

Introduction

- Although approximately 70% of current adult smokers are motivated to quit, and significant strides have been made in the development of effective smoking cessation treatments, most established interventions are associated with relatively low long-term abstinence rates (15-35%).
- Importantly, app-delivered and technologically centric systems are an unrefined method of treatment that may benefit smokers seeking to quit.

- Therefore, the current study aims to address this research gap by evaluating the efficacy of a mobilized smoking intervention. This app-delivered smoking intervention (MASP) program centers around providing smokers with readily available smoking cessation tools in the form of strategies, relaxation videos, and interoceptive exercises (daily diary exercises, Ecological Momentary Assessments).

Hypothesis/Aims

- It was expected that user engagement and utility of the MASP app will be determined through completion of $\geq 70\%$ of all assigned Ecological Momentary Assessments, high utilization of videos, diverse feature usage, and generally positive feedback.
- At the week 4 post-quit follow-up assessment, we hypothesize that most participants will self-report that they found the app helpful.

Methods

Participants: 15 daily smokers (40.0% Female; $M_{age} = 46.5$, $SD = 13.3$, $Range = 18-65$ years). Smokers utilized a minimum of 10 cigarettes per day. This was biochemically confirmed via Carbon Monoxide [CO] analysis at least 10 ppm at baseline.

Procedure: All participants in the pilot received a study smartphone that included the MASP app. Guided exercises were available for participants to use at their leisure. They were also expected to complete randomized Ecological Momentary Assessments (EMAs) that would record real-time smoking cognitions. Participants kept study phones for 6 weeks).

Measures: Demographics-Treatment History Questionnaire; The Suicidal Behaviors Questionnaire-Revised; Credibility/Expectancy Questionnaire; Motivation to Quit; Carbon Monoxide Analysis; Smoking History Questionnaire.

Results

- Participants completed on average 73.5% of all prompted EMAs
- All general features on the application were used (see Figure 2).
- Guided exercise videos were widely utilized (see Figure 3).
- 75% of the sample self-reported the overall experience with the application as "helpful" in their attempt to reduce their smoking.
- Two thirds of the sample self-reported the EMA's as "useful" for assessing smoking behavior.

Models and Figures

Figure 1. Model of main screen on MASP application. Showcases several features.

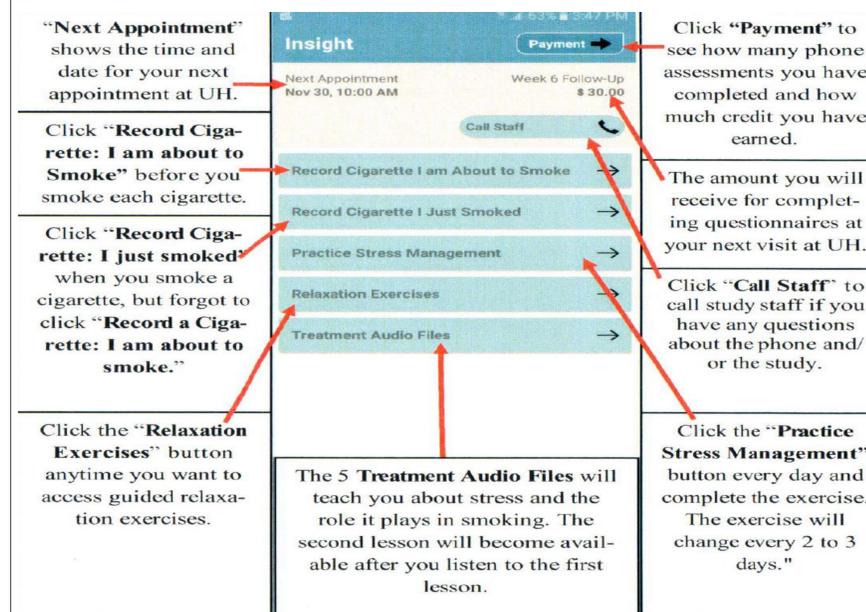
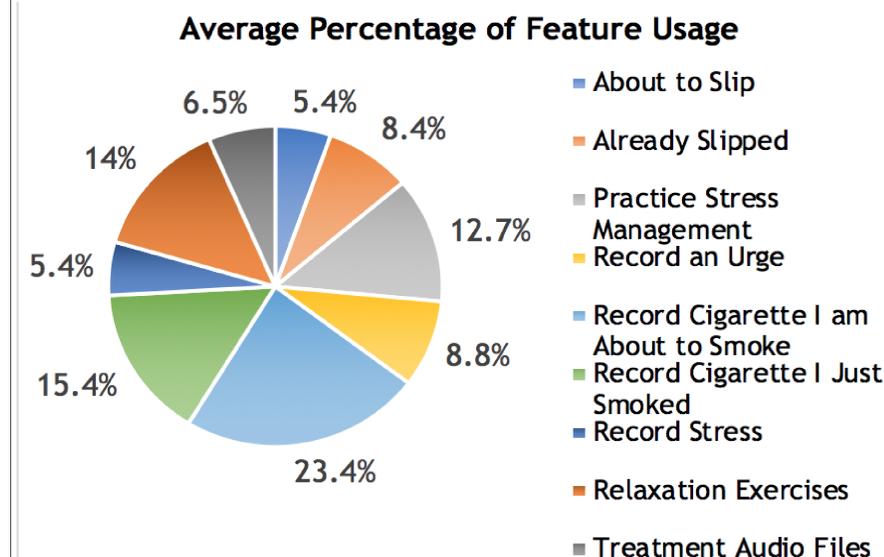


Figure 2. Graph represents average percentage of feature usage.



