
Ambivalence about (Inter)Personal Informatics for Smoking Cessation

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Abstract

We explore user ambivalence towards interpersonal informatics systems for smoking cessation. Smokers desire support through such systems to help them reflect on their habits and create strategies for changing them, yet at the same time they are reluctant to share personal information via these systems. We conducted interviews with smokers and recent ex-smokers to discuss their current practices to quit smoking and to evaluate a prototypical smoking cessation application. We discuss the different facets of their ambivalence towards collecting, sharing, and reflecting on personal information via interpersonal informatics systems. We close with a summary of the main challenges emerging from such ambivalence and potential directions to address them.

Keywords

Interpersonal informatics, persuasive technology, social networking, smoking cessation, ambivalence

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

Human Factors, Theory.



Figure 1. We designed screen mock-ups of a fictitious smoking cessation smartphone service, which allows smokers to take photos of the things, people, places, and activities that trigger their smoking. These photo diaries can be shared with other users of the service. We used these mock-ups to elicit discussion about the potential benefits as well as the concerns about sharing personal information online.

Introduction

Personal and interpersonal informatics systems offer a range of well-documented benefits to people who want to change their behavior, e.g., to improve their fitness, or to live in a more environmentally-friendly manner. Collecting personal information fosters reflection on habits [4] and helps people to develop strategies to change them [2]. Sharing personal information can enhance the awareness of how people around them influence their habits [1] and some people derive motivation from cooperating with others in the same situation [2]. Despite these benefits, people can be unwilling to share information via interpersonal informatics systems because of privacy concerns [1]. Moreover, failure to change one's behaviour can be a source of shame in social settings [5].

The aim of this research project is to explore user ambivalence towards interpersonal informatics systems. Rather than indifference, ambivalence connotes strong simultaneous conflicting states [6], in this case both a desire to gain the aforementioned benefits of interpersonal informatics systems as well strong concerns about potential risks. In our study we used a prototype of a smoking cessation application to unpack these conflicting states about collecting, sharing and reflecting on personal information.

Approach

The aim of this interview study was to explore both desires and the concerns about using mobile and social services to assist people in their attempt to quit smoking. Twelve participants were recruited via our university's staff mailing list. Half of them were currently smoking; the other half had quit smoking within the last six months. We showed the participants screen mock-ups of a fictitious mobile and social smoking cessation smartphone service called Consider

Quitting (CQ, see figures 1 and 2). CQ revolves around a shared photo diary to facilitate reflection on the places, people, and activities that remind a person of smoking and to develop strategies to cope with them after quitting. We used CQ to elicit reflection on interviewees quitting strategies, the social and technological support they desired, as well as their concerns about such support.

Preliminary Findings

Here we present a preliminary analysis of the participants' ambivalent state about collecting, reflecting and sharing personal information via interpersonal informatics systems. This ambivalent state is influenced by an underlying ambivalence about behavior change itself. Every smoker in our study expressed a desire to quit. However, the participants explained that they were in two minds about quitting, because they associated smoking with positive experiences like spending time with friends, or as a source of strength to cope with stress.

Ambivalence about collecting and reflecting on information

Participants sought information about smoking cessation from other smokers and ex-smokers, self-help books, and online information. In contrast to seeking generic information, few participants had systematically collected personal information about their smoking in the past, like keeping a diary on smoking triggers. While they had no difficulty in coming up with a list of triggers, some participants were reluctant to do so systematically via an app. Some participants stated that they already knew what made them smoke and therefore had no need for an app like CQ. Others recognized the value of deep reflection on their habits in order to develop strategies for coping with cravings. Nevertheless, some were reluctant to



Figure 2. People can browse through the photo diaries of other users to further explore their triggers for smoking, to initiate connections and interactions between users, or simply to get inspiration for their own quit attempt.

collect and reflect on personal information in such a systematic way, because revisiting these triggers also increased their desire to smoke. Ex-smokers stated that it is challenging to look at such triggers now because they remind them what they enjoy about quitting. While we envision that CQ may be most useful for smokers before they attempt to quit, we acknowledge that reflecting on triggers may potentially also weaken a person's determination to quit.

To alleviate this problem, some participants suggested taking photos of benefits of being smoke-free to keep them motivated. For example, P2 (Participant 2) took a photo of a poster depicting a man with arrows showing the health benefits that accrue to different parts of the body (see figure 3). He used this photo as a background image on his phone to remind him of his aim. While such benefits may be useful reminders throughout the process of becoming smoke-free, they are also more challenging to communicate, particularly through a photo that aims to present a gain through the absence of something else. Even when framed as benefits, these photos still point towards an addiction and may trigger a desire to smoke again. Hence, some participants preferred to avoid any collection and reflection on personal data. To quote P11, "it's like the elephant in the room, it's best not to talk about it."

