they also break down the perception of credibility regarding mental health technology. Transparency and user control were key user expectations amidst privacy concerns. Where applications were not transparent in articulating data collection and use practices, the user felt powerless, illustrated boundary coordination failure. This indicates the significance of mental health application developers establishing and maintaining clear channels for informed consent and ensuring privacy features are accessible.

Additionally, cultural diversity in the reviews highlights the importance of tailoring privacy practices to user environments. Users from nations with stronger data regulation, like the EU, had higher expectations of compliance,

whereas users from less regulated areas raised issues about lack of accountability. Stigma of mental health also makes disclosure decisions more challenging in certain cultures, making anonymous participation more necessary. Ultimately, effective privacy management in AI mental health technologies must be user-oriented with an emphasis on simplicity, autonomy, and cultural sensitivity. Developers and policymakers must collaborate to infuse these values into design and governance frameworks to build trust and increase the ethical viability of these technologies.

CONCLUSION

This study highlights the importance of open, culturally responsive privacy practices in AI mental health technologies. As users navigate vulnerable disclosures, data boundaries must be transparent and morally designed to build trust and facilitate use. The integration of Communication Privacy Management theory into policy and development work has the potential to inform ethical innovation and safeguard user well-being in online therapy spaces.

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REFERENCES

- [1] Petronio, S. (2002). *Boundaries of privacy: Dialectics of disclosure*. State University of New York Press..
- [2] Child, J. T., & Starcher, S. C. (2016). Fuzzy Facebook privacy boundaries: Exploring mediated lurking, vague-bookings, and Facebook privacy management. *Computers in Human Behavior*, 54, 483–490. <https://doi.org/10.1016/j.chb.2015.08.035>
- [3] Littlejohn, S. W., Foss, K. A., & Oetzel, J. G. (2017). *Theories of human communication* (11th ed.). Waveland Press.
- [4] Afifi, W. A., Caughlin, J. P., & Afifi, T. D. (2006). The dark side (and light side) of avoidance and secrets. In *The dark side of interpersonal communication* (pp. 61–92). Routledge
- [5] Lutz, C., & Hoffmann, C. P. (2017). The dark side of online participation: Exploring non-, passive and negative participation. *Information, Communication & Society*, 20(6), 876–897. <https://doi.org/10.1080/1369118X.2017.1293129>
- [6] Floridi, L., & Cowls, J. (2019). A unified framework of five principles for AI in society. *Harvard Data Science Review*, 1(1). <https://doi.org/10.1162/99608f92.8cd550d1>
- [7] Bazarova, N. N., Choi, Y. H., Schwanda Sosik, V., Cosley, D., & Whitlock, J. (2015). Social sharing of emotions on Facebook: Channel differences, satisfaction, and replies. *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing*, 154–164. <https://doi.org/10.1145/2675133.2675297>
- [8] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>