Models and Figures continued

Figure 3. Graph indicates the usage of video components on MASP app. Head Rush and relaxation Exercise were not completely utilized by the sample.

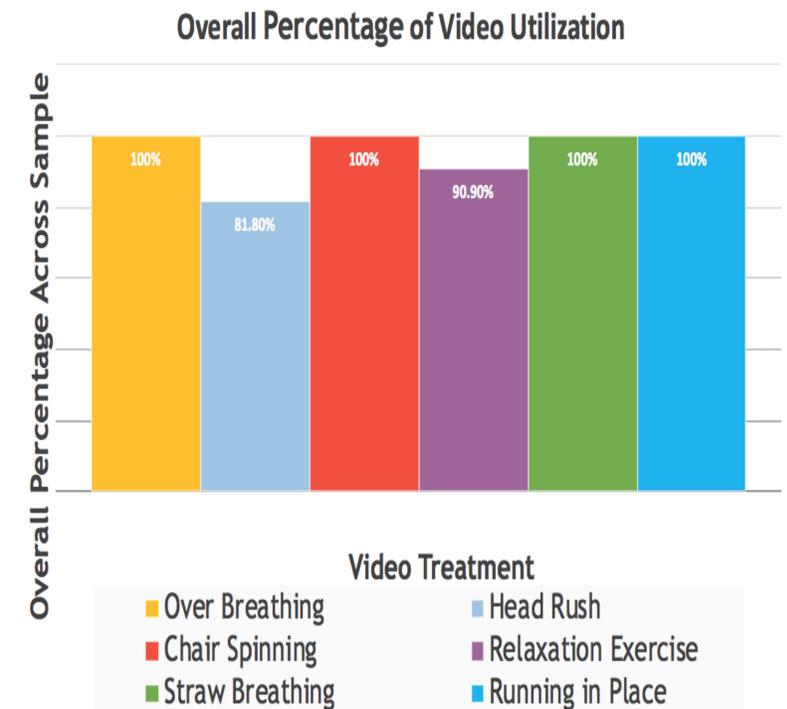
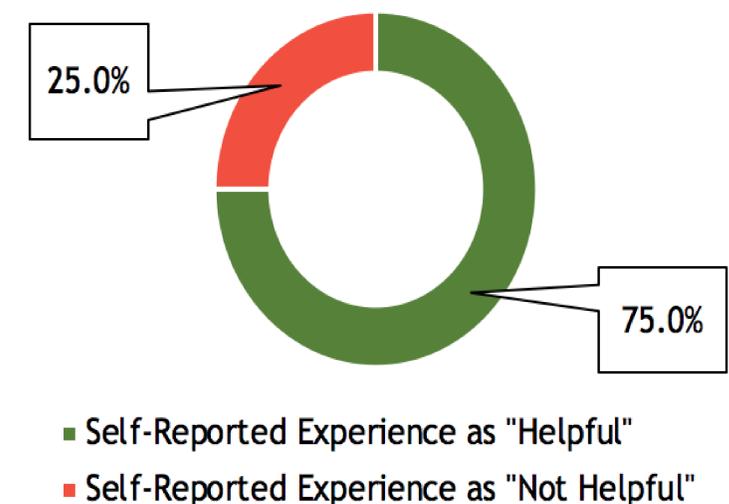


Figure 4. Percentage values reflect the feedback given about the overall experience with the application. Data collected at the end of the 4-week post-quit.

Self-Report on Overall Experience



Conclusions

- The results highlights the use of EMA's in smoking cessation applications as an effective feature to aid in mobile application based smoking cessation attempts.
- An overall positive disposition toward the mobile app experience reflects the feasibility for future application based treatment. The negative feedback suggests that there is much refinement to be executed before this method of treatment is widely accepted. One improvement may be the ability to set the number of EMA's. For example, a user may choose to set more EMA's if they feel themselves wanting to smoke more frequently.
- Popularity in video guided exercises represent a positive response from smokers to audio-visual stimulation. Additional focus to this component may prove more useful for future users.
- Feature usage data shows that self-record keeping features and stress management exercises are the most utilized, possibly due to the ease of tracking behavior and benefit of managing stress via mobile.
- The results indicate that there is a degree of utility for app-delivered treatment amongst smokers but it may be beneficial to explore more smokers demographics such as targeting a younger demographic of smokers that may more apt to utilize mobile based interventions.

Assessing the Efficacy of App-Delivered Intervention Amongst Daily Smokers

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Introduction

- Cigarette smoking is still a prevalent health concern in the United States and the majority of smokers report that they are motivated to quit.
- Unfortunately, app-delivered and technologically centric systems are an unrefined method of treatment that may benefit smokers seeking to quit
- The current study aims to refine an app-delivered intervention by supplying it to a randomized group of smokers and gathering feedback on their experience with the treatment.
- No study has evaluated the treatment utilization of such an app on smokers who seek support in their attempt to quit or cut back.

Hypothesis

Methods and Procedure

Results

Conceptual Models and Results

Conclusions