Ambivalence about sharing personal information

The findings from our study indicate that smokers recognize the benefits of sharing personal information about their quit attempts, yet they are strongly reluctant to share their data via CQ or social media in general. Four participants (P2, P5, P6 & P11) reported

that one of their friends announced a quit attempt via Facebook. They interpreted these Facebook postings as a sign of commitment to the quit act and as a way of rallying support. Several participants also read comments and stories from other smokers and ex-smokers on discussion forums to gain inspiration and motivation for their own quit attempts.

Although the participants recognized the benefits of sharing information, none of them actually made their own quit attempt public on Facebook or in a smoking cessation online community. Some participants (P1, P3, P5 & P8) were generally ambivalent about social media like Facebook, as indicated by P5: "On one level I really like Facebook, but on another level I resent it as well". Like others, P5 had a strong desire to keep in touch with his friends but he rarely posted any kind of information about himself because he was concerned about who would have access to such information in the future. Most participants agreed that reading other people's contributions rather than posting information was their preferred way of managing their privacy.

Most participants regarded quitting as a particularly personal matter that they did not want to share in any social media. Some participants simply did not want any feedback from other people. They felt that no matter how well intended comments from their friends were, they either came across as nagging or at the very least they reminded them of smoking again. Other participants feared that their quit attempt may fail and that their friends and family would see this negatively, perhaps as a "weakness".

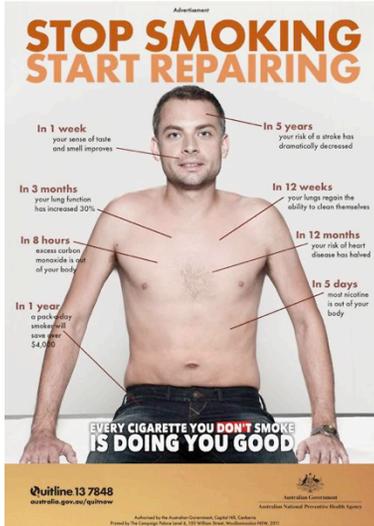


Figure 3. Participant 2 used a photo of this poster as his iPhone wallpaper. The photo reminded participant 2 of the benefits of quitting, like the improved sense of taste and smell and the reduced risk of a stroke. (The poster is available on <http://www.quitnow.gov.au/interne/t/quitnow/publishing.nsf/Content/benefits-male-print>)

This anecdote illustrates the potential of the photo diary of the CQ app to facilitate reflection and to provide motivation during behavior change.

While the commitment to a quit date is a particularly sensitive topic, some participants were open to share their intention to quit beforehand, or they wanted to share their success at some stage after their quit date. For example, P6 posted a photo of a self-help book on Facebook together with a message that he has a desire to quit smoking soon. Other participants also indicated that they were more likely to share info on CQ before they actually had to commit to a quit attempt. Furthermore, the participants indicated that they might gradually open up to other participants and share information after a successful quit attempt. However, they were also torn about sharing their success, because they wished to leave any interaction that reminded them of smoking behind them.

Discussion

Our exploration points out three major challenges of interpersonal informatics systems in the context of behavior change. Firstly, people often simultaneously desire and resist behavior change. As indicated in related work [3], one way to deal with this challenge is to tailor the data collection task to the particular stage of behavior change to help the user to prepare for change without forcing them to commit to change. Secondly, while collecting personal information facilitates reflection for behavior change, such information also serves as a reminder of the positive experiences associated with the old habit. One way to mitigate this challenge is to focus the data collection on potential benefits in the future rather than on current experiences with the 'bad' habit. Finally, while sharing information generates commitment and support, it requires that people share information that they regard as private, which might cause conflict and embarrassment if the behavior change fails. A possible solution to this challenge is to allow people in this ambivalent state to remain private and to gain

inspiration from eavesdropping into the conversations of people who voluntarily share their stories.

We are currently analyzing the data in further depth to improve our understanding of the different sources of ambivalence and their interrelationships. In future work we aim to deploy prototypes to develop a dynamic understanding of ambivalence, showing how different aspects of ambivalence ebb and flow in their influence over cessation. In this workshop we present our current analysis and generate ideas for prototypes to further explore the concept of ambivalence.

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