# INCREASING ENGAGEMENT IN eHEALTH INTERVENTIONS USING PERSONALIZATION AND IMPLEMENTATION INTENTIONS

# THE DIGITAL DIVIDE: HOW eHEALTH INTERVENTIONS FAIL TO BRIDGE THE GAPS IN HEALTHCARE ACCESS IN POOR URBAN COMMUNITIES

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## SOCIOTECHNICAL SYNTHESIS

Many Americans experience mental health illnesses at some point in their lives and very few are able to receive proper treatment either because of limited availability of proper professionals or socioeconomic barriers. The technical capstone research centers around MindTrails, an electronic health resource that aims to provide a digital version of traditional mental health treatment. The program, however, has experienced significant attrition rates among participants over the past few years and is therefore less effective than it could be in helping individuals in need. Research was conducted on what kind of features increase user engagement and how relatable participants find the program, thus, making the program more effective. The technical research explores an engagement issue within eHealth technologies from a technical perspective and is tightly coupled sociotechnical thesis that addresses socioeconomic and regional explanations for a lack of engagement in eHealth solutions. The STS research paper focuses on how the digital divide presents another barrier to healthcare access for individuals living in poor urban communities, exacerbating current social inequalities.

MindTrails has the potential to help people with mental health illnesses and create more avenues for healthcare access, but there are opportunities for the program to increase user engagement. The psychology team behind MindTrails believed that the reason for high rates of attrition was the lack of relatability and length of the program sessions. To address these concerns, the capstone team determined that including personalization features and implementation intentions to complement the cognitive bias modification techniques currently in use and further discussed the use of these features on a mobile application in order to increase user engagement. With the implementation of new features incorporated into a mobile version of

the program the technical research suggests that MindTrails will have increased user engagement.

Once personalization and implementation intentions were included in the mobile application the team conducted user testing on a group of participants that had been previously enrolled in MindTrails. During user testing interviews, participants rated the mobile app to have a high engagement score and the team received positive feedback about the inclusion of more personalized language and new features, such as the journal. Overall, with further testing and increased capacity to tailor the MindTrails program to specific users, it will serve as a more effective option for those who cannot access traditional treatment.

The STS research explores the question of whether or not eHealth technology is actually a more accessible option for people who cannot afford traditional healthcare from a different perspective. The focus of the sociotechnical research specifically examines the digital divide in poor, urban communities that are likely to have inadequate healthcare and technology access. The thesis statement addresses whether the implementation of certain public policy changes would bridge gaps in digital technology access making eHealth services more accessible and how increased access to those services would promote social change in these communities. An exploration of the socioeconomic history of poor, urban communities and sociotechnical frameworks created a clearer path toward establishing the problem and presenting potential solutions.

By examining the demographic, socioeconomic, and healthcare status of poor, urban communities the STS research was able to establish the presence and relevance of a digital divide and its effect on adding barriers to healthcare access for these communities. Further research into the sociotechnical theories that are in play concerning the relationship between the

digital divide and healthcare exposed a variety of potential policy solutions that would allow further diffusion of digital technology so that they are able to access eHealth technologies. Implementation of the policy solutions presented in the STS thesis are expected to have a positive effect on bridging the technology and healthcare access gap.

The rise of eHealth certainly has the potential to increase access to healthcare in the United States, especially for those who may not have access to adequate or readily available traditional healthcare treatment. It is important, however, that appropriate attention is given to the differences in effectiveness of medical treatment and the ability for at-risk populations to access these resources.

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