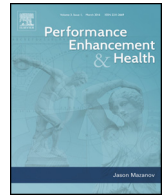




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Exploring the dark-side of fitness trackers: Normalization, objectification and the anaesthetisation of human experience

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ABSTRACT

Fitness trackers or 'wearables' are being used by an ever-increasing number of exercisers to self-monitor their health, wellbeing and fitness. While acknowledging that many users find self-tracking devices to be an important part of their exercise regime, the current paper draws on phenomenological and empirical evidence to argue that the use of fitness trackers for the purposes of "bio-monitoring" may have a number of undesirable consequences. I argue that the prolonged use of these devices may, in some cases, normalize/objectify the embodied subject and contribute to an anaesthetisation of human experience. This arises as neo-liberal projects encourage "self-trackers" to consider their bodily functioning in quantifiable terms thereby reducing the attention that one may pay to the embodied sensations that accompany physical activity. I suggest that this is likely to hinder one's enjoyment of exercise and prevent users from generating the flexible and adaptive habits that are necessary to expand one's productive capacities in the world. I conclude by briefly considering how wearable devices may be used in a manner which counteracts the surveillance or regulatory intentions of bio-monitoring technologies and allows users to repurpose these technologies in ways which work for them.

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1. Introduction

The use of fitness trackers or 'wearables' (i.e., small, lightweight technologies that can be easily placed on human bodies as they move around in time and space; [Lupton, 2017a](#)) have exploded in popularity amongst exercisers in recent years. One in 6 consumers in the USA currently use wearable fitness technology such as smartwatches or fitness bands (see [Piwek, Ellis, Andrews, & Joinson, 2016](#)) and the revenue from digital fitness devices are expected to increase from just over \$10 billion in 2017 to almost \$17 billion by 2021 ([González, 2017](#); even if these projections are lower than previously anticipated). There is now a truly remarkable array of wearables available to consumers of digital technology ranging from relatively basic devices that measure heart rate or calories burned to the more sophisticated that measure kinematics or posture. Technological advancements have now allowed sensors to be embedded in these devices (e.g., pedometers, heart rate monitors) and to interface with smartphones to provide notifications, messages and alerts. Fitness trackers are gradually becoming more affordable and manufacturers are making increasing efforts to enhance their aesthetic appeal and functionality. These endeavours are likely to result in these devices appealing to an even larger

section of the market and to ensure that they continue to be widely used by exercisers.

Despite their ubiquity, there is a lack of evidence to suggest that fitness technology can promote behaviour change ([Sullivan & Lachman, 2017](#)) or enable users to make measurable health improvements (e.g., weight loss; see [Jakicic et al., 2016](#)). On a functional level, research has raised concerns about the ability of self-tracking devices to accurately measure physiological responses during exercise (see [Boudreaux et al., 2017](#)) and studies have found that a third of self-trackers (i.e., people who use digital technologies to monitor, measure and record element's of one's body and life) had relinquished the use of their devices within six months of acquiring them ([Ledger & McCaffrey, 2014](#)). Another concern is that these devices are built to collect a pre-determined set of data and may therefore be too inflexible to answer the questions posed by self-trackers as they monitor their health over time ([van Berkel, Luo, Ferreira, Goncalves, & Kostakos, 2015](#)). Moreover, research has revealed that these devices may prevent exercisers from becoming truly immersed in their environment ([Little, 2017](#)) and that their use can trigger a number of negative emotions ([Goodyear, Kerner, & Quennerstedt, 2017](#)). While acknowledging that many (i.e., people who use digital technologies to monitor, measure and record element's of one's body and life) find the use of these devices to be an important part of their exercise regime (see [Lupton, 2017a](#), for a review), the current paper draws on a body of evidence which suggests that using fitness trackers for the

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purposes of “bio-monitoring” may also have a number of undesirable consequences for exercisers. These include the possibility that they will render the body absent from experience; that it may normalize/objectify the embodied subject; and that the use of these devices may produce negative affect. I argue that the continued use of fitness trackers will, for many users, contribute to an anaesthetisation of human experience and prevent them from generating the ‘intelligent’ habits necessary to expand their productive capacities in the world.

How might we explain the rise in popularity of fitness trackers amongst exercisers? Research suggests that participants decide to start using these devices because they have an interest in quantitative data/numbers in general or that they enjoy experimenting with new ways of tracking their performance (Li, Dey, & Forlizzi, 2011; Lupton, 2016). While this explanation has superficial appeal it does little to help us understand the structural forces which compel exercisers to quantify their bodies in the first place. To do so might require a consideration of how current health practices in western countries are shaped by various modes of governance. One mode in particular – neoliberalism – has received considerable attention from scholars interested in exploring how globalization has begun to shape healthcare system reform (e.g., Baum et al., 2016). This political orientation to patient care and preventative health seeks to move the burden of responsibility from the state to the individual by holding the latter more responsible for the regulation of their bodily practices (Sharon, 2017). Such regulation of the body is constitutive of *biopower* (how characteristics of human life are subject to regulation and control to achieve political ends; Foucault, 1990), which exerts itself in a subtle and, one might argue, insidious manner by promoting a brand of self-management based on normalised conceptions of what it means to be a ‘healthy’ citizen. Here, the embodied agent continuously strives to maintain health in a climate in which it perceives itself constantly at risk. Some scholars have argued that technology, and wearable devices in particular, provide us with the tools necessary to take control of our lives and to find “better selves”. Take, for example, Li’s vision (2015) of how wearable sensors have the potential to make us healthier.

