

Behavioral Health Smartphone Applications: A Bridge or Barrier to Care?

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INTRODUCTION

- Approximately 51 million US adults face mental illness and yet only 4 in 10 get treatment.¹
- Community healthcare agencies are training staff to use digital treatment tools, resulting in increased client access, reduced stigma, empowered clients, and “modern” care² may be offset by ineffective training, staff and client buy-in, and client awareness of services.³
- There is a need to better understand implementation barriers and facilitators, particularly when serving low-income clients, who may lack access to smartphones or affordable data plans or may encounter other challenges.⁴
- One model commonly used to evaluate predictors of technology use is the Unified Theory of Acceptance and Use of Technology (UTAUT).^{5,6}
- UTAUT suggests performance expectancy (e.g., usefulness), effort expectancy (e.g., ease of use), and social influence (e.g., peer and supervisor encouragement) are direct contributors to the behavioral intention to use the technology (BI). It also suggests facilitating conditions (e.g., agency supports) indirectly influence usage behavior.⁵
- Venkatesh and colleagues measured attitudes toward using the specific technology, self-efficacy, and anxiety and found them not to predict BI.⁵ It is uncertain if these items would similarly fail to predict BI across time with a behavioral health smartphone application.

PURPOSE

- Determine facilitators and barriers of clinical staff to use a newly implemented behavioral health smartphone application, myStrength, in a community agency setting.
- Evaluate UTAUT and related predictors of myStrength BI over a three-month implementation period.
- Explore additional barriers and facilitators to using myStrength shared by clinical staff.

METHOD

Participants

- N = 64 clinical staff
- 92% White; 84% Female; Mean age: 39.3 (SD = 12.6)

Sampling Procedures

- Recruited from clinical staff completing myStrength training and surveys
- \$5 incentive for each survey (4 total); \$10 for focus group

Measures

- UTAUT Scales⁵: Performance Expectancy ($\alpha = .879$); Effort Expectancy ($\alpha = .970$); Social Influence ($\alpha = .862$); Facilitating Conditions ($\alpha = .577$); Attitude toward Technology ($\alpha = .687$); Self-Efficacy ($\alpha = .933$); Anxiety ($\alpha = .875$); Behavioral Intention ($\alpha = .969$)

Analysis Procedures

- Mixed Methods: Regression and Thematic Analysis of Focus Group

DISCLOSURE OF INTEREST

The authors have no conflicts of interest to disclose.

RESULTS

Quantitative Results: Predictors of Behavior Intention

Pre-Test

- $F(7,53) = 9.358, p < .001, R^2 = .553, R^2_{Adjusted} = .494$
- Significant Predictors of BI: Social Influence ($p = .001$), Anxiety ($p = .023$)

Post-Test

- $F(7,52) = 13.062, p < .001, R^2 = .637, R^2_{Adjusted} = .589$
- Significant Predictors of BI: Effort Expectancy ($p = .002$), Attitude Towards Technology ($p = .003$)

3-Month Follow-Up

- $F(7,47) = 5.006, p < .001, R^2 = .427, R^2_{Adjusted} = .342$
- Significant Predictors of BI: Attitude Towards Technology ($p = .003$)

Focus Group Results: Barriers and Facilitators to Usage

Application Utility – How the application was used

- Subthemes: **one-stop shop, mindfulness, tracking, homework**

“[I]t’s like one app that has just like a huge umbrella worth of stuff.”

Clinical Investment into the Application – Showing clients how to use the application

- Subthemes: **initial investment, saving time**

“[w]e can get further in our treatment because... we don’t have to do a progressive muscle relaxation ... cause they watch the video and then we can talk about it in session, as opposed to like taking 10 minutes to do it and then coming to do it later.”

Implementation of the Application – How clinicians learned to use the application

- Subthemes: **learning from colleagues, learning from instructors**

“I found it really helpful to have this conversation because there were ways in which I had not thought of, MyStrength, but that I’m hearing people use it.”

Accessibility of Technology - Applications ability to be used by all populations

- Subthemes: **accessibility within the application, accessibility to the application**

“...I kind of changed things around so that the kids can understand it better.”

“If they use up their data or they can’t pay their bill, then that definitely creates a barrier. I did have that happen to one client and they were kind of disappointed, um, that they weren’t able to keep using because I don’t think they had Wi-Fi at their home.”

Clinician’s Use of the Application – Personal use of application

“...being able to go on there and use the COVID resources specifically have helped me a ton just because it’s new for me too.”

CONCLUSIONS

- Barriers and facilitators to use the myStrengths application shift over time as clinicians experience uncertainty and agency mandates, then focus on the ease of using the application and overall attitude toward using it.
- UTAUT theory did not align as well in this case as formerly discarded measures (anxiety and attitudes towards technology) appeared to be more significant than some UTAUT factors (performance expectancy, facilitating conditions).
- Focus group findings suggest myStrength’s performance expectation (utility) appears to be enhanced as the application serves as a “one-stop shop,” providing multiple services in one application.
- These gains in myStrength performance expectations may have been offset by its lack of accessibility for children, those with intellectual disabilities, and low SES individuals.
- Clinicians’ report of peers and trainers sharing usage tips suggest social influence may interact with performance expectancy and effort expectancy.

LIMITATIONS

- Reliability for two scales, facilitating conditions and attitude toward technology, were low, limiting study conclusions.
- With a larger sample size, interaction effects could be tested to determine indirect effects.

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