Event Review

EHPS/DHP Conference 2016: Summary of DHP Award for 'Outstanding MSc Thesis' and reflections on conference highlights

As a winner of the DHP award for 'Outstanding MSc Thesis', I was invited to present my work at the joint EHPS/DHP Conference 2016 in Aberdeen, Scotland. In this brief report, I provide a summary of my thesis, entitled 'Understanding user engagement with a novel smoking cessation smartphone application in UK- based adult smokers: An exploratory analysis of usage data from a randomised controlled trial', and my reflections on the positive aspects of the conference.

MSc Thesis

Introduction

The evaluation of smoking cessation smartphone applications (apps) involves assessing both user engagement and app effectiveness. Whilst many download and try apps to monitor or modify their health behaviours, engagement is typically not sustained beyond a few login sessions; it has been estimated that one in four health apps are used once and that 75 per cent are used less than 10 times (Consumer Health Information Corporation, 2015). Questions particularly relevant to the issue of low engagement include whether engagement with the intervention content predicts long-term outcomes, which users are most likely to drop out or disengage from the intervention and whether particular intervention strategies enhance engagement. Moreover, the process of identifying appropriate parameters for measuring engagement in randomised trials is at an early stage. The aim of my MSc thesis, completed as part of the MSc in Health Psychology at University College London (2014–15), was to assess how far a range of engagement parameters discriminate between the experimental and control versions of a smoking cessation app in a real-world trial setting. A secondary aim was to explore participant characteristics that prospectively predict engagement.

Method

Usage data from a subsample of 184 UK-based adult smokers randomised to receive the intervention or control version of the 'BupaQuit' app were automatically recorded over the 28-day trial. The engagement parameters, comprised of the raw usage data, included total number of logins, total time spent using the app, total amount of content used and total length of app use in days. The app versions were aesthetically identical and prompted users to make a commitment to stay smoke-free for 28 days. Users in both groups had access to information about withdrawal symptoms and received feedback on their progress. In addition, the intervention group had access to a range of 'craving aids' (e.g. challenges, a game, a meditation exercise) that could be used in the event of strong cravings. It was hypothesised that the intervention version of the app would be more engaging than the control version on all parameters assessed due to providing more interactive features. A secondary hypothesis, based on the existing literature, was that being male,

having higher educational attainment and low nicotine dependence would independently predict engagement (Richardson et al., 2013; Strecher et al., 2008; Zeng et al., 2015). Negative binomial regression models were fitted to estimate the relationships between app version and engagement parameters.

Results

Our findings indicated that the app version did not significantly predict total number of logins or length of app use in days. However, the intervention participants spent significantly more time using the app and used more content in comparison with the control participants. As hypothesised, being male, having higher educational attainment and low nicotine dependence independently predicted engagement on all parameters assessed across arms. Higher confidence to quit and occupational status (i.e. being unemployed or retired) were also found to independently predict engagement (Perski, 2015).

Discussion

These findings can be interpreted to suggest that using number of logins as the sole measure of engagement in randomised trials may not be sufficient; time spent using the app and amount of content accessed reveal additional information about the extent to which users engage with the intervention. The finding of baseline predictors of engagement suggests that the tailoring of content to suit the needs of individuals may improve engagement.

Reflections on the positive aspects of the conference

As a first time attender, I believe that one of the key benefits of attending the joint EHPS/ DHP Conference 2016 was the opportunity to meet with and listen to a wide variety of researchers, practitioners and policymakers working in the field of health psychology. I now have a better grasp of the size and impact of the field and I feel inspired to contribute to its growth. I particularly enjoyed discussions about the merit of well-established health psychology theories and measurement techniques, and suggestions on how to advance the field through, for example, using novel intervention designs that take within-subject effects into account (e.g. *N*-of-1 trials, as suggested by Professor Karina Davidson, Columbia University Medical Center).

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