Research Traineeships proposal format

1. Title of the Project

"I'm only fit when my smartwatch says so": When does the use of health tracking technologies lead to bodily empowerment or bodily alienation?

2. Coordinators

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Project Summary

Introduction

People increasingly use technological tools for health and activity monitoring (Carroll et al., 2017; Anastasiadou et al. 2019; Kay, Santos, & Takane, 2011; Stragier et al., 2016). These activity tracking apps and wearables are considered self-empowering because they help users make better-informed lifestyle decisions based on their data (Sharon, 2017). Recent research, however, suggests that self-tracking technology use may lead to bodily *alienation* rather than empowerment, because it could encourage users to trust technology more than what their own body tells them (Duus, Cooray and Page, 2018). To date, there is no empirical research examining the mechanisms leading to either bodily empowerment or alienation. This project fills this gap. It uses a combination of experimental and ethnographic methods to investigate under which conditions the use of a self-tracking app (Strava) fosters bodily empowerment or bodily alienation.

Theoretical rationale

The practice of collecting health related data about oneself via technological tools and platforms is commonly referred to as 'self-tracking for health' (Lupton, 2017; Sharon, 2017). Self-tracking for health involves a self-monitoring process that relies on the quantification of bodily processes (e.g., heart rate, calories burned) and activities (e.g., step counts, types of sports). It is not a new practice: people have been self-monitoring their body and life for self-improvement since ancient times (Swan, 2013). However, with the introduction of digital technologies, users can (1) collect data in real-time, and at a much larger scale, (2) gain information on parameters that are difficult - if not impossible - to track otherwise, (3) obtain personalized feedback and gamified targets derived from processing of collected data (Lupton, 2017), and (4) link their data to other data streams, such as social networking platforms, enabling them to compare with others (Stragier et al., 2016).

There is a widespread belief among technology developers, health professionals and scholars that self-tracking technologies can empower users to make healthier life choices (Lupton, 2013; Maturo &

Setiffi, 2016). Following Deci and Ryan's (2012) Self-Determination Theory, it is argued that self-tracking technologies fulfill the three needs for empowerment: autonomy, competence and belongingness. Self-tracking technologies allow users to regulate their physical activity without having to rely on external parties (autonomy), help them reach personal targets and compare their performance with others (competence), and generate belongingness through online endorsements and commenting features (Stragier, Vanden Abeele & De Marez, 2018).

Given their assumed empowering potential, one might expect spectacular usage rates for self-tracking technologies. Recent intervention studies, however, report significant numbers of drop out (Anastasiadou et al., 2019; Anderson et al. 2006; Marzano et al., 2015), with over 50% of new users dropping out in less than two weeks (Endeavour Partners, 2014). An explanation for this drop-out might be that some users experience *bodily alienation* rather than bodily empowerment (cf. Duus, Cooray and Page, 2018).

Classical phenomenological theories (Fuchs, 2001; Leder, 1990; Merleau-Ponty, 1945/2002) shed light on this possibility. They emphasize that in our normal interactions with the world, our bodies function 'transparently': we are typically not aware of our bodies functioning, such as our hearts beating or our feet moving. Scholars argue that paying conscious attention to these tacit bodily processes has a disruptive, alienating effect on individuals, because such 'hyperreflectivity' (Fuchs, 2010; Sass, 1992) disturbs our effortless, smooth flow of acting, like paying attention to your feet disrupts your dancing moves.

From this perspective, we can understand why the use of self-tracking technologies may lead to experiences of bodily alienation: these technologies make explicit all sorts of processes that would otherwise remain unnoticed (burned calories, number of steps, etcetera). This may lead to an objectified view on one's body as something that needs to be monitored and corrected - at the cost of a natural, smooth reliance on it (Sharon, 2017).

To date, however, the question **whether and under which conditions the use of self-tracking technologies empowers or alienates** remains unexplored. The aim of this research traineeship program is to answer this question. To that end, it will focus on three sub-questions:
1. Which *mechanisms* lead users of self-tracking technologies to experience bodily empowerment or alienation?
2. What is the role of *technological features, user characteristics* in producing experiences of bodily empowerment or alienation?
3. How do experiences of bodily empowerment or alienation affect *short- and longer-term behavior change*?

Methods of data gathering
The aim of this project is to conduct a **longitudinal field experiment with a mixed method design**. Participants (N = 90) begin a 4-month exercise program, either with or without the aid of the self-tracking app Strava. Among those who use Strava, we vary between those who use all features and those who use a limited set of features. Participants complete questionnaires every month, and provide details on what information has been tracked via the platform. A subset of participants is regularly interviewed. To assess within-person differences, participants switch from the control to the experimental condition and vice versa halfway through the experiment. The study will provide a rich set of data, enabling triangulation and contextualization of findings.

The collaborative aspect of the project:
This project unites colleagues from different departments (Cognition & Communication and Culture Studies) who explore similar topics from different theoretical and methodological backgrounds. Frans Folkvord (Health Communication and Behavioral Science) studies how media can affect behavior change in the health domain. He is an expert in the use of experimental methods. Sanneke de Haan (Health Humanities) studies how bodily experiences can be disrupted, and has expertise in the use of qualitative interviews. Mariek Vanden Abeele (Media Sociology) studies how mobile media affect the everyday life. She has expertise on how to integrate log data in analyses. We look forward to combine and learn from each other's' expertise, research skills and theoretical understanding in this project.

Objective you would like to achieve with the help of a research trainee:
The objective is to design the study, recruit participants, assist in data collection and analysis, assist in the writing of two scientific papers. In addition, the trainee can present the study at a national conference.

4. Project timeline

Month 1-3:
- Read assigned literatures & discuss theoretical framework with project group
- Seek participants for experiment and interviews
- Prepare experiment and interviews

Deliverable: detailed report on the methodological plan and composition of a topic list for the semi-structured interviews

Month 4-10:
- Start experiment
- Start and plan repeated interviews
- Start transcription and data analysis of the interviews

Deliverable: report on the experiment and interviews and first draft of methodology section of the scientific paper

Month 8-12
- Data preparation and analysis
- Write 2 scientific articles on the study's outcome

Deliverable: Final report with the outcomes
- 2 scientific article
- conference presentation

5. Research Trainee Profile

BA and (Re)MA students with an interest in this topic can apply for this project. Preferably students have affinity with both quantitative and qualitative methodology. Students can apply by writing a letter of motivation to the project coordinators.

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