PTSD Coach Usability Testing: A Mobile Health App for Post-Traumatic Stress Disorder (PTSD)

Carolina Rodriguez-Paras, Farzan Sasangohar
Texas A&M University, College Station, Texas, USA

Post-traumatic stress disorder (PTSD), which affects an estimated 8% of the American population, occurs after the person experiences a traumatic event. PTSD involves four main symptoms: 1) re-experience (e.g. nightmares), 2) avoidance (e.g. events similar to the traumatic event), 3) negativity (e.g. feelings), and 4) hyperarousal (American Psychiatric Association, 2013). Several treatments are available for PTSD, which are not mutually exclusive, including pharmacotherapy and psychotherapy (Forbes et al., 2010). While these treatments have proven to be somewhat successful, there are still many barriers that prevent patients from getting the help that the need. These barriers include geographic locations of healthcare facilities, temporal conflicts for appointments, financial considerations for treatment cost, and cultural factors, such as stigma (Fortney, Burgess Jr, Bosworth, Booth, & Kaboli, 2011). A different approach is needed to reach all possible PTSD patients. With the advent of smartphone applications ("apps"), many health initiatives have taken place. Remote healthcare options now include the option of using apps for healthcare, mHealth apps, as a means to provide access to treatment. A recent review of mHealth apps for PTSD provided many results, but few have been validated or tested (Rodriguez-Paras et al., 2017). Three main apps for PTSD were identified, including PTSD Coach (Kuhn et al., 2014; Owen et al., 2015), PE Coach (Kuhn et al., 2015; Reger et al., 2013), and CPT Coach. Because there is no indication as to how these apps have been developed, a usability testing was proposed to test PTSD Coach, the most prevalent PTSD mHealth app. The intent of the study is to determine the learnability, efficiency, memorability, user satisfaction, and potential for errors in the app. The study was conducted in two phases, with the first part analyzing PTSD Coach for Android (version 1.0) and the second phase analyzing a later version (3.0). A total of 10 volunteers participated in the first study (6 males, 4 males, average age = 26.4 years old, standard deviation = 4.47 years). The inclusion criteria consisted of being able to use a smartphone and being 18 years or older. The PTSD Coach was installed on a Nexus 6 phone. The task consisted of free exploration on the app. Participants were first asked about what they would like to see in an mHealth app for PTSD. Next, they proceeded to explore the app using a think-aloud protocol until they had covered all the different functionality provided. Finally, the participants were involved in a semi-structured. While half of participants knew about the PTSD condition, only 20% knew about PTSD Coach. Participants mentioned that they need an "about" page where patients can learn more about PTSD, an assessment to be able to track the symptoms, a social component to share their experiences and receive help from other PTSD patients, and an alarm to indicate when the assessment should be taken. The self-assessment was the only aspect of the PTSD that participants agreed met their expectation. Participants tended to dislike the color scheme (black, gray, and white) and were frustrated due several crashes. During the study, Version 3.0 of PTSD Coach was released which addresses some of the findings of the first study. The second study is in progress to evaluate the new version utilizing 10 participants to be able to compare the results to the previous study. Participants have mentioned that they enjoy the new color scheme (white and blue), as it looks neat. Our preliminary findings suggest that the participants enjoy some of the new features, particularly the daily quote. Usability testing is a simple but powerful method in identifying usability issues early in the design process. Despite the prevalence of some PTSD mHealth tools such as PTSD Coach, there is no documented effort showing that usability testing has been utilized to remove usability issues with such tools. The work is in progress to conduct extensive usability testing of the current tools to inform the design of a new interactive wearable tool to continuously monitor patients who suffer from PTSD.

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