

A MULTI-METHOD mHEALTH APP DESIGN

WITH AFRICAN AMERICAN AND HISPANIC ADULTS TO INFORM CULTURALLY RELEVANT HEALTH INFORMATION APPS

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I. BACKGROUND

- Challenges have been noted for low health literacy users, specifically health disparity populations of African Americans and Hispanics who are more vulnerable to several preventable health conditions.
- Health literacy techniques, along with user-centered design and attention to diverse cultural perspectives may mitigate these challenges.
- Health communication theory suggests that users will be more likely to use and benefit from an app informed by their lived experiences, as well as being based on theoretical and methodological approaches that explain health behaviors.



- Without the input of intended users in the app development process, developers will likely create less culturally relevant mHealth apps that could fail in the marketplace and potentially even worsen health outcomes.
- Health disparity populations have had fewer opportunities to contribute to tech design such as mHealth app developments, and their involvement is crucial to apps that address health disparity issues.

II. OBJECTIVE

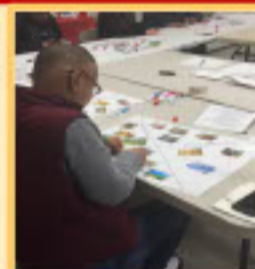
- To describe a multi-method participatory research process that directly engaged English-speaking African American and bilingual/Spanish-speaking Hispanic adults in developing a prevention-focused personalized mHealth information seeking smartphone application.

III. ITERATIVE DESIGN APPROACH

- Community-based Participatory Research (CBPR), the Consumer Information Process Model (CIP) and Adult Learning Theory served as the theoretical and methodological framework of the mHealth app design sessions.
- Three CBPR principles informed the methodology to engage the participants in the design process: 1) building on strengths and resources within the community; 2) promoting a co-learning and empowering process that attends to social inequalities; and 3) disseminating findings and knowledge to the user.
- The CIP model and Adult Learning Theory provided an understanding of the motivations and interest of the participants in relation to health information seeking through a mHealth app.

IV. DESIGN SESSION PROCESS

- Three sessions generated input to inform the proposed basic structure of the app and solicit intended user ideas and feedback for a revised app. The fourth session involved showing participants how their feedback and ideas were incorporated.
- Design session groups included one African American Group and one Hispanic (5-7 per group)
- During the sessions, participants described their goals, motives, and interests regarding prevention information using different approaches: 1) collage and card sorting (design session one); 2) user app interaction (design session two); and 3) cultural appropriateness strategies (design session 3).



V. PARTICIPANTS' EXPERIENCE

- Both design session teams (African Americans and Hispanics) reported a positive participation experience.
- Primary reasons for their experiences included 1) the opportunity for their views to be heard, 2) collectively working together in the design process, 3) having their apprehension about mHealth reduced, and 4) an opportunity to increase their knowledge of how they could manage their health through mHealth.
- This feedback informed how we approached each design session in regards to how we engaged the participants. In addition, the specific findings for each design session (not reported in this presentation) informed how we designed the app for both communities.

"I like what they [the research team] are doing [the session] at the UMD for the Hispanic community. There are many times that they [Hispanic community] don't find or don't know that a stomach ache or something simple can become something chronic. I like it [the app] a lot."

"I like that you take our views and perspectives into account as elders and facilitate access to cell phone research."

VI. LESSONS LEARNED & CONCLUSION

- Lesson 1: Community partnerships are key in engaging health disparity populations in mHealth app development.
- Lesson 2: Application of CBPR principles continues to yield promising results when engaging communities of color in mHealth research.
- Lesson 3: Interactive design sessions allow individuals to uncover their needs and opportunities for the mHealth tool being developed.
- Lesson 4: Iterative design sessions using multiple approaches can provide an in-depth understanding in mHealth preferences and needs in appearance, function, and content.

CONCLUSION

- Health disparity population members want to contribute to mHealth tool development that is more relevant to them, and multi-method approaches help elicit intended users' deep insights and feedback that provide critical information for tool development.

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