

## Chapter 34

# Opportunities and Challenges of Using Mobile Applications for Workplace Health Promotion: A Qualitative Study

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### ABSTRACT

*Workplace health promotion (WHP) needs be adjusted to the new ways of working and improved in terms of participation rates. As mobile applications (apps) have proved to be effective in various health areas, it might also be a solution for WHP. However, there is a lack of knowledge about the requirements employees would have on such an app for WHP. Therefore, 29 semi-structured interviews were conducted with employees and experts of an IT company. Most employees were rather positive about such an app. Concerns were stated in terms of added value and data security. Variations were found in preferred functionalities. Apps might thus be effective for WHP but would need to add value compared to apps available for private usage. Additionally, clear communication about data privacy would be expected.*

DOI: 10.4018/978-1-6684-2405-6.ch034

## INTRODUCTION

In the last decades, employers started to further invest in the well-being of their employees. It is understood to improve productivity, self-perceived health, work ability as well as reduce absenteeism (Rongen, Robroek, van Lenthe, & Burdorf, 2013). Health promotion is one determinant of occupational health that “deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards” according to the WHO (World Health Organization, 2016). Most programs established at the workplace yet focus on life-style related diseases e.g. lack of physical activity, poor nutrition and unhealthy weight gain (Rongen et al., 2013). For physical activity, a literature review of Malik and colleagues (2014) for instance indicates general effectiveness, even though they argue, that more well-designed studies are necessary (Malik, Blake, & Suggs, 2014). Besides considerations on effectiveness of the program itself, the participation rate in workplace health promotion (WHP) programs is rather low and thus poses a problem for implementations and overall effectiveness. A study reveals a median of only 33% of the employees participated in those programs (Suzan, Robroek, Van Lenthe, Van Empelen, & Burdorf, 2009).

Furthermore, developments such as mobile working, global traveling, and flexible working hours might influence the health of employees (Nijp, Beckers, van de Voorde, Geurts, & Kompier, 2016) and might include need for new health promotion measures. As mobile health (mHealth) is a growing field of research, it can be discussed whether it is effective in ameliorating the low participation rate and including the modern way of working in workplace health promotion (WHP).

However, little is known on the potential effectiveness and usage of mHealth as a means for WHP and more investigations are needed as supported by a literature study on WHP apps (Dehkordi, Breitschwerdt, & Fellmann, 2017). Up to now, some experimental studies have already been conducted on mhealth at the workplace, mainly in the areas of stress management and physical activity, but also among different target groups, such as airplane pilots and healthcare workers. Most of the studies seem to demonstrate effectiveness in decreasing stress and negative effects of shift work and increasing satisfaction (Ahtinen et al., 2013; Guertler, Vandelanotte, Kirwan, & Duncan, 2015; Ly, Asplund, & Andersson, 2014; Paschou et al., 2015; van Drongelen et al., 2014).

However, although most studies demonstrate a high effectiveness, the workplace health apps sometimes do not meet the needs of end-users and participation levels remain low (Muuraiskangas, Harjumaa, Kaipainen, & Ermes, 2016). Still, studies mainly focus on the evaluation of health status improvement as the outcome, whereas the end-user perspective and preferences and eventually the participation rate and reach of the intervention remain unclear.

In order to tackle this lack of information in WHP using technologies, a detailed view of the end-users needs to be evaluated using qualitative research methods (Dunkl & Jiménez, 2017).

In order to provide an overview of end-user's preferences and needs as a guideline for the decision-making process for stakeholders, the following research questions are investigated:

1. What benefits and obstacles do employees see when considering whether to use a workplace health app provided by the employer?
2. What functionalities would employees prefer to have in such an app?

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