

ABSTRACT  
EMPOWERING INFORMED DECISION-MAKING IN MENTAL HEALTH CARE:  
A WEB-BASED RECOMMENDATION SYSTEM FOR MOBILE APP SELECTION

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In 2022, 23.1% of adults in the United States (77 million individuals) were affected by mental health (MH) concerns. Due to the inaccessibility and high cost of traditional treatment, around 55% of people with severe mental illnesses do not receive treatment. Mental health concerns are prevalent, affecting a significant portion of the population in the United States. Traditional treatment options are often inaccessible and expensive, leaving many people without essential mental healthcare. However, the rise of mobile technologies has given rise to a promising solution: mobile mental health applications (MMHAs). These apps offer greater accessibility and affordability, potentially expanding mental healthcare services to a wider range of users. Despite their potential, there are challenges associated with MMHAs. Many lack robust evidence to validate their effectiveness, making it difficult for users and clinicians to choose the most suitable app. Additionally, existing frameworks designed to guide app selection, such as MARS, ORCHA, PsyberGuide, and MIND Tools, may be too complex for regular users. These frameworks are often developed by mental health professionals and may overlook the features that are most important to users. There is also a disconnect between user and professional ratings, with users valuing features that professional reviewers tend to overlook. To address these challenges, we developed a MMHA recommender system that incorporates both user and expert perspectives. This system was informed by several studies, including analyses of user reviews from 164 MMHAs and 10 chatbot-based MMHAs providing valuable insights into user perspectives regarding the acceptance of these innovative solutions and the specific features they prioritize, in-depth studies with US veterans, a group particularly susceptible to mental health issues, capturing their personal narratives detailing both successful and unsuccessful experiences with mental health apps, and a review of two existing professional frameworks and eleven relevant research articles. The developed app recommender system provides a holistic view of MMHAs, empowering users and healthcare providers to make informed decisions. By understanding both user preferences and expert evaluations, users can choose the app that best suits their needs. The system also helps to identify crucial criteria that are often missing from existing MMHA recommender systems. Overall, this research has the potential to improve user experience and promote effective mental healthcare through MMHAs.