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Title

Development and Design Needs of Mobile Health (mHealth) Apps for Adolescents

Priority 1 (Research Category)

Obesity, exercise and nutrition

Presenters

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Abstract

Context: Adolescent obesity remains a significant public health issue within the United States.

Application (app) technology growth and popularity offer new opportunities for research and health improvement. The development of a consolidated mobile health application (mHealth app) for adolescents on these platforms has the potential to improve health outcomes. Most mHealth apps for adolescents, particularly those in the commercial arena, are scaled-down from an adult-targeted app and lack relevant stakeholder feedback.

Objectives: To identify adolescent expectations when using an mHealth application and understand visual user-interface needs, and to develop an intuitive and engaging user-interface, we aim to describe the design and functional user requirements for mHealth app. We aim to inform future researchers and app developers about adolescent needs and preferences, as identified by adolescent stakeholders.

Study Design: In this mixed method study, we used surveys and interviews/task analysis of adolescents to understand their user requirements and design preferences during the development of a healthy lifestyle app (CommitFit). The survey included the user design industry-standard System Usability Scale (SUS) paired with supplemental questionnaire on the specific features and functionalities of the CommitFit mHealth app.

Population Studied: Adolescents ranged from the ages of 13 to 15 years of age, with an average age of 13.6 years old.

Results: Ten adolescents were interviewed and surveyed (adapted SUS and supplemental questionnaire) to explore adolescent preferences with visual app design and functionality. Our qualitative results showed that adolescents preferred colorful, user-friendly interfaces paired with gamification to use an mHealth app. Our analysis of SUS survey data validated our user-centered and human-system design and adolescents confirmed their design, feature, and functionality preferences. Adolescent users found CommitFit to be easy to use and provided guidance for visual design needs and preferences.

Outcomes: Adolescent stakeholder feedback is crucial in the successful development of an adolescent-targeted mHealth app. Adolescents prefer vibrant colors, modern, easy-to-use interface, gamification and rewards, customizable and personalized, simple, and mature graphics. Adolescents were especially motivated by gamification techniques in maintaining their interest in the application and their health behavior goals.