Just as smartphones decentralized computing and communication, wearable sensors hold the potential to decentralize and democratize health care, changing it from reactive to proactive, from one-size-fits-all to personalized medicine. With the right wearable sensors, consumers gain the power to continuously monitor their own health status; at doctor’s appointment, the patient can provide both quantitative baseline and abnormal health data to the physician. This scenario could fundamentally change how health care is delivered.

Consumers are encouraged to view the neoliberal climate (one which places competition at the heart of human relations) as presenting the opportunity for growth and self-development (Türken, Nafstad, Blakar, & Roen, 2016). We may come to believe that these conditions present us with the opportunity to experiment with our bodies in order to find new and ‘better’ ways of being (Heyes, 2007). The neo-liberalist ideal that we possess more efficient selves that are just waiting to be ‘discovered’, and that wearable devices may play a role in this process, is perhaps best exemplified by Jawbone’s head of international partner and product development Jorgen Nordin who, in responding to questions concerning the reliability of tracking devices, argued that ‘What’s important really is that our system is all about getting better, becoming a better version of yourself.’ (Lewington, 2015). What can we make of such proclamations? According to these perspectives, fitness trackers can be used by participants to identify and alter bodily features or ‘outputs’ that have been normalised (the production of models and standards against which a population can be assessed) as ‘atten-

uated’. Thus, they may act as a form of disciplinary power used to ‘correct’ the deviant body (Foucault, 1979). In so doing, ‘biometric’ processes (the use of self-tracking to quantify various features of corporeality) operate by ‘turning fleshy sensation, behaviour and perception into digitally produced numbers’ and this becomes a way of ‘mastering the uncertainties, inaccuracies and vagaries of human embodiment’ (Lupton, 2016, p. 54).

In the following sections, I review the findings from a body of research which suggests that there may be a ‘dark-side’ to the use of biomonitored practices during exercising (e.g., the use of wearable devices may contribute to the normalization of bodily processes and the production of negative affect). Before doing so, I seek to situate this argument by reviewing recent research which has explored participants’ experiences of wearable devices as a means of facilitating self-improvement and/or monitoring their physical activity. It is important to note that these studies have shown that there are many elements of the self-tracking experience which participants find beneficial. For example, in Choe, Lee, Lee, Pratt, and Kientz (2014) study, participants reported that self-tracking had allowed them to successfully identify what had triggered their health symptoms and that they had become more aware of themselves and the surrounding environment. Similarly, in Ruckenstein’s (2014) interviews with participants who volunteered to wear self-tracking devices continually for a one week period, participants reported becoming more aware of their bodies than usual and that the device acted as a catalyst to take responsibility for their health and well-being. However, it seems that these benefits can be rather short-lived. Ledger and McCaffrey (2014) found that self-trackers can be quick to relinquish use of these devices while Nafus and Sherman (2014) discovered that when a pattern of behavior had become embedded or habituated then self-tracking was no longer required. In the latter case, it is possible that once self-trackers had achieved self-knowledge and behavior change they no longer felt the need to monitor their activity (Lupton, 2016).

In a large scale study, Duus and Cooray (2015) explored the experiences of 200 women who used a Fitbit activity tracker. Participants spoke positively about the device and how they liked the fact that they were rewarded for having reached certain targets with a congratulatory message (e.g., “champ”) and that reaching these targets created feelings of happiness and self-satisfaction. Some exercisers appear to enjoy this form of positive reinforcement (See also, Duus, Cooray, & Page, 2017). However, the darker side of biomonitored was revealed by participants who reported feeling ‘naked’ without their Fitbits and that activities were wasted when completed without the device. Similarly, participants in Fritz, Huang, Murphy, and Zimmermann’s (2014) study reported feelings of frustration when they forgot to wear the device as it meant their activities were not being counted – as if physical activity had little purpose if it could not be considered in relation to some quantifiable goal. Other participants in Duus et al.’s study felt that they were being controlled and found it depressing if they failed to reach their daily targets. Indeed, one might argue that quantifying physical activity in this manner does not account for the challenges most people face in their day-to-day lives. That is, tracking devices are unable to take context into account. For example, a new parent who spends weeks or months in a sleep deprived state is highly unlikely to be in a position whereby they can maintain recommended levels of exercise. Nevertheless, their trackers will continue to remind them that their activity is significantly lower than previous levels. This is likely to create a disconnect between how someone ‘should’ feel and how they actually feel (Smith & Vonthehoff, 2017). Rather than acting as a motivational cue, self-trackers are likely to find these reminders distressing, not to mention incredibly irritating. The constant provision of data in this particular context are deeply unhelpful, adding to what is already a very stressful period in someone’s life